Western Health and Social Care Trust

Infection Prevention & Control Report to Trust Board

Meeting Date – 3rd May 2018

1. Executive Summary

The Trust's reduction target for *Clostridium difficile* (*C. difficile*) associated disease in 2017/18 was 44; a reduction of 12 cases or 21.43% compared to the previous year. A total of 65 cases were reported, so this challenging target was not met. 36 of the cases were classified as healthcare-acquired or associated, as they occurred more than 48 hours after admission to hospital (definition used by the Public Health Agency [PHA]). However, this is not always an accurate predictor of being healthcare-associated. The remainder (29) were classified as community-associated as the patients presented with symptoms within a 48 hour period after admission.

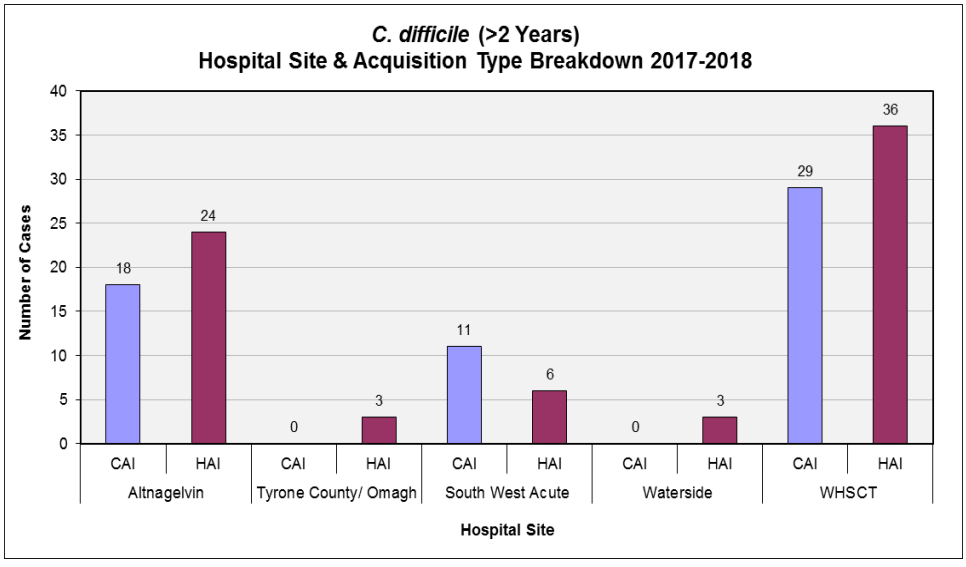
The 2017/18 target for MRSA bacteraemia was to maintain the reduction achieved in the previous year, i.e. a maximum of five cases. A total of four cases were reported, meaning the target was achieved. All four cases were classified as community-associated.

2. *C. difficile* Performance

The 2017/18 target for *C. difficile* (≥ 2 years) was 44 cases, which equates to a reduction of 21.43% on the baseline figure of 2016/17 (56 cases). This target was not met. In the year to the end of March 2018 the Trust actually reported 65 cases, which is an increase of 16.07%. This comprises an increase in healthcare-associated infection cases of 12.5% versus an increase in community-acquired infection cases of 20.83%.

A breakdown of the cases by hospital site and acquisition type is given in the chart below.

Key:
CAI Community-associated infection
HAI Hospital-associated infection



Since the last Report to Trust Board, which contained figures as at 27th March 2018, there have been three new cases of *C. difficile* (breakdown below).

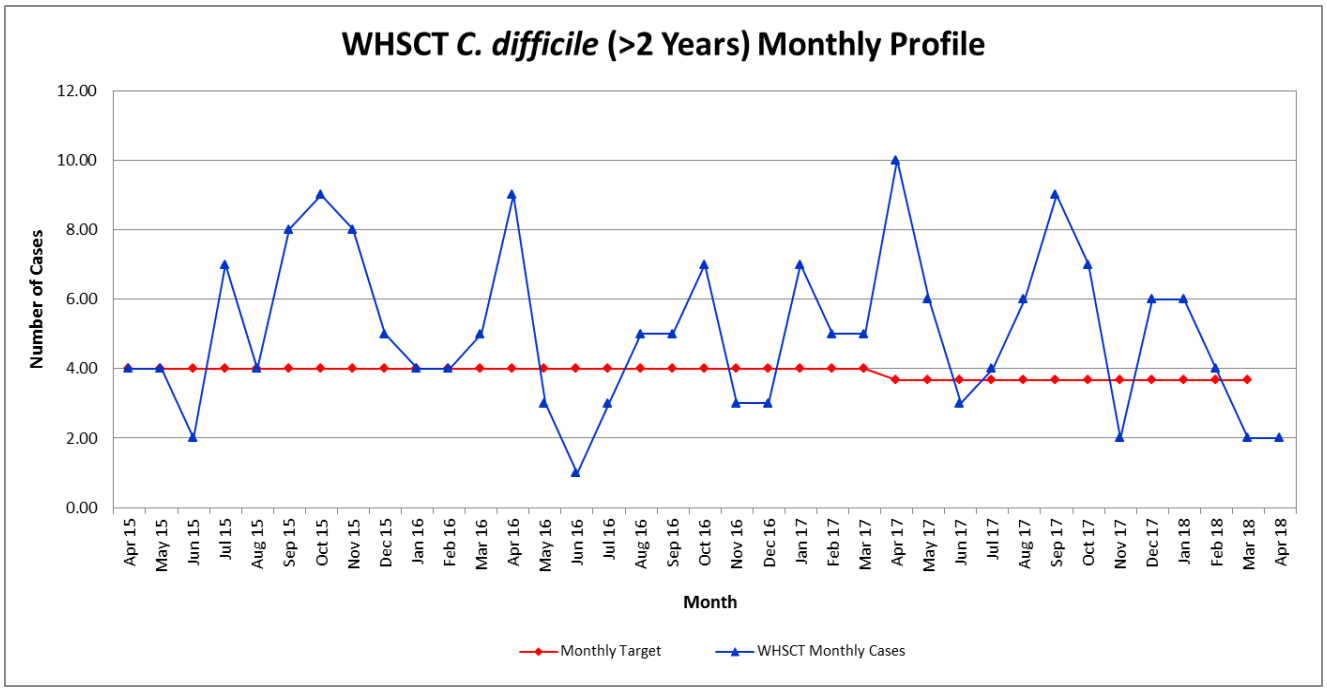
3 *C. difficile* cases → 1 CAI
→ 2 HAI ----- 1 of these was a previously positive HAI case*

* Previously positive *C. difficile* cases that are re-tested 28 or more days after the initial positive episode are classed as new cases by the PHA and must be reported as such.

Root cause analyses (RCA) are pending for both healthcare-associated cases.

The new reduction target for 2018/19 has not yet been issued.

Since the beginning of April 2018 two new cases have been reported. One is categorised as healthcare-associated and one as community-associated.



* *The value for Apr 18 is subject to change as the report was compiled prior to the end of the month.*

RCA Outcomes for C. difficile January-December 2017

RCA is a technique that helps answer the question as to why an infection occurred in the first place. It seeks to identify the origin of a problem using a specific set of steps, with associated tools, to find the primary cause of the problem, so that clinical staff can:

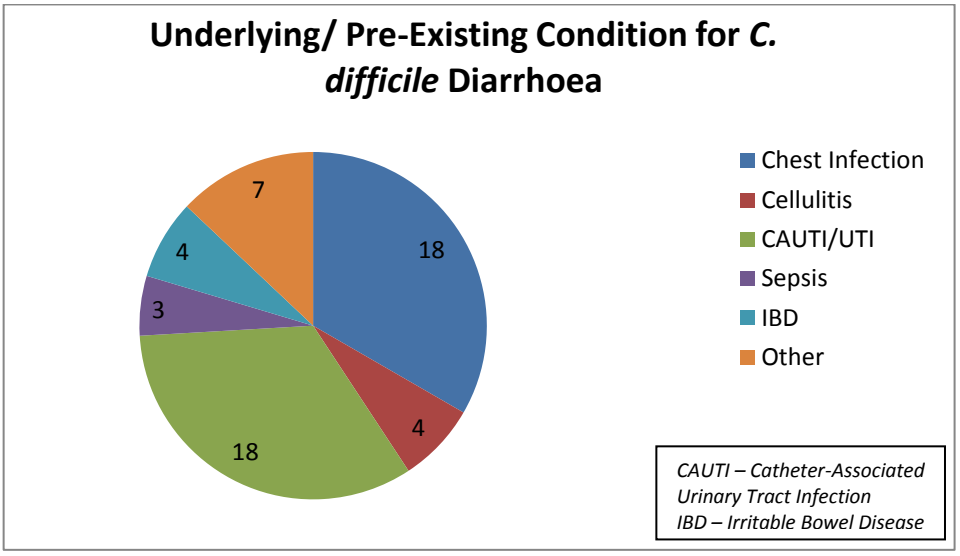
1. Determine what happened,
2. Determine why it happened,
3. Develop an action plan to reduce the likelihood that it will happen again.

Healthcare-associated infections must be reported in accordance with the Incident Reporting Policy and the level of investigation will be determined by the grading. RCA must be completed where healthcare interventions may have resulted in infection.

The RCA process for *C. difficile* is to be completed for all healthcare-acquired infection (HCAI) cases and community-acquired hospital-associated (CA/HAI) cases. HCAI cases are classified as such when signs and symptoms of infection are present more than 72 hours following admission. Cases are classified as CA/HAI when signs and symptoms are present on admission and the patient has been discharged from a Trust healthcare facility within the 12 weeks prior to diagnosis. CA/HAI is an internal source criterion to initiate an RCA.

Number of Patients Investigated by RCA	Number in Southern Sector	Number in Northern Sector	Number of Repeat Positive Cases	Number Pertaining to Outbreaks of *C. difficile*/ Norovirus
54/ 76 cases met PHA and internal source criteria to investigate	12	42	8 repeat specimens (8 patients had 2 positive specimens)	3 in Trust 1 in Private Nursing Home

Number of HCAI Cases	Number of CA/HAI Cases	How Many Cases Were Preventable	Number of Patients on Antibiotics in Hospital	Number of Patients on Antibiotics Within 12 Weeks of Admission, Either in Hospital or GP	Number of Patients Receiving Proton Pump Inhibitors
32	22	10	49	10	33



Problems Highlighted as a Result of RCA Investigations for Patients with C. difficile

No. of non-prudent antimicrobial prescriptions – hospital	No. of non-prudent antimicrobial prescriptions – GP	Why were cases preventable?	Other issues
6	3	2nd part of an outbreak of *C. difficile* in a ward where there was evidence of transmission. **Alt Ward 1** 1 inappropriate prolonged antibiotic prescription commenced during hospital stay and continued by GP. **SWAH Ward 8** 1 inappropriate antibiotic prescription in hospital. **Alt Ward 1** 1 off-guideline and inappropriate antibiotic prescription. **Alt CDU** 1 delay in diagnosis that led to incorrect antibiotic treatment. **Alt Ward 41** 1 sub-optimal treatment of a patient with GDH diarrhoea by GP that led on to *C. difficile* in hospital. **GP** 1 inappropriate off-guideline prescription of long-term prophylactic antibiotic for a UTI. **GP** 1 antibiotics prescribed for CAUTI that would have been preventable with better compliance with care of the catheter and if it had been removed sooner. **Alt Ward 41** 1 patient continued to receive antibiotics on transfer from another hospital despite written transfer guidance stating that they were no longer required. **Alt ESU**	Delay in sending sample of faeces for testing for 2 patients. **Alt ICU/HDU & Ward 7, Waterside Ward 3** Missed doses of antibiotic for a patient with *C. difficile* infection (CDI) over two days over a weekend. Patient had dislodged NG tube and it was not replaced. **SWAH Ward 5** Delay in commencing treatment for CDI for 1 patient. **SWAH Ward 4, Alt Ward 41** Incorrect antibiotic prescription for relapse of CDI for 1 patient. **GP**

Actions

- Continued Implementation and audit of the High Impact Intervention (HII) care bundle for *C. difficile* by ward teams.
- Revised *C. difficile* care bundle to make it more user friendly, concise and to provide better focus for nursing staff.
- Weekly Infection Prevention & Control (IP&C) Nurse review, including audit of compliance with the HII bundle.
- Weekly multidisciplinary *C. difficile* ward rounds.
- Antimicrobial prescribing audits.
- Multidisciplinary Quality Improvement programme to review all antimicrobial prescribing following a positive case of *C. difficile* on a ward.
- Development of an Antimicrobial Stewardship Policy.

- Improvement programme with District Nursing Teams regarding catheter management.
- Further engagement with GP practices and Lead Primary Care Pharmacist regarding RCA outcomes and *C. difficile* cases.
- RCA outcomes discussed at Morbidity & Mortality meetings.

C. difficile Care Bundle and Care Pathway Audits

Evidence based care bundles are effective when all elements of care are performed consistently. Therefore, scores are represented as either Pass (100%) or Fail (anything less than 100%). There is no differentiation between those achieving a very low score and those achieving 95%. This is done deliberately to highlight the importance of 100% compliance with the bundle as a whole.

Five main elements of care have been identified as being necessary to reduce the incidence of CDI. They are prudent antibiotic prescribing, hand hygiene, environmental decontamination, use of personal protective equipment and isolation/ cohort nursing. The risk of infection reduces when all of the elements within the clinical process are performed every time for every patient. The risk of infection increases when one or more elements of a procedure are excluded or not performed appropriately. Monitoring of the elements outlined in the care bundle ensures that all necessary aspects of the clinical process are appropriately performed (as required by the particular situation). The care bundle should be used when cases of CDI are either suspected or proven. .

The *C. difficile* care pathway has been revised and is now a more concise, user friendly document. It has been piloted on a number of wards and the feedback has been very positive. It has also been reviewed by the Trust Nursing Record Keeping Group and it is tabled for final approval at the Chief Executive HCAI Accountability Forum in May 2018.

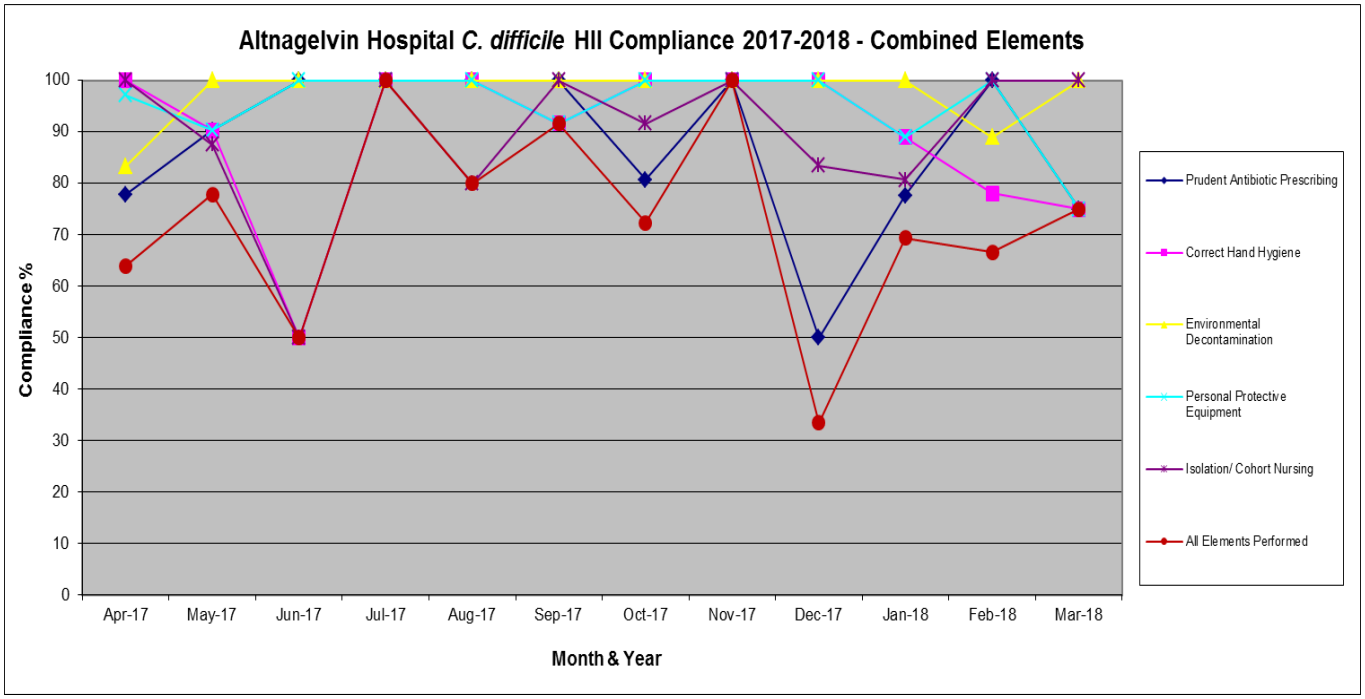
The dashboard below summarises the performance of wards/ departments audited by the IP&C Team since April 2017. On occasion more than one audit may be completed during the month for a particular ward/ department. In such instances an average score is shown on the dashboards. These scores are marked (A).

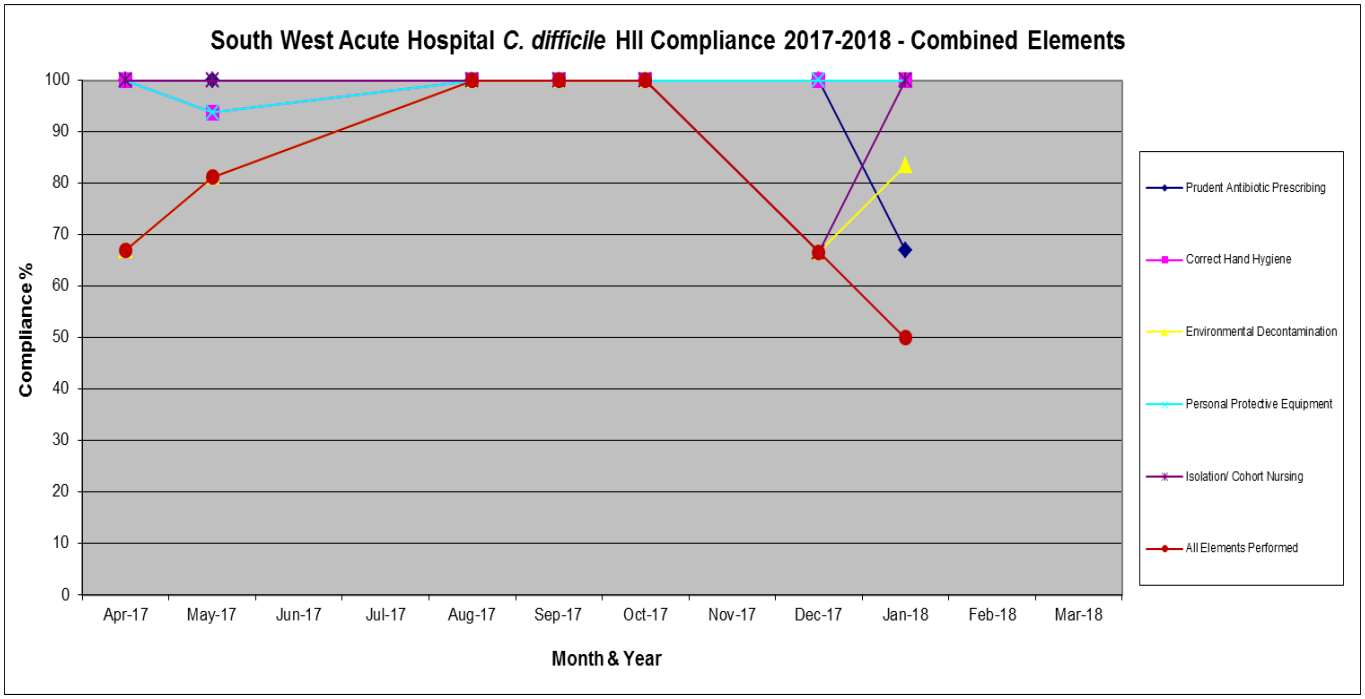
Consistent compliance with the *C. difficile* care bundle remains a challenge. The findings indicate issues around antibiotic prescribing, environmental decontamination and isolation/ cohort nursing.

		Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18
Ward 1, Alt	Care Bundle			100%	100%		100%		100%				50%
	Care Pathway			Pass	Fail		Pass		Pass				Pass
Ward 2 TOU, Alt	Care Bundle								100%				
	Care Pathway								Pass				
Ward 3, Alt	Care Bundle						100%	50%					
	Care Pathway						Pass	Pass					
Ward 8 AHAN, Alt	Care Bundle						100%						
	Care Pathway						Pass						
Ward 20, Alt	Care Bundle		100% (A)			80%	100%						
	Care Pathway		Pass x 2			Pass	Pass						
Ward 31, Alt	Care Bundle	100%					50%			67%		33%	
	Care Pathway	Fail					Pass			Fail		Fail	
Ward 32 ESU, Alt	Care Bundle	84% (A)	100%		100%		100%		100% (A)				
	Care Pathway	Pass x 1 Fail x 1	Pass		Pass		Fail		Fail x 2				
Ward 40, Alt	Care Bundle										75%		
	Care Pathway										Fail		
Ward 41 AMU, Alt	Care Bundle									0%		67%	100%
	Care Pathway									Pass		Fail	Pass
Ward 42, Alt	Care Bundle		67%		100%				100%				
	Care Pathway		Pass		Pass				Pass				
Ward 43 Gynae, Alt	Care Bundle										33%		
	Care Pathway										Fail		
Ward 50 Sperrin, Alt	Care Bundle	50%	50%	0%				84% (A)			100%		
	Care Pathway	Pass	Fail	Pass				Pass x 2			Pass		
CCU, Alt	Care Bundle		50%									100%	
	Care Pathway		Pass									Fail	
ICU/ HDU, Alt	Care Bundle	34% (A)											
	Care Pathway	Fail x 1 Pass x 1											
Ward 1 MSAU, SWAH	Care Bundle		100%			100%		100%		100%			
	Care Pathway		Pass			Pass		Pass		Pass			

Ward 2, SWAH	Care Bundle	67%											
	Care Pathway	Pass											
Ward 3, SWAH	Care Bundle		75%					100%		100%			
	Care Pathway		Pass					Pass		Pass			
Ward 5, SWAH	Care Bundle										67%		
	Care Pathway										Fail		
Ward 6, SWAH	Care Bundle					100%							
	Care Pathway					Pass							
Ward 7, SWAH	Care Bundle		100%				100% (A)						
	Care Pathway		Pass				Pass x 2						
Ward 8, SWAH	Care Bundle					100% (A)		100%					
	Care Pathway					Pass x 2		Pass					
Ward 9, SWAH	Care Bundle		50%										
	Care Pathway		Fail										
Children's Ward, SWAH	Care Bundle										33%		
	Care Pathway										Fail		
Critical Care, SWAH	Care Bundle									0%			
	Care Pathway									Pass			
Ward 3, Waterside	Care Bundle					100%						34% (A)	
	Care Pathway					Pass						Pass x 2	
Ward 4, Waterside	Care Bundle												50%
	Care Pathway												Pass

The two graphs below indicate the overall compliance with all of the elements of the *C. difficile* HII care bundle for Altnagelvin and the South West Acute Hospital (SWAH).





3. *S. aureus* Bacteraemia Performance

MRSA Bacteraemia

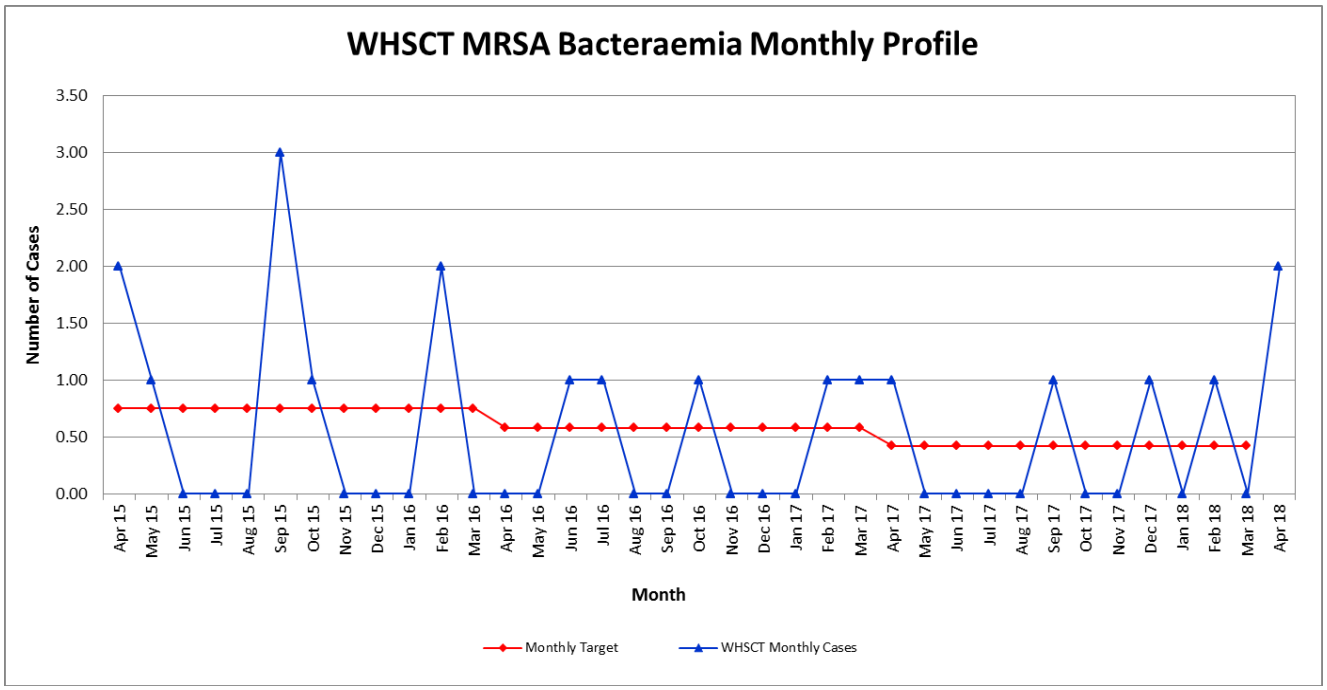
The 2017/18 target for MRSA bacteraemia was to maintain the reduction achieved in the previous year, i.e. a maximum of five cases. In the year to the end of March 2018 four MRSA bacteraemias were reported, meaning a reduction of 20% was achieved and the target was met. It should also be noted that the proportion of those cases which can be attributed to the Trust was zero, as all four cases were categorised as community-associated.

The PHA has advised that community-associated infections will remain as part of the target/ published figures. These cases are not related to the healthcare environment, which limits the Trust's ability to influence a reduction in numbers. All community-associated cases are, however, reviewed to ensure there has not been any healthcare intervention within the previous two weeks. The PHA presents the number of cases according to the time of sampling following hospital admission; although, as stated by the PHA, this should not be taken as inferred attribution of infection (hospital or community).

The new reduction target for 2018/19 has not yet been issued.

Since the beginning of April 2018 two new cases have been reported. Both are categorised as community-associated. As of 24th April 2018, the total number of days since the last Trust hospital-associated MRSA bacteraemia is:

Altnagelvin Hospital – 965 days (Last recorded case was in Ward 4)
SWAH – 801 days (Last recorded case was in Ward 8)
Tyrone County Hospital/ Omagh Hospital & Primary Care Complex (OHPCC) – 1190 days (Last recorded case was in the Rehab Unit)



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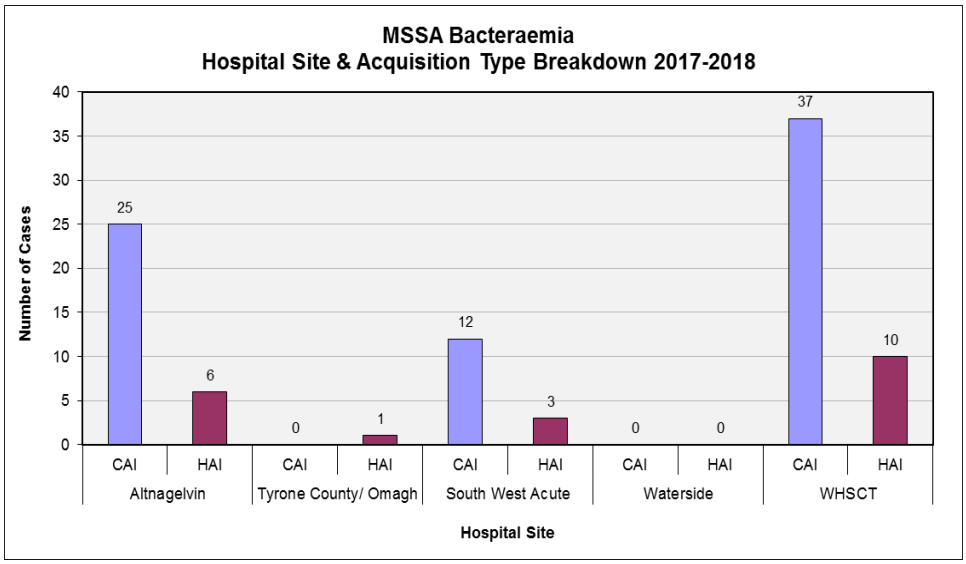
MSSA Bacteraemia

There was no reduction target associated with MSSA bacteraemia for 2017/18, however surveillance remained mandatory. MSSA is part of the skin normal flora of approximately 25-30% of the well population. It is, therefore, more difficult to control endogenous (self) exposure, which is the reason for removing the target associated with this organism. The controls in place for MRSA will go some way to protect patients, but do not provide the same level of safeguard because of the ubiquitous nature of the organism.

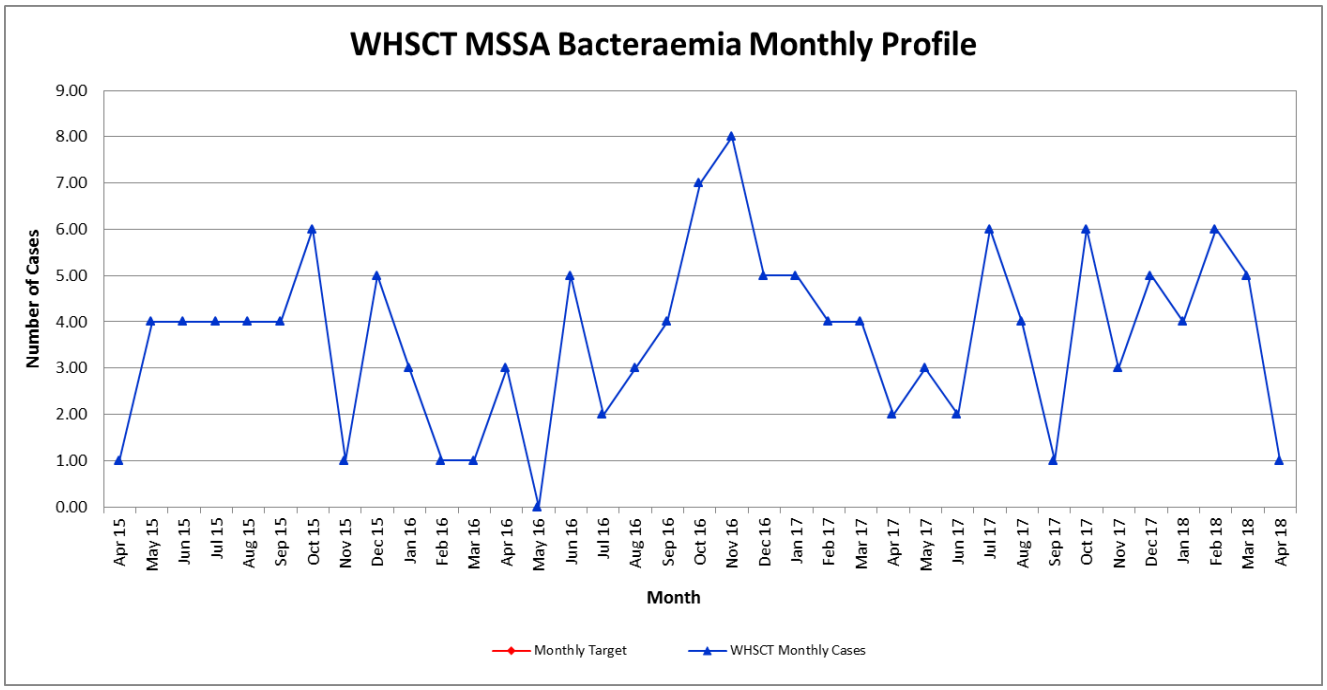
In the year to the end of March 2018 a total of 47 MSSA bacteraemias were reported. A breakdown of the cases by hospital site and acquisition type is given in the chart below.

Key:
CAI Community-associated infection
HAI Hospital-associated infection



Since the beginning of April 2018 one new case has been reported. It is categorised as community-associated. As of 24th April 2018, the total number of days since the last Trust hospital-associated MSSA bacteraemia is as follows:

Altnagelvin – 53 days	(Last recorded case was in Ward 31)
SWAH – 39 days	(Last recorded case was in Ward 6)
OHPCC – 190 days	(Last recorded case was in the Rehab Unit)



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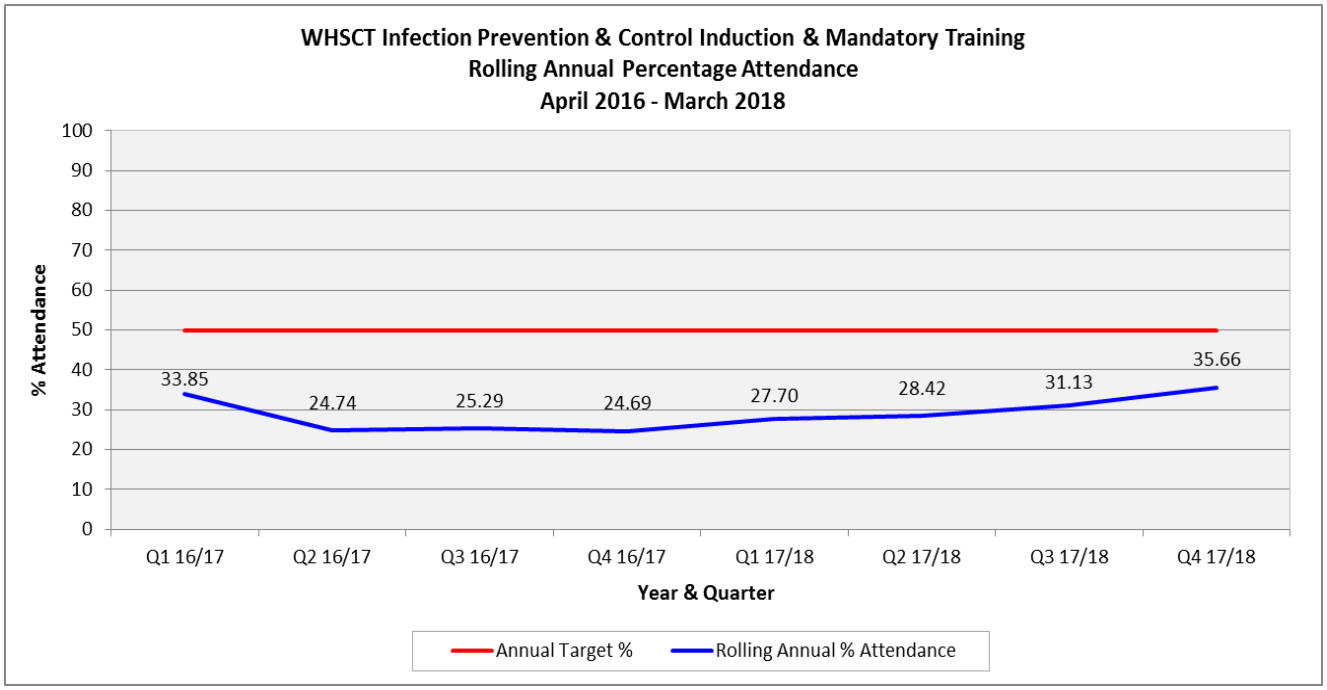
4. Attendance at Infection Prevention & Control Training

Induction/ Mandatory Training

82 Induction and Mandatory Training sessions were delivered by the IP&C Team during the period April 2017-March 2018. That is an average of 1.71 two-hour sessions per week within

primary and secondary care settings across the Trust. As of the end of March, 3402 staff have attended the training (2143 in the Northern Sector and 1259 in the Southern Sector).

The attendance target for each year is 50% of the total number of staff who require training. The actual attendance rate is 35.66% for the 12 months ending March 2018 – well below the required target.



Target attendance at IP&C Mandatory Training is included in Directorate IP&C Annual Improvement Plans and should be monitored through the Directorate Governance arrangements, as well as through the Chief Executive HCAI Accountability Forum.

The Infection Prevention Society Northern Ireland Branch's Education Sub-Group has reviewed and standardised the existing IP&C training content and learning outcomes for different staff groups.The revised indicative content and learning outcomes were based on the level of contact the healthcare worker would have with patients or clients in the healthcare setting, i.e. direct or non-direct, and if they were also responsible for management of invasive devices. The Sub-Group also explored models and modes of delivery that would improve accessibility to training for all healthcare workers regionally, thus making best use of the most current learning resources available. Recommendations are currently being devloped by the IP&C Team and hopefully will be implemented in September 2018. This will include:

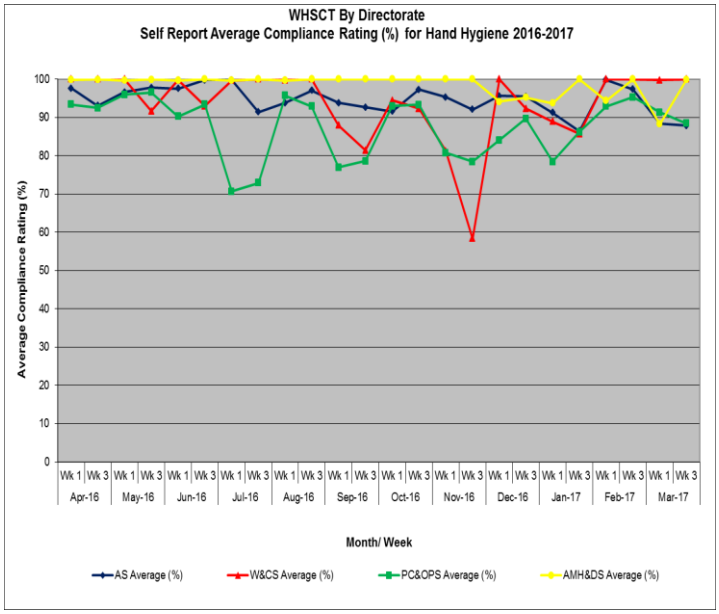
- A tiered system approach tailored to specific staff groups relevant to their level of patient/ client contact.
- Regional standardisation of indicative IP&C training content and learning outcomes.
- Training delivery methods such as e-learning programmes, together with face-to-face training and DVDs, should be shared across the region.
- The use of written materials for staff less familiar with information technology (IT) or who have limited IT access should be developed and made available.

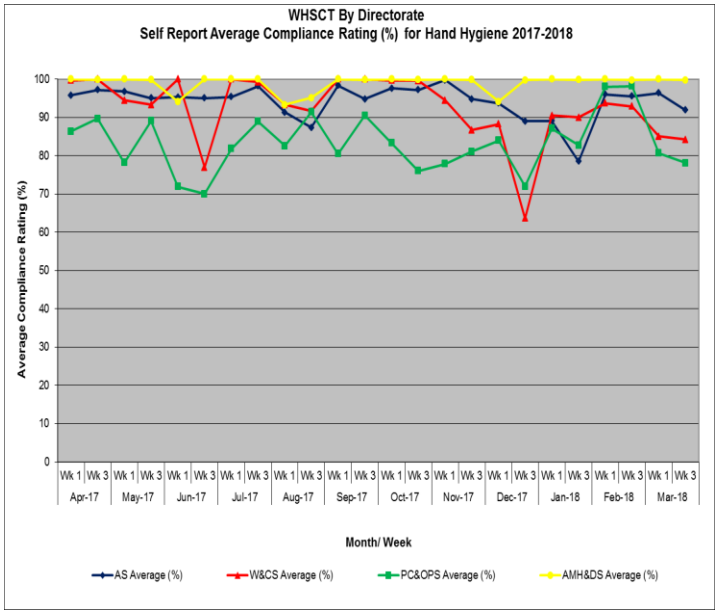
5. Hand Hygiene Compliance

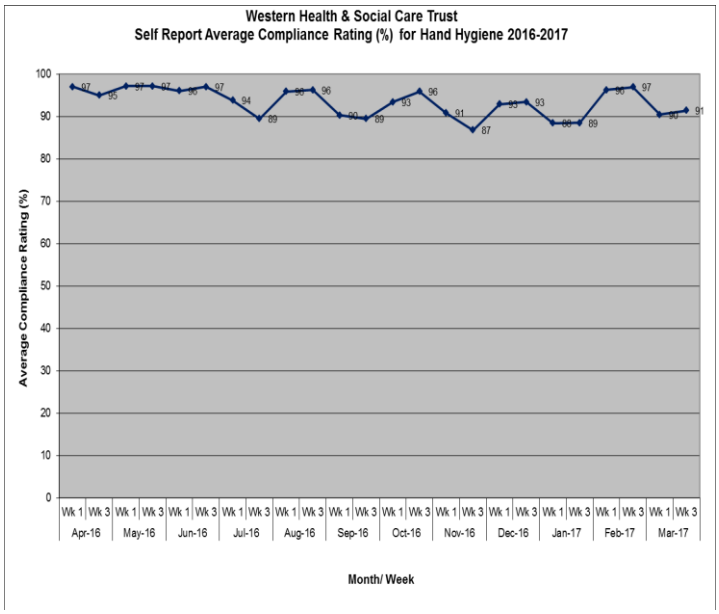
The Trust's overall self-reported hand hygiene scores are 90% when non-submission areas are included. These areas score an automatic 0%. 19 areas out of 193 applicable areas failed to submit scores for March 2018. They are as follows:

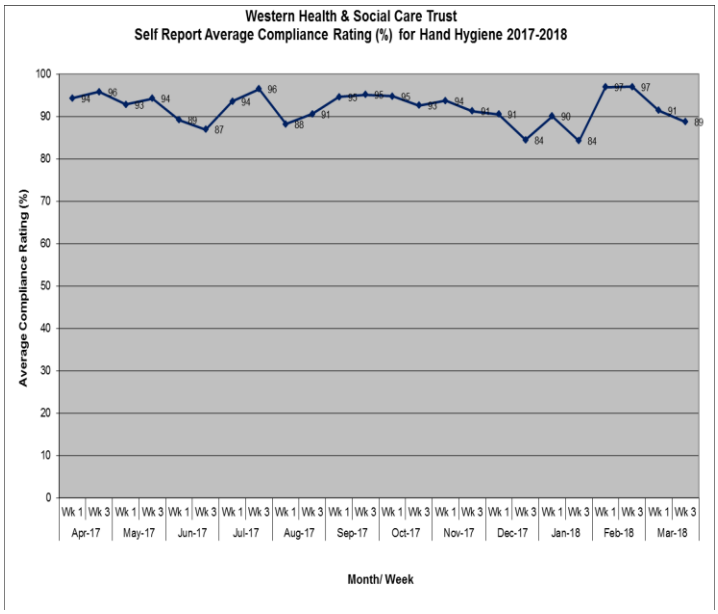
Altnagelvin – Ward 40, Ward 50, Emergency Department, Oncology Outpatients, Main Theatre 5 and GUM Clinic
SWAH – Ward 7, Ward 9 and Outpatients
OHPCC – Outpatients
Waterside – Ward 2, Ward 3 and Ward 4
Residential Homes – Thackeray Place Residential Home
Day Care – Creggan Day Centre, Tempo Road Day Centre and Drumhaw Day Centre
Other Community – The Cottages Children's Respite and Avalon House

GUM Clinic, SWAH Outpatients, OHPCC Outpatients, Ward 2 and Thackeray Place Residential Home also did not submit scores for the previous month.

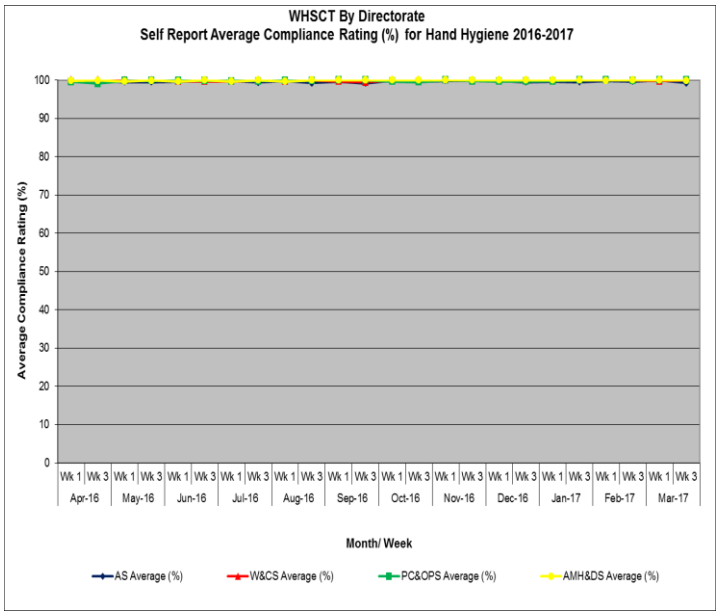


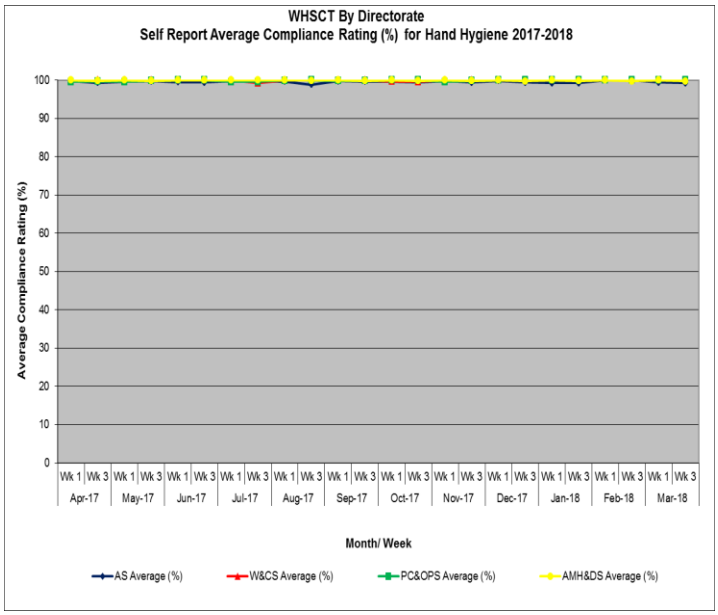


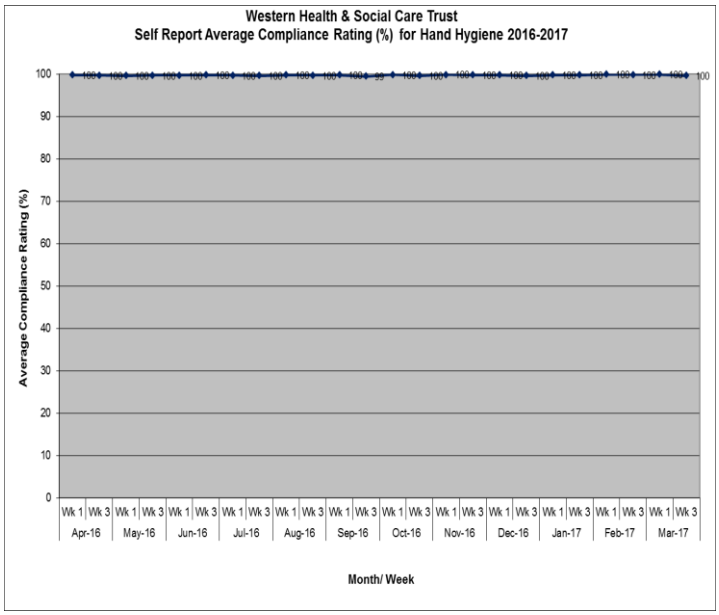


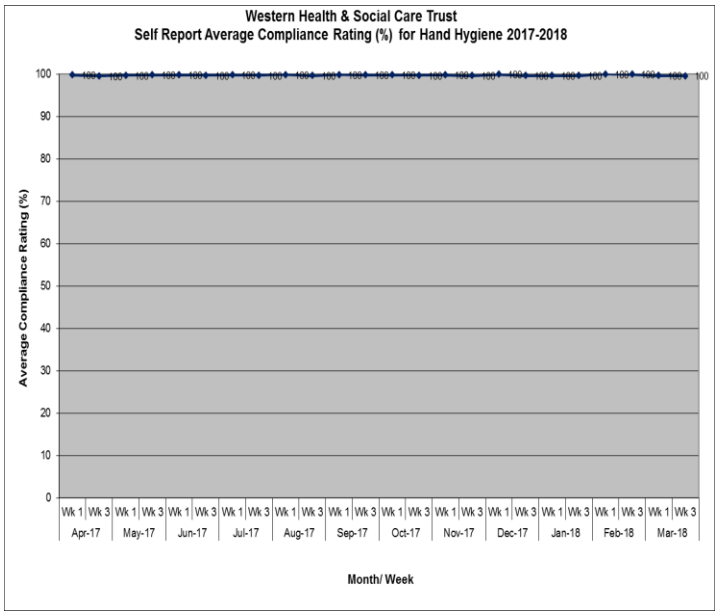


However, when adjusted for non-submission areas, the Trust's overall self-reported hand hygiene scores improve to 100%.









The hand hygiene dashboard has been circulated to Directors for action through their governance arrangements.

It is important to note that scores from independent audits conducted by the IP&C Team and Lead Nurses tend to be lower than self-reported scores.