

Infection Prevention & Control Report to Trust Board

Meeting Date – 11th January 2018

1. Executive Summary

The Trust's reduction target for *Clostridium difficile* (*C. difficile*) associated disease in 2017/18 is 44; a reduction of 12 cases or 21.43% compared to last year. To date 53 cases have been reported and, therefore, the reduction target set has been exceeded. 29 of these cases are 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 (24) are classified as community-acquired as the patients presented with symptoms within a 48 hour period after admission.

The MRSA bacteraemia reduction target for 2017/18 is five. Since the beginning of April three cases have been reported. They are all categorised as community-associated. As such, the Trust is currently on track to achieve the target, with a cumulative decrease of 20% compared to 2016/17.

As of 3rd January 2018, the total number of days since the last Trust hospital-associated MRSA bacteraemia is:

Altnagelvin Hospital – 854 days	(Last recorded case was in Ward 4)
South West Acute Hospital (SWAH) – 690 days	(Last recorded case was in Ward 8)
Tyrone County Hospital/ Omagh Hospital & Primary Care Complex (OHPCC) – 1084 days	(Last recorded case was in the Rehab Unit)

Ward 50, Altnagelvin, has had an increased incidence of patients with Glycopeptide-Resistant Enterococci (GRE) colonisations. Three of the four GRE clinical specimens have the same pulsed-field gel electrophoresis (PFGE) typing and links in time and place to Ward 50/ Sperrin Unit. A further three specimen typings are awaited. This increased incidence has now been defined as an outbreak. The Infection Prevention & Control (IP&C) Team has been providing support and reviewing practice on the ward/ unit since 2nd November 2017. All IP&C measures are in place, but assurances regarding standards of practice continue to remain suboptimal and close monitoring continues.

2. C. difficile Performance

The 2017/18 target for *C. difficile* (≥ 2 years) is 44 cases, which equates to a reduction of 21.43% on the baseline figure of 2016/17 (56 cases).

So far this year the Trust has reported 53 cases, with 24 of those being categorised as community-associated. Therefore, the target has been exceeded, with an overall increase of 26.19% compared to last year. This comprises an increase in healthcare-associated infection cases of 20.83% versus an increase in community-acquired infection cases of 33.33%.

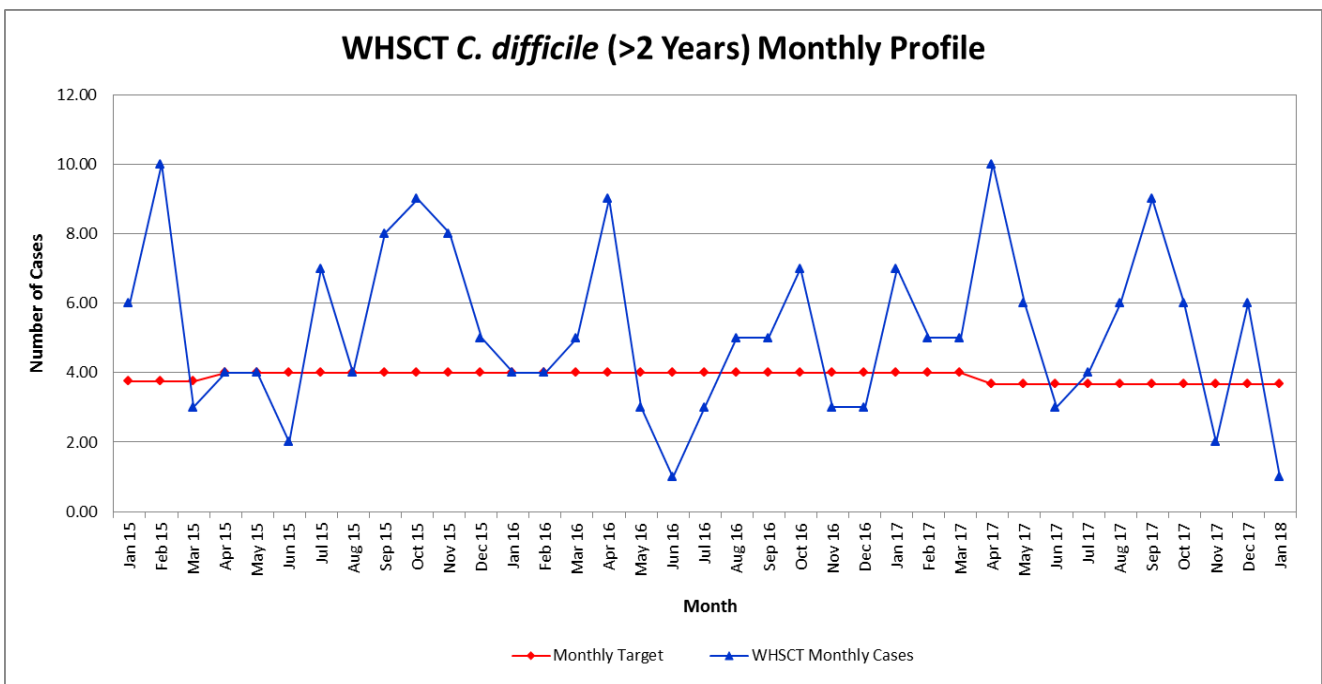
Since the last Report to Trust Board, which contained figures as at 30th November 2017, there have been seven new cases of *C. difficile* (breakdown below).

7 *C. difficile* cases → 3 HAI
 → 4 CAI ----- 1 of these was a previously positive CAI 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.

Following a root cause analysis (RCA) one of the HAI cases was found to be the result of the appropriate use of on-guideline antibiotics for the treatment of sepsis, hospital-acquired pneumonia and a urinary tract infection. Other risk factors identified included patient >65 years of age, recent hospital admission, prostate cancer, inflammatory bowel disease and diverticulosis.

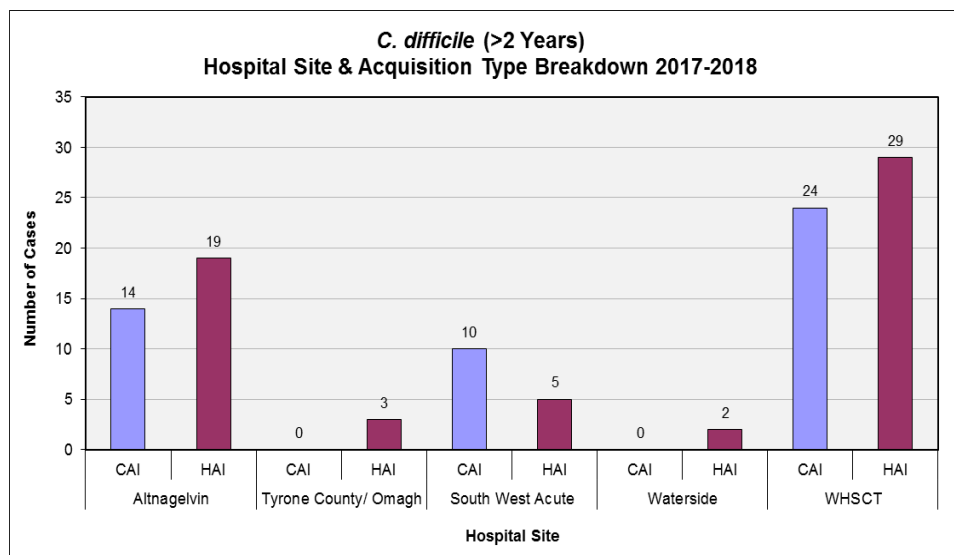
RCA's for the other six cases are pending.



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

A breakdown of the cases by hospital site and acquisition type (as of 3rd January 2018) is given in the chart below.

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



C. difficile/ Glutamate Dehydrogenase (GDH) 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 *C. difficile* infection (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 bundle and the *C. difficile* care pathway audit are undertaken by an IP&C Nurse whilst the patient remains an inpatient. Support and advice on compliance issues are discussed with ward staff at the time of the audits. Daily ward self-audits should also be completed by the ward team to give assurance regarding level of compliance.

In January 2017 the IP&C Nurses commenced similar audits for GDH cases. This improvement work regarding GDH is to reduce the likelihood of *C. difficile* bacteria starting to produce toxins, leading to CDI.

The two dashboards below summarise 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*/ GDH care bundles remains a challenge. The findings indicate issues around antibiotic prescribing, environmental decontamination and isolation/ cohort nursing.

C. difficile Audits

		Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17
Ward 1, Alt	Care Bundle			100%	100%		100%		100%	
	Care Pathway			Pass	Fail		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%			
	Care Pathway	Fail					Pass			
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 42, Alt	Care Bundle		67%		100%				100%	
	Care Pathway		Pass		Pass				Pass	
Ward 50 Sperrin, Alt	Care Bundle	50%	50%	0%				84% (A)		
	Care Pathway	Pass	Fail	Pass				Pass x 2		
CCU, Alt	Care Bundle		50%							
	Care Pathway		Pass							
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 6, SWAH	Care Bundle					100%				

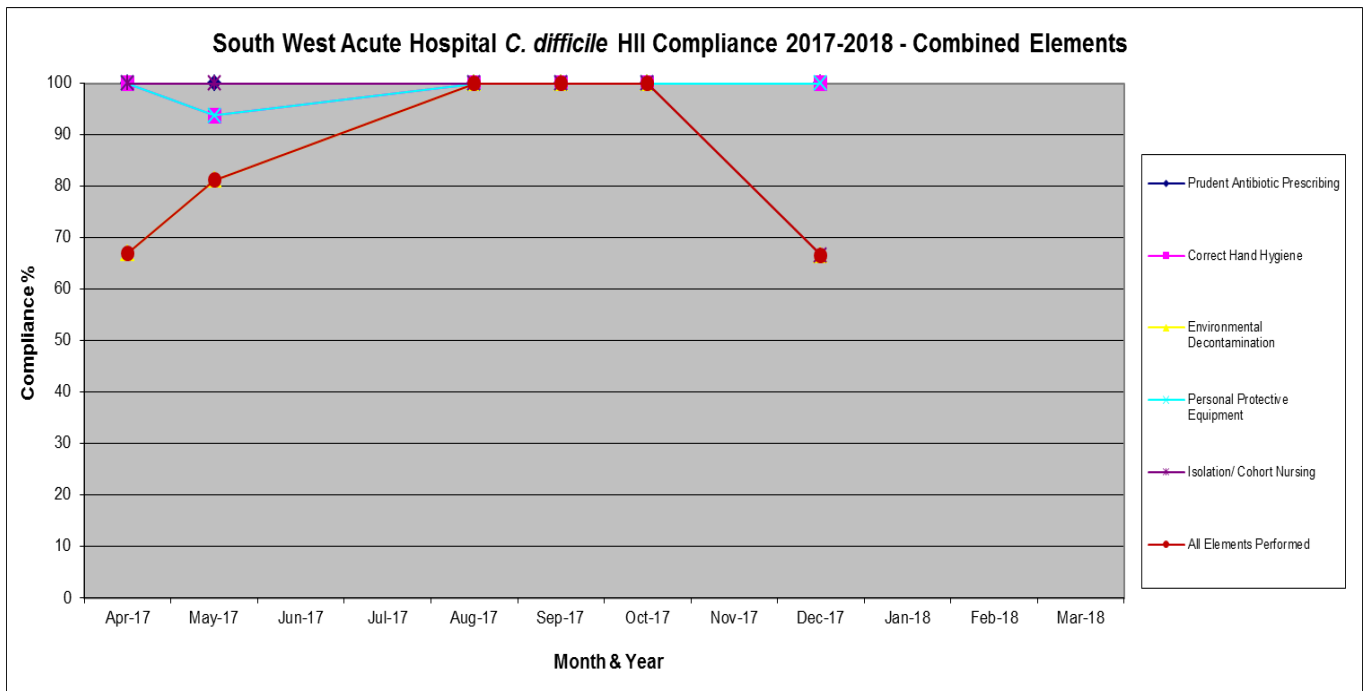
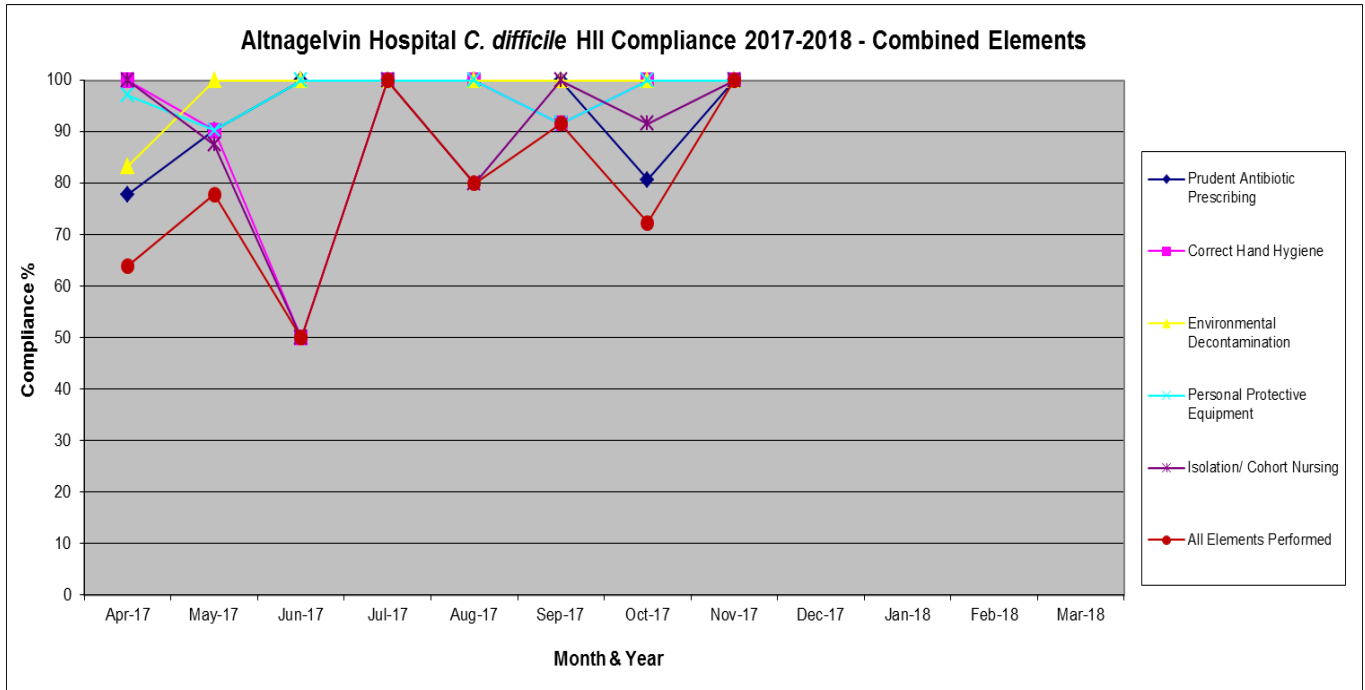
	Care Pathway					Pass				
Ward 7, SWAH	Care Bundle		100%				100% (A)			
	Care Pathway		Pass				Pass x 2			
Ward 8, SWAH	Care Bundle					100% (A)		100%		
	Care Pathway					Pass x 2		Pass		
Ward 9, SWAH	Care Bundle		50%							
	Care Pathway		Fail							
Critical Care, SWAH	Care Bundle									0%
	Care Pathway									Pass
Ward 3, Waterside	Care Bundle					100%				
	Care Pathway					Pass				

GDH Audits

		Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17
Ward 1, Alt	Care Bundle		100%					100%		
	Care Pathway							Fail		
Ward 2 TOU, Alt	Care Bundle		84% (A)	100%		100%			100%	38% (A)
	Care Pathway									Fail
Ward 3, Alt	Care Bundle					100%				
	Care Pathway									
Ward 7, Alt	Care Bundle	100% (A)			100%					
	Care Pathway									
Ward 20, Alt	Care Bundle					100%				50% (A)
	Care Pathway					Pass				
Ward 31, Alt	Care Bundle		0%		100%					
	Care Pathway									
Ward 32 ESU, Alt	Care Bundle		75%	80%	50%	25% (A)	0%	67%		
	Care Pathway		Fail					Fail		
Ward 40, Alt	Care Bundle			100%					0%	
	Care Pathway									
Ward 41 AMU, Alt	Care Bundle			100%			100%			
	Care Pathway			Fail			Pass			
Ward 50 Sperrin,	Care Bundle			100%	100%	100%				

Alt	Care Pathway									
CCU, Alt	Care Bundle				0%					
	Care Pathway									
ICU/ HDU, Alt	Care Bundle	50% (A)	100%		67%	67%				100%
	Care Pathway	Pass	Fail		Fail	Pass				Fail
Ward 1 MSAU, SWAH	Care Bundle							100%		
	Care Pathway									
Ward 2, SWAH	Care Bundle					0%			0%	
	Care Pathway					Fail				
Ward 3, SWAH	Care Bundle		34% (A)					100%		
	Care Pathway		Pass							
Ward 8, SWAH	Care Bundle		100%							
	Care Pathway		Fail							
Critical Care, SWAH	Care Bundle						100%			
	Care Pathway									
Ward 3, Waterside	Care Bundle							100%		100%
	Care Pathway									Pass

The two graphs below indicate the overall compliance of all of the elements of the *C. difficile* HII care bundle for Altnagelvin and the SWAH.



3. Pseudomonas

Pseudomonas aeruginosa is an opportunistic pathogen or coloniser, well known in the hospital environment. *Pseudomonas* is predominantly an environmental organism and is highly attracted to water sources. *Pseudomonas* is ubiquitous in the alimentary tract of humans and, therefore, carriage is normal and its presence is not indicative of infection. The term 'colonisation' is used to describe the identification of any organism without signs of infection. Specific groups of patients who are immunocompromised are at a higher risk of colonisation or infection than the normal population. The Trust has stringent measures in

place regarding the surveillance and management of *Pseudomonas* in augmented care areas and participates in the PHA surveillance as detailed below.

Pseudomonas Surveillance (Augmented Care* Areas Only)

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
14/15	0	1	0	0	0	1	3	0	1	0	0	0	6
15/16	0	0	0	0	0	0	0	0	0	1	0	0	1
16/17	0	0	0	0	0	0	0	1	1	1	0	0	3
17/18	0	1	0	0	1	0	0	1	0	0 [†]			

* The PHA defines augmented care as NNICU, Adult ICU/ HDU, Renal, Oncology/ Haematology.

[†] This value is subject to change as the report was compiled prior to the end of the month.

Since the beginning of April 2017 three cases have been reported. All are categorised as healthcare-associated.

The most recent healthcare-associated positive blood culture in an augmented care area pertained to an inpatient admission in Ward 50, Altnagelvin, in November 2017. All IP&C measures and assurance audits were carried out. Environmental screening and water sampling were performed and all tested negative for *Pseudomonas aeruginosa*.

4. Hand Hygiene Compliance

The Trust's overall self-reported hand hygiene scores are 93% when non-submission areas are included. These areas score an automatic 0%. 13 areas out of 193 applicable areas failed to submit scores for November 2017. They are as follows:

Altnagelvin – Ward 41 AMU, Ward 42, Ward 50 Sperrin and GUM Clinic

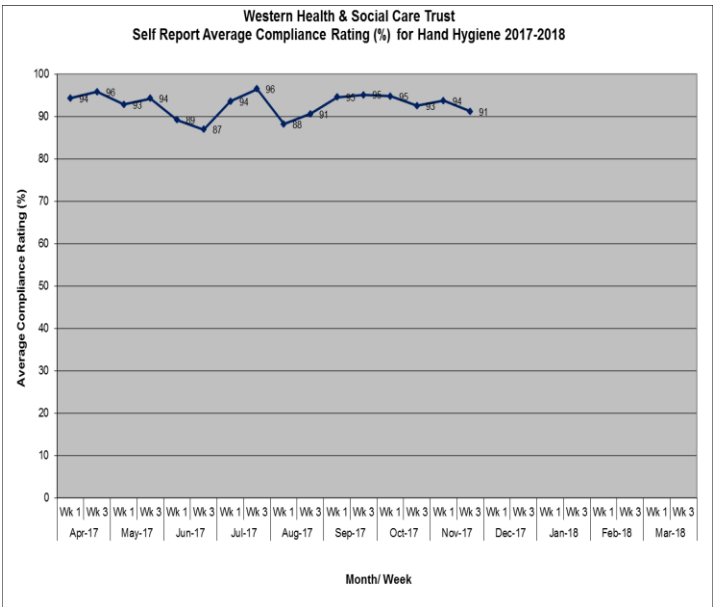
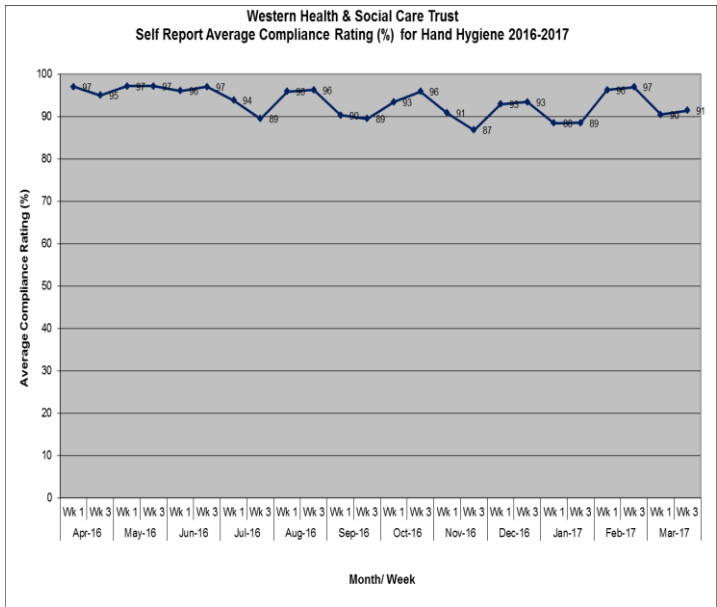
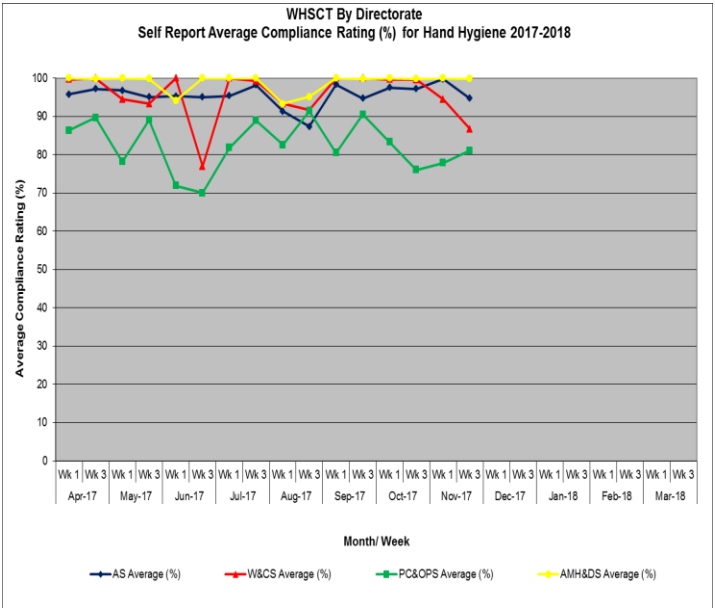
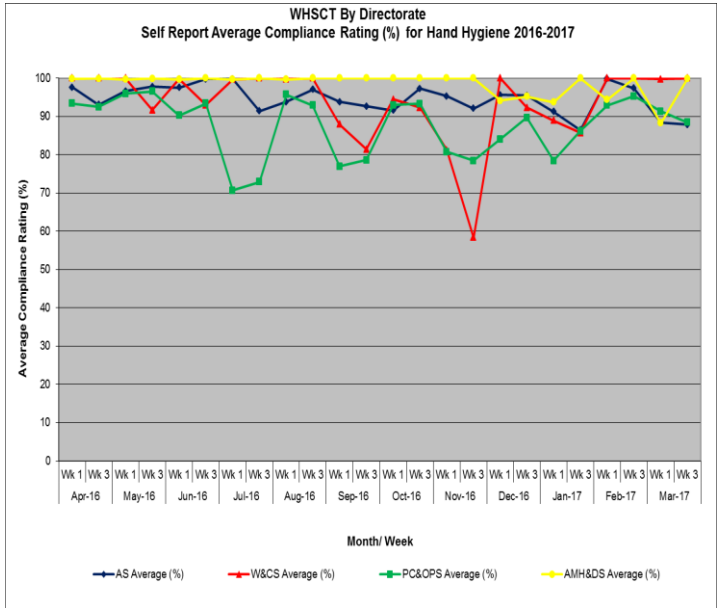
SWAH – Ward 7 and Emergency Department

Residential Homes – Thackeray Place Residential Home

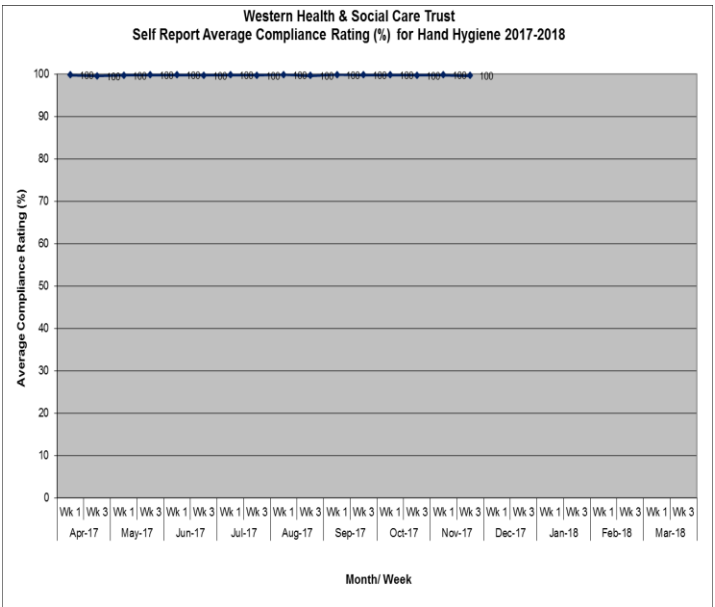
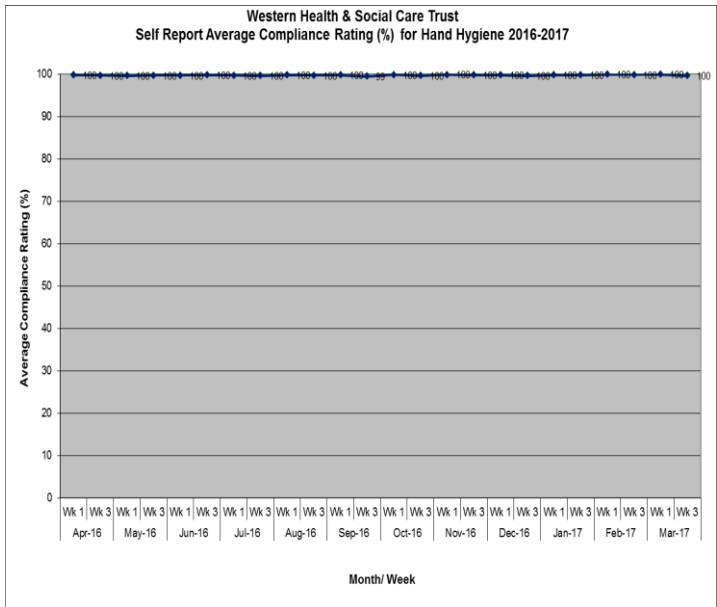
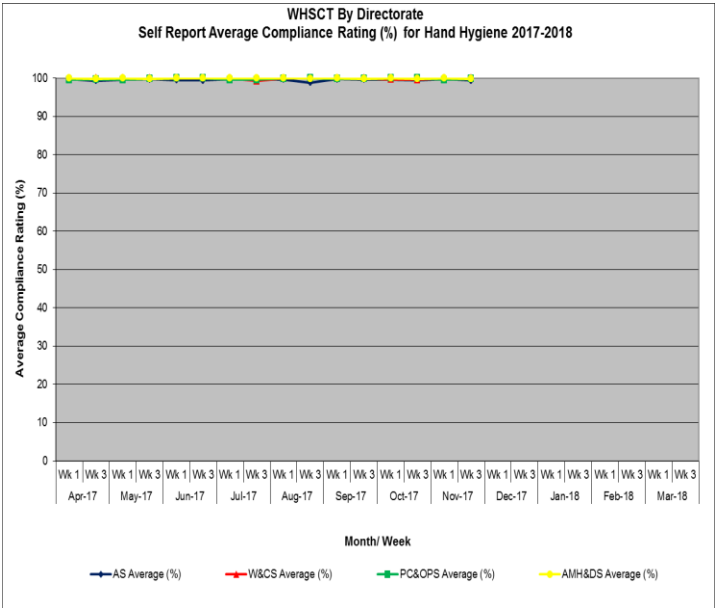
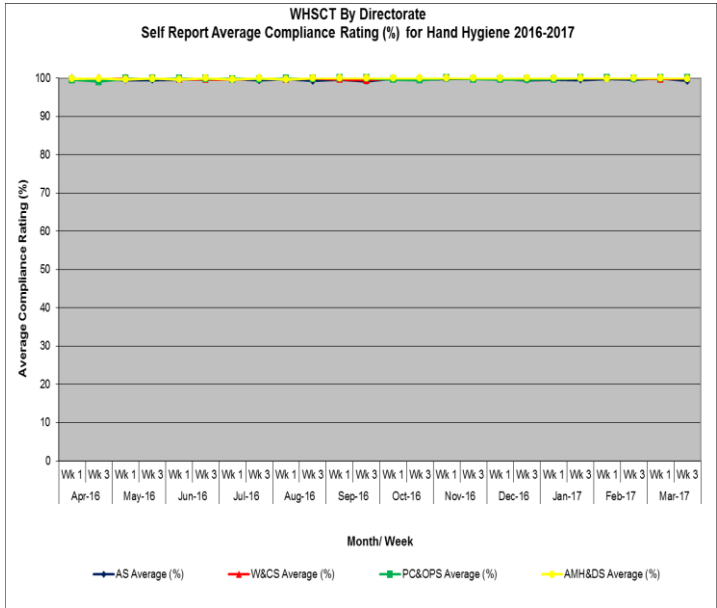
Day Care – Creggan Day Centre, Gortin Day Centre, Beragh Day Centre, Newtownstewart Day Centre and Foyleville Day Centre

Other Community – The Cottages Children's Respite

Ward 42, Ward 7, Thackeray Place Residential Home, Gortin Day Centre, Beragh Day Centre and Newtownstewart Day Centre 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.

5. Antimicrobial Management Team

The Antimicrobial Management Team met in October and November 2017.

Western Health & Social Care Trust (WHST) Antimicrobial Usage Report

Overall antibiotic usage is increasing. It was agreed that this report was to be sent to every prescribing consultant and the Medical Leaders Group.

Regional Comparison of Antimicrobial Consumption

The WHST has the highest consumption of carbapenems, piperacillin-tazobactam, co-amoxiclav and quinolones compared to the Northern, Southern and South Eastern Trusts.

The HCAI Improvement Board at the PHA has a sub-group looking at producing these reports regionally. It was agreed that this report was to be sent to every prescribing consultant and the Medical Leaders Group.

Antimicrobial Stewardship Policy

This requires further consultation. To be sent to all consultants, prescribers and to the Trust Nursing & Midwifery Governance Committee.

Surveillance of Antimicrobial Use and Resistance in Northern Ireland (NI) Annual Report 2017

Primary Care has the highest usage (85%) with Secondary Care usage at 15%.

Point Prevalence Survey of Antimicrobial Use and Healthcare Associated Infection (HCAI) 2017

Preliminary data has been received comparing the WHSCT with other trusts in NI and this data will be shared in detail once confirmed by the PHA. HCAI trends have increased in NI, with the WHSCT HCAI rate slightly below the NI average. Compliance with Antimicrobial Prescribing Guidelines is 72% for Altnagelvin and 74% for the SWAH. Piperacillin-tazobactam is the most commonly used antibiotic, followed by co-amoxiclav.

6. New and Updated Infection Prevention & Control Guidance

The following guidance was approved by the Chief Executive HCAI Accountability Forum in November 2017. Four were updates of existing documents and one was a newly developed guideline for the Trust.

Updated:

- Guidelines for the Prevention and Control of Viral Hepatitis
- Guidelines on the Management and Collection of Specimens
- Infection Prevention & Control Advice for Western Health & Social Care Trust Students and Volunteers Leaflet
- Infection Prevention & Control Policy for Management of *Clostridium difficile* Associated Infection [also approved by Trust Board on 7th December 2017]

New:

- Guidelines for the Management of Suspected/ Confirmed Norovirus in Acute and Community Facilities Within the Western Health & Social Care Trust

7. IP&C Nurse Independent Audits

The IP&C Team have focused improvement work and independent validation audits in Ward 50 and the Sperrin Unit since November 2017. This improvement and audit work has focused on hand hygiene, isolation precautions, the delivery of care, patient equipment and the care environment, but evidence of improvement to reach the required standards of practice has been slow.

The IP&C Nurses have also commenced improvement work to reduce the numbers of gram-negative organisms. This work has commenced, in the first instance, with District Nursing Teams regarding urinary catheter care. Baseline audits of urinary catheter insertion and catheter care by District Nurses has been completed across the Trust. During December 2017 the WHSCT also participated in a United Kingdom-wide Community Urinary Catheter Management Study. This was co-ordinated by the Infection Prevention Society and through the University of West London.