Western Health and Social Care Trust

Infection Prevention & Control Report to Trust Board

Meeting Date – 7th November 2019

1. Executive Summary

Reduction Targets

The Department of Health for Northern Ireland has now issued healthcare-associated infection reduction targets for 2019/20.

For Meticillin-Resistant *Staphylococcus aureus* (MRSA) bacteraemia, the Trust's target is five cases. That is a reduction of two cases or 28.57% compared to 2018/19 (seven cases).

The Trust's reduction target for *Clostridium difficile* (*C. difficile*) associated disease is 56; a reduction of nine cases or 13.85% compared to last year.

With regard to healthcare-associated gram-negative bacteraemia (GNB), specifically *Escherichia coli*, *Klebsiella species* and *Pseudomonas aeruginosa*, the Trust is expected to maintain the reduction achieved in 2018/19 – a maximum of 49 cases.

Current *C. difficile* Performance

So far this year 45 cases of *C. difficile* have been reported. 24 of the cases are classified as healthcare-acquired or associated as they occurred more than 72 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 (21) are classified as community-acquired as the patients presented with symptoms within a 72 hour period after admission.

Current MRSA Bacteraemia Performance

Since the beginning of April 2019 two MRSA bacteraemia cases have been reported. They are both categorised as community-associated as they occurred less than 48 hours after admission to hospital (definition used by the PHA).

Current GNB Performance

As of 31st October 2019, 41 healthcare-associated GNB cases have been reported. Therefore, the Trust is currently off profile to meet the target, with a cumulative increase of 30.29%.

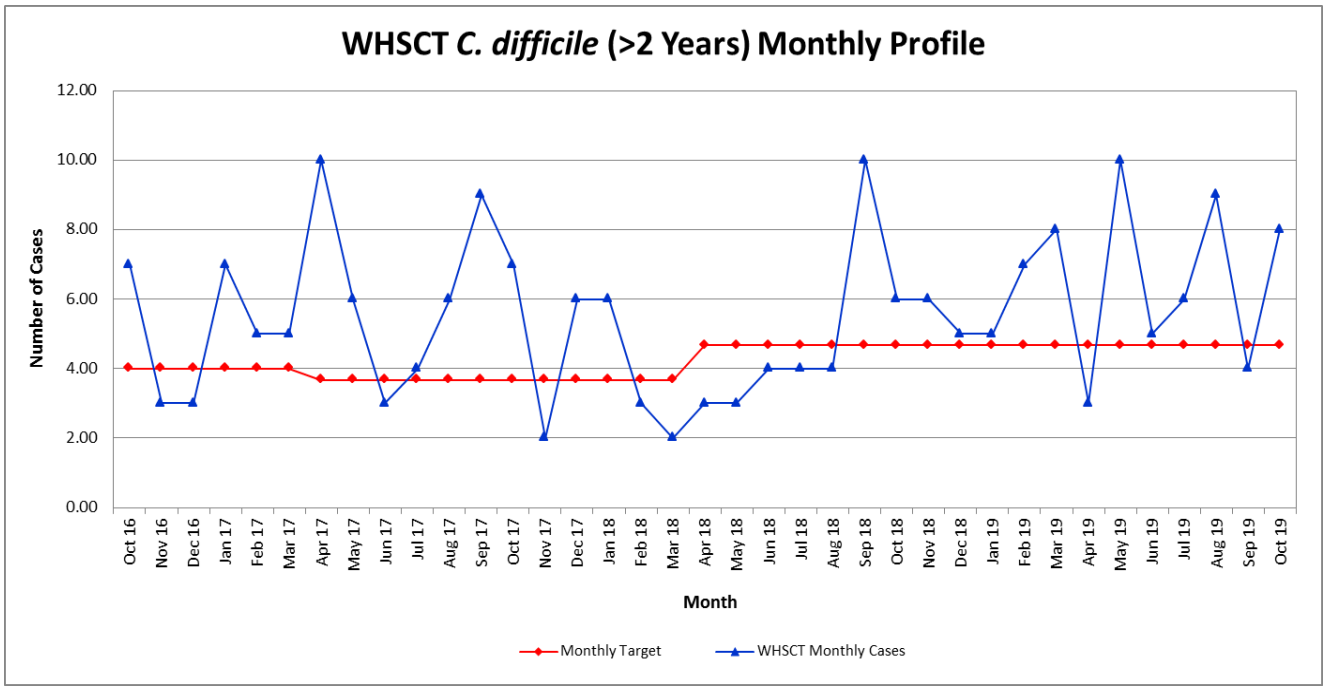
Pseudomonas aeruginosa in the Renal Unit, Altnagelvin

The potential source of the contamination was identified and remedial works have successfully eradicated *Pseudomonas aeruginosa* from the water system. The Incident Team was stood down on 1st October 2019. Normal arrangements for the monitoring and reporting of water quality as per the Trust Water Safety Plan and Water Safety Group have been reinstated.

2. *C. difficile* Performance

The 2019/20 target for *C. difficile* (≥ two years) is 56 cases, which equates to a reduction of 13.85% on the baseline figure of 2018/19 (65 cases).

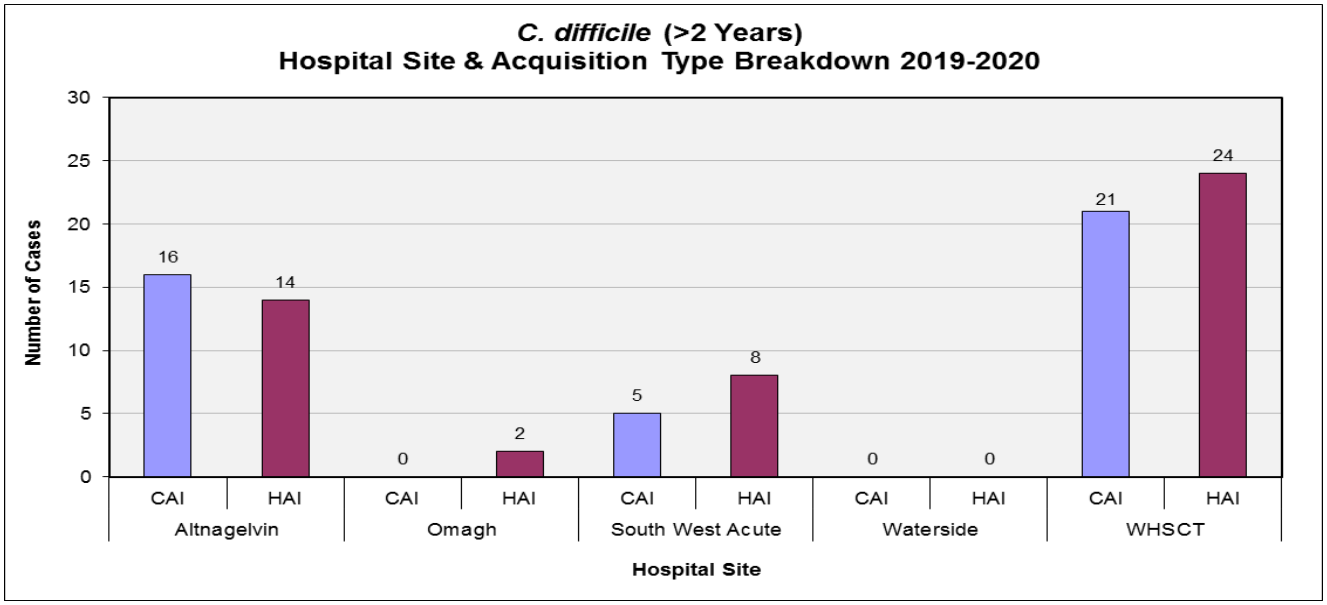
As of 31st October 2019, 45 cases have been reported, with 21 of those being categorised as community-associated. Therefore, the Trust is currently off profile, with a cumulative increase of 18.67% compared to 2018/19. This comprises an increase in healthcare-associated infection cases of 17.53% versus an increase in community-acquired infection cases of 20%.



* *The value for Oct 19 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 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 25th September 2019, there have been 11 new cases of *C. difficile* (breakdown below). Root cause analyses (RCA) are required for six of these cases. Two RCAs have been completed and four are currently pending.

11 *C. difficile* cases → 5 CAI
11 *C. difficile* cases → 6 HAI

Preventable/ Non-Preventable

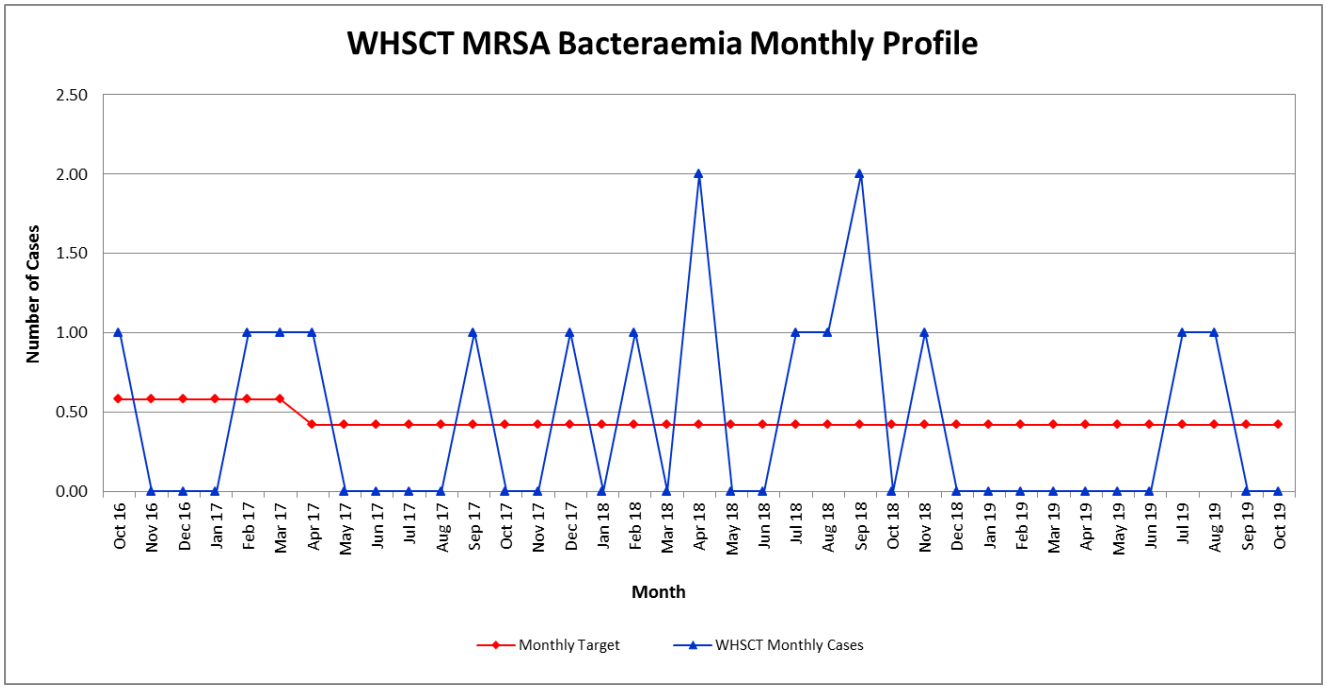
In respect of *C. difficile* cases occurring during 2019/20 a total of 24 RCAs have been conducted. The RCAs found that three of the cases were preventable, 16 were non-preventable and five were difficult to determine.

3. *S. aureus* Bacteraemia Performance

MRSA Bacteraemia

The 2019/20 target for MRSA bacteraemia is five cases, which equates to a reduction of 28.57% on the baseline figure of 2018/19 (seven cases).

Since the beginning of April 2019 two cases have been reported. Both are categorised as community-associated. As such, the Trust is currently on track to achieve the reduction target, with a cumulative decrease of 50.98% compared to last year.



* *The value for Oct 19 is subject to change as the report was compiled prior to the end of the month.*

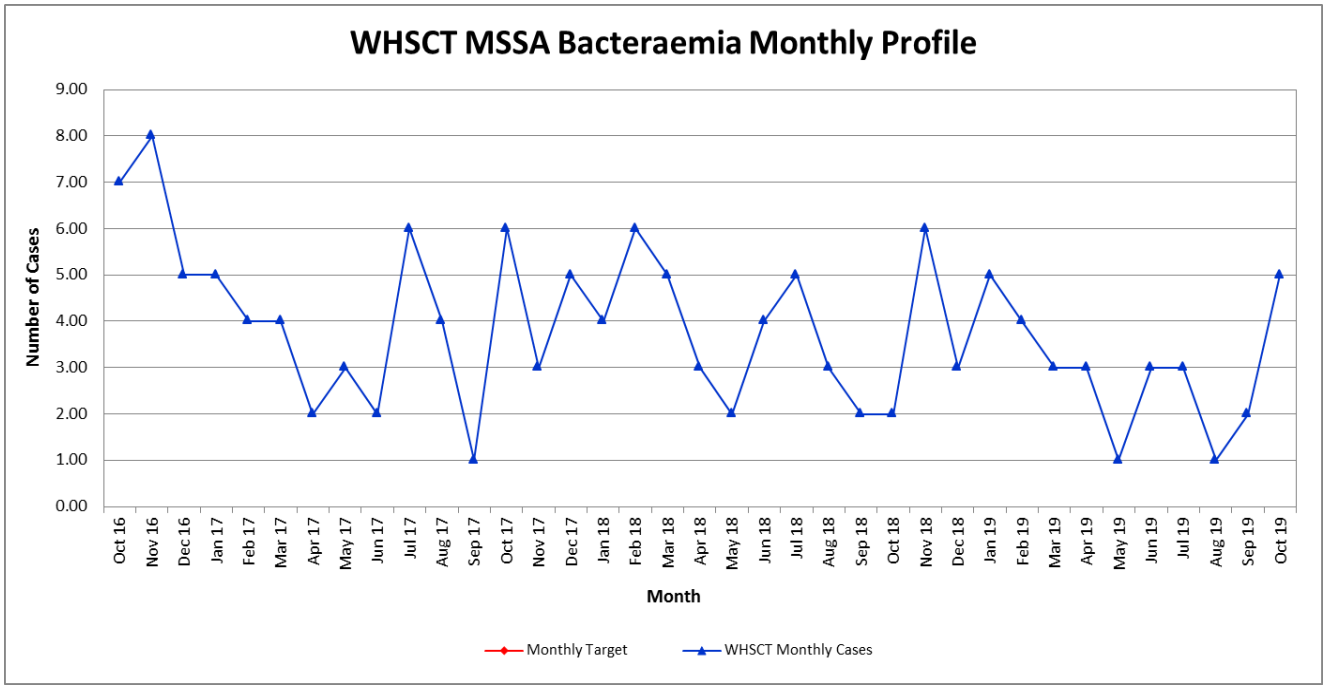
As of 31st October 2019, the total number of days since the last Trust hospital-associated MRSA bacteraemia is:

Altnagelvin Hospital – 360 days (Last recorded case was in Ward 42)
South West Acute Hospital (SWAH) – 1356 days (Last recorded case was in Ward 8)
Tyrone County Hospital/ Omagh Hospital & Primary Care Complex (OHPCC) – 1745 days (Last recorded case was in the Rehab Unit)

Meticillin-Sensitive Staphylococcus aureus (MSSA) Bacteraemia

There is no reduction target associated with MSSA bacteraemia for 2019/20, however surveillance remains 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.

So far this year the Trust has reported 18 cases.



* *The value for Oct 19 is subject to change as the report was compiled prior to the end of the month.*

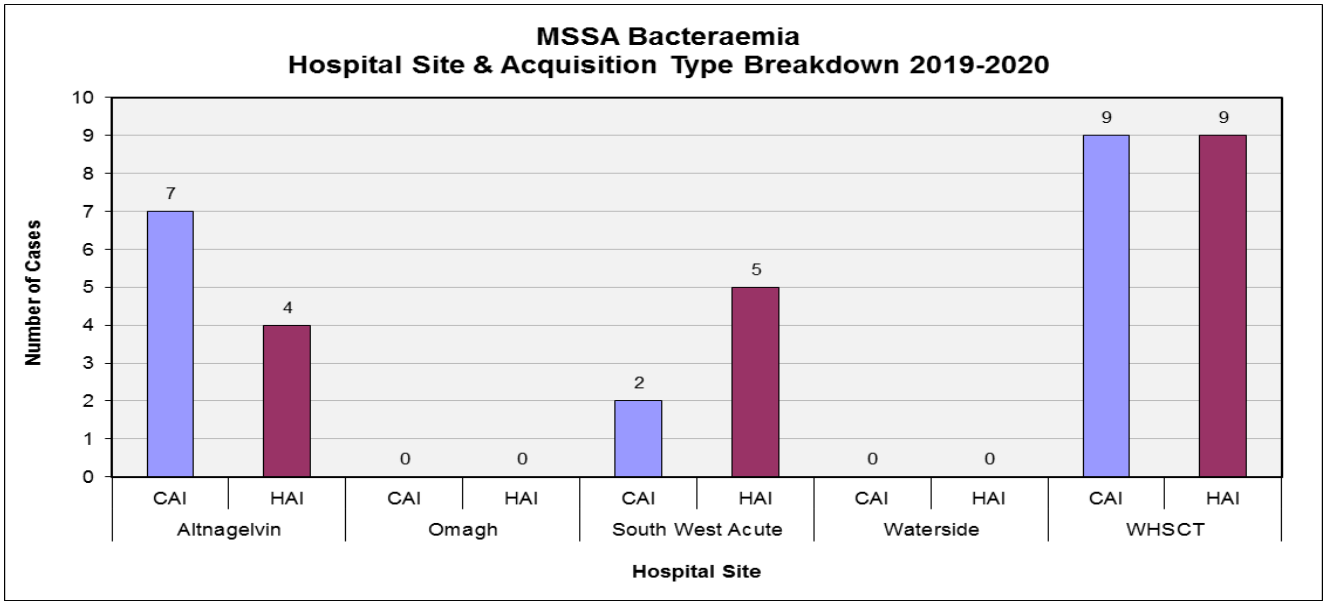
Since the beginning of April 2019 nine cases have been categorised as Trust hospital-associated. As of 31st October 2019, the total number of days since the last Trust hospital-associated MSSA bacteraemia is as follows:

Altnagelvin – 19 days	(Last recorded case was in Ward 42)
SWAH – 12 days	(Last recorded case was in Ward 9)
OHPCC – 745 days	(Last recorded case was in the Rehab Unit)

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



4. ***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
2016/17	0	0	0	0	0	0	0	1	1	1	0	0	3
2017/18	0	1	0	0	1	0	0	1	0	0	0	0	3
2018/19	0	0	1	1	0	0	0	0	1	0	0	0	3
2019/20	0	0	0	2	0	0	0†						2†

* *The PHA defines augmented care as NNICU, Adult ICU/ HDU, Renal, Oncology/ Haematology.*
† *These values are subject to change as the report was compiled prior to the end of the month/ year.*

Since the beginning of April 2019 two *Pseudomonas* cases have been reported. Both were categorised as healthcare-associated.

The most recent healthcare-associated positive blood cultures in an augmented care area pertained to two inpatient admissions in Ward 50, Altnagelvin, in July 2019. All infection prevention and control (IP&C) measures and assurance audits were carried out. Environmental screening and water sampling were performed and all tested negative for *Pseudomonas aeruginosa*. Tying of the two specimens found them to be different, indicating that transmission had not occurred.

Prior to this, there had been no healthcare-associated positive blood cultures in augmented care areas since November 2017.

5. Learning from Root Cause Analysis Process

RCA is a technique that helps answer the question of why an infection occurred in the first place. It seeks to identify the origin of the problem using a specific set of steps and tools to determine why it happened and to develop an action plan to reduce the likelihood of it happening again. Details of the learning from RCAs carried out during quarter three 2019 (July-September) follow.

C. difficile

Nine *C. difficile* cases met the criteria for and were investigated by RCA within this period. Two were completed within the required 30 day timeframe and three were subsequently referred to Mortality & Morbidity meetings. Five patients had a previous history of *C. difficile* infection or Toxin B Gene (formerly glutamate dehydrogenase [GDH]).

The main causes of patients developing *C. difficile* associated diarrhoea were the use of antibiotics (seven patients) and proton pump inhibitors (three patients). Two patients received antibiotics prescribed in hospital which were not on guideline and one patient was prescribed antibiotics by their GP which were not on guideline.

One of the cases was deemed to have been preventable.

Examples of things that went wrong, identified during the RCA process, include:

- Incomplete details provided on a laboratory request form so the specimen was unable to be processed.
- Patients not sampled within the appropriate timeframe.
- Delays in the commencement of Bristol Stool Charts.
- A missed opportunity to re-sample for *C. difficile* as symptoms continued and increased following an initial negative result.
- Failures in *C. difficile* audits due to there being no stop dates on antibiotic prescriptions and no enhanced clean carried out.

MRSA Bacteraemia

Two MRSA bacteraemia cases were investigated by RCA within this period. None took place within the required 30 day timeframe. One case was deemed to be preventable.

Issues highlighted during the RCAs were:

- A relative cared for the patient's catheter and provided flushes. However, there was no assurance from the District Nursing Team that the relative had any education or updated training on catheter care management or hand hygiene. Same to be provided.
- Nursing staff raised concerns regarding agency staff and poor hand hygiene compliance. Hand hygiene audits were not available. Same not being reported when observed.
- No ongoing catheter care documentation/ urinary catheter care pathway.
- Staff were unsure of their IP&C Mandatory Training record.
- IP&C Link Nurse and aseptic non-touch technique (ANTT) core trainer to be allocated within District Nursing Team.

MSSA Bacteraemia

Three MSSA bacteraemia cases were investigated by RCA within this period. None took place within the required 30 day timeframe. One case was deemed to be preventable.

Issues identified during the RCAs were:

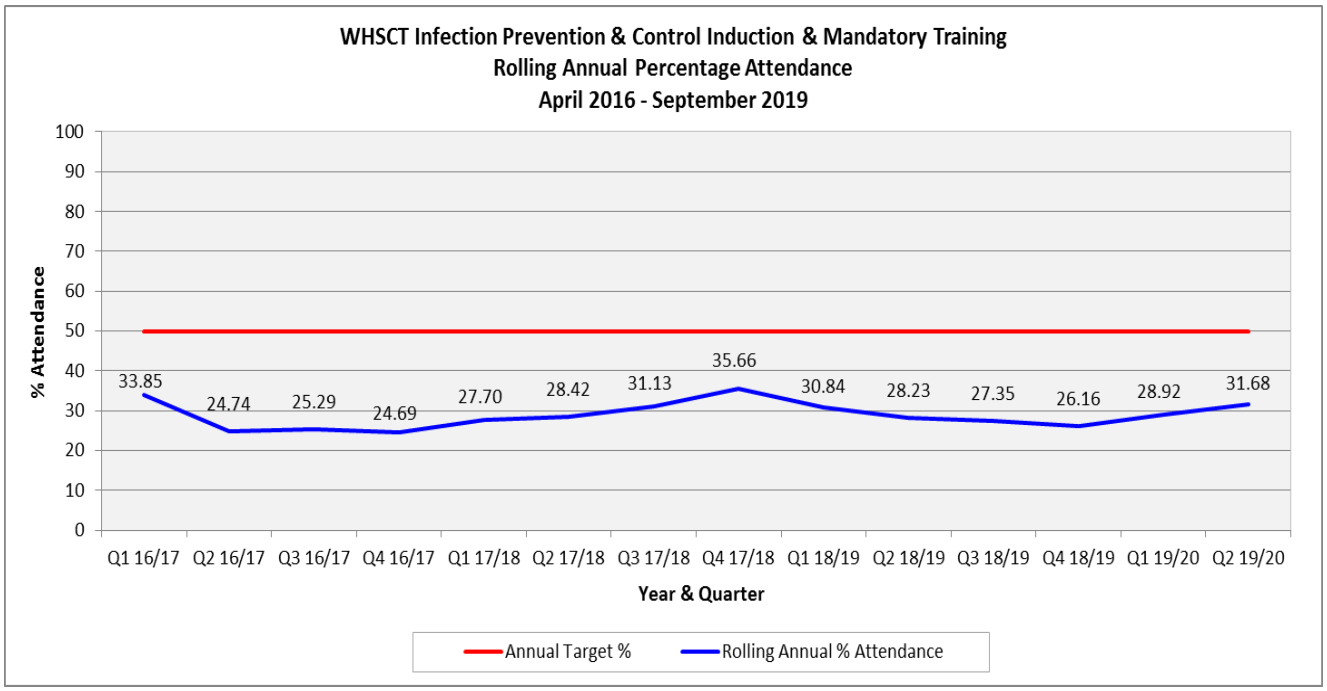
- Antibiotic treatment was not prescribed correctly for MSSA bacteraemia despite advice from Consultant Microbiologist.
- Patient's discharge letter stated that they were diagnosed with an *E. coli* bacteraemia on admission but there were no laboratory isolates to match this. Medical representative to follow up regarding same.

6. Attendance at Infection Prevention & Control Training

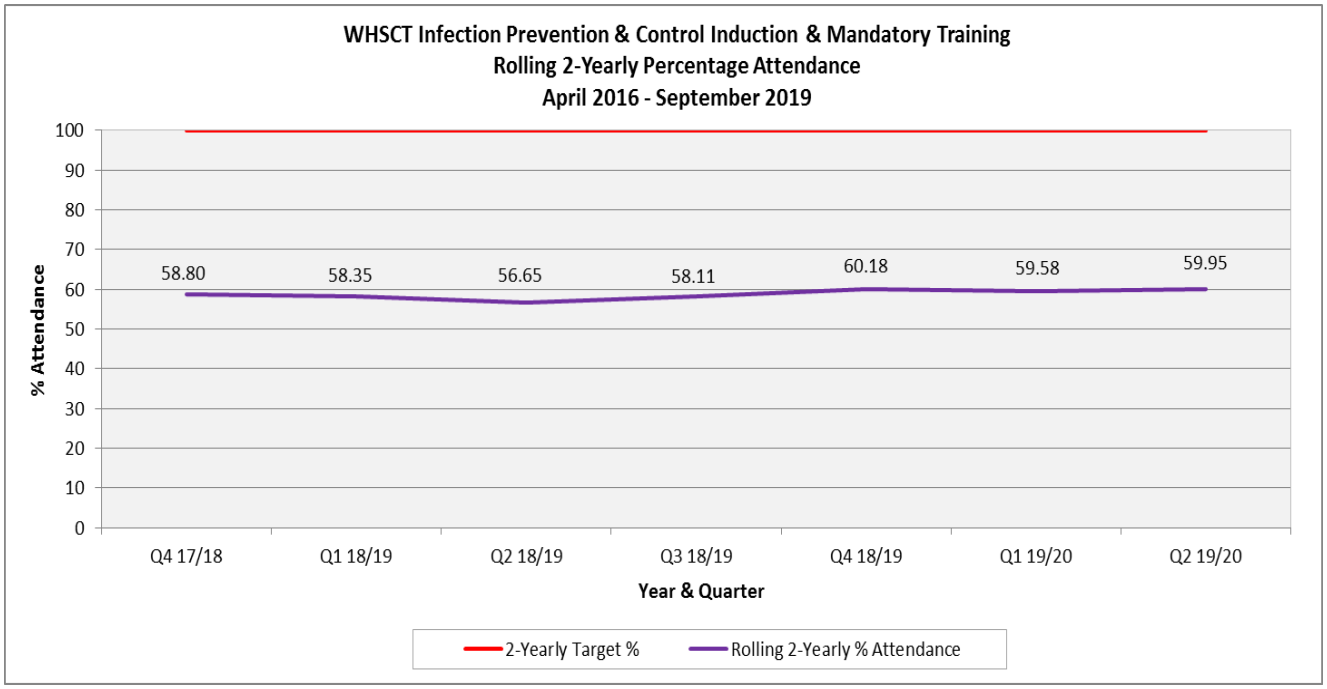
Induction/ Mandatory Training

39 Induction and Mandatory Training sessions were delivered by the IP&C Team during the period April to September 2019. That is an average of 1.5 sessions per week across the Trust. As of the end of September, 1656 staff had attended the training (1115 in the Northern Sector and 541 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 31.68% for the 12 months ending September 2019 – well below the required target. Development of the regional e-learning programme is progressing well and this will support a new tiered structure for Mandatory IP&C Training with anticipated launch in early 2020.



As attendance at IP&C Training is required on a biennial basis, the attendance rate over a 24 month period has also been calculated. As of the end of September 2019 it is 59.95%.



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

7. IP&C Nurse Independent Audits

The tables below show compliance on a number of IP&C key performance indicators for wards/ departments where audits have been completed most recently by the IP&C Team. Some scores are marked with (A), indicating that a number of audits took place during that month and an average score has been recorded.

WARD 2 TOU, ALTNAGELVIN

Audit Type	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
Hand Hygiene													
C. difficile			100%		50%	0%							
C. difficile Care Pathway			Fail		Pass	Fail							
Peripheral Line Ongoing Care													
Urinary Catheter Ongoing Care													
ANTT: Peripheral Venepuncture													
QIT: Isolation Precautions													
Cleaning & Decontamination													
Commode													
Mattress													
Organism Type													**Total**
MRSA Colonisation (HCAI only)													0
MRSA Bacteraemia (HCAI only)													0
C. difficile (HCAI only)			1		1		1						3

WARD 22 SPECIALIST MEDICINE, ALTNAGELVIN

Audit Type	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
Hand Hygiene	50%				100%								
C. difficile	0%	100%	100%	67% (A)		0%							
C. difficile Care Pathway	Pass	Fail	Pass	Pass x 2		Pass							
Peripheral Line Ongoing Care					30%								
Urinary Catheter Ongoing Care													
ANTT: Peripheral Venepuncture													
QIT: Isolation Precautions													
Cleaning & Decontamination													
Commode	67%												
Mattress													
Organism Type													**Total**
MRSA Colonisation (HCAI only)	1												1
MRSA Bacteraemia (HCAI only)													0
C. difficile (HCAI only)				1									1

WARD 24 GENERAL MEDICINE, ALTNAGELVIN

Audit Type	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
Hand Hygiene					67%		100%						
C. difficile		50%		100%		0%							
C. difficile Care Pathway		Fail		Pass		Pass							
Peripheral Line Ongoing Care		25%			22%	75%							
Peripheral Line Insertion					0%								
Urinary Catheter Ongoing Care													
ANTT: Peripheral Venepuncture													
ANTT: Peripheral & Central IV Therapy													
QIT: Isolation Precautions							100%						
QIT: Standard Precautions													
Commode							100%						
Organism Type													**Total**
MRSA Colonisation (HCAI only)					2								2
MRSA Bacteraemia (HCAI only)													0
C. difficile (HCAI only)							1						1

WARD 32 ESU, ALTNAGELVIN

Audit Type	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
Hand Hygiene	100%												
C. difficile	100% (A)			0%			0% (A)						
C. difficile Care Pathway	Pass x 3			Pass			Pass x 2						
Peripheral Line Ongoing Care													
Peripheral Line Insertion													
Urinary Catheter Ongoing Care													
QIT: Isolation Precautions	75%												
QIT: Standard Precautions													
Cleaning & Decontamination													
Commode													
Mattress													
Organism Type													**Total**
MRSA Colonisation (HCAI only)						1							1
MRSA Bacteraemia (HCAI only)													0
C. difficile (HCAI only)							1						1

Western Health and Social Care Trust

WARD 40, ALTNAGELVIN

Audit Type	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
Hand Hygiene													
C. difficile							0%						
C. difficile Care Pathway							Pass						
Peripheral Line Ongoing Care													
Urinary Catheter Ongoing Care													
ANTT: Peripheral Venepuncture	27% (A)												
ANTT: Peripheral & Central IV Therapy													
QIT: Isolation Precautions													
Commode													
Organism Type													**Total**
MRSA Colonisation (HCAI only)													0
MRSA Bacteraemia (HCAI only)													0
C. difficile (HCAI only)							1						1

WARD 42, ALTNAGELVIN

Audit Type	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
Hand Hygiene				50%	88% (P)	82%	70%						
C. difficile					0%	67%	34% (A)						
C. difficile Care Pathway					Pass	Fail	Pass x 2						
Peripheral Line Ongoing Care				13%									
Peripheral Line Insertion													
Urinary Catheter Ongoing Care													
Urinary Catheter Insertion													
ANTT: Indwelling Urinary Catheterisation							100%						
QIT: Isolation Precautions				0%	100%	50%							
Cleaning & Decontamination				60%		71%							
Commode					75%	100%							
Organism Type													**Total**
MRSA Colonisation (HCAI only)		1											1
MRSA Bacteraemia (HCAI only)													0
C. difficile (HCAI only)					1								1

WARD 49 NNICU, ALTNAGELVIN

Audit Type	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
Hand Hygiene	100% (A)	100% (A)		100% (A)	100%	100%							
Peripheral Line Ongoing Care													
Urinary Catheter Ongoing Care													
QIT: Isolation Precautions	100% (A)	100% (A)		100% (A)									
Cleaning & Decontamination		100%											
Organism Type													**Total**
MRSA Colonisation (HCAI only)	3			1	1								5
MRSA Bacteraemia (HCAI only)													0
C. difficile (HCAI only)													0

WARD 50 SPERRIN, ALTNAGELVIN

Audit Type	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
Hand Hygiene				100%			100%						
C. difficile		75% (A)											
C. difficile Care Pathway		Pass x 1 Fail x 1											
Peripheral Line Ongoing Care													
ANTT: Peripheral & Central IV Therapy				100%									
QIT: Isolation Precautions							60%						
Cleaning & Decontamination													
Commode							100%						
Organism Type													**Total**
MRSA Colonisation (HCAI only)													0
MRSA Bacteraemia (HCAI only)													0
C. difficile (HCAI only)		1		1									2

RENAL UNIT, ALTNAGELVIN

Audit Type	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
Hand Hygiene						84%							
C. difficile													
C. difficile Care Pathway													
Peripheral Line Ongoing Care													
Urinary Catheter Ongoing Care													
QIT: Isolation Precautions						100%							
Cleaning & Decontamination						82%							
Commode													
Organism Type													**Total**
MRSA Colonisation (HCAI only)													0
MRSA Bacteraemia (HCAI only)													0
C. difficile (HCAI only)													0

WARD 2, SWAH

Audit Type	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
Hand Hygiene													
C. difficile	100%				25%		100%						
C. difficile Care Pathway	Pass				Pass		Pass						
Peripheral Line Ongoing Care		60%											
ANTT: Peripheral & Central IV Therapy													
Organism Type													**Total**
MRSA Colonisation (HCAI only)													0
MRSA Bacteraemia (HCAI only)													0
C. difficile (HCAI only)					1								1

WARD 3, SWAH

Audit Type	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
Hand Hygiene													
C. difficile	100%					0%	0%						
C. difficile Care Pathway	Fail					Pass	Pass						
Peripheral Line Ongoing Care													
Urinary Catheter Ongoing Care													
ANTT: Peripheral & Central IV Therapy													
QIT: Isolation Precautions													
Commode													
Organism Type													**Total**
MRSA Colonisation (HCAI only)													0
MRSA Bacteraemia (HCAI only)													0
C. difficile (HCAI only)					1	1							2

WARD 7, SWAH

Audit Type	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
Hand Hygiene													
C. difficile						67%							
C. difficile Care Pathway						Pass							
Peripheral Line Ongoing Care													
Urinary Catheter Ongoing Care													
QIT: Isolation Precautions													
Commode													
Organism Type													**Total**
MRSA Colonisation (HCAI only)				2	1								3
MRSA Bacteraemia (HCAI only)													0
C. difficile (HCAI only)					1								1

WARD 8, SWAH

Audit Type	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
Hand Hygiene													
C. difficile					0%	50%							
C. difficile Care Pathway					Fail	Fail							
Peripheral Line Ongoing Care													
Peripheral Line Insertion													
Urinary Catheter Ongoing Care													
ANTT: Peripheral Venepuncture													
QIT: Isolation Precautions													
Commode													
Organism Type													**Total**
MRSA Colonisation (HCAI only)													0
MRSA Bacteraemia (HCAI only)													0
C. difficile (HCAI only)			1			1							2

REHABILITATION UNIT, OHPCC

Audit Type	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	
Hand Hygiene													
C. difficile					0%		100%						
C. difficile Care Pathway					Pass		Pass						
Peripheral Line Ongoing Care													
Peripheral Line Insertion													
Urinary Catheter Ongoing Care													
QIT: Isolation Precautions													
Commode													
Organism Type													**Total**
MRSA Colonisation (HCAI only)													0
MRSA Bacteraemia (HCAI only)													0
C. difficile (HCAI only)			1										1