

Infection Prevention & Control Report to Trust Board

Meeting Date – 4th April 2019

1. Executive Summary

Reduction Targets

The Department of Health (DoH) for Northern Ireland (NI) has issued healthcare-associated infection (HCAI) reduction targets for 2018/19.

For Meticillin-Resistant *Staphylococcus aureus* (MRSA) bacteraemia, the Trust's target is five cases. That is the same target as was required last year and one case more than the number actually reported in 2017/18 (four).

The Trust's reduction target for *Clostridium difficile* (*C. difficile*) associated disease is 56; a reduction of eight cases or 12.5% compared to last year.

In response to the O'Neill Review on Antimicrobial Resistance, the United Kingdom has adopted two ambitions in relation to human health, i.e. to improve antibiotic prescribing and to reduce gram-negative bacteraemias (GNBs).

As of 2018/19 the DoH NI has introduced targets for reducing healthcare-associated GNBs, specifically *Escherichia coli*, *Klebsiella species* and *Pseudomonas aeruginosa*. The Western Trust is expected to achieve one fewer case in 2018/19 (49 cases) compared to the baseline figure of 2017/18 (50 cases), which equates to a reduction of 2%.

Current MRSA Bacteraemia Performance

Since the beginning of April 2018 seven MRSA bacteraemia cases have been reported. Six are categorised as community-associated as they occurred less than 48 hours after admission to hospital (definition used by the Public Health Agency [PHA]) and one case is classified as healthcare-associated as it occurred more than 48 hours after admission. As such, the reduction target set has been exceeded and cannot now be achieved.

As of 27th March 2019, the total number of days since the last Trust hospital-associated MRSA bacteraemia is:

Altnagelvin Hospital – 142 days	(Last recorded case was in Ward 42)
South West Acute Hospital (SWAH) – 1138 days	(Last recorded case was in Ward 8)
Tyrone County Hospital/ Omagh Hospital & Primary Care Complex (OHPCC) – 1527 days	(Last recorded case was in the Rehab Unit)

Current *C. difficile* Performance

So far this year 66 cases of *C. difficile* have been reported. 35 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 PHA). However, this is not always an accurate predictor of being healthcare-associated. The remainder (31) are categorised as community-acquired as the patients presented with symptoms within a 72 hour period after admission.

Current GNB Performance

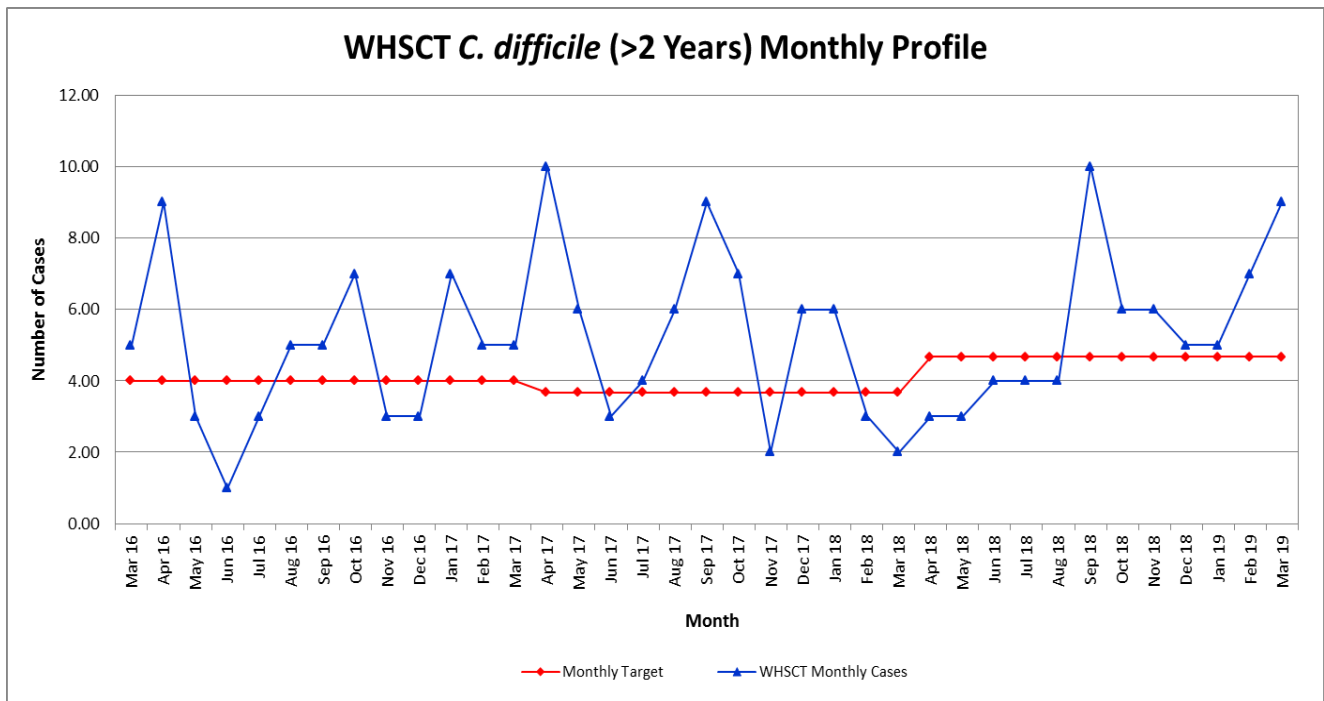
As of 27th March 2019, 44 healthcare-associated GNB cases have been reported. Therefore,

the Trust is currently on track to meet the target, with a cumulative reduction of 12%.

2. C. difficile Performance

The 2018/19 target for *C. difficile* (\geq two years) is 56 cases, which equates to a reduction of 12.5% on the baseline figure of 2017/18 (64 cases).

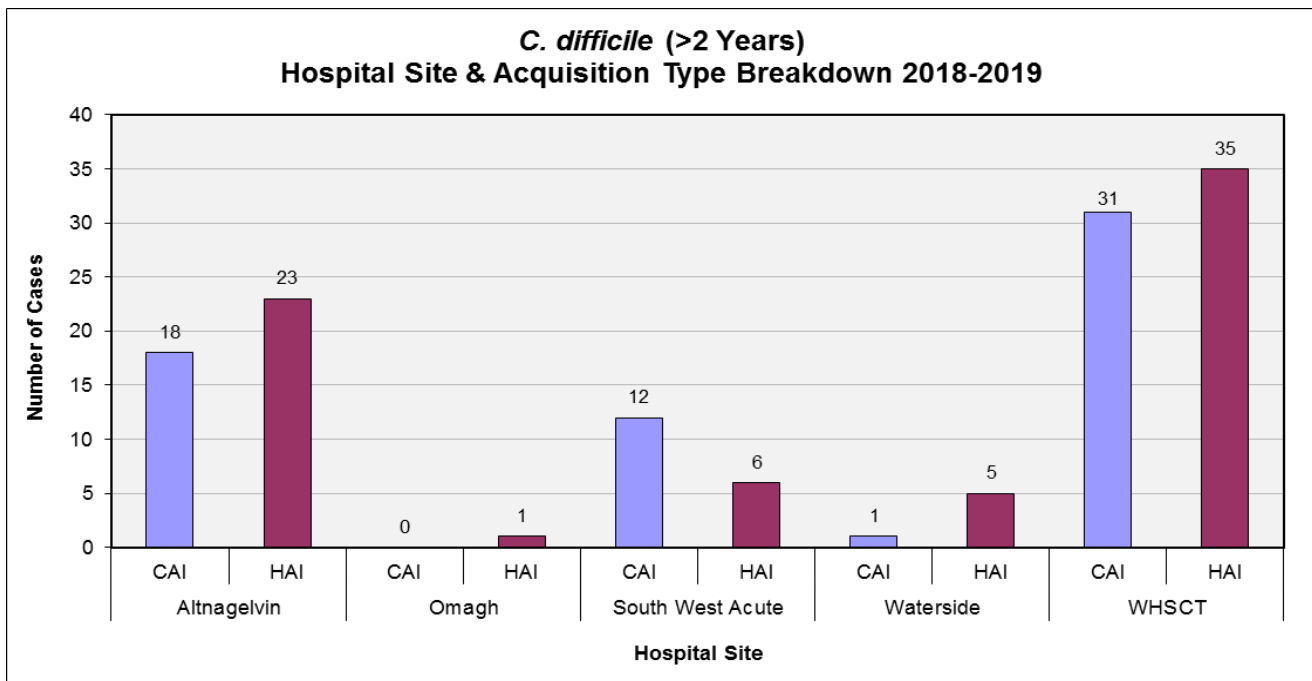
As of 27th March 2019, 66 cases have been reported, with 31 of those being categorised as community-associated. Therefore, the target has been exceeded and cannot now be achieved, with an overall increase of 3.13% compared to last year. This comprises a decrease in healthcare-associated infection cases of 2.78% versus an increase in community-acquired infection cases of 10.71%.



* The value for Mar 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



A breakdown of the healthcare-associated cases by ward is given in the table below.

Hospital	Ward/ Department	Number of Cases
	Ward 2 TOU	3
	Ward 3	2
	Ward 5 EOU	1
	Ward 8 AHAN	1
	Ward 22 (former Ward 20)	3
	Ward 24 (former Ward 1)	2
	Ward 31	1
	Ward 32 ESU	5
	Ward 42	1
	Ward 44	1
	Ward 50	2
	ICU	1
	SWAH	Ward 2
Ward 6		2
Ward 9		1
OHPCC	Palliative Care	1
Waterside	Ward 1	2
	Ward 4	3

Since the last Report to Trust Board, which contained figures as at 27th February 2019, there have been nine new cases of *C. difficile* (breakdown below). Root cause analyses (RCAs) are pending for seven of the cases.

9 *C. difficile* cases

- 4 CAI (1 of these was previously positive on two occasions as both a HAI case and a CAI case*)
- 5 HAI (1 of these was a previous 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 and must be reported to the PHA as such.

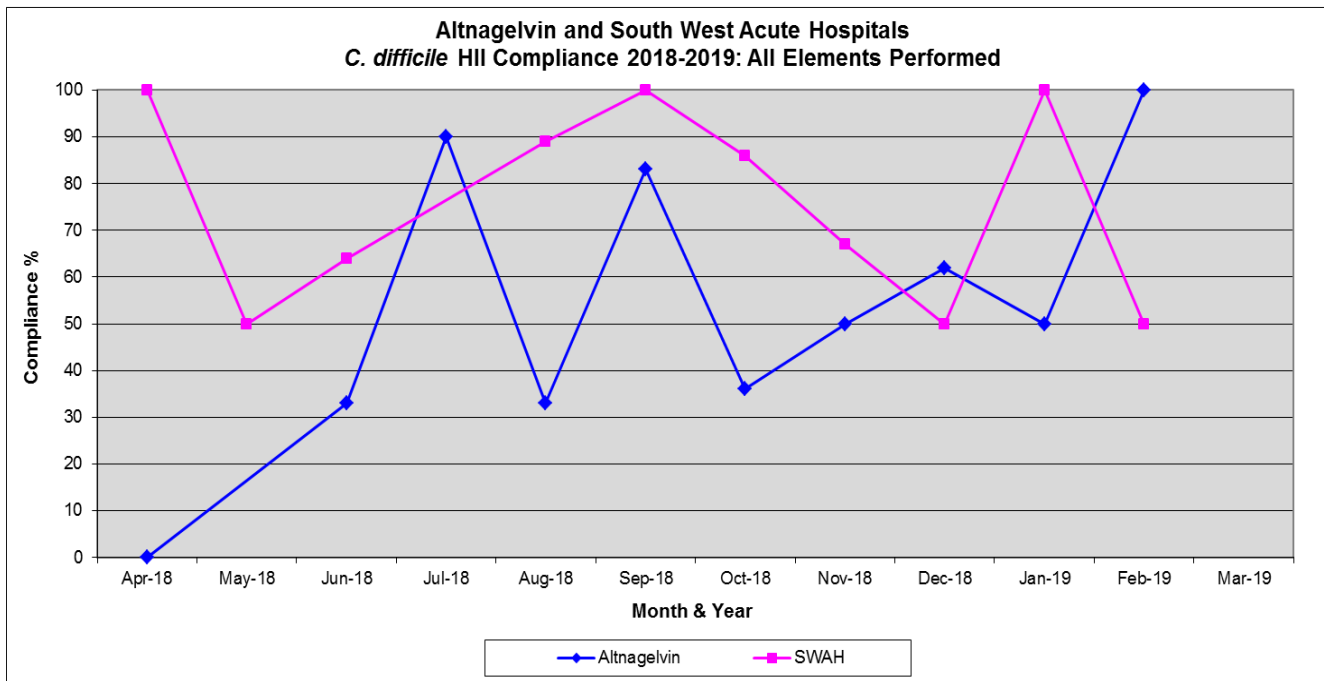
Preventable/ Non-Preventable

Since the beginning of April 2018 a total of 33 RCAs have been conducted regarding *C. difficile*. The RCAs determined that five of the cases were preventable and 28 were non-preventable.

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%). Consistent compliance with the *C. difficile* care bundle remains a challenge. The findings indicate issues around environmental decontamination, use of personal protective equipment and isolation/ cohort nursing.

The graph below illustrates the overall compliance with all of the elements of the *C. difficile* high impact intervention (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
2015/16	0	0	0	0	0	0	0	0	0	1	0	0	1
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 [†]

* 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 2018 three *Pseudomonas* cases have been reported. All are categorised as healthcare-associated.

There have been no healthcare-associated positive blood cultures in augmented care areas since November 2017.

4. New and Updated Infection Prevention & Control (IP&C) Guidance

The following guidance was approved by the Chief Executive HCAI Accountability Forum in March 2019. These were all updates of existing documents.

- Infection Prevention and Control Guidelines for the Management of Suspected/ Confirmed Pertussis (Whooping Cough)
- Guidelines for the Management of Suspected/ Confirmed Norovirus in Acute and Community Facilities Within the Western Health & Social Care Trust
- Supplementary Infection Prevention and Control Guidance to the Regional Dress Code Policy
- Policy for the Prevention and Control of Measles
- Meticillin Resistant *Staphylococcus aureus* (MRSA) Screening and Management Policy

The two policies, regarding Measles and MRSA, are now pending approval by Trust Board.

5. Critical Care Device-Associated Infection Surveillance

Critical care device-associated infection surveillance commenced in June 2011. The most recent infection recorded was a ventilator-associated pneumonia (VAP) in ICU, Altnagelvin, in October 2018. This was the first device-related infection to have occurred in the Trust since September 2016. However, the ICU clinical team subsequently agreed they could not definitely diagnose a VAP in this instance. As such, a request has been made for the PHA and Critical Care Network NI to review the case and remove it from the figures. If removal is confirmed, future surveillance reports will be amended to reflect this change.

Results, as of February 2019, are shown in the table below.

	Date of Last Recorded Case in Hospital		Hospital Rolling Average Infection Rate Per 1000 Device Utilisation Days		NI Rolling Average Infection Rate Per 1000 Device Utilisation Days
	Altnagelvin	SWAH	Altnagelvin	SWAH	
Ventilator-Associated Pneumonia	11/10/2018	21/09/2016	0.84	0.00	1.10
Catheter-Associated Urinary Tract Infection	Zero to date	23/07/2011	0.00	0.00	0.27
Central Line Associated Blood Stream Infection	Zero to date	11/03/2012	0.00	0.00	0.38

6. IP&C Nurse Independent Audits

Improvement and audit work has been undertaken in a number of areas focusing on hand hygiene, isolation precautions, the delivery of care, patient equipment and the care environment. The tables below show compliance on these indicators for wards/ departments where audits have been completed most recently. Some scores are marked with (A), indicating that a number of audits took place during that month and an average score has been recorded. The tables exclude *C. difficile* compliance as that has been referred to earlier in the report.

WARD 3, ALTNAGELVIN

Audit Type	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	
Hand Hygiene	63%	91% (P)	72% (A)					87% (A)				86%	
Peripheral Line Ongoing Care												13%	
ANNT: Peripheral & Central IV Therapy												96% (A)	
QIT: Isolation Precautions		100%	60% (A)					94% (A)					
Cleaning & Decontamination								100% (A)					
Commode	100%	100%	100% (A)					93% (A)				0%	
Organism Type													Total
MRSA Colonisation (HCAI only)						1	1					1	3
MRSA Bacteraemia (HCAI only)													0
<i>C. difficile</i> (HCAI only)			1										1

WARD 7, ALTNAGELVIN

Audit Type	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	
Hand Hygiene	90% (P)						89% (P)				100%		
Peripheral Line Ongoing Care							71%				80%		
QIT: Isolation Precautions	100%						100%						
Cleaning & Decontamination	100%												
Commode	67%						100%						
Organism Type													Total
MRSA Colonisation (HCAI only)				1		3							4
MRSA Bacteraemia (HCAI only)													0
<i>C. difficile</i> (HCAI only)				1									1

WARD 24 GENERAL MEDICINE, ALTNAGELVIN (Formerly Ward 1)

Audit Type	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	
Hand Hygiene												83% (P)	
GDH	33%												
Peripheral Line Ongoing Care									80%			17%	
ANTT: Peripheral & Central IV Therapy									96% (A)			83%	
QIT: Isolation Precautions												50%	
Commode												100%	
Organism Type													Total
MRSA Colonisation (HCAI only)					1								1
MRSA Bacteraemia (HCAI only)													0
<i>C. difficile</i> (HCAI only)							1						1

WARD 32 ESU, ALTNAGELVIN

Audit Type	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	
Hand Hygiene												80%	
Cleaning & Decontamination												67%	
Commode												100%	
Organism Type													Total
MRSA Colonisation (HCAI only)								1					1
MRSA Bacteraemia (HCAI only)													0
<i>C. difficile</i> (HCAI only)	2												2

EMERGENCY DEPARTMENT, ALTNAGELVIN

Audit Type	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Total
Hand Hygiene			100%	94% (A)(P)									
Peripheral Line Ongoing Care				40%									
Peripheral Line Insertion							0%				0%		
ANTT: Peripheral Cannulation				96% (A)				56%					
ANTT: Peripheral Venepuncture				81% (A)									
ANTT: Peripheral & Central IV Therapy				85% (A)									
Organism Type													Total
MRSA Colonisation (HCAI only)													0
MRSA Bacteraemia (HCAI only)													0
<i>C. difficile</i> (HCAI only)													0

WARD 4, WATERSIDE

Audit Type	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Total
Hand Hygiene											60% (A)		
QIT: Isolation Precautions											100% (A)		
Commode											25% (A)		
Organism Type													Total
MRSA Colonisation (HCAI only)								1					1
MRSA Bacteraemia (HCAI only)													0
<i>C. difficile</i> (HCAI only)								1			1		2