

Infection Prevention & Control Report to Trust Board

Meeting Date – 6th September 2018

1. Executive Summary

New Reduction Targets

The Department of Health (DoH) for Northern Ireland (NI) has now issued the new healthcare-associated infection 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 in 2018/19 is 56; a reduction of eight cases or 12.5% compared to last year.

Current MRSA Bacteraemia Performance

Since the beginning of April 2018 four MRSA bacteraemia cases have been reported. All are categorised as community-associated. As such, the Trust's performance is currently off profile, being 38.4% in excess of where it should be at this point in the year in order to meet the target.

As of 22nd August 2018, the total number of days since the last Trust hospital-associated MRSA bacteraemia is:

Altnagelvin Hospital – 1085 days	(Last recorded case was in Ward 4)
South West Acute Hospital (SWAH) – 921 days	(Last recorded case was in Ward 8)
Tyrone County Hospital/ Omagh Hospital & Primary Care Complex – 1310 days	(Last recorded case was in the Rehab Unit)

Current *C. difficile* Performance

So far this year 17 cases of *C. difficile* have been reported. 11 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). However, this is not always an accurate predictor of being healthcare-associated. The remainder (six) are classified as community-acquired as the patients presented with symptoms within a 72 hour period after admission.

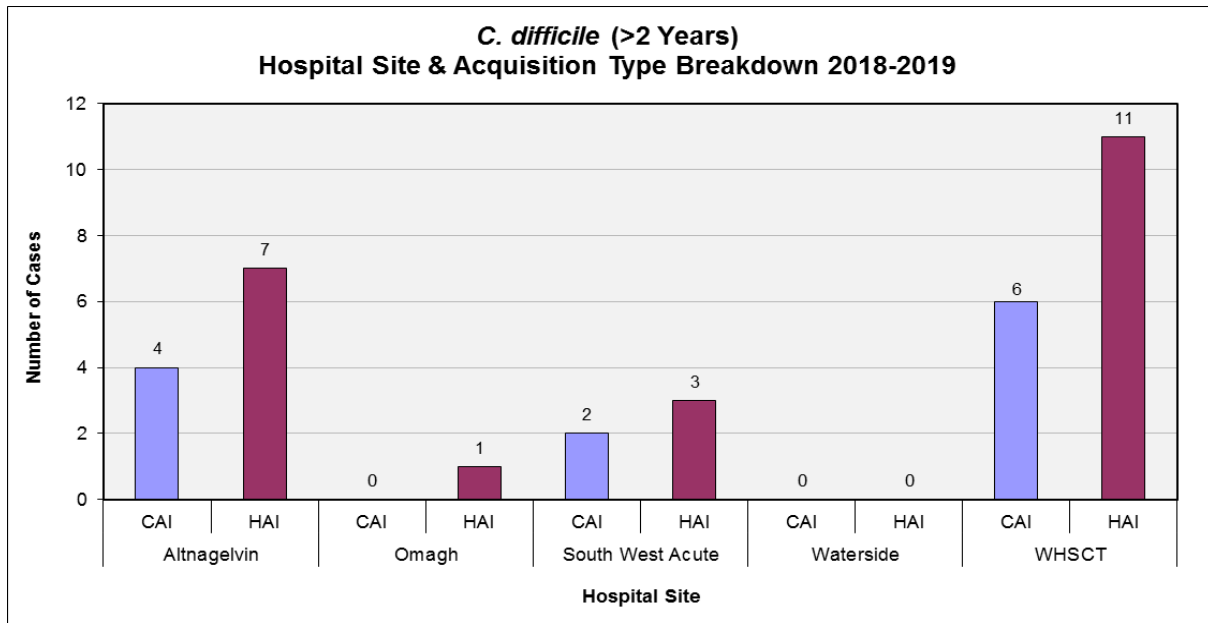
2. *C. difficile* Performance

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).

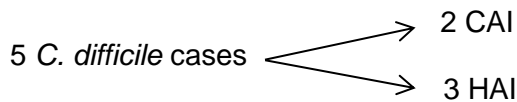
As of 22nd August 2018, 17 cases have been reported, with six of those being categorised as community-associated. Therefore, the Trust is currently on track to achieve the target, with a cumulative decrease of 36.26% compared to 2017/18. This comprises a decrease in healthcare-associated infection cases of 26.67% versus a decrease in community-acquired infection cases of 48.59%. For the last seven consecutive months the Trust has been below the monthly target value.

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 July 2018, there have been five new cases of *C. difficile* (breakdown below).



Following a root cause analysis (RCA) of one of the cases, it was found that the onset of *C. difficile* associated diarrhoea was not preventable. The patient was admitted to another trust for elective aortic aneurysm repair and had contact with ICU/ HDU there prior to being transferred to Altnagelvin for further recovery. The patient had a complicated recovery, which required antibiotics to be prescribed. These antibiotics were deemed to have been prescribed appropriately.

Other risk factors identified included a previous history of Glutamate Dehydrogenase (GDH), recent previous hospital admissions and poor nutritional intake due to post-operative nausea and diarrhoea.

RCAs are pending for the other HAI cases.

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 *C. difficile* infection (CDI). They are prudent antibiotic prescribing, hand hygiene, environmental decontamination, use of personal protective equipment (PPE) and isolation/

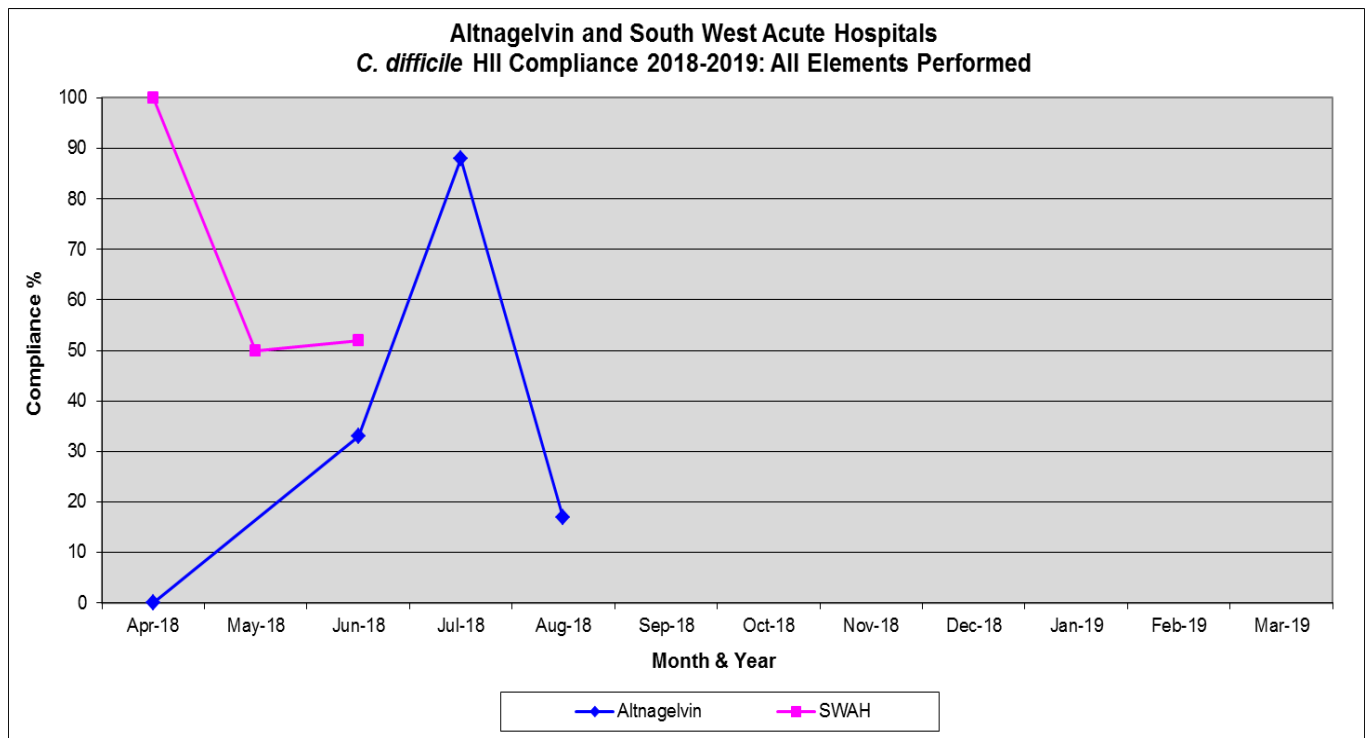
cohort nursing. The risk of infection reduces when all of the elements within the clinical process are performed every time for every patient. The risk of infection increases when one or more elements of a procedure are excluded or not performed appropriately. Monitoring of the elements outlined in the 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 dashboard below summarises the performance of wards/ departments audited by the Infection Prevention & Control (IP&C) Team since April 2018. 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 environmental decontamination, use of PPE and isolation/ cohort nursing.

		Apr-18	May-18	Jun-18	Jul-18	Aug-18
Ward 1, Alt	Care Bundle			50%	50%	
	Care Pathway					
Ward 2 TOU, Alt	Care Bundle					
	Care Pathway					
Ward 3, Alt	Care Bundle			50%		
	Care Pathway					
Ward 8 AHAN, Alt	Care Bundle					
	Care Pathway					
Ward 20, Alt	Care Bundle					
	Care Pathway					
Ward 31, Alt	Care Bundle			0%		
	Care Pathway					
Ward 32 ESU, Alt	Care Bundle	0%				33%
	Care Pathway	Pass			Fail	
Ward 40, Alt	Care Bundle					
	Care Pathway					
Ward 41 AMU, Alt	Care Bundle					
	Care Pathway					
Ward 42, Alt	Care Bundle					
	Care Pathway					
Ward 43 Gynae, Alt	Care Bundle					
	Care Pathway					
Ward 50 Sperrin, Alt	Care Bundle					
	Care Pathway					
CCU, Alt	Care Bundle					
	Care Pathway					
ICU, Alt	Care Bundle				100%	
	Care Pathway					
Ward 1 MSAU, SWAH	Care Bundle			0%		
	Care Pathway			Pass		
Ward 2, SWAH	Care Bundle	100%		80%		
	Care Pathway	Pass		Pass		
Ward 3, SWAH	Care Bundle					
	Care Pathway					
Ward 5, SWAH	Care Bundle					
	Care Pathway					
Ward 6, SWAH	Care Bundle			75%		
	Care Pathway			Fail		
Ward 7, SWAH	Care Bundle					
	Care Pathway					
Ward 8, SWAH	Care Bundle					
	Care Pathway					
Ward 9, SWAH	Care Bundle		50% (A)			
	Care Pathway		Pass x 2			
Children's Ward, SWAH	Care Bundle					
	Care Pathway					
Critical Care, SWAH	Care Bundle					
	Care Pathway					
Ward 3, Waterside	Care Bundle	50%				
	Care Pathway	Pass				
Ward 4, Waterside	Care Bundle					
	Care Pathway					

The graph below indicates the overall compliance with all of the elements of the *C. difficile* high impact intervention (HII) care bundle for Altnagelvin and the SWAH.



3. Gram-Negative Bacteraemia Performance

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 there will be targets for reducing healthcare-associated GNBs, specifically *Escherichia coli*, *Klebsiella species* and *Pseudomonas aeruginosa*. The DoH NI has now announced the new targets and the Western Trust is expected to achieve one fewer case in 2018/19 (301 cases) compared to the baseline figure of 2017/18 (302 cases).

So far this year 116 cases have been reported. The majority of those (100) are categorised as community-associated. Therefore, the Trust is currently on track to meet the target.

4. Legionella

Water testing continues throughout key Trust owned facilities. A range of mitigating actions are in place, ranging from increased flushing, chlorination and placement of PAL filters to the removal of dead legs and replacement of pipework.

A planned Legionella and Pseudomonas testing programme is also in place for PFI buildings, including the SWAH and the Labs & Pharmacy Building, Altnagelvin. The process is managed by Interserve FM and Integral FM respectively. All positive results and proposed actions are reported to core members of the Trust's Water Safety Group (WSG) on an ongoing basis. Exceptions are discussed at the WSG meetings.

Progress has been made on the reduction of positive Legionella water sampling in the Nucleus Building, Altnagelvin, over the last year. A funding bid has been submitted for water safety improvement works in the Nucleus and is included in the 2018/19 capital plan as a priority.

The Altnagelvin Tower Block improvement work has been completed. During June and July 2018 there were Legionella positive results (22) in the Tower Block Floors 1-5. Rebalancing issues have been resolved by a specialist team and the positive Legionella is believed to be local contamination with regards to underused outlets, mostly showers. Extensive work has been carried out, including cleaning of pipework and thermal disinfection. Flushing is also completed on a daily basis. Further improvement work has been approved to re-plumb 40 toilets in the Tower Block Floors 1-5 to a new system. When this has been completed, the old water tanks, which are 60 years old, will be removed.

Community Facilities

Greenfield and William Street Residential Homes returned sero-group 1 results, four and one respectively. Flushing regimes have increased to daily and all remedial actions have been carried out.

Review of Water Sampling Procedures

The Western Trust has been producing a significant amount of information on water sampling and, as a result, is now in a more informed position with regard to the efficacy of its water systems due to historical water sampling data. Following the recent review of Water Sampling Procedures, a risk matrix of all areas in the Trust has been completed showing which areas were clear and the length of time since the facilities last tested positive. A review has been undertaken to establish the frequency of testing required based on the risk assessment of the area and water sampling data; this will reduce sampling in some areas whilst sustaining compliance and will allow for the ability to allocate resources to improve compliance in others. This plan is to be tabled at the next WSG meeting for approval.

The Trust Water Safety Plan is currently under review and will reflect the new arrangements.

Independent Water Safety Audit

Altnagelvin – Of the 24 actions included in the independent water safety audit, seven are complete and 17 are still open. Nine of the open actions are medium risk, whilst the rest are of a low risk. Work is ongoing and the deadline for completion of all actions is the end of 2018.

SWAH – The independent audit for the SWAH includes two outstanding actions, which are being addressed.

The Trust's Independent Water Safety Engineer is satisfied with the progress and action to date following the audit.

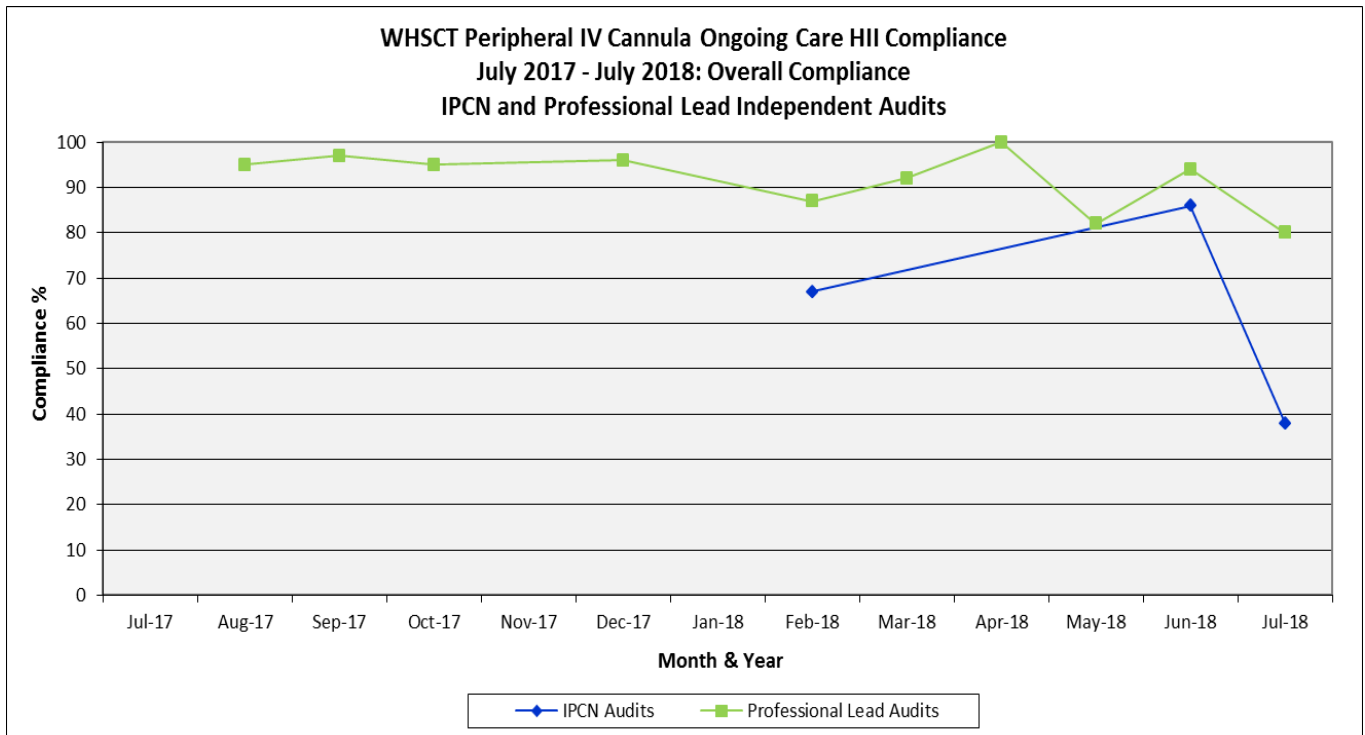
5. Evidence Based Care Bundle Compliance – Peripheral Intravenous Cannula Ongoing Care

The graph below shows average independent audit scores from July 2017 to July 2018 in both Altnagelvin and the SWAH for peripheral intravenous cannula ongoing care. From May 2016 the IP&C Team have not undertaken routine independent audit of peripheral line ongoing care due to a range of other enhanced improvement work at ward level. The burden to oversee improvement and compliance with standards rests with the Ward Managers and

Professional Leads in each area, as a wide range of education and enhanced support has been provided.

Assurance regarding practice of peripheral intravenous cannula ongoing care is carried out by the IP&C Team as part of the RCA of healthcare-associated bacteraemias.

Enhanced support by the IP&C Team regarding improving aseptic non-touch technique (ANTT) practice is ongoing since June 2018 in the Emergency Department and Ward 41 AMU, Altnagelvin, and the Emergency Department and Ward 1 MSAU, SWAH.



6. 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, diagnosed in ICU, SWAH, in September 2016. This was the first device-related infection to have occurred in the Trust since April 2014. Results, as of July 2018, 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	18/04/2014	21/09/2016	0.00	0.00	0.59
Catheter-Associated Urinary Tract Infection	Zero to date	23/07/2011	0.00	0.00	0.16
Central Line Associated Blood Stream Infection	Zero to date	11/03/2012	0.00	0.00	0.40