

Infection Prevention & Control Report to Trust Board

Meeting Date – 4th November 2021

1. Executive Summary

COVID-19

The Infection Prevention & Control (IP&C) Team continue to be significantly involved with the management of any suspected or confirmed cases of COVID-19, the continued development of COVID-19 pathways, contact tracing and processes and outbreak management. The IP&C Team are also required to continue to support Independent Sector care homes in the event of any declared outbreaks. As a result of the increased demands upon the Team and within the current IP&C resources, there are challenges in attending to other routine work.

Reduction Targets

The Department of Health for Northern Ireland (NI) has not yet issued new reduction targets for healthcare-associated infections in 2021/22. These targets relate to *Clostridium difficile* (*C. difficile*) associated disease, Meticillin-Resistant *Staphylococcus aureus* (MRSA) bacteraemia and gram-negative bacteraemia (GNB), specifically *Escherichia coli*, *Klebsiella species* and *Pseudomonas aeruginosa*.

Current *C. difficile* Performance

So far this year 48 cases of *C. difficile* have been reported. 28 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 (20) 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 2021 seven MRSA bacteraemia cases have been reported. Five are categorised as community-associated as they occurred less than 48 hours after admission to hospital and two are categorised as healthcare-associated as it occurred more than 48 hours after admission to hospital (definition used by the PHA).

Current GNB Performance

As of 26th October 2021, 21 healthcare-associated GNB cases have been reported.

2. Coronavirus (COVID-19)

Outbreak Management

COVID-19 outbreaks continue to be declared in Trust wards, departments and facilities. The IP&C Team and/ or Occupational Health are supporting the management of these incidents as applicable. Incident meetings are taking place and all IP&C measures have been instigated. Recently affected areas include:

NB: Closure of an outbreak is deemed to be 28 days from the last positive case.

Ward/ Department/ Facility	Date of Commencement	Date of Closure	People Affected
Maybrook Day Centre, Derry	04/09/2021	04/10/2021	Staff
Cranny Close, Omagh	06/09/2021	15/10/2021	Residents & Staff
Ward 22 ASM, Altnagelvin Hospital	09/09/2021	08/10/2021	Patients
Outpatients Department, Omagh Hospital & Primary Care Complex (OHPCC)	04/10/2021	Ongoing	Staff
Health Records, Altnagelvin	11/10/2021	Ongoing	Staff
Omagh Centre, Omagh	14/10/2021	Ongoing	Service users & Staff
Scroggy Road Children's Home, Limavady	23/10/2021	Ongoing	Resident & Staff
Ward 41 AGM, Altnagelvin	24/10/2021	Ongoing	Patients & Staff

The key learning themes arising from outbreaks are shared for wider learning across the Trust via the Working Safely Together Group and governance arrangements. They are also incorporated into the ECHO Programme.

The IP&C Team are also required to continue to support Independent Sector care homes in the event of any declared outbreaks. The number of homes affected has reduced in recent weeks. Those currently affected include:

Care Home	Date PHA Notified	Current Status of Outbreak
Culmore Manor Care Centre, Derry	16/08/2021	Ongoing: Terminal cleaning now
Melmount Manor Care Home, Strabane	07/10/2021	Ongoing: Active
County, Enniskillen	07/10/2021	Ongoing: Active
Cornfield Care Centre 1, Limavady	19/10/2021	Ongoing: Active
Springlawn, Omagh	22/10/2021	Ongoing: Active

Support to these homes requires an on-site visit by a Senior IP&C Nurse. The IP&C Team are challenged to provide this due to other workload commitments, as well as the limited availability of Senior IP&C Nurses. Independent Sector visits are, therefore, being risk assessed and organised as capacity allows.

COVID-19 Training

The IP&C Team launched a programme of COVID-19 Training sessions commencing in mid-September 2020. Originally the training was delivered through a combination of face-to-face and virtual sessions. The face-to-face sessions were restricted to small groups in order to comply with social distancing requirements. The training is now fully virtual.

As of 26th October 2021, 71 sessions have taken place and a total of 1934 staff have attended. That is 17.06% of the total number of staff who require training (approximately 11,334 people).

Further sessions will be planned for the remainder 2021.

Personal Protective Equipment (PPE) Safety Officer Training

PPE Safety Officers were officially launched in June 2020. Their role is to help improve safe and effective use of PPE across all disciplines and provide assurance to their colleagues in their own wards and departments.

There was a great response to the appeal for volunteers and there are currently 549 PPE Safety Officers, around 150 of whom have been nominated within the last four months. They come from across eight staff groups, including Nursing and Midwifery, Specialist Nursing, Allied Health Professions, Medical, Social Work, Healthcare Assistants, Support Services and Administration.

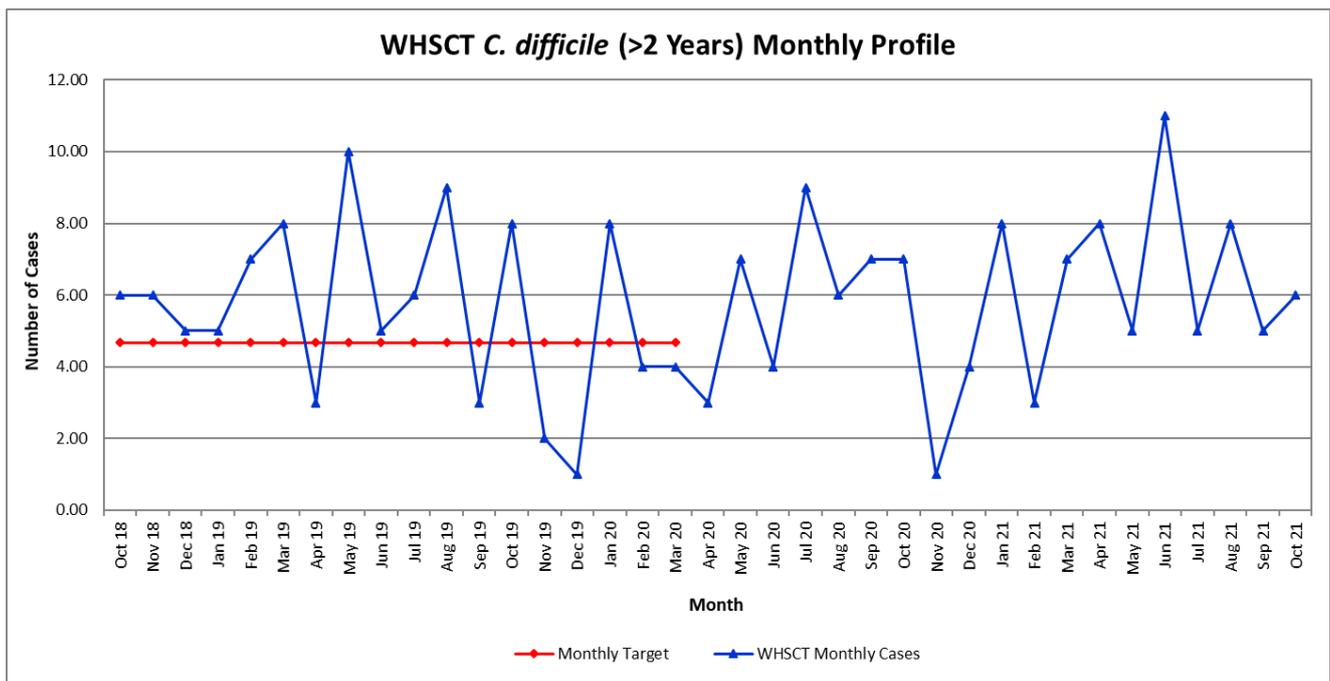
Training is provided for new PPE Safety Officers by the IP&C Team. Ongoing support is then provided through email and via a live discussion board on the Staff IP&C SharePoint site. This site also provides all the latest information about COVID-19 and PPE. The IP&C Team have also developed a monthly newsletter covering the main key messages.

As of 26th October 2021, a further one training session has taken place. This was attended by 105 staff, bringing the total number of PPE Safety Officers trained to 287. Additional dates will be planned to accommodate the remaining staff.

3. C. difficile Performance

The new 2021/22 reduction target for *C. difficile* (≥ 2 years) has not yet been issued.

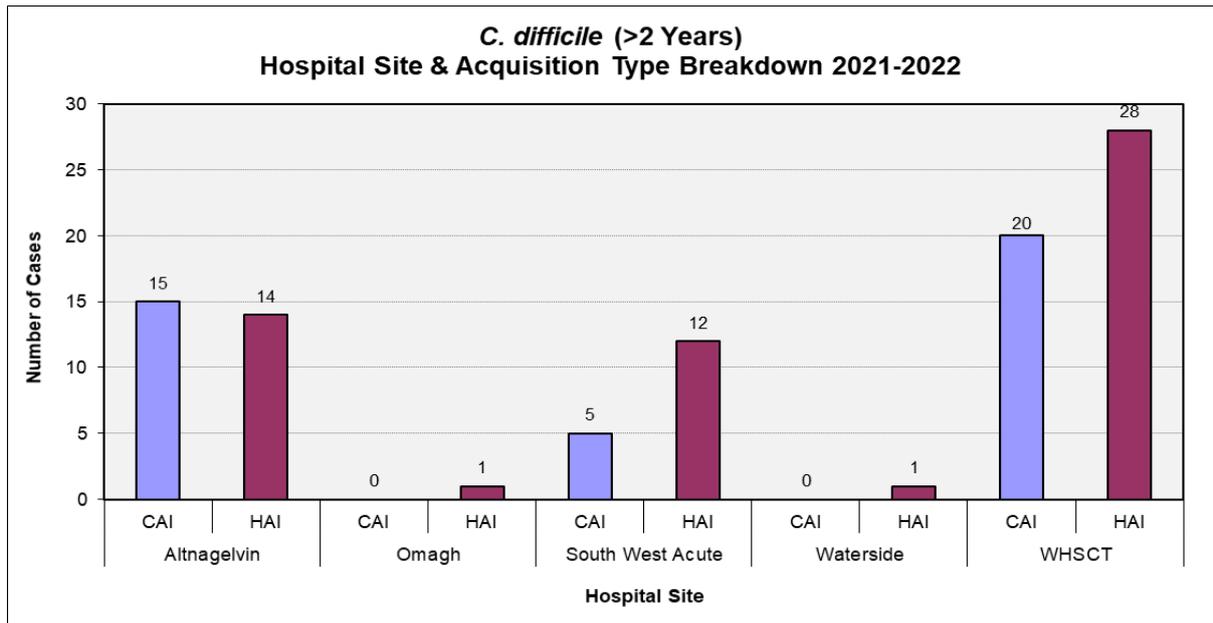
Since the beginning of April 2021 48 cases have been reported, with 20 of those being categorised as community-associated.



* The value for Oct 21 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



Preventable/ Non-Preventable

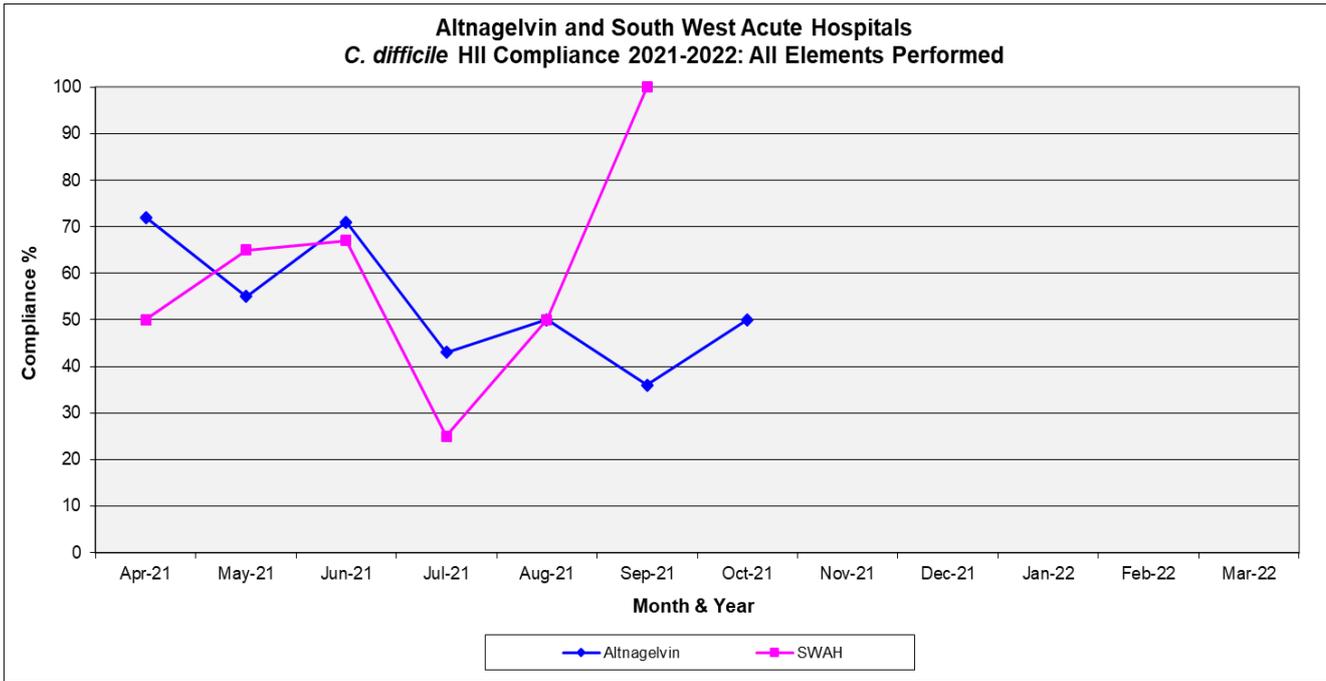
In respect of *C. difficile* cases occurring during 2021/22 a total of 23 post-infection reviews (PIRs) have been conducted. These found that none of the cases were preventable, 21 were non-preventable and two were difficult to determine.

PIRs are pending for a further 17 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%). Consistent compliance with the *C. difficile* care bundle remains a challenge and is currently poor across both acute sites. The findings indicate issues around antibiotic prescribing, environmental decontamination 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 South West Acute Hospital (SWAH).

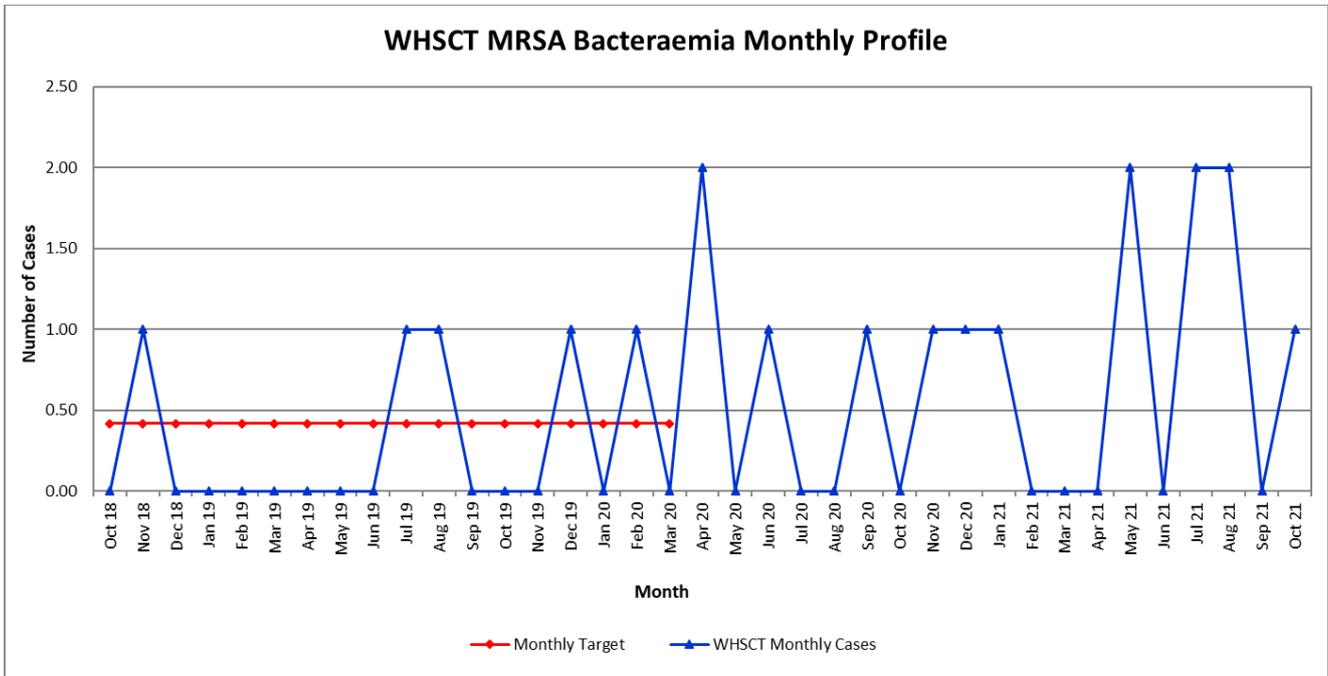


4. S. aureus Bacteraemia Performance

MRSA Bacteraemia

The new MRSA bacteraemia reduction target for 2021/22 has not yet been issued.

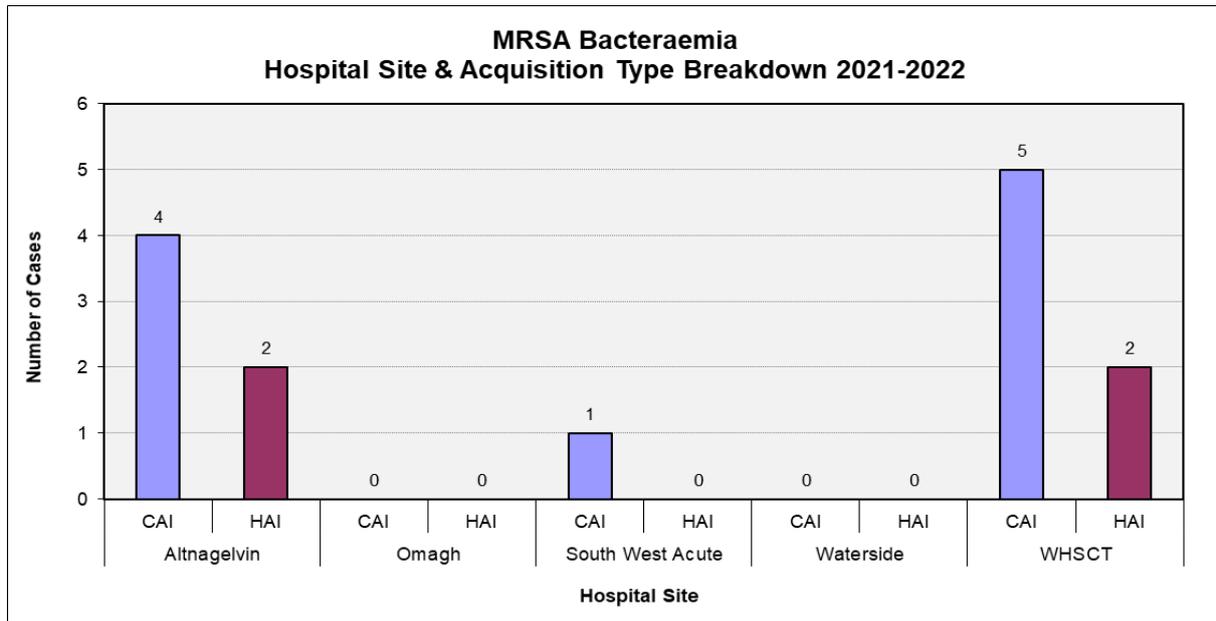
Since the beginning of April 2021 seven cases have been reported, with two of those being categorised as healthcare-associated.



* The value for Oct 21 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



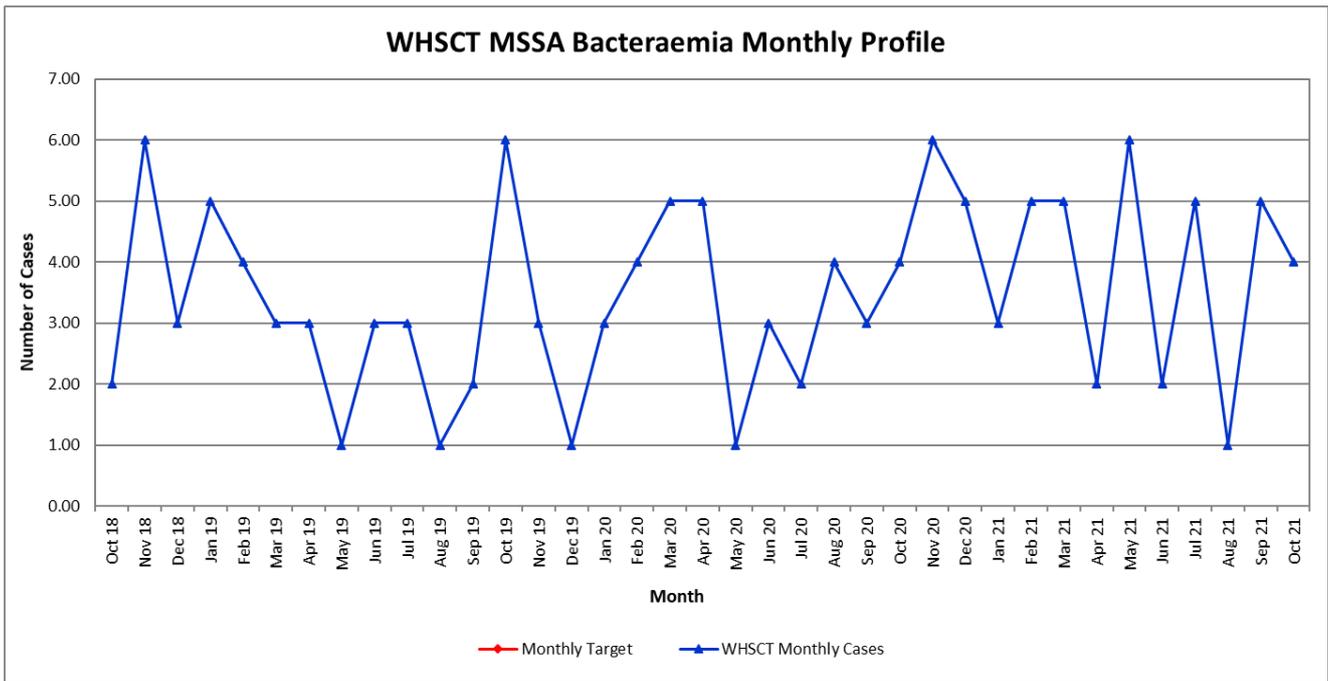
As of 26th October 2021, the total number of days since the last Trust hospital-associated MRSA bacteraemia is:

Altnagelvin – 70 days	(Last recorded case was in Ward 31)
SWAH – 499 days	(Last recorded case was in Ward 8)
Tyrone County Hospital/ OHPCC – 2471 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 2021/22, 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.

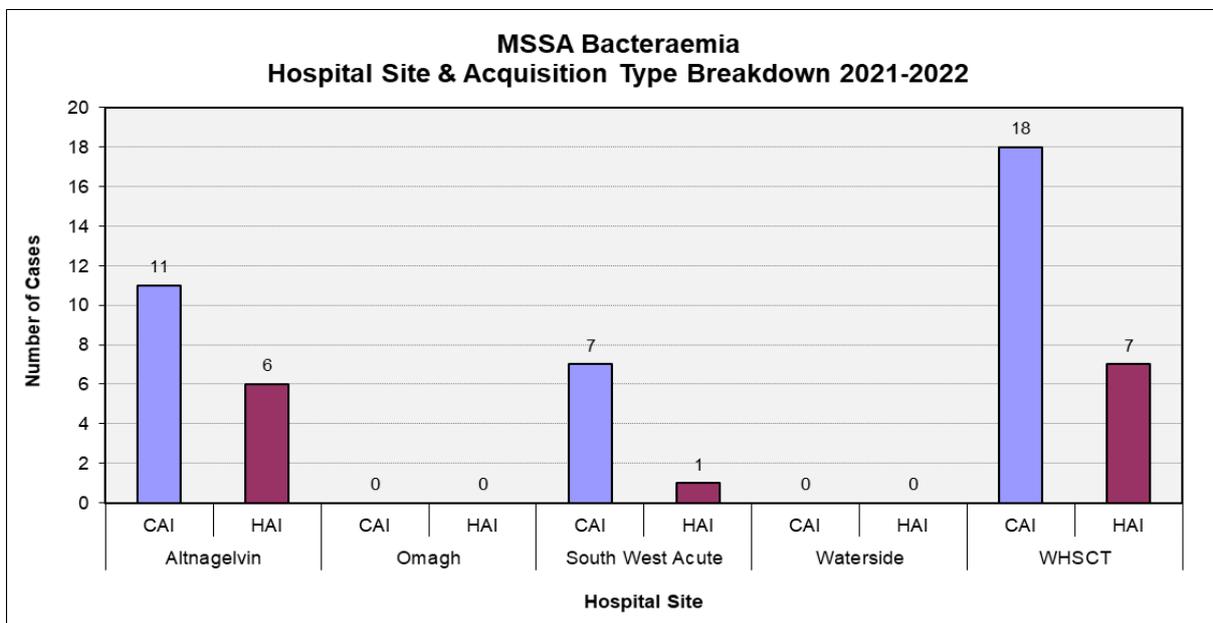
So far this year the Trust has reported 25 cases.



* The value for Oct 21 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



As of 26th October 2021, the total number of days since the last Trust hospital-associated MSSA bacteraemia is as follows:

Altnagelvin – 25 days
SWAH – 27 days
OHPCC – 1471 days

(Last recorded case was in ICU)
(Last recorded case was in Ward 5)
(Last recorded case was in the Rehab Unit)

5. 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
2018/19	0	0	1	1	0	0	0	0	1	0	0	0	3
2019/20	0	0	0	2	0	0	0	1	0	0	0	0	3
2020/21	0	0	0	2	0	0	0	0	1	0	1	0	4
2021/22	0	0	1	0	0	0	2 [†]						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 2021 three *Pseudomonas* cases have been reported.

There have been no healthcare-associated positive blood cultures in augmented care areas since December 2020.

6. Critical Care Device-Associated Infection Surveillance

Critical care device-associated infection surveillance commenced in June 2011. There have been no infections in the Trust for more than three years. The most recent infection recorded was a ventilator-associated pneumonia, which occurred in ICU, Altnagelvin, in October 2018.

Results, as of September 2021, 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	0.00	0.00	0.82
Catheter-Associated Urinary Tract Infection	Zero to date	23/07/2011	0.00	0.00	0.41
Central Line Associated Blood Stream Infection	Zero to date	11/03/2012	0.00	0.00	1.10

7. Hand Hygiene Compliance

The Trust's overall self-reported hand hygiene scores are 69% when non-submission areas are included. These areas score an automatic 0%. 50 areas out of 194 applicable areas failed to submit scores for October 2021. They are as follows:

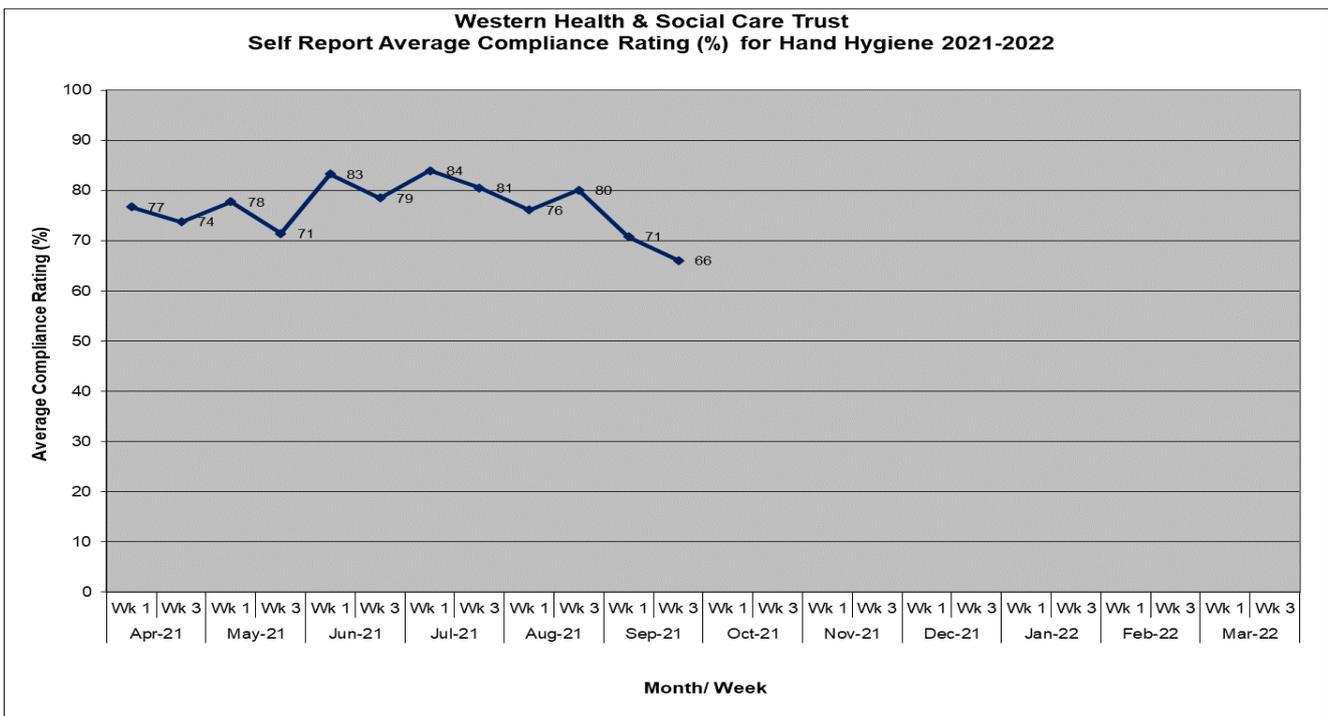
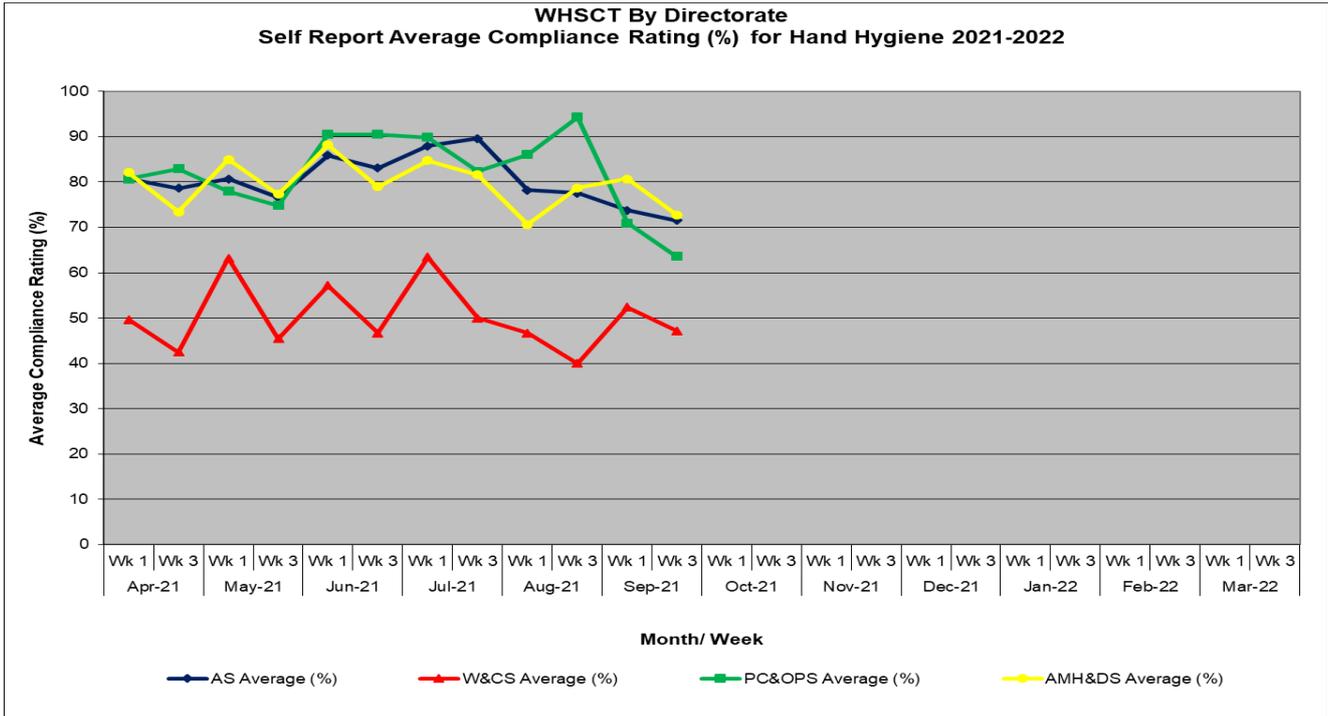
Site	Ward/ Department/ Facility
Altnagelvin	<p>Ward 3 Head & Neck</p> <p>Ward 24 AMU</p> <p>Ward 40</p> <p>Ward 43</p> <p>Ward 44</p> <p>Ward 47</p> <p>ACU</p> <p>Antenatal Clinic</p> <p>Breast Screening Unit</p> <p>Butterfly Lodge</p> <p>Cardiac Investigations</p> <p>Cath Lab</p> <p>Emergency Department</p> <p>Fracture Clinic</p> <p>GUM Clinic</p> <p>Main Theatre 1</p> <p>Main Theatre 3</p> <p>Main Theatre 4</p> <p>Main Theatre 7</p> <p>Main Theatres Paediatric Recovery</p> <p>Main Theatres Recovery</p> <p>OPALS South Wing Clinics</p> <p>Physiotherapy Outpatients</p>
SWAH	<p>Ward 1 MSAU</p> <p>Ward 2</p> <p>Ward 5</p> <p>Ward 7</p> <p>Ward 9</p> <p>Cardiac Investigations</p> <p>Cardiac Unit</p> <p>Emergency Department</p> <p>Physiotherapy Outpatients</p> <p>Women's Health Centre</p>
OHPCC	<p>Cardiac Investigations</p> <p>Physiotherapy Outpatients</p> <p>Women's Centre</p>
Tyrone & Fermanagh Hospital	<p>Asha Centre</p> <p>Elm Villa</p>
Lakeview Hospital	Berryburn Centre
Grangewood Hospital	Carrick Ward
Residential Homes	Thackeray Place Residential Home
Day Care	<p>Beragh Day Centre</p> <p>Dromore Day Centre</p> <p>Drumcoo Day Centre</p> <p>Glen Oaks Day Centre</p> <p>Gortin Day Centre</p> <p>Newtownstewart Day Centre</p>
Other Community	Avalon House

	Children's Community Nursing Team The Cottages Children's Respite Crannog Intensive Treatment Team
--	--

A number of areas also did not submit scores for the previous month. These are highlighted in yellow on the above table.

Furthermore, three areas submitted scores for September 2021 which are not mathematically possible to achieve if using the hand hygiene audit tool correctly. These areas are as follows:

Altnagelvin – Ward 21C, ICU and HDU



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.

8. 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 Mitie 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.

The WSG, which is a multidisciplinary group, is responsible for ensuring the Trust's water systems are safe for all patients, staff and visitors at point of use. In order to ensure the Trust has safe, clean water systems the WSG has a robust process in place to monitor all water sampling results.

The water sampling programme has identified that 39% of samples taken are Legionella positive. This is currently being managed, as per the Water Safety Plan, with the use of point-of-use filters. These ensure the safety of users and allow the facilities to remain operational, with no adverse effect on the service.

As a general overview, the Nucleus Building and Tower Block, Altnagelvin, have the greatest percentage of positive samples at 41% and 22% respectively. On further investigation, the high counts of Legionella can be attributed to poor hot water circulation, ability to achieve compliant temperatures and stagnation. Extensive upgrade to the water system has been undertaken in ICU and Wards 31 and 32. The Wards 31 and 32 hot water improvement works have been completed and this has achieved the aims with compliant hot water temperatures and improved hot water circulation.

Proposed Control Measures

Employment of Additional Maintenance Assistants

The Estates Water Team recruited two additional Band 2 Maintenance Assistants in order to meet the increasing demand of flushing infrequently used water outlets contaminated with the Legionella bacteria due to the impact of COVID-19.

To help reduce the proliferation of the Legionella bacteria, each ward/ department/ building should increase the frequency of outlet flushing to at least twice weekly and a proposal has been submitted to the Corporate Management Team for consideration as part of a control strategy to help reduce the proliferation and risk of Legionella.

Showers Replacement Scheme, Nucleus, Altnagelvin

A scheme to replace 45 shower mixers in Nucleus Building has been agreed as trend analysis indicates that these are outlets of concern.

DHW Wireless Monitoring

The HTM 04-01 Safe Water in Healthcare Premises guidance document recommends that Domestic Hot Water Principal, Subordinate and Tertiary Loops should be identified and included within a monthly temperature monitoring regime to ensure the hot water system maintains control and prevents the proliferation of water borne pathogens. The Trust's Independent Authorising Engineer for Water has recommended that this monitoring regime be implemented in high risk areas as a minimum and is the highest priority on his audit report. A major benefit of this technology is that it removes the need to manually access pipework in ward areas, which can be difficult to gain access to and now even more so during the COVID-19 pandemic.

The North Wing, Altnagelvin, was identified as the area to begin implementing remote temperature monitoring due to it having a population of highly susceptible patients. Also because the building has a brand new water infrastructure with HTM compliant temperatures. This project was completed in March 2021, with additional sensors to be installed in the North West Cancer Centre (NWCC) Ward 50 by March 2022.

Water Hygiene Risk Assessments

44 new Independent Water Hygiene Risk Assessments were commissioned throughout community facilities in the Northern and Southern Sectors of the Trust by CA Services. The Risk Assessments ensure the Trust has a robust control regime in place to manage the water systems. The reports produce a number of remedial recommendations, which are prioritised and actioned by the Estates Water Team. The progress of all actions is tracked and monitored by the Trust's WSG.

Cold Water Storage Tanks, Nucleus, Altnagelvin

Replacement of the two existing Cold Water Storage Tanks in a new location at the Nucleus 1 Court Yard. This now provides the Trust with a clean and safe supply of cold water for the Nucleus area in line with current Water Supply and Water Fittings Regulations 1999 and HTM 04-01 recommendations.

Further Improvement Works 2021/22

The Trust continues to utilise the current Risk Assessments to target areas which require improvement works for 2021/22. Risk Assessments will be amended to reflect the improvements made to particular installations. Works planned include:

Nucleus Shower Unit Replacements, 50k – Completion date 31st December 2021

NWCC Ward 50 Wireless Sensors, 20k – Completion date 31st December 2021

Nucleus DHW Decentralisation (Outpatients Department), 90k – Completion date 31st March 2022

Increasing Compliance

The Estates' Water Safety Team continues to build compliance and demonstrate this via the Zetasafe compliance database tool. The Trust's compliance position is risk based and, although not 100% compliant, it is currently stable and high risks are being managed appropriately.

The Trust's current compliance level is 99%.

