

Infection Prevention & Control Report to Trust Board

Meeting Date – 6th July 2023

1. Executive Summary

Reduction Targets 2022/23

Due to the COVID-19 pandemic the Department of Health for Northern Ireland (NI) did not issue reduction targets for healthcare-associated infections (HCAIs) in 2022/23. 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*.

The most recent year for which targets were available is 2019/20. The Trust's actual performance in that year is discussed in subsequent relevant sections to provide a point of reference when examining performance in 2022/23.

C. difficile Performance 2022/23

A total of 81 cases of *C. difficile* were reported in 2022/23; one more than in 2021/22. 49 of the cases were 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 (32) are classified as community-acquired as the patients presented with symptoms within a 72-hour period after admission.

A total of 63 *C. difficile* cases were previously recorded in 2019/20. The performance in 2022/23 has exceeded that number.

MRSA Bacteraemia Performance 2022/23

A total of seven MRSA bacteraemia cases were reported in 2022/23; three fewer than in 2021/22. Three were categorised as community-associated as they occurred less than 48 hours after admission to hospital and four were categorised as healthcare-associated as they occurred more than 48 hours after admission to hospital (definition used by the PHA).

A total of four MRSA bacteraemia cases were previously recorded in 2019/20. The performance in 2022/23 has exceeded that number.

GNB Performance 2022/23

A total of 42 healthcare-associated GNB cases were reported in 2022/23. That is three fewer cases than in the previous year (45); a reduction of 6.67%.

Compared with 2019/20, when a total of 59 GNB cases were recorded, the performance in 2022/23 equates to a reduction of 28.81%.

Current GNB Performance

The new reduction target for 2023/24 has not yet been issued. As of 27th June 2023, 14 healthcare-associated GNB cases have been reported.

In 2019/20 16 cases had occurred by late June 2019 and, by comparison, this year's performance

is currently showing a reduction of 12.5% against that figure.

2. Coronavirus (COVID-19)

Outbreak Management

COVID-19 outbreaks continue to be declared in Trust wards, departments and facilities. Between March and late June 2023, a total of 38 outbreaks occurred. The Infection Prevention & Control (IP&C) Team are leading on the management of these incidents as applicable. Incident meetings are taking place and all IP&C measures have been instigated.

3. Infection Prevention & Control Induction and Mandatory Training

IP&C Induction and Mandatory Training is delivered online via an e-learning programme. This was developed regionally for use by all health and social care organisations in NI.

The e-learning programme comprises two tiers – Tier 1 and Tier 2. Staff only need to complete one of the tiers. Clarification on which tier each staff member should complete is provided via a Tier Matrix. The e-learning includes a short assessment to test understanding and awareness, with a certificate available to be printed after successful completion.

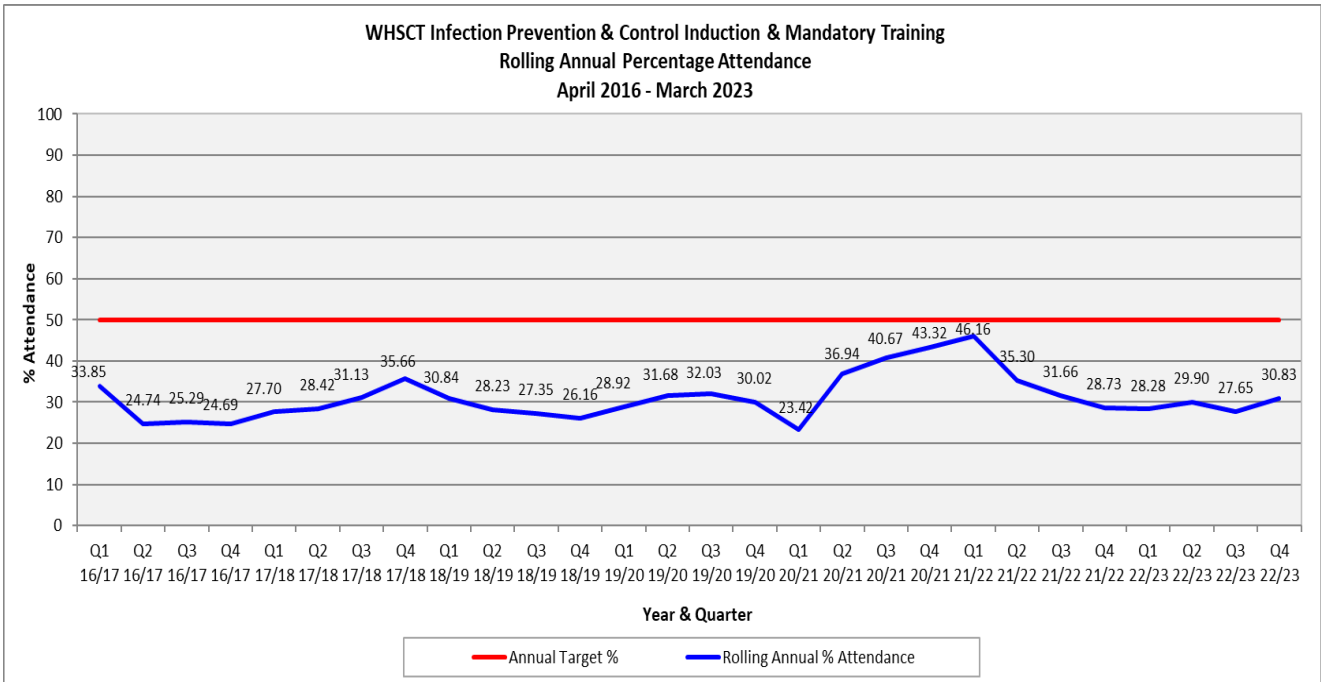
Access to the e-learning is through the HSC Learning website (www.hsclearning.com) which is available to all Western Trust staff. The website can be accessed from any internet-enabled Trust or personal device (PC/ laptop/ mobile phone/ tablet).

The IP&C Team also delivered a series of virtual training sessions via the Microsoft Teams app. These sessions were aimed at staff who come under Tier 1B of the Tier Matrix (i.e. “healthcare staff with minimal or no patient/ client contact or healthcare staff with patient contact who require role specific training”), such as Support Services, HSDU, Estates, Transport, Social Workers, Chaplains, etc.

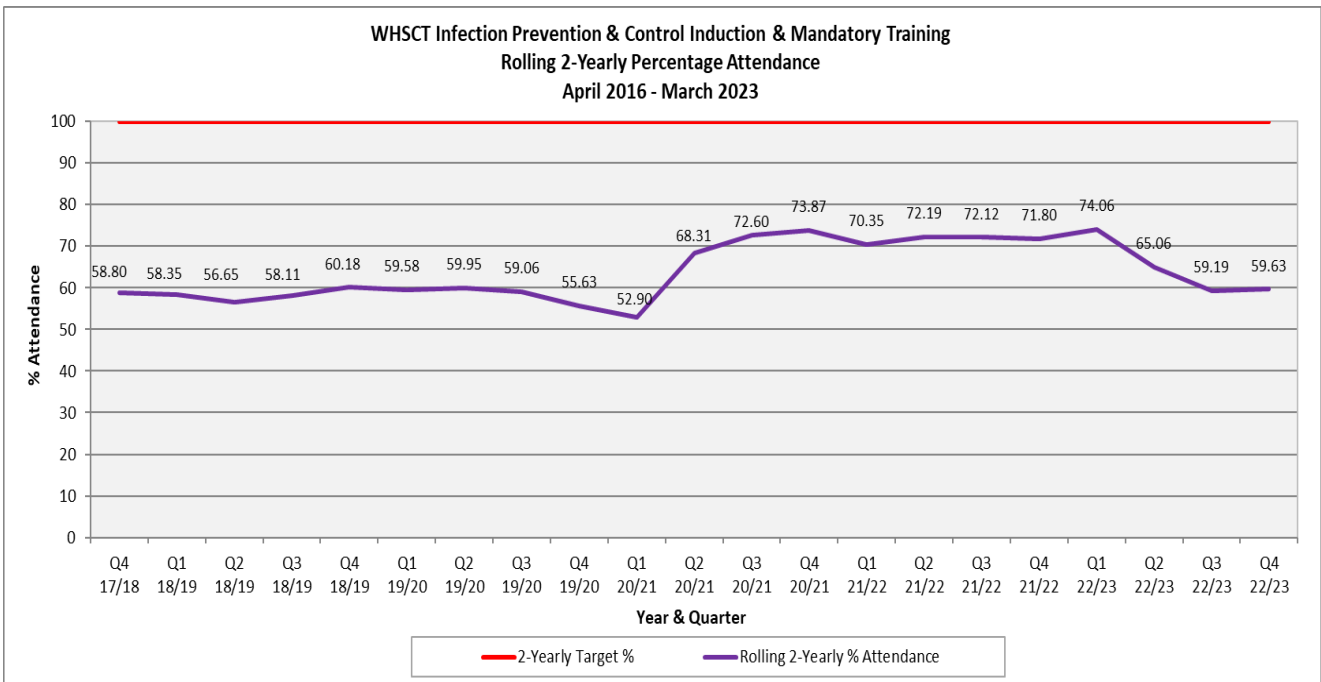
Training must be completed every two years.

The content of the e-learning is currently being reviewed by the Regional IP&C Lead Nurses Forum. They are also looking at developing a shorter, more bespoke version for medical staff.

Between 1st April 2022 and 31st March 2023, a total of 3729 staff completed the training. The attendance target for each year is 50% of the total number of staff who require training (i.e. 6047 out of 12,094 applicable staff). For 2022-23 the percentage stands at 30.83%. That is 19.17% less than required.



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 March 2023, it is 59.63%.



4. C. difficile Performance

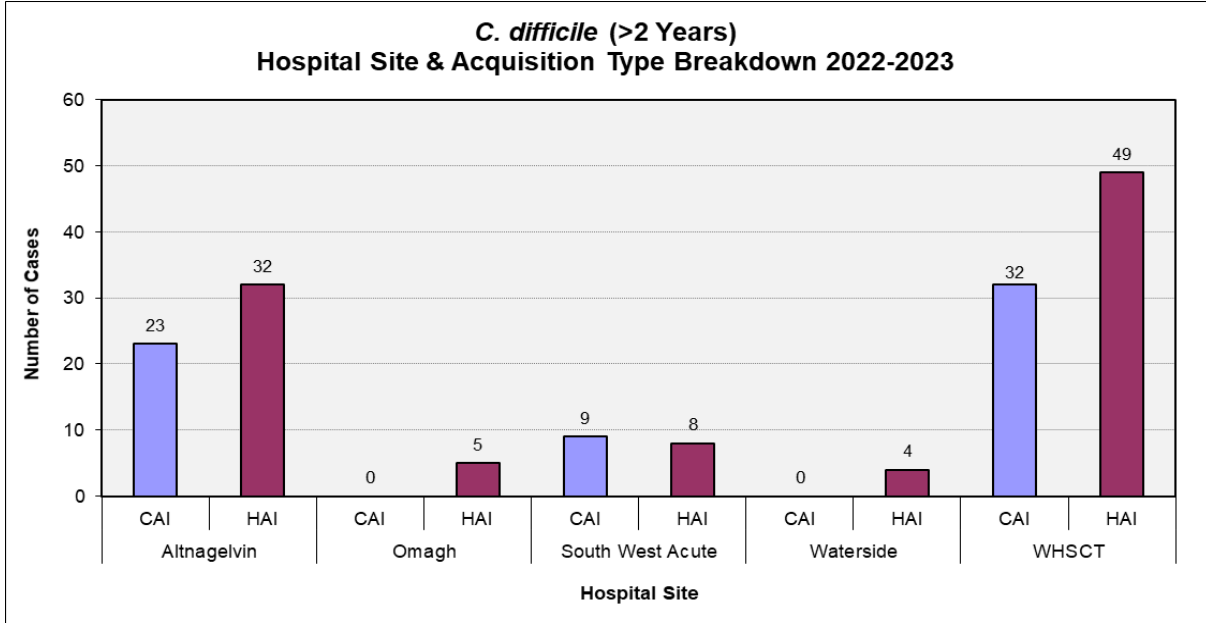
There was no reduction target set for *C. difficile* (\geq two years) in 2022/23. In the year to the end of March 2023 the Trust reported 81 cases, with 32 of those being categorised as community-associated. That is an overall increase of 1.25% compared to the previous year (80 cases) and comprises an increase in healthcare-associated infection cases of 2.08% versus no change in community-associated infection cases.

As a point of comparison, a total of 63 cases were recorded in 2019/20 (the most recent year for

which targets were available). The 2022/23 performance has exceeded that figure by 28.57%; comprising an increase in healthcare-associated infection cases of 32.43% and an increase in community-associated infection cases of 23.08%.

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

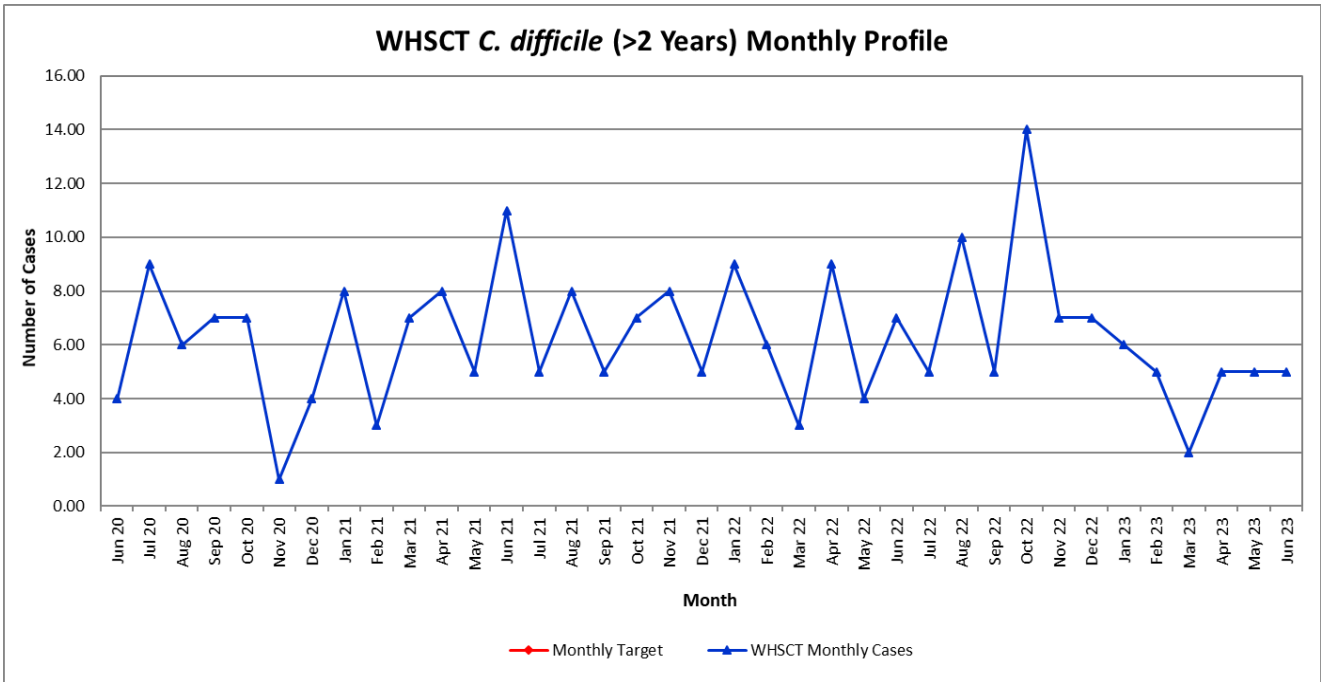


Preventable/ Non-Preventable

In respect of *C. difficile* cases occurring during 2022/23 a total of 18 post-infection reviews (PIRs) have been conducted. These found that none of the cases was preventable and 18 were non-preventable.

The new reduction target for 2023/24 has not yet been issued.

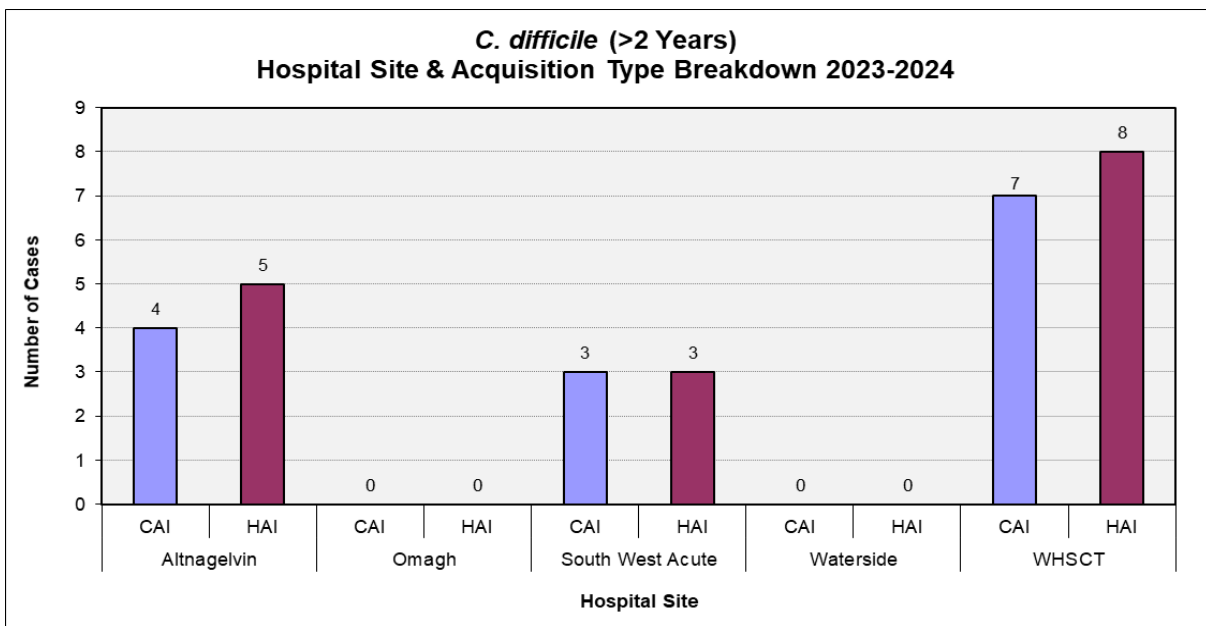
Since the beginning of April 2023 15 new cases have been reported, with eight of those being categorised as healthcare-associated.



* The value for Jun 23 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.

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Preventable/ Non-Preventable

An updated guideline called “Post-Infection Review (PIR) Guidelines for Healthcare-Associated *Clostridium difficile*, Meticillin Resistant/ Sensitive *Staphylococcus aureus* (MRSA/ MSSA) Infections, COVID-19 and Other Infection Related Incidents” was approved in March 2023. This rationalised the requirement for undergoing a PIR to only those cases where death has occurred and the infection is documented on Part 1 of the death certificate or those which are part of a cluster/ outbreak. Rationalisation has reduced the frequency of meetings, thus allowing more effective use of time and resources to focus on prevention of transmission and improving practices.

No *C. difficile* related PIRs have been conducted in 2023/24 so far.

Comparison with Other Trusts

The PHA releases regional comparator information on a quarterly basis. The most recent data available covers up to the end of March 2023. The table below summarises the number of *C. difficile* cases and the rate per 1000 bed days for each Trust, plus NI averages, for each quarter of 2022/23.

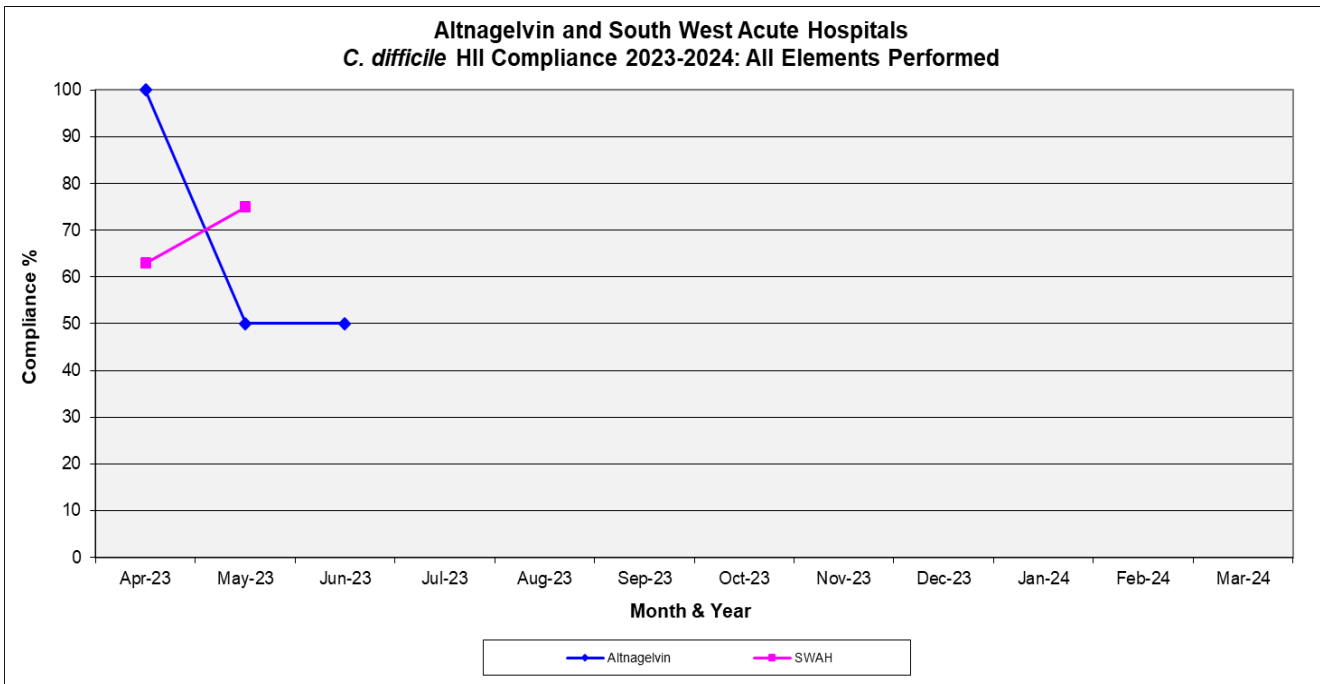
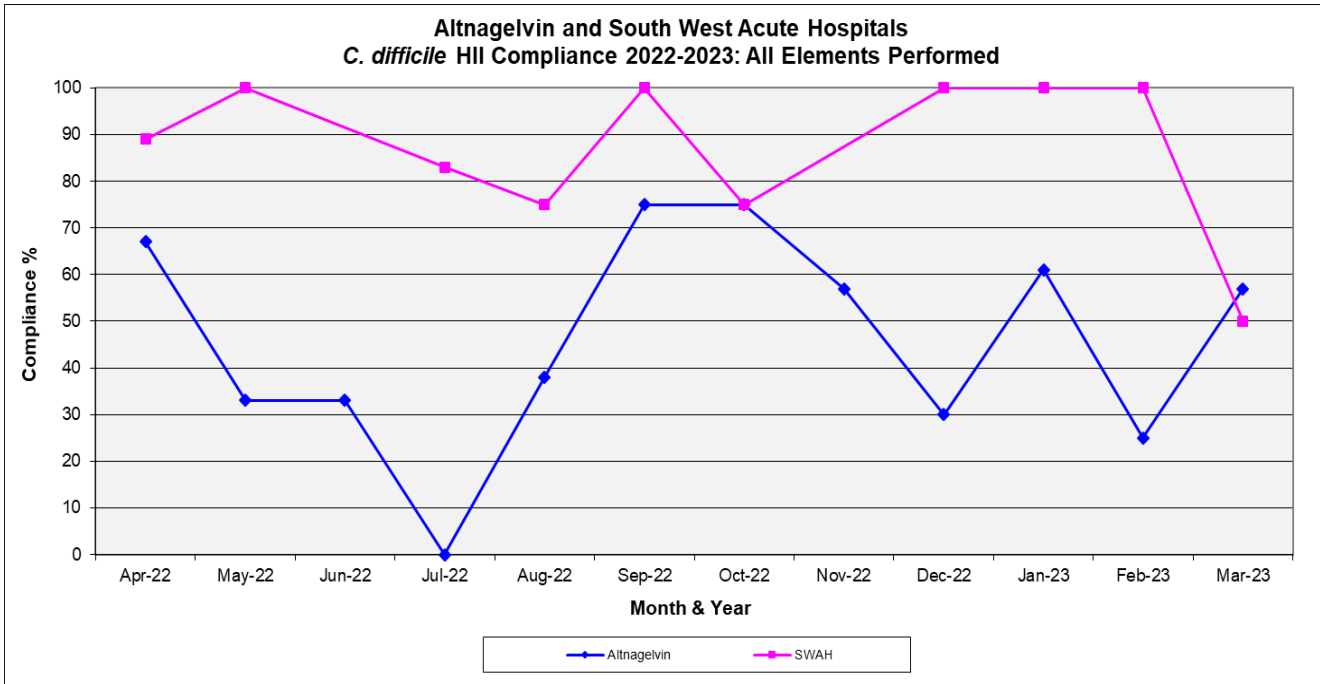
| | April-June 2022 | | July-September 2022 | | October-December 2022 | | January-March 2023 | |
|----------------------------|-----------------|-------|---------------------|-------|-----------------------|-------|--------------------|-------|
| | Number of Cases | Rate | Number of Cases | Rate | Number of Cases | Rate | Number of Cases | Rate |
| Western Trust | 20 | 0.329 | 20 | 0.320 | 28 | 0.437 | 13 | 0.205 |
| Southern Trust | 20 | 0.323 | 19 | 0.287 | 21 | 0.296 | 22 | 0.305 |
| South Eastern Trust | 19 | 0.282 | 19 | 0.276 | 20 | 0.280 | 17 | 0.240 |
| Northern Trust | 6 | 0.090 | 11 | 0.162 | 13 | 0.182 | 7 | 0.097 |
| Belfast Trust | 24 | 0.191 | 27 | 0.212 | 22 | 0.163 | 34 | 0.251 |
| Northern Ireland | 89 | 0.233 | 96 | 0.244 | 104 | 0.252 | 93 | 0.225 |

Previously a rise in the number of cases in the Western Trust was noted. This was highlighted at the Chief Executive HCAI Accountability Forum, IP&C Committee, Safe & Effective Care, Corporate Safety Huddle and Antimicrobial Management Team. An action plan was also developed to try to address the issue. It was recognised that the ability to make any significant improvements would be affected by staffing challenges, as well as the need to effect wider change in community prescribing in Primary Care. As of the most recent quarter, the number of *C. difficile* cases in the Western Trust has decreased quite significantly. Trends will continue to be monitored moving forward.

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, correct hand hygiene 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 Hospital and the South West Acute Hospital (SWAH).



5. S. aureus Bacteraemia Performance

MRSA Bacteraemia

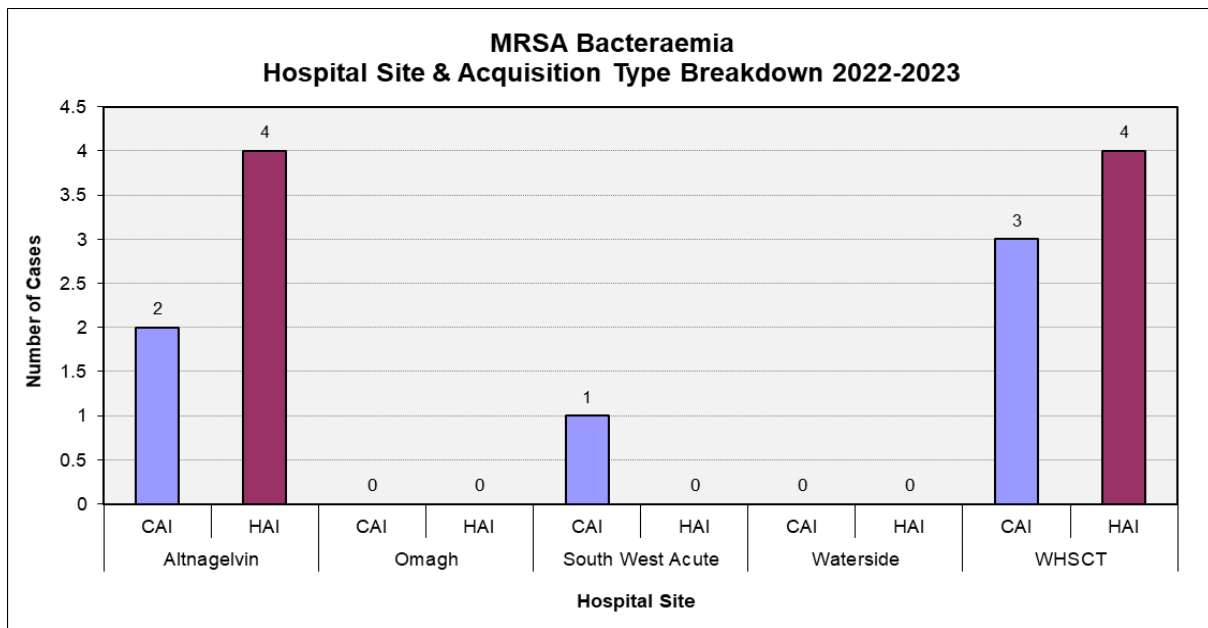
No reduction target was set for MRSA bacteraemia in 2022/23. In the year to the end of March 2023 seven MRSA bacteraemias were reported. That is three cases fewer than in the previous year (10); a decrease of 30%. The proportion of those cases which can be attributed to the Trust was three. The other four cases were categorised as community-associated.

In 2019/20 (the most recent year for which targets were available) a total of four cases were recorded. By contrast, the 2022/23 performance has exceeded that figure by 75%.

The PHA has previously advised that community-associated infections will remain as part of the target/ published figures. These cases are not related to the healthcare environment, which limits the Trust’s ability to influence a reduction in numbers. All community-associated cases are, however, reviewed to ensure there has not been any healthcare intervention within the previous 48 hours. The PHA presents the number of cases according to the time of sampling following hospital admission; although, as stated by the PHA, this should not be taken as inferred attribution of infection (hospital or community).

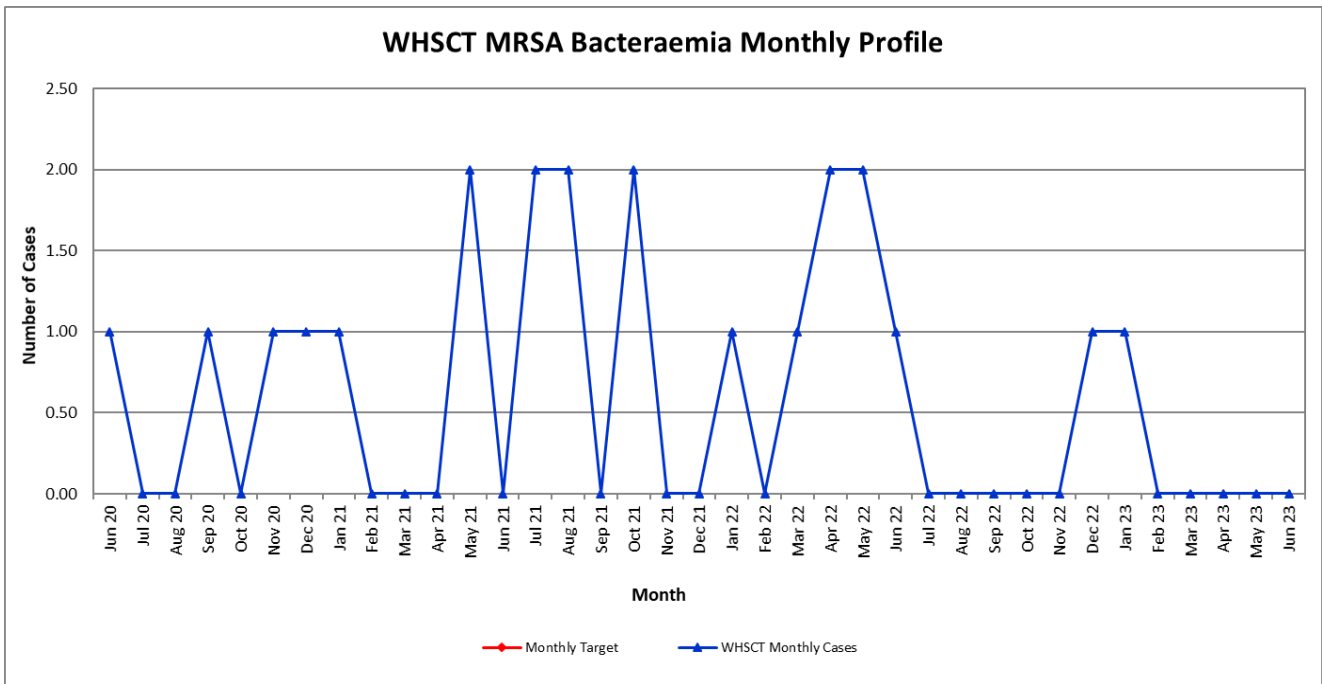
A breakdown of the cases by hospital site and acquisition type is given in the chart below.

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



The new reduction target for 2023/24 has not yet been issued.

Since the beginning of April 2023 no new cases have been reported.



* The value for Jun 23 is subject to change as the report was compiled prior to the end of the month.

As of 27th June 2023, the total number of days since the last Trust hospital-associated MRSA bacteraemia is:

Altnagelvin – 163 days (Last recorded case was in Ward 50 Sperrin)
 SWAH – 1107 days (Last recorded case was in Ward 8)
 Tyrone County Hospital/ Omagh Hospital
 & Primary Care Complex (OHPCC) – 3079 days (Last recorded case was in the Rehab Unit)

Comparison with Other Trusts

The PHA releases regional comparator information on a quarterly basis. The most recent data available covers up to the end of March 2023. The table below summaries the number of MRSA bacteraemia cases and the rate per 1000 bed days for each Trust, plus NI averages, for each quarter of 2022/23.

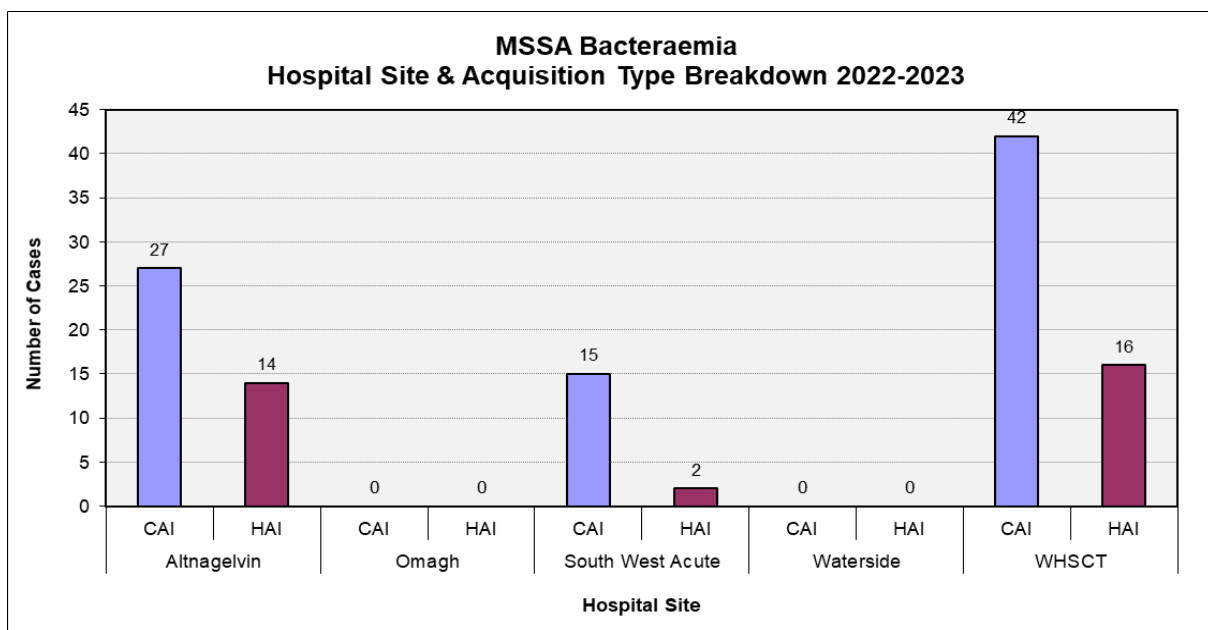
| | April-June 2022 | | July-September 2022 | | October-December 2022 | | January-March 2023 | |
|----------------------------|-----------------|-------|---------------------|-------|-----------------------|-------|--------------------|-------|
| | Number of Cases | Rate | Number of Cases | Rate | Number of Cases | Rate | Number of Cases | Rate |
| Western Trust | 5 | 0.082 | 0 | 0.000 | 1 | 0.016 | 1 | 0.016 |
| Southern Trust | 5 | 0.081 | 2 | 0.030 | 0 | 0.000 | 2 | 0.028 |
| South Eastern Trust | 1 | 0.015 | 3 | 0.044 | 0 | 0.000 | 4 | 0.056 |
| Northern Trust | 0 | 0.000 | 2 | 0.029 | 4 | 0.056 | 1 | 0.014 |
| Belfast Trust | 4 | 0.032 | 4 | 0.031 | 1 | 0.007 | 2 | 0.015 |
| Northern Ireland | 15 | 0.039 | 11 | 0.028 | 6 | 0.015 | 10 | 0.024 |

Meticillin-Sensitive Staphylococcus aureus (MSSA) Bacteraemia

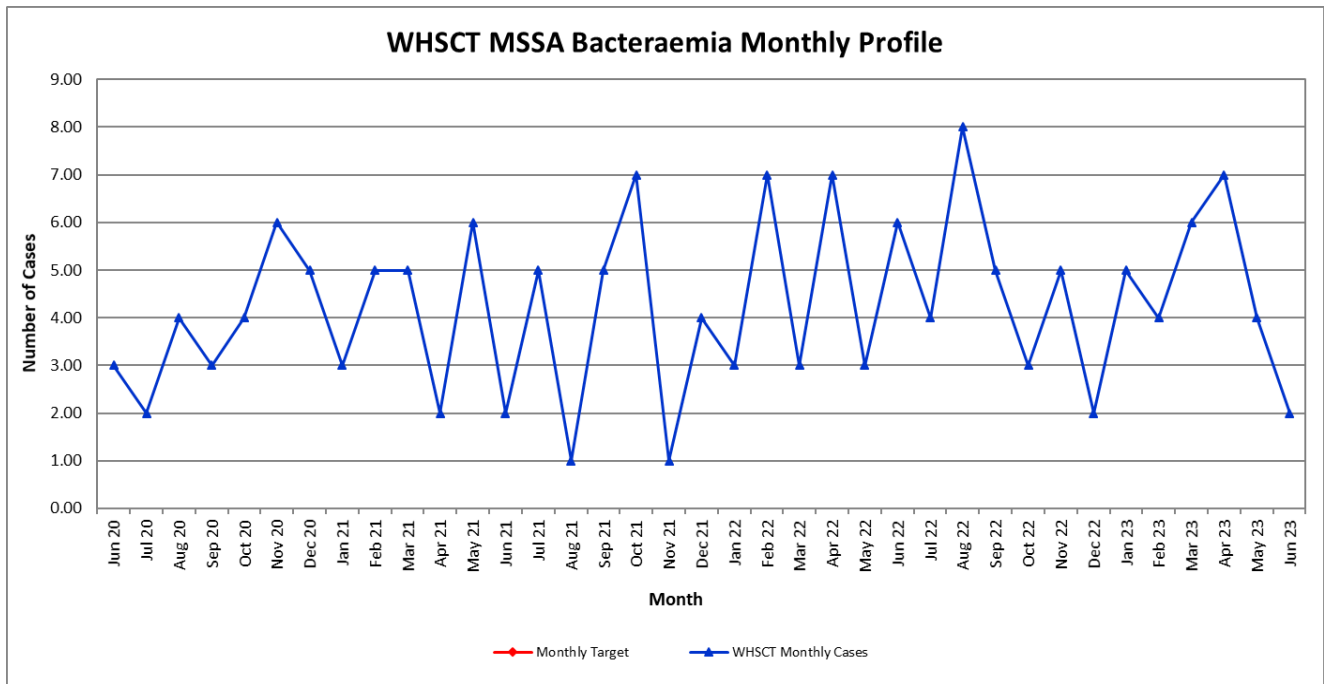
There was no reduction target associated with MSSA bacteraemia for 2022/23, however surveillance remained mandatory. MSSA is part of the skin normal flora of approximately 25-30% of the well population. It is, therefore, more difficult to control endogenous (self) exposure, which is the reason for removing 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.

In the year to the end of March 2023 a total of 58 MSSA bacteraemias were reported. 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 beginning of April 2023 13 new cases have been reported. 12 cases are categorised as community-associated and one is categorised as healthcare-associated.



* The value for Jun 23 is subject to change as the report was compiled prior to the end of the month.

As of 27th June 2023, the total number of days since the last Trust hospital-associated MSSA bacteraemia is as follows:

Altnagelvin – 65 days
SWAH – 251 days
OHPCC – 2080 days

(Last recorded case was in the CCU)
(Last recorded case was in Ward 2)
(Last recorded case was in the Rehab Unit)

Comparison with Other Trusts

The PHA releases regional comparator information on a quarterly basis. The most recent data available covers up to the end of March 2023. The table below summaries the number of MSSA bacteraemia cases and the rate per 1000 bed days for each Trust, plus NI averages, for each quarter of 2022/23.

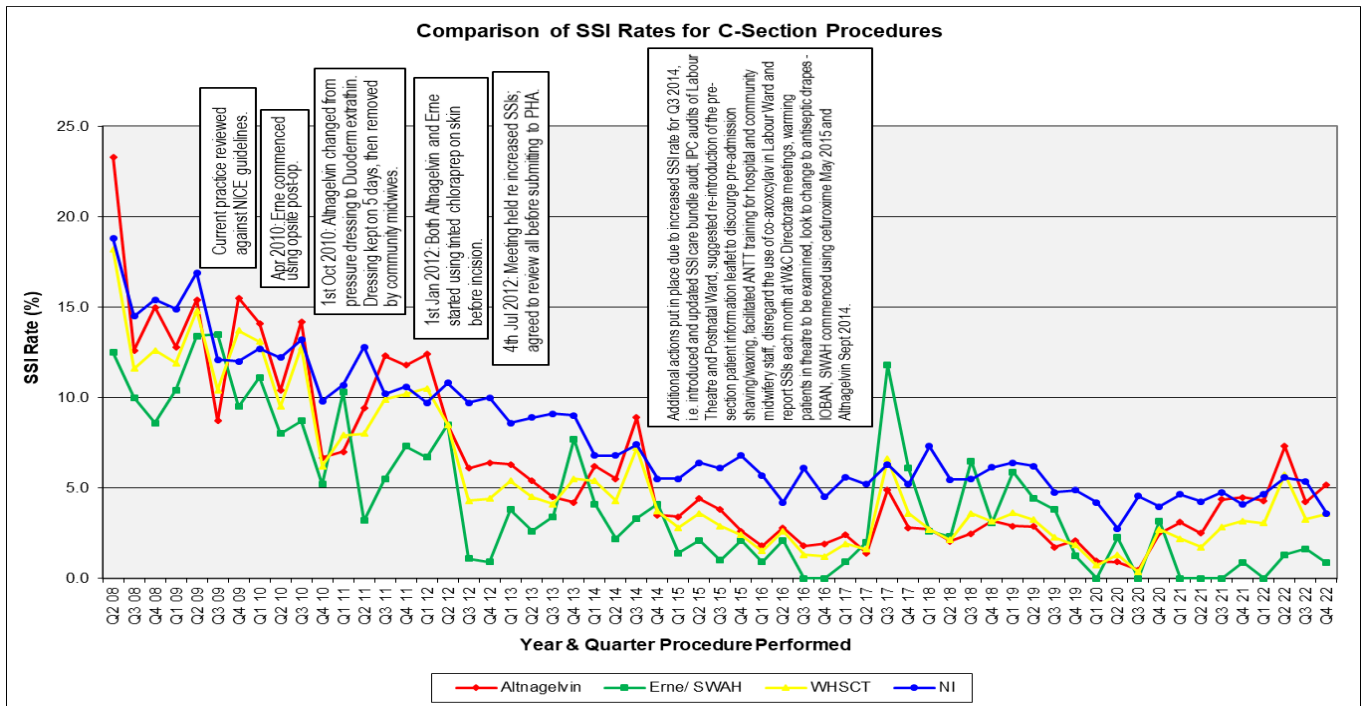
| | April-June 2022 | | July-September 2022 | | October-December 2022 | | January-March 2023 | |
|----------------------------|-----------------|-------|---------------------|-------|-----------------------|-------|--------------------|-------|
| | Number of Cases | Rate | Number of Cases | Rate | Number of Cases | Rate | Number of Cases | Rate |
| Western Trust | 16 | 0.263 | 17 | 0.272 | 10 | 0.156 | 15 | 0.236 |
| Southern Trust | 15 | 0.242 | 14 | 0.211 | 17 | 0.240 | 13 | 0.180 |
| South Eastern Trust | 15 | 0.222 | 17 | 0.247 | 14 | 0.196 | 16 | 0.226 |
| Northern Trust | 21 | 0.314 | 19 | 0.279 | 15 | 0.210 | 20 | 0.279 |
| Belfast Trust | 35 | 0.279 | 39 | 0.306 | 64 | 0.473 | 38 | 0.281 |
| Northern Ireland | 102 | 0.267 | 106 | 0.270 | 120 | 0.291 | 102 | 0.246 |

6. Caesarean Section Surgical Site Infection (SSI) Surveillance

During quarter four of 2022 the Trust achieved 87% compliance with surveillance related documentation, compared to a 78.3% average compliance rate in NI as a whole.

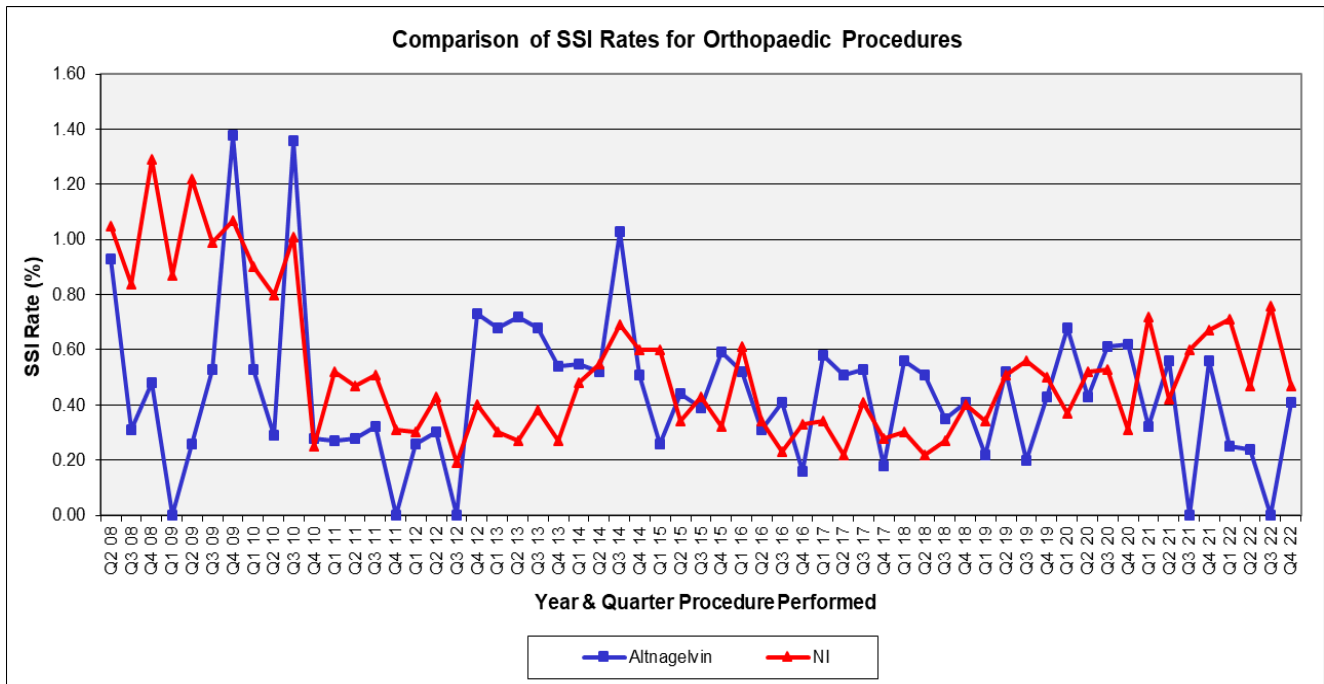
The surveillance information below demonstrates an ongoing reduction in infection rates over time and a slightly lower rate for the Trust than the rest of the region; 3.56% and 3.59% respectively.

Multi-disciplinary team work is ongoing with regard to validation and assurance of the surveillance information and to continue driving forward improvements.



7. Orthopaedic Surgical Site Infection Surveillance

The SSI rate remains less than 0.7% of all surgery and, in quarter four of 2022 specifically, it is 0.41%. Evidence based care bundles are in place for orthopaedic surgery.



8. 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 over four and a half years. The most recent infection recorded was a ventilator-associated pneumonia, which occurred in ICU, Altnagelvin, in October 2018.

Results, as of May 2023, 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 | 0.26 |
| Catheter-Associated Urinary Tract Infection | Zero to date | 23/07/2011 | 0.00 | 0.00 | 0.03 |
| Central Line Associated Blood Stream Infection | Zero to date | 11/03/2012 | 0.00 | 0.00 | 0.35 |