

Shetland NHS Board

Meeting:	Shetland NHS Board		
Paper Title:	Healthcare Associated Infection (HAI) Report		
Date:	12 October 2021		
Author:	Carol Colligan	Job Title:	Infection Control Manager/Decontamination Lead
Executive Lead:	Kathleen Carolan	Job Title:	Director of Nursing & Acute Services
Decision / Action required by meeting:			
<p>The Board is asked to receive the attached HAI report and note the Board's position and performance in relation to:</p> <ul style="list-style-type: none"> • Clostridium Difficile • Staphylococcus Aureus Bacteraemias • E Coli Bacteraemias • Hand Hygiene compliance • Monitoring of cleaning services 			
High Level Summary:			
<p style="text-align: center;">Key Healthcare Associated Infection Headlines July and August 2021</p> <ul style="list-style-type: none"> • NHS Shetland had two cases of Staphylococcus Aureus Bacteraemia in July and August 2021 • NHS Shetland had one case of Clostridioides Difficile Infection in July 2021 • NHS Shetland had one case of E Coli Bacteraemia in August 2021 • NHS Shetland had no cases of Pseudomonas Bacteraemia in July and August 2021 • NHS Shetland had one case of Klebsiella Bacteraemia in July 2021 • Hand Hygiene audit compliance figures for July to September 2021 was 100% • Cleaning standards compliance for the Board for April to June 2021 was 98.5% • Estates standards compliance for the Board for April to June 2021 was 100% 			
Key Issues for attention of meeting:			
Noting the good performance as shown in the report.			
Corporate Priorities and Strategic Aims:			
The HAI governance arrangements are most closely aligned to our corporate objectives to improve and protect the health of the people of Shetland and to provide high quality, effective and safe services.			
Implications : <i>Identify any issues or aspects of the report that have implications under the following headings</i>			
Service Users, Patients and Communities:	The HAI agenda focuses on reducing avoidable patient harm. Reporting HAI performance is part of the clinical governance arrangements for the Board.		
Human Resources and Organisational Development:	Training in infection control and outbreak management is a key priority in our HAI governance arrangements.		

Equality, Diversity and Human Rights:	EQIA is not required.	
Partnership Working	HAI governance arrangements apply in all NHS settings.	
Legal:	The HAI governance arrangements are underpinned by the national Standard Infection Control Precautions (SICPS)	
Finance:	HAI governance arrangements are part of the standard budgeting process and are funding via our general financial allocation.	
Assets and Property:	Nil	
Environmental:	A Strategic Environmental Impact Assessment is required or has been completed.	
Risk Management:	The HAI agenda focuses on reducing risks associated with the spread of infection (in the environment and through Public Health measures). The adverse event policy also applies to HAI related events.	
Policy and Delegated Authority:	Delegated authority for the governance arrangements that underpin HAI and public health measures sit with the Control of Infection Committee (which reports to the) Clinical, Care and Professional Governance Committee	
Previously considered by:	Infection Control Committee Infection Control Team	
“Exempt / private” item	<i>Public document</i>	

NHS Shetland

Healthcare Associated Infection Reporting Template (HAIRT)

Improved collaboration with the other UK nations has made comparisons and standardisation across the UK a high priority for all four nations' governments/health departments. The changes introduced in the Scottish HAI surveillance, described within this report facilitate benchmarking of the Scottish data against those of the rest of the UK.

Revisions to the surveillance

Description of Revision	Report section(s) revision applies to	Rational for revision
Addition of healthcare/community case assignment	Clostridioides Difficile Infection/ Staphylococcus Aureus Bacteraemia (CDI/SAB)	An increasing awareness of those infections occurring in community settings has warranted measurement of incidence rates by healthcare setting (healthcare settings vs. community settings) to enable interventions to be targeted to the relevant settings.
Use of standardised denominator data for Clostridioides Difficile Infection/ Escherichia Coli Bacteraemia/ Staphylococcus Aureus Bacteraemia (CDI/ECB/SAB)	CDI/SAB	The 'total occupied bed days' data will be extracted from the ISD(S)1 data collection which contains aggregated information on acute and non-acute bed days including geriatric medicine and long-term stays in real-time. The standardisation of denominator data across the three surveillance programmes could result in slightly less accurate denominators due to inclusion of persons in the denominator who are at slightly less risk of infection. However, in surveillance programmes developed for the purpose of preventing infection and driving quality improvement in care, consistency of the denominators over time tend to be more important than getting a very precise estimate of the population at risk, as the primary aim is to reduce infection to a lower incidence relative to what it was at the initial time of benchmarking.
Reporting of CDI cases aged 15 years and above only	CDI	Current Scottish Government Local Delivery Plan Standards are based on the incidence rate in cases aged 15 years and above, therefore the report has been aligned to reflect this. HPS will continue to monitor CDI incidence rates in the separate age groups (15-64 years and 65 years and above) internally.
Reporting of total SAB cases only (i.e. Removal of MRSA sub-analysis)	SAB	MRSA numbers are becoming too small to carry out statistical analysis. HPS will continue to monitor internally.

Full details of the report methods and caveats can be found here – <http://www.hps.scot.nhs.uk/pubs/detail.aspx?id=3340>

Section 1 – Board Wide Issues

Key Healthcare Associated Infection Headlines

July and August 2021

- NHS Shetland had two cases of Staphylococcus Aureus Bacteraemia in July and August 2021
- NHS Shetland had one case of Clostridioides Difficile Infection in July 2021
- NHS Shetland had one case of E Coli Bacteraemia in August 2021
- NHS Shetland had no cases of Pseudomonas Bacteraemia in July and August 2021
- NHS Shetland had one case of Klebsiella Bacteraemia in July 2021
- Hand Hygiene audit compliance figures for July to September 2021 was 100%
- Cleaning standards compliance for the Board for April to June 2021 was 98.5%
- Estates standards compliance for the Board for April to June 2021 was 100%

Staphylococcus Aureus (including MRSA)

Staphylococcus aureus is an organism which is responsible for a large number of healthcare associated infections, although it can also cause infections in people who have not had any recent contact with the healthcare system. The most common form of this is Meticillin Sensitive *Staphylococcus Aureus* (MSSA), but the more well-known is MRSA (Meticillin Resistant *Staphylococcus Aureus*), which is a specific type of the organism which is resistant to certain antibiotics and is therefore more difficult to treat. More information on these organisms can be found at:

Staphylococcus aureus :

http://www.nhs24.com/content/default.asp?page=s5_4&articleID=346

MRSA: http://www.nhs24.com/content/default.asp?page=s5_4&articleID=252

Staphylococcus Aureus Bacteraemia (SAB) include bacteraemia (blood infections) caused by both Meticillin Resistant Staphylococcus Aureus (MRSA) and Meticillin Sensitive Staphylococcus Aureus (MSSA). NHS Boards will now report the total of SAB cases rather than reporting these as individual cases of MRSA and MSSA.

The denominator for Healthcare Associated Infections (HCAI) SAB's has been changed to cases per 100,000 Total Occupied Bed Days (TOBD) and for Community Associated (CA) SAB's, cases per 100,000 of the population.

Nationally full surveillance of cases has stopped during the COVID pandemic and is reduced to classification of cases as either HCAI or CA. This is still the current position.

The tables on Page 9 and 10 represent the incidence of SABs within NHS Shetland on a monthly basis. There was one case in July 2021 and one case in August 2021 which were both HCAI and in the same patient. There have been five cases in the last twelve months.

The latest quarterly update from HPS on the SAB rate is still for **January to March 2021**. There were no cases in this quarter. In the last twelve months there have been four cases which were HCAI and no CA cases.

Clostridioides difficile

Clostridioides difficile is an organism which is responsible for a large number of healthcare associated infections, although it can also cause infections in people who have not had any recent contact with the healthcare system. More information can be found at:

<http://www.nhs.uk/conditions/Clostridium-difficile/Pages/Introduction.aspx>

Clostridium difficile infection is now known as Clostridioides Difficile Infection (CDI)

The denominator for HCAI CDI has been changed to cases per 100,000 TOBD and for CA CDI, cases per 100,000 of the population. The incidence of CDI is monitored at a national level through laboratory reporting and also at a local level through reporting of both clinically 'suspected' cases and laboratory reports.

The tables on Page 9 and 10 show the trends in CDI in NHS Shetland. There was one case reported in July 2021 which was CA. There have been seven cases of CDI in the last 12 months. Continued surveillance, prevention and management of CDI are ongoing with **good antimicrobial stewardship** continuing to be a key factor.

National figures are produced by HPS on a quarterly basis. The latest quarterly update from HPS is still for **January to March 2021**. There was one case which was HCAI giving a rate of 47.5/100,000 TOBD. In the last twelve months there have been three HCAI cases and three CA case.

Enhanced National Light Surveillance of *E. Coli* Bacteraemia

E. coli bacteraemia is an emerging threat. *E. coli* is one of the most frequently isolated organisms associated with Gram negative bacteraemia and these have increased continuously since 2009 in Scotland with a burden of infection now larger than that caused by CDI and SAB. The incidence rates are higher in Scotland than in the rest of the UK.

Several researchers have suggested that *E. coli* bacteraemia is not adequately controlled using current infection prevention and control strategies. It is crucially important to address the risks associated with primary *E. coli* infections occurring in both hospital and community settings.

Cases are broken down into two different categories – Healthcare Associated Infections (HCAI) per 100,000 TOBD and Community Acquired Infections (CA) presented at an annualised rate per 100,000 for the board population. There was one case in August 2021 which was HCAI. There have been fourteen cases in the previous twelve months.

The latest quarterly update from HPS is still for **January to March 2021**. For this quarter there were two cases which were HCAI giving a rate of 95.0/100,000 TOBD. In the last twelve months there have been seven cases for HCAI and five cases for CA Infections.

Surveillance for two additional groups of Bacteraemias have been added from June 2020 as part of a pilot project by HPS, these are for Klebsiella and Pseudomonas.

There was one case of Klebsiella Bacteraemia in July 2021 which was HCAI. There were no cases of Pseudomonas Bacteraemia in July or August 2021.

Surgical Site Infections (SSIs)

Surgical site infection (SSI) is one of the most common healthcare associated infections (HAI), estimated to account for 18.6% of inpatient HAI within NHSScotland. Excess morbidity and mortality arise from these SSIs and are estimated on average to double the cost of treatment, mainly due to the resultant increase in length of stay. These infections have serious consequences for patients as they can result in pain, suffering and in some cases require additional surgical intervention. SSI rates are an important surgical outcome measure and the two key aims of SSI surveillance are to provide participating hospitals with robust SSI rates for comparison and to use this data to improve the quality of patient care. Evidence suggests that actively feeding back data to clinicians contributes to reductions in rates of infection and that SSI is the most preventable of all HAI.

Nationally Surgical Site Surveillance was stopped during the COVID pandemic and has not yet been restarted.

Hand Hygiene

Good hand hygiene by staff, patients and visitors is a key way to prevent the spread of infections. More information on the importance of good hand hygiene can be found at:

<http://www.washyourhandsofthem.com/>

Audits are now undertaken on a quarterly basis to monitor compliance with hand hygiene opportunities. Audits have been reduced to a quarterly basis due to the continued high levels of compliance achieved locally. If however compliance levels for hand hygiene fall, monthly audits will be reinstated immediately. The table on Page 9 shows local compliance with hand hygiene opportunities as monitored through audits for different staff groups. Compliance levels were 100% for **July to September 2021**. NHS Shetland has generally demonstrated good compliance over the last year. In line with the Cabinet Secretary's approach to hand hygiene, we have adopted zero tolerance to poor hand hygiene, so every occasion when a member of staff fails to comply is dealt with immediately and additional training continues to be offered as necessary.

Cleaning and the Healthcare Environment

Keeping the healthcare environment clean is essential to prevent the spread of infections. NHS Boards monitor the cleanliness of hospitals and there is a national target to maintain compliance with standards above 90%. The cleaning compliance score for the Board can be found at the end of section 1 and for each hospital in section 2.

Healthcare environment standards are also independently inspected by the Healthcare Environment Inspectorate. More details can be found at:

<http://www.nhshealthquality.org/nhsqis/6710.140.1366.html>

Compliance with the national cleaning services specification is monitored at a local level and reported nationally on a quarterly basis. The tables on Page 9 and 10 show compliance for the local audits for 2019 - 2021. The latest compliance data for the Board with the Cleaning Services Standards is still for the quarter from **April to June 2021** and was 98.5%. The latest compliance data for the Board for Estates Monitoring Standards is still for **April to June 2021** and was 100%.

Outbreaks

Although no outbreak controls were initiated in this reporting period out with the COVID pandemic there was potentially one incident of nosocomial infection with COVID within the Gilbert Bain Hospital during this period. Genome sequencing data hasn't yet been received to confirm if this was the case.

Other HAI Related Activity

In this reporting period we have:

- Supported the implementation of clear pathways in NHS Shetland to safely and effectively manage the provision of healthcare services during the COVID pandemic
- Continued to monitor performance against current HAI standards on the wards
- Continued to provide educational sessions for all NHS Shetland staff especially about Covid and the management of Personal Protective Equipment
- Continued screening and reporting on the audit programme for MRSA and Carbapenemase-Producing Enterobacteriaceae (CPE)
- Continued to update Infection Prevention and Control policies, procedures and guidelines especially in relation to the COVID pandemic
- Continued to monitor compliance with the Catheter Associated Urinary Tract Infections (CAUTI) bundle across the Gilbert Bain Hospital and to work on the improvement project related to this
- Continued to monitor and assure compliance to national cleaning specifications
- Continued to raise awareness of other seasonal illnesses such as Norovirus and Influenza
- Provided advice and support to all Care Homes
- Provided support for all departments to aid the remobilization of services

On September 7th and 8th 2021, Healthcare Improvement Scotland (HIS) undertook and unannounced inspection at the Gilbert Bain Hospital. Given the impact of the COVID-19 pandemic, hospital inspections are focused on ensuring that people in hospital receive care that is safe, effective and in line with current standards and best practice for COVID-19 prevention.

HIS report hospital inspection findings under three key outcomes:

- people's health and wellbeing are supported and safeguarded during the COVID-19 pandemic
- infection control practices support a safe environment for both people experiencing care and staff, and
- staffing arrangements are responsive to the changing needs of people experiencing care.

The published report will be available in October via the link shown below.

https://www.healthcareimprovementscotland.org/our_work/inspecting_and_regulating_care/nhs_hospitals_and_services/nhs_shetland/gilbert_bain_hospital.aspx

Healthcare Associated Infection Reporting Template (HAIRT)

Section 2 – Healthcare Associated Infection Report Cards

The following section is a series of 'Report Cards' that provide information on the number of cases of *Staphylococcus aureus* blood stream infections, *Clostridioides difficile* infections and *E. Coli Bacteraemias* as well as hand hygiene and cleaning compliance broken down by month. The information in the report cards is provisional local data, and may differ from the national surveillance reports carried out by Health Protection Scotland and Health Facilities Scotland. The national reports are official statistics which undergo rigorous validation, which means final national figures may differ from those reported here. However, these reports aim to provide more detailed and up to date information on HAI activities at local level than is possible to provide through the national statistics.

Targets

There are national targets associated with reductions in C.diff and SABs. More information on these can be found on the Scotland Performs website:

<http://www.scotland.gov.uk/About/Performance/scotPerforms/partnerstories/NHSScotland/performance>

Understanding the Report Cards – Hand Hygiene Compliance

Hospitals carry out regular audits of how well their staff are complying with hand hygiene. Each hospital report card presents the combined percentage of hand hygiene compliance with both opportunity taken and technique used broken down by staff group.

Understanding the Report Cards – Cleaning Compliance

Hospitals strive to keep the care environment as clean as possible. This is monitored through cleaning and estates compliance audits.

NHS SHETLAND SEPTEMBER 2021 BOARD REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021	Aug 2021
HCAI	1	0	0	1	0	0	0	0	0	0	1	1
CA	0	0	0	0	0	0	0	0	0	1	0	0
Total	1	0	0	1	0	0	0	0	0	1	1	1

Clostridioides difficile infection monthly case numbers

	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021	Aug 2021
HCAI	0	0	0	0	0	0	0	2	1	0	0	0
CA	1	0	0	1	1	0	0	0	0	0	1	0
Total	1	0	0	1	1	0	0	2	1	0	1	0

E Coli bacteraemia monthly case numbers

	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021	Aug 2021
HCAI	0	0	2	1	1	1	0	1	1	1	0	1
CA	0	0	1	1	0	0	0	2	0	1	0	0
Total	0	0	3	2	1	1	0	3	1	2	0	1

Hand Hygiene Monitoring Compliance (%)

	Oct – Dec 19	Jan – Mar 20	Apr – Jun 20	Jul – Sept 20	Oct – Dec 20	Jan – Mar 21	Apr – Jun 21	Jul – Sept 21
AHP	100.0	100.0	100.0	100.0	97.9	100.0	100.0	100.0
Ancillary	100.0	97.4	100.0	100.0	97.4	98.5	100.0	100.0
Medical	96.6	96.8	100.0	96.7	96.7	93.1	96.8	100.0
Nurse	100.0	100.0	100.0	96.4	99.1	98.1	99.1	100.0
Board Total	99.6	99.1	100.0	97.9	98.3	97.7	99.1	100.0

Cleaning Compliance (%)

	Jul – Sept 19	Oct – Dec 19	Jan – Mar 20	Apr – Jun 20	Jul – Sept 20	Oct – Dec 20	Jan – Mar 21	Apr – Jun 21
Board Total	97.5	98.3	98.1	98.3	96.6	98.1	96.2	98.5

Estates Monitoring Compliance (%)

	Jul – Sept 19	Oct – Dec 19	Jan – Mar 20	Apr – Jun 20	Jul – Sept 20	Oct – Dec 20	Jan – Mar 21	Apr – Jun 21
Board Total	99.9	99.8	99.9	99.9	99.6	99.9	100.0	100.0

GILBERT BAIN HOSPITAL REPORT CARD

Cleaning Compliance (%)

	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021	Aug 2021
GBH Total	97.0	98.5	99.3	98.5	98.8	96.9	97.3	98.9	98.6	98.8	99.5	99.2

Estates Monitoring Compliance (%)

	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2020	May 2021	Jun 2021	Jul 2021	Aug 2021
GBH Total	99.7	N/A	N/A	N/A	N/A	N/A	99.9	N/A	N/A	N/A	N/A	N/A

Note: N/A = No rectifications reported.