

Shetland NHS Board

Meeting:	Shetland NHS Board		
Paper Title:	Healthcare Associated Infection (HAI) Report		
Date:	18 August 2020		
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 January to June 2020</p> <ul style="list-style-type: none"> • NHS Shetland had four cases of Staphylococcus Aureus Bacteraemia from January to June 2020 • NHS Shetland had no cases of Clostridioides Difficile Infection from January to June 2020 • NHS Shetland had four cases of E Coli Bacteraemia from January to June 2020 • NHS Shetland had one case of Klebsiella Bacteraemia in June 2020 • Hand Hygiene audit compliance figures for January to March 2020 and April to June 2020 were 99.1% and 100% • Cleaning standards compliance for the Board for January to March 2020 and April to June 2020 were 98.1% and 98.3% • Estates standards compliance for the Board for January to March 2020 and April to June 2020 were 99.9% for both quarters 			
Key Issues for attention of meeting:			
<p>Noting the good performance as shown in the report. Although this is the first formal report to Board since February 2020, regular updates have been provided as part of the Health Protection Updates received by the Board throughout the pandemic.</p>			
Corporate Priorities and Strategic Aims:			
<p>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.</p>			

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 Team Huddle	10/08/2020
“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

January to June 2020

- NHS Shetland had four cases of Staphylococcus Aureus Bacteraemia from January to June 2020
- NHS Shetland had no cases of Clostridioides Difficile Infection from January to June 2020
- NHS Shetland had four cases of E Coli Bacteraemia from January to June 2020
- NHS Shetland had one case of Klebsiella Bacteraemia in June 2020
- Hand Hygiene audit compliance figures for January to March 2020 and April to June 2020 were 99.1% and 100%
- Cleaning standards compliance for the Board for January to March 2020 and April to June 2020 were 98.1% and 98.3%
- Estates standards compliance for the Board for January to March 2020 and April to June 2020 were 99.9% for both quarters

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 was stopped during the COVID pandemic and was reduced to classification of cases as either HCAI or CA. This is still the current position but is expected to revert back to full surveillance in the near future.

This report presents data from January to June 2020.

The tables on Page 9 and 10 represent the incidence of SABs within NHS Shetland on a monthly basis. There were two cases in March which were CA, one case in April and one case in June which were both HCAI. There have been six cases in the last twelve months.

The latest quarterly update from HPS on the SAB rate is for **January to March 2020**. There were two cases in this quarter which were CA giving a rate of 35.1 /100,000 of the population. In the last twelve months there have been two cases which were HCAI and five cases which were CA.

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 were no cases from January to June 2020. There have been four 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 for **January to March 2020**. There were no cases in this quarter. In the last twelve months there have been five HCAI cases and no CA cases.

Enhanced National Light Surveillance of *E. Coli* Bacteraemia

- *E. coli* is one of the most frequently isolated organisms of Gram negative bacteraemia and it is reaching epidemic proportions.
- Number of cases of *E. coli* bacteraemia continue to rise in Scotland
- *E. coli* bacteraemia has increased continuously since 2009
- Burden of infection is bigger than CDI and SAB in Scotland
- The incidence rates are higher in Scotland than in the rest of the UK
- *E. coli* bacteraemia is an emerging threat
- Several researchers have suggested that *E. coli* bacteraemia are not adequately controlled using current infection prevention and control strategies
- It is crucially important to address the risks associated with the primary *E. coli* infections occurring in both hospital and community settings. Only this will reduce the occurrence of *E. coli* bacteraemia admissions

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 January which was CA, one case in February which was HCAI, one case in May and one case in June which were both CA. There have been fifteen cases in the previous twelve months.

The latest quarterly update from HPS is for **January to March 2020**. For this quarter there was one case for HCAI giving a result of 39.8/100,000 TOBD and one case for CA giving a rate of 17.5/100,000 of the population. In the last twelve months there have been nine cases for HCAI and ten 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 June which was HCAI.

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 been restarted so it is only possible to detail the number of cases undertaken during this period

The latest quarterly update from HPS is for **January to March 2020**. For this quarter fourteen caesarean sections were carried out, six hip procedures were undertaken and three Large Bowel procedures were undertaken.

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 99.1% for the quarter from **January to March 2020** and 100% for the quarter from **April to June 2020**. 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 2018 - 2020. The latest compliance data for the Board with the Cleaning Services Standards was 98.1% for the quarter from **January to March 2020** and 98.3% for the quarter from **April to June 2020**. The latest compliance data for the Board for Estates Monitoring Standards was 99.9% for both quarters from **January to March 2020** and for **April to June 2020**.

Outbreaks

No outbreak controls were initiated in this reporting period outwith the COVID pandemic. There was no nosocomial infection of COVID within the Gilbert Bain Hospital during this period

Other HAI Related Activity

In this reporting period we have:

- Supported the implementation of clear pathways in secondary care 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

Some of the specific actions we have taken in response to the pandemic include enhanced support with visits to the Care Homes undertaken by the Infection Control Team to provide guidance on the correct use of PPE, cleaning requirements and working with SICPs. Staff in Care Homes across Shetland have undertaken the SIPCEP online training and adhere

to practice as stipulated in the national infection prevention and control manual and appendices. In addition, both the Public Health and Infection Control Teams have regular telephone contact with all care homes. Care Home staff can also directly contact the infection control team by e mail for further support and advice as and when required.

In order to ensure that there is good access to PPE in all settings during the pandemic, we consolidated all of the supplies assigned by NSS into a single store. This has helped us to ensure that we can quickly push out supplies into settings where they are most needed. We intend to continue to monitor PPE supplies that are coming into the Board using a whole system approach.

In terms of capacity to provide appropriate infection control team input, we have reviewed the skill mix of the team and will be introducing two additional nursing posts to support the delivery of an integrated infection control function. We also have access to a Consultant Microbiologist/Infection Control Doctor who is hosted by NHS Grampian and we are seeking to continue this arrangement long term.

We have continued to monitor water management requirements during the pandemic and we have an integrated approach for the assessment of infection control risks in the environment. The Estates team works closely with Public Health, the Infection Control Team and the Decontamination Service to ensure that risks are identified and well mitigated. We have an ongoing issue with high TVC counts in the washer decontamination system and we are currently operating on business continuity plans. Health Facilities Scotland (HFS) is also supporting the investigation into the problem with the washers and completed an audit at the end of July 2020 which concludes that NHS Shetland is ensuring that the washers are well maintained.

We have formally restarted our environmental audits in the Hospital setting and a programme of review of the estate in Health Centres is also planned soon. All of this work is reflected in our remobilisation plans at a departmental level and also in our strategic remobilisation plan.

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/NHSScotlandperformance>

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 AUGUST 2020 BOARD REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020
HCAI	0	0	0	1	0	0	0	0	0	1	0	1
CA	0	0	0	0	1	0	0	0	2	0	0	0
Total	0	0	0	1	1	0	0	0	2	1	0	1

Clostridioides difficile infection monthly case numbers

	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020
HCAI	0	0	2	1	0	1	0	0	0	0	0	0
CA	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	1	0	1	0	0	0	0	0	0

E Coli bacteraemia monthly case numbers

	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020
HCAI	0	1	1	1	1	0	0	1	0	0	0	0
CA	1	0	1	2	3	0	1	0	0	0	1	1
Total	1	1	2	3	4	0	1	1	0	0	1	1

Hand Hygiene Monitoring Compliance (%)

	Jul – Sept 18	Oct – Dec 18	Jan – Mar 19	Apr – Jun 19	Jul – Sept 19	Oct – Dec 19	Jan – Mar 20	Apr – Jun 20
AHP	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Ancillary	98.1	100.0	100.0	100.0	100.0	100.0	97.4	100.0
Medical	97.1	96.9	100.0	100.0	100.0	96.6	96.8	100.0
Nurse	100.0	99.2	100.0	99.1	99.2	100.0	100.0	100.0
Board Total	99.1	99.2	100.0	99.6	99.6	99.6	99.1	100.0

Cleaning Compliance (%)

	Jul – Sept 18	Oct – Dec 18	Jan – Mar 19	Apr – Jun 19	Jul – Sept 19	Oct – Dec 19	Jan – Mar 20	Apr – Jun 20
Board Total	95.7	97.9	98.3	97.3	97.5	98.3	98.1	98.3

Estates Monitoring Compliance (%)

	Jul – Sept 18	Oct – Dec 18	Jan – Mar 19	Apr – Jun 19	Jul – Sept 19	Oct – Dec 19	Jan – Mar 20	Apr – Jun 20
Board Total	99.1	99.2	99.8	99.9	99.9	99.8	99.9	99.9

GILBERT BAIN HOSPITAL REPORT CARD

Cleaning Compliance (%)

	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020
GBH Total	97.9	97.9	98.1	98.8	98.5	98.7	98.4	99.6	98.2	97.4	98.7	99.2

Estates Monitoring Compliance (%)

	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020
GBH Total	N/A	N/A	99.8	N/A	N/A	N/A	N/A	N/A	100.0	N/A	N/A	99.9

Note: N/A = No rectifications reported.