Borders NHS Board

Meeting Date: 4 February 2021

Approved by:	Nicky Berry, Director of Nursing, Midwifery and Acute Services
Author(s):	Natalie Mallin, HAI Surveillance Lead Sam Whiting, Infection Control Manager

HEALTHCARE ASSOCIATED INFECTION PREVENTION AND CONTROL REPORT December 2020

Purpose of Report:

The purpose of this paper is to update Board members on the current status of Healthcare Associated Infections (HAI) and infection control measures in NHS Borders.

Recommendations:

The Board is asked to **note** this report.

Approval Pathways:

The format of this report is in accordance with Scottish Government requirements for reporting HAI to NHS Boards. This report has not been submitted to any prior groups or committees but much of the content will be presented to the Clinical Governance Committee.

Executive Summary:

This report provides an overview for Borders NHS Board of infection prevention and control with particular reference to the incidence of Healthcare Associated Infections (HAI) against Scottish Government targets for infection control.

The report provides updates on:-

- NHS Borders infection surveillance against Scottish Government targets including *S.aureus* bacteraemia, *C.difficile* infections and *E.coli* bacteraemia
- Cleanliness monitoring, hand hygiene and the Infection Control compliance monitoring programme
- Infection Control work plan
- COVID-19 update

Impact of item/issues on:	
Strategic Context	This report is in line with the NHS Scotland HAI Action Plan.
Patient Safety/Clinical Impact	Infection prevention and control is central to patient safety
Staffing/Workforce	Infection Control staffing issues are detailed in this report.

Finance/Resources	This assessment has not identified any resource implications.
Risk Implications	All risks are highlighted within the paper.
Equality and Diversity	This is an update paper so a full impact assessment is not required.
Consultation	This is a regular bi-monthly update as required by SGHD. As with all Board papers, this update will be shared with the Area Clinical Forum for information.
Glossary	See Appendix A.

Healthcare Associated Infection Reporting Template (HAIRT)

Section 1– Board Wide Issues

Key Healthcare Associated Infection Headlines for December 2020

- NHS Borders had a total of 21*Staphylococcus aureus* Bacteraemia (SAB) cases between April and December 2020,12 cases were **healthcare associated** infections.

  The target set by the Scottish Government is for each Board to achieve a 10% reduction in the healthcare associated SAB rate per 100,000 Total Occupied Bed Days (TOBDs) by 2021/22 (using 2018/19 as the baseline).

  To achieve this target, NHS Borders should have no more than 19 **healthcare associated** SAB cases per year. NHS Borders is on target to achieve this.

- NHS Borders had a total of 12 *C.difficile* Infection (CDI) cases between April and December 2020, 9 of which were healthcare associated infections.

  The Scottish Government has set a target for each Board to achieve a 10% reduction in the healthcare associated CDI rate per 100,000 bed days by 2021/22 (using 2018/19 as the baseline). Healthcare associated in this context includes hospital acquired infections and healthcare associated infections.

  To achieve this target, NHS Borders should have no more than 11 **healthcare associated** cases per year. NHS Borders is not on target to achieve this. This target is particularly challenging for NHS Borders due to the low infection rate during our baseline period of 2018-19 when our incidence rate was 10.4 compared with a Scottish incidence rate of 14.7 for healthcare associated CDI cases.

- NHS Borders had a total of 62 *E. coli* Bacteraemia cases between April and December 2020, 36 of which were **healthcare associated**. A new target has been published for each Board to achieve a 25% reduction in the **healthcare associated** *E. coli* Bacteraemia rate per 100,000 bed days by 2021/22 with a total reduction of 50% by 2023/24 (using 2018/19 as the baseline).

  To achieve this target, NHS Borders should have no more than 32 healthcare associated cases per year by 2021/22 and no more than 21 healthcare associated cases per year by 2023/24. NHS Borders has not achieved this target. Future improvement work associated with Catheter Associated Urinary Tract Infections (CAUTI) will be a key focus in support of this target.

***Staphylococcus aureus* Bacteraemia (SAB)**

See Appendix A for definition.

Between April and December 2020, there have been 20 cases of Meticillin-sensitive *Staphylococcus aureus* (MSSA) bacteraemia and 1 case of Meticillin-resistant *Staphylococcus aureus* (MRSA) bacteraemia.

Figure 1 shows a Statistical Process Control (SPC) chart showing the number of days between each SAB case. The reason for displaying the data in this type of chart is due to SAB cases being rare events with low numbers each month.

Traditional charts which show the number of cases per month can make it more difficult to spot either improvement or deterioration. These charts highlight any statistically significant events which are not part of the natural variation within our health system.

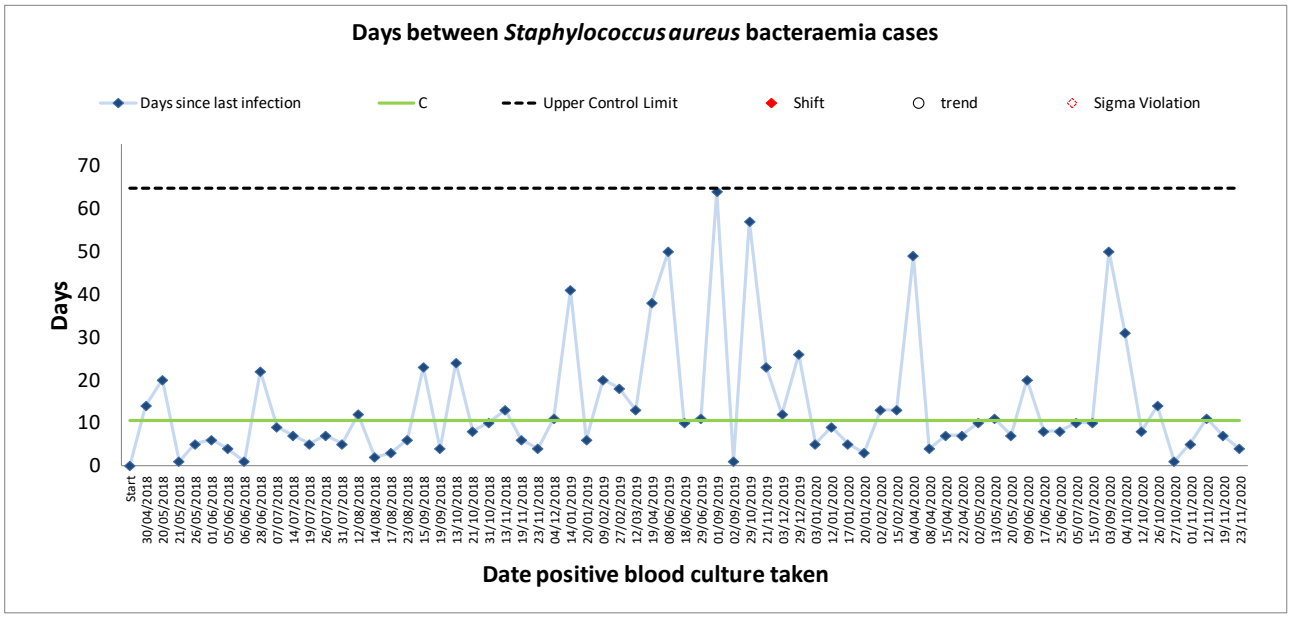

Figure1: NHS Borders days between SAB cases (April 2018 –December 2020)

In interpreting Figure 1, it is important to remember that as this graph plots the number of days between infections, we are trying to achieve performance above the green average line.

The graph shows that there have been no statistically significant events since the last Board update.

***Clostridium difficile* infections (CDI)**

See Appendix A for definition.

Figure 2 below shows a Statistical Process Control (SPC) chart showing the number of days between each CDI case. As with SAB cases, the reason for displaying the data in this type of chart is due to CDI cases being rare events with low numbers each month.

The graph shows that there have been no statistically significant events since the last Board update.

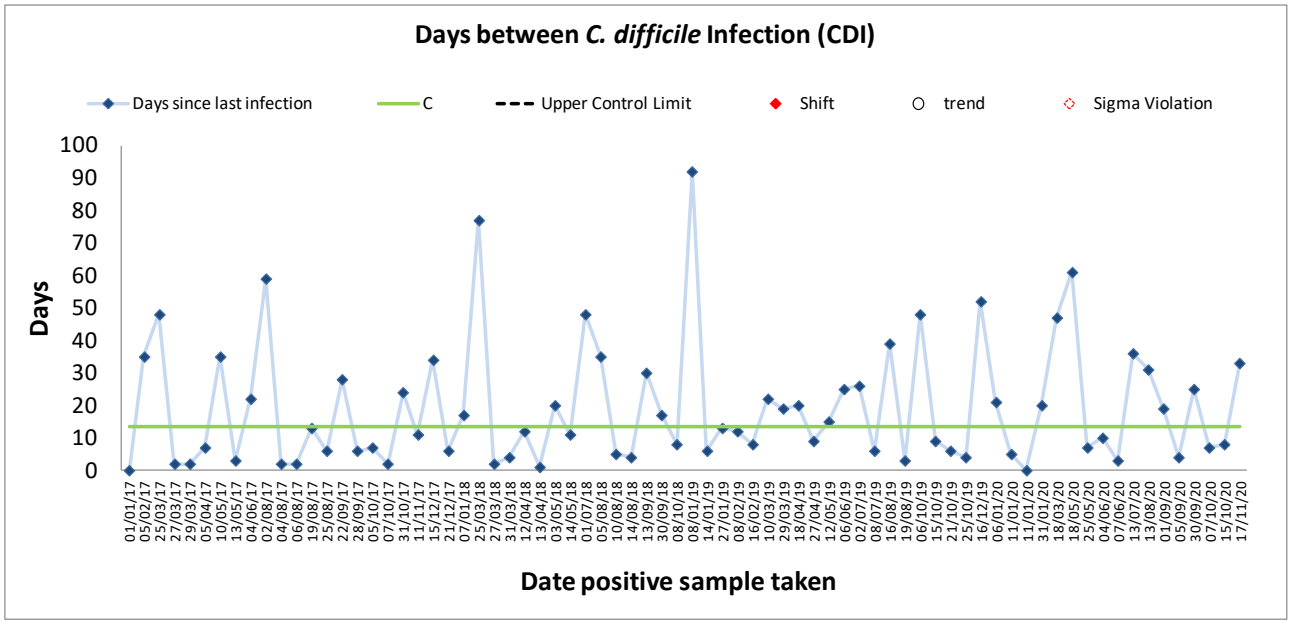

Figure 2: NHS Borders days between CDI cases (January 2017–December2020)

Escherichia coli (E. coli) **Bacteraemia (ECB)**

The biggest risk factor for patients in relation to *E. coli* Bacteraemia is Catheter Associated Urinary Tract Infection (CAUTI). COVID activity has been prioritised by the Infection Control Team over the last few months and this continues to impact on capacity for improvement activity associated with CAUTI. A meeting of the CAUTI Group was scheduled for early December 2020 but due to lack of attendance this was rescheduled to take place in mid-January 2021.

NHS Borders Surgical Site Infection (SSI) Surveillance

The Scottish Government updated the requirements for HAI surveillance on the 25th of March 2020. In light of the prioritisation of COVID-19 surveillance, all mandatory and voluntary surgical site infection surveillance has been paused from this date. Mandatory surveillance of *E.coli* bacteraemia, *Staphylococcus aureus* bacteraemia and *C. difficile* Infections has continued but as light surveillance only.

Hand Hygiene

Non-submission of self-audit hand hygiene data has been an issue since recommencing the audits in July 2020. Ward staff are encouraged to submit their monthly data and reminders are sent to the Senior Charge Nurse and Clinical Nurse Manager every month. A revised escalation process was implemented from November 2020 which includes early escalation to the Quadrumvirate: there have been early signs of improvement. The importance of strict hand hygiene continues to be promoted as part of the COVID-19 precautions aimed at patients, staff and members of the public.

Infection Prevention and Control Compliance Monitoring Programme

On-site clinical infection control capacity has reduced since the beginning of October at the same time as an increase in COVID-19 related clinical activity which has impacted on the ability to deliver the planned programme of audits and spot checks. In order to ensure the Standard Infection Control Precautions (SICPs) audits can be maintained,

follow-up audits will now be completed by the Clinical Nurse Manager and Senior Charge Nurse. All areas have also been provided with the spot check tool to enable self-auditing.

The recruitment of two additional permanent Infection Control Nurses is ongoing; we are also in the process of being allocated a new temporary member of staff to facilitate reintroduction of monthly spot checks in the short term.

Healthcare Environment Inspectorate

On the 8th December 2020, the Healthcare Environment Inspectorate conducted an unannounced inspection at Hay Lodge Community Hospital. The inspectors thanked staff for the considerable effort made to welcome and assist them during the inspection.

A draft inspection report will be received from the inspectors on 3 February 2021 which will highlight areas of good practice as well as areas for improvement. Following review for factual accuracy, the final report along with an improvement action plan will be published on 2 March 2021.

Cleaning and the Healthcare Environment

For supplementary information see Appendix A.

The data presented within the NHS Borders Report Card (Section 2 p.12) is an average figure across the sites using the national cleaning and estates monitoring tool that was implemented in April 2012. All areas met the Health Facilities Scotland national target of 90%.

2020/21 Infection Control Workplan

Due to the prioritisation of COVID-19 management, the Infection Control Committee has recognised that full completion of the Infection Control workplan by March 2021 is not achievable. A risk assessment of all outstanding actions is submitted to each Infection Control Committee meeting.

COVID-19

- **Prevalence**

Figure 3 shows the cumulative number of positive and negative COVID-19 tests in the Scottish Borders since 1st of February 2020. As at 9th of January2021 there have been a total of 2214 cases.

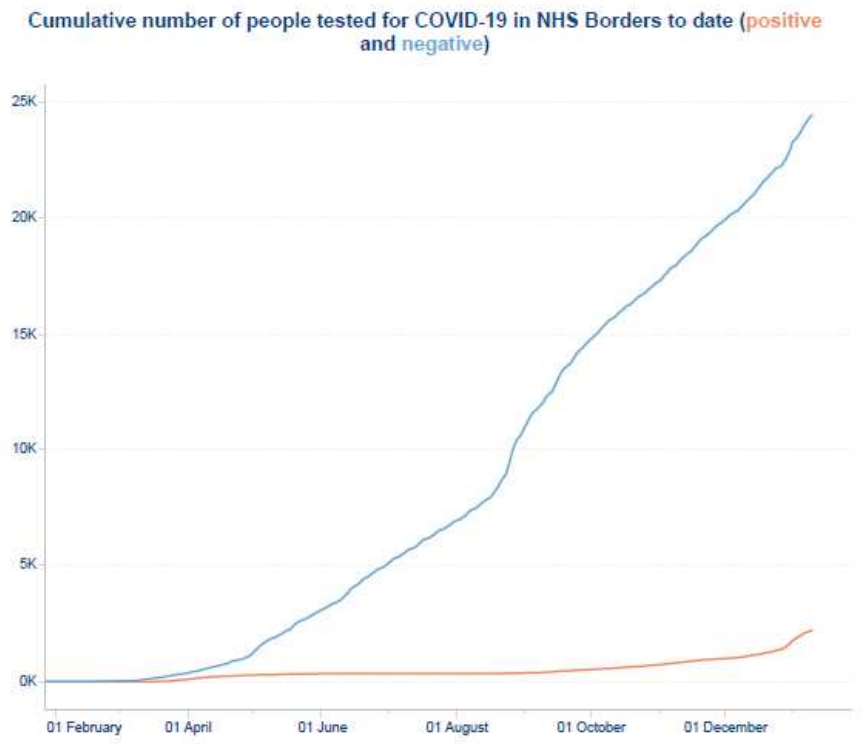

Figure 3: Cumulative number of people tested for COVID-19 in NHS Borders to date (09/01/2021) (positive and negative)

NB: This data is extracted from Public Health Scotland Discovery Dashboard. These figures count the total number of individuals newly tested each day and do not include tests carried out on those who had previously been tested. In this report there will only be one record for each person tested even if they have multiple tests. A positive test will take precedence over any negative test (i.e. if a person has three tests and two are negative and one is positive it will be the positive test that will be shown in this report).

- **Closures**

Since the last Board update, there have been 2 confirmed COVID-19 outbreaks resulting in closures:

Ward 7/DME

On 7th December 2020, an Incident Management Team (IMT) was convened following a number of confirmed COVID-19 positive patients in Ward 7. This resulted in the closure of Ward 7 and one bay in DME.

In total 13 patients and 10 staff members tested COVID-19 positive that were associated with this outbreak.

Ward 7 re-opened 14/12/2020 following transfer of patients to the designated COVID wards and the bay in DME reopened 19/12/2020 following the end of the 14 day isolation period.

Haylodge Hospital/ Ward 12

On 9th December 2020 an Incident Management Team (IMT) was convened following identification of a patient who tested COVID-19 positive that had moved from Ward 12 to Haylodge. This resulted in the closure of Ward 12 and Haylodge community hospital.

As at 13/01/2021 there have been 18 patients and 9 staff members associated with this outbreak that have tested COVID-19 positive. Ward 12 re-opened on 19/12/2020.Haylodge re-opened on 13/01/2021 after completing a 14 day isolation period from the date of the last positive test.

One of the significant risk factors for nosocomial spread is the inability to support physical distancing within our six-bedded inpatient rooms. Whilst some measures can be taken to reduce the risk such as supporting patients to wear masks when moving around the room, other patients in the room will always be considered as social contacts due to their close proximity as well as sharing toilet facilities. Focussed work is progressing to ensure all measures to reduce this risk are fully implemented.

A request has been submitted to the national Antimicrobial Resistance and Healthcare Associated Infection (ARHAI) organisation for whole genome sequencing analysis from the samples associated with these outbreaks. This may help us to better understand transmission routes and if there were multiple outbreaks within a single area.

Staff communications have been circulated about the importance of staying at home if symptomatic and also to not rely on a negative lateral flow test if symptomatic but rather ensure a PCR test is taken.

Staff have also been reminded about the importance of cleaning shared equipment such as computers and phones.

Infection Prevention and Control Team Capacity

Recruitment is currently progressing to appoint 2.0wte additional infection control nurses on a permanent basis. Following recruitment and training, this additional capacity will enable a single Infection Control Team to provide support across acute, mental health and community health and social care sectors.

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, for each acute hospital and key community hospitals in the Board, on the number of cases of *Staphylococcus aureus* blood stream infections *(*also broken down into MSSA and MRSA) and *Clostridium difficile* infections, as well as hand hygiene and cleaning compliance. In addition, there is a single report card which covers all community hospitals [which do not have individual cards], and a report which covers infections identified as having been contracted from out with hospital. 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.

Understanding the Report Cards – Infection Case Numbers
Clostridium difficile infections *(CDI)* and *Staphylococcus aureus* bacteraemia *(SAB)* cases are presented for each hospital, broken down by month. *Staphylococcus aureus* bacteraemia (SAB) cases are further broken down into Meticillin Sensitive *Staphylococcus aureus* (MSSA) and Meticillin Resistant *Staphylococcus aureus* (MRSA). More information on these organisms can be found on the NHS24 website:

Clostridium difficile :**http://www.nhs24.com/content/default.asp?page=s5_4&articleID=2139&sectionID=1**

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&sectionID=1

For each hospital the total number of cases for each month are those which have been reported as positive from a laboratory report on samples taken more than 48 hours after admission. For the purposes of these reports, positive samples taken from patients within 48 hours of admission will be considered to be confirmation that the infection was contracted prior to hospital admission and will be shown in the "out of hospital" report card.

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. More information on how hospitals carry out these audits can be found on the Health Facilities Scotland website:
http://www.hfs.scot.nhs.uk/online-services/publications/hai/

Understanding the Report Cards – *'Out of Hospital Infections'*
Clostridium difficile infectionsand *Staphylococcus aureus (*including MRSA*)* bacteraemiacases are associated with being treated in hospitals. However, this is not the only place a patient may contract an infection. This total will also include infection from community sources such as GP surgeries and care homes. The final Report Card report in this section covers '*Out of Hospital Infections*' and reports on SAB and CDI cases reported to a Health Board which are not attributable to a hospital.

NHS BORDERS BOARD REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	July 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
MRSA	0	0	0	0	0	1	0	0	0	0	0	0
MSSA	4	2	0	4	3	2	2	0	1	4	4	0
Total SABS	4	2	0	4	3	3	2	0	1	4	4	0

Clostridium difficile infection monthly case numbers

	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	July 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
Ages 15-64	2	0	0	0	0	0	1	0	1	0	0	0
Ages 65 plus	2	0	1	0	2	2	0	1	2	2	1	0
Ages 15 plus	4	0	1	0	2	2	1	1	3	2	1	0

Hand Hygiene Monitoring Compliance (%)

	Jan 2020	Feb 2020*	Mar 2020*	Apr 2020*	May 2020*	June 2020*	July 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
AHP	100	-	-	-	-	-	100	100	100	100	100	98.1
Ancillary	100	-	-	-	-	-	100	100	96	100	100	91.9
Medical	100	-	-	-	-	-	98.8	98.6	100	100	100.0	100.0
Nurse	100	-	-	-	-	-	99.4	99.4	99.5	100	98.7	99.6
Board Total	**100**	**-**	**-**	**-**	**-**	**-**	**99.5**	**99.5**	**98.8**	**100.0**	**99.7**	**97.4**

*Self audit hygiene data reporting paused due to prioritisation of COVID-19 related work

Cleaning Compliance (%)

	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	July 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
Board Total	94.7	96.1	95.3	93.5	95.5	95.8	96.6	97.0	93.3	96.3	96.3	96.2

Estates Monitoring Compliance (%)

	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	July 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
Board Total	97.8	98.9	98.5	99.7	97.9	99.2	98.7	99.8	98.8	98.1	98.2	98.0

BORDERS GENERAL HOSPITAL REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	July 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
MRSA	0	0	0	0	0	0	0	0	0	0	0	0
MSSA	2	0	0	2	1	0	1	0	0	2	2	0
Total SABS	2	0	0	2	1	0	1	0	0	2	2	0

Clostridium difficile infection monthly case numbers

	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	July 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
Ages 15-64	0	0	0	0	0	0	0	0	1	0	0	0
Ages 65 plus	1	0	0	0	0	0	0	0	0	1	1	0
Ages 15 plus	1	0	0	0	0	0	0	0	1	1	1	0

Cleaning Compliance (%)

	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	July 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
Board Total	96.8	96.0	96.4	97.4	97.4	97.3	97.1	96.4	96.1	95.5	96.3	95.4

Estates Monitoring Compliance (%)

	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	July 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
Board Total	98.6	98.6	99.5	99.4	99.6	99.3	99.8	99.6	99.4	99.0	99.1	98.1

NHS COMMUNITY HOSPITALS REPORT CARD

The community hospitals covered in this report card include:

- **Haylodge Community Hospital**
- **Hawick Community Hospital**
- **Kelso Community Hospital**
- **Knoll Community Hospital**

***Staphylococcus aureus* bacteraemia monthly case numbers**

	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	July 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
MRSA	0	0	0	0	0	0	0	0	0	0	0	0
MSSA	0	0	0	0	0	0	0	0	0	0	1	0
Total SABS	0	0	0	0	0	0	0	0	0	0	1	0

***Clostridium difficile* infection monthly case numbers**

	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	July 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
Ages 15-64	0	0	0	0	0	0	0	0	0	0	0	0
Ages 65 plus	0	0	0	0	0	1	0	0	0	0	0	0
Ages 15 plus	0	0	0	0	0	1	0	0	0	0	0	0

NHS OUT OF HOSPITAL REPORT CARD

***Staphylococcus aureus* bacteraemia monthly case numbers**

	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	July 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
MRSA	0	0	0	0	0	1	0	0	0	0	0	0
MSSA	2	2	0	2	2	2	1	0	1	2	1	0
Total SABS	2	2	0	2	2	3	1	0	1	2	1	0

***Clostridium difficile* infection monthly case numbers**

	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	June 2020	July 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020
Ages 15-64	2	0	0	0	0	0	1	0	0	0	0	0
Ages 65 plus	1	0	1	0	2	1	0	1	2	1	0	0
Ages 15 plus	3	0	1	0	2	1	1	1	2	1	0	0

Appendix A

Definitions and Supplementary Information

Staphylococcus aureus Bacteraemia (SAB)

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

NHS Boards carry out surveillance of *Staphylococcus aureus* blood stream infections, known as bacteraemia. These are a serious form of infection and there is a national target to reduce them. The number of patients with MSSA and MRSA bacteraemia for the Board can be found at the end of section 1 and for each hospital in section 2. Information on the national surveillance programme for *Staphylococcus aureus* bacteraemia can be found at:

http://www.hps.scot.nhs.uk/haiic/sshaip/publicationsdetail.aspx?id=30248

Clostridium difficile infection (CDI)

Clostridium 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

NHS Boards carry out surveillance of *Clostridium difficile* infections (CDI), and there is a national target to reduce these. The number of patients with CDI for the Board can be found at the end of section 1 and for each hospital in section 2. Information on the national surveillance programme for *Clostridium difficile* infections can be found at:

http://www.hps.scot.nhs.uk/haiic/sshaip/ssdetail.aspx?id=277

Escherichia coli bacteraemia (ECB)

Escherichia coli (*E. coli*) is a bacterium that forms part of the normal gut flora that helps human digestion. Although most types of *E. coli* live harmlessly in your gut, some types can make you unwell. When it gets into your blood stream, *E. coli* can cause a bacteraemia. Further information is available here:

https://www.gov.uk/government/collections/escherichia-coli-e-coli-guidance-data-and-analysis

NHS Borders participate in the HPS mandatory surveillance programme for ECB.This surveillance supports local and national improvement strategies to reduce these infections and improve the outcomes for those affected. Further information on the surveillance programme can be found here:

https://www.hps.scot.nhs.uk/a-to-z-of-topics/escherichia-coli-bacteraemia-surveillance/

Hand Hygiene

Information on national hand hygiene monitoring can be found at:

http://www.hps.scot.nhs.uk/haiic/ic/nationalhandhygienecampaign.aspx

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/

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. Information on national cleanliness compliance monitoring can be found at:

http://www.hfs.scot.nhs.uk/online-services/publications/hai/

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