Borders NHS Board

HEALTHCARE ASSOCIATED INFECTION PREVENTION AND CONTROL REPORT OCTOBER 2017

Aim

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.

Background

The NHS Scotland HAI Action Plan 2008 requires an HAI report to be presented to the Board on a two monthly basis.

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 HEAT targets, together with results from cleanliness monitoring and hand hygiene audit results.

Recommendation

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

Policy/Strategy Implications	This report is in line with the NHS Scotland HAI Action Plan.
Consultation	There is no requirement to consult as this is a bi-monthly update report as required by SGHD.
Consultation with Professional Committees	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.
Risk Assessment	All risks are highlighted within the paper.
Compliance with Board Policy requirements on Equality and Diversity	This is an update paper so a full impact assessment is not required.
Resource/Staffing Implications	This assessment has not identified any resource/staffing implications

Approved by

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Healthcare Associated Infection Reporting Template (HAIRT)

Section 1– Board Wide Issues

This section of the HAIRT covers Board wide infection prevention and control activity and actions. For reports on individual hospitals, please refer to the 'Healthcare Associated Infection Report Cards' in Section 2.

A report card summarising Board wide statistics can be found at the end of section 1

Key Healthcare Associated Infection Headlines for October 2017

- NHS Borders had 24 *Staphylococcus aureus* Bacteraemia (SAB) cases between April and October 2017 and is not on trajectory to achieve the SAB HEAT rate of 24.0 cases or less per 100,000 acute occupied bed days (AOBD) by March 2018. To achieve the HEAT target NHS Borders should have no more than 19 cases per year.

- NHS Borders had 16 *Clostridium difficile* infection (CDI) cases between April and October 2017 and is on trajectory to achieve the CDI HEAT target rate of 32.0 cases or less per 100,000 total occupied bed days (TOBD) for patients aged 15 and over, by March 2018. To achieve the HEAT target, NHS Borders should have no more than 33 cases per year.

Staphylococcus aureus Bacteraemia (SAB)

See Appendix A for definition.

Figure 1 shows NHS Borders SABs by location and cause. There have been no recurring themes in SAB causes since the last board update.

There has been one case of Meticillin-resistant *Staphylococcus aureus* (MRSA) between April and October 2017.

Figure 2 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. There have been no statistically significant events since the last Board update.

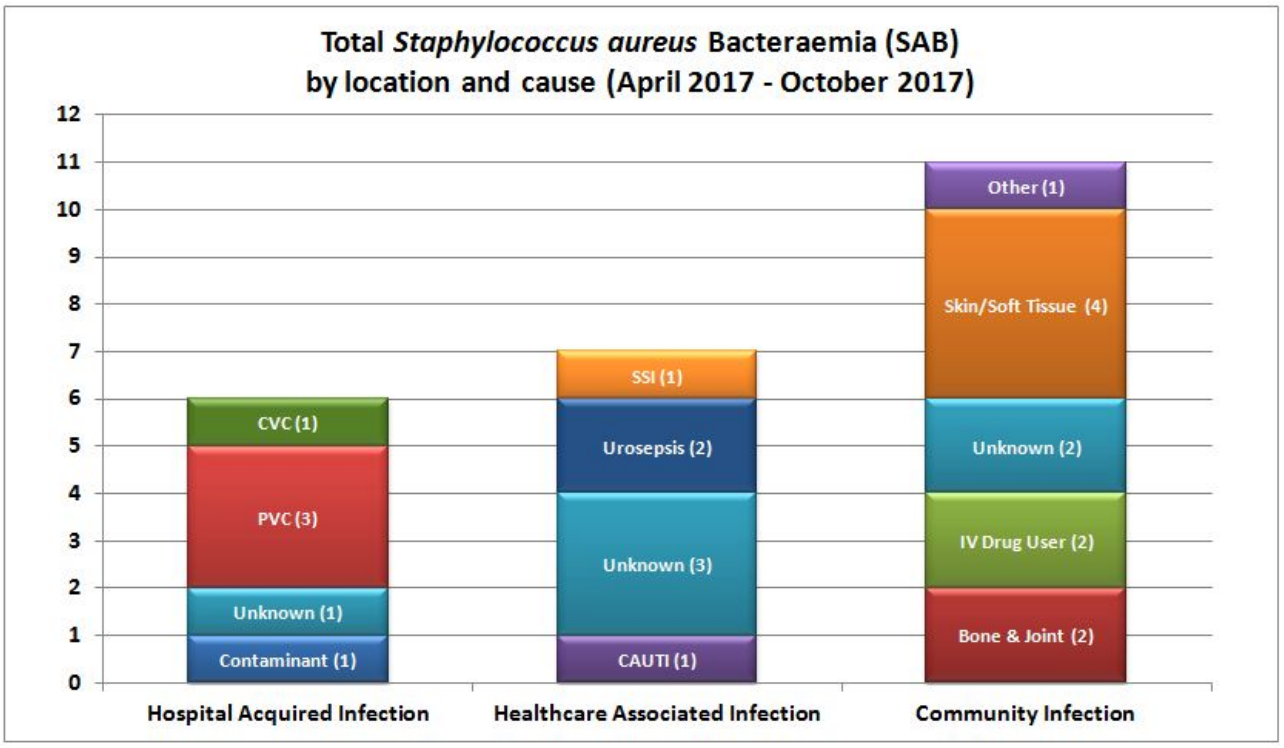

Figure 1: SAB cases by location and cause April – October 2017

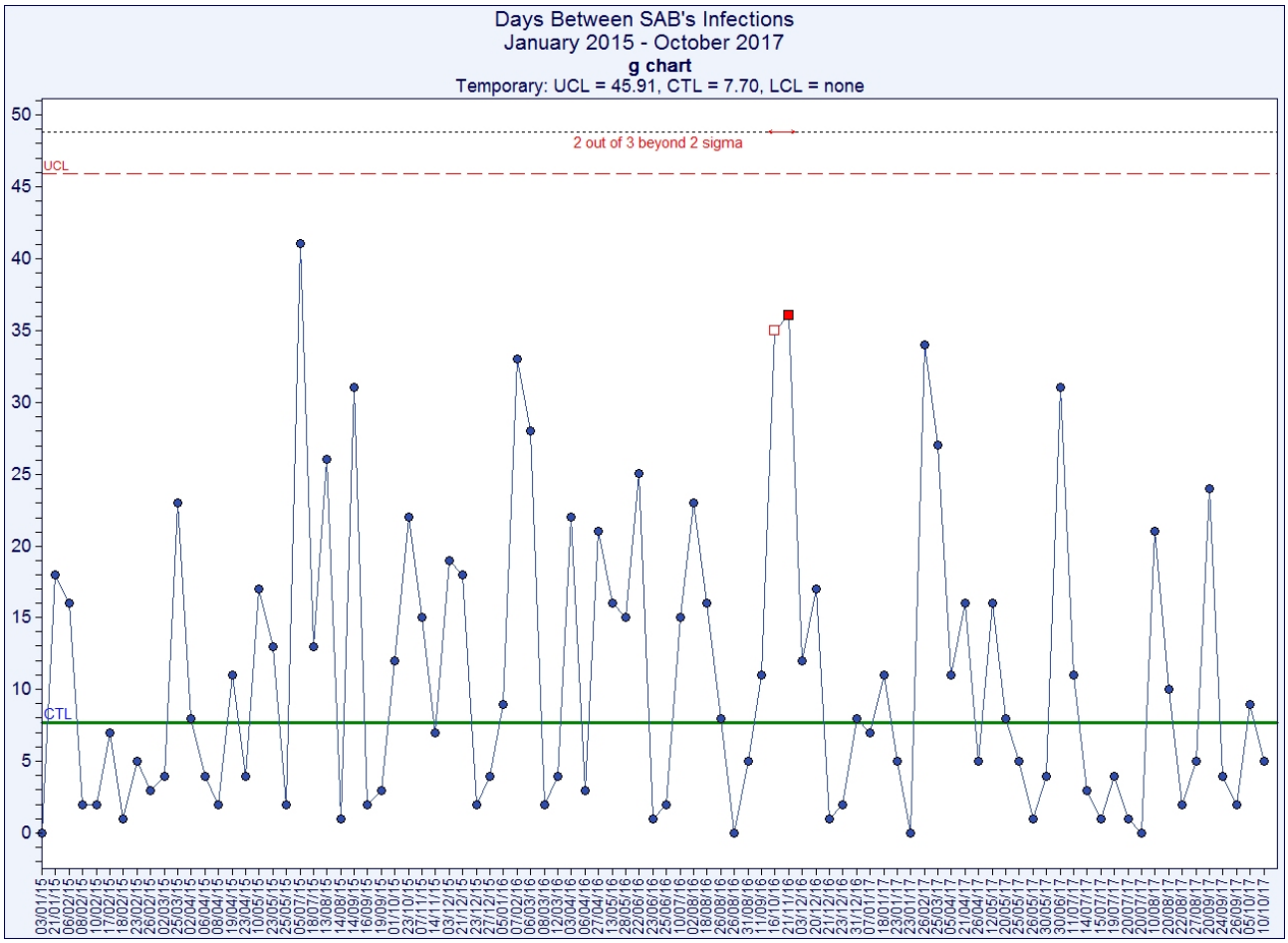

Figure 2: NHS Borders days between SAB cases (January 2015 – October 2017)

In interpreting Figure 2, 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.

Every SAB case is subject to a rigorous review which includes a feedback process to the clinicians caring for the patient. Any learning is translated into specific actions which are added to the Infection Control Work Plan with progress critically reviewed by the Infection Control Committee.

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

See Appendix A for definition.

Figure 3 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 are 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.

As with SAB cases, every *Clostridium difficile* infection (CDI) case is subject to a rigorous review which includes a feedback process to the clinicians caring for the patient. Any learning is translated into specific actions which are added to the Infection Control Work Plan.

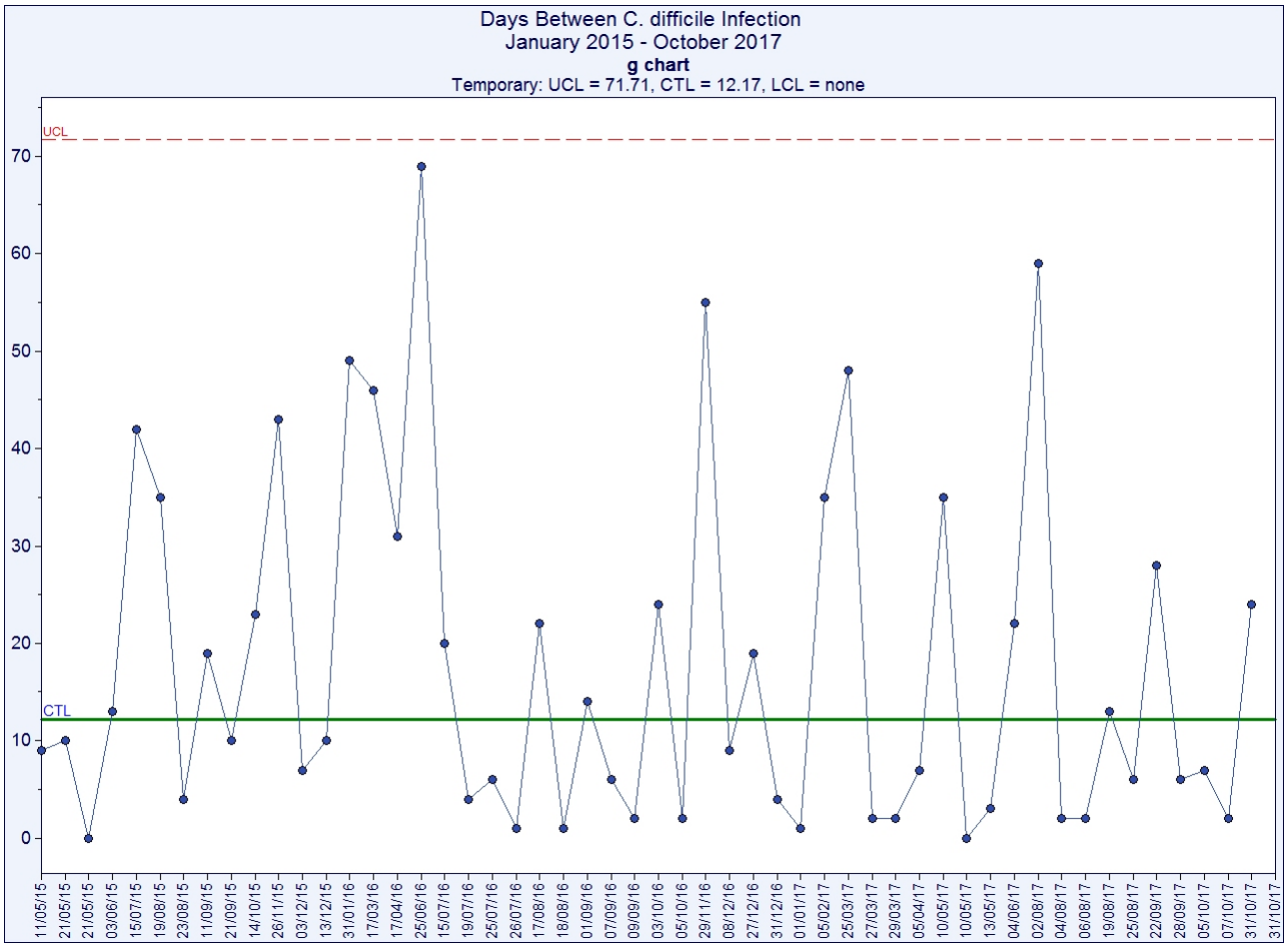

Figure 3: NHS Borders, days between CDI cases against indicative HEAT target (January 2015 – October 2017)

Hand Hygiene

For supplementary information see Appendix A

The hand hygiene data tables contained within the NHS Borders Report Card (Section 2 p.12) are generated from wards conducting self-audits.

Hand hygiene continues to be monitored by each clinical area. The Infection Prevention and Control Team follow up with any area which either fail to submit audit results or which fall below 90% for two consecutive months. This information is reported in the Infection Control monthly report which is distributed to management, governance groups, Senior Charge Nurses and Clinical Directors.

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.

2017/18 Infection Control Workplan

As at the the end of October 2017, 54% of the actions due for completion in the 2017/18 Infection Control Work Plan are complete. The drop in progress is due to temporary reduced Team capacity coinciding with increased clinical workload. Particularly of note is an extreme increase in workload associated with Norovirus outbreak management in October 2017. It is expected that, subject to no further outbreaks, some recovery of progress will be achieved albeit slowly due to ongoing temporary reduced Team capacity. To help reduce the associated risk, day-to-day work is prioritised and additional temporary staffing has been sought to support the infection control team.

Outbreaks

In October and November, there were outbreaks of suspected and confirmed Norovirus affecting Borders General Hospital, Kelso, Hawick and Hay Lodge Community Hospitals. Figure 4 displays the impact of these outbreaks in terms of closed patient bays and wards during the month of October.

Confirmed and Suspected Norovirus Bay/Ward Closure Summary 2017/2018

MONTH	OCTOBER																														
LOCATION	02/10/17	03/10/17	04/10/17	05/10/17	06/10/17	07/10/17	08/10/17	09/10/17	10/10/17	11/10/17	12/10/17	13/10/17	14/10/17	15/10/17	16/10/17	17/10/17	18/10/17	19/10/17	20/10/17	21/10/17	22/10/17	23/10/17	24/10/17	25/10/17	26/10/17	27/10/18	28/10/18	29/10/18	30/10/17	31/10/17
WARD 4															2		3	WARD							1						
WARD 5															1																
MAU															2			1													
WARD 9															1																
DME 10															2		WARD														
DME 12																			1		2	1		2						1	
KELSO													1		5		2				1										
HAYLODGE				2																											
HAWICK																			WARD				1					1			

NUMBER INDICATED RELATES TO TOTAL BAY CLOSURES FOR PERIOD

Figure 4: Ward and Bay closures - October 2017

In October, a total of 40 staff and 82 patients were reported as being affected with symptoms of diarrhoea or vomiting.

The outbreaks were managed by the Infection Prevention & Control Team (IPCT) with support from frontline colleagues. Daily Outbreak Control Meetings were convened and enhanced cleaning was implemented.

Health Protection Scotland (HPS) has changed the data collection methodology relating to the impact of Norovirus across Scotland and weekly updates are no longer provided. Published data, confirms that Norovirus outbreaks were reported in 3 other Scottish Health Boards in October 2017.

NHS Borders Surgical Site Infection (SSI) Surveillance

NHS Borders participates in a national infection surveillance programme relating to specific surgical procedures. This is coordinated by Health Protection Scotland (HPS) and uses national definitions and methodology which enable comparison with overall NHS Scotland infection rates.

Since April 2017, there has been one knee and five colorectal SSI cases (see Figure 5). The last SSI case following caesarean section was in June 2015 and the last SSI case following hip arthroplasty was in January 2017.

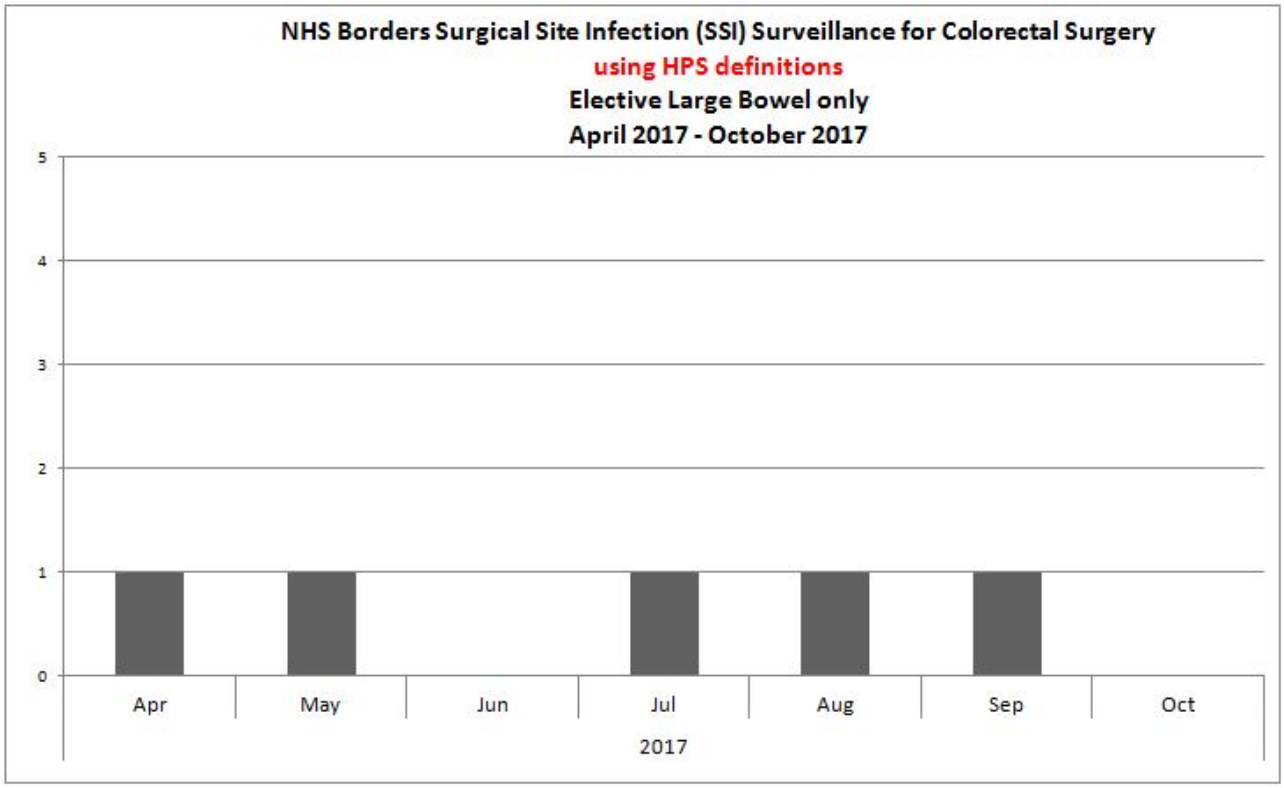

Figure 5: SSI for Colorectal Surgery April – October 2017

As previously reported, NHS Borders SSI rate is not, and has never been, a statistical outlier from the rest of Scotland.

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 infections and *Staphylococcus aureus (*including MRSA*)* bacteraemia cases are all 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 and. 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

	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	July 2017	Aug 2017	Sep 2017	Oct 2017
MRSA	0	0	1	0	0	0	1	0	0	0	0	0
MSSA	1	5	3	1	1	3	4	1	6	4	3	2
Total SABS	1	5	4	1	1	3	5	1	6	4	3	2

Clostridium difficile infection monthly case numbers

	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	July 2017	Aug 2017	Sep 2017	Oct 2017
Ages 15-64	0	1	0	0	0	0	2	1	0	0	0	0
Ages 65 plus	1	2	1	1	3	1	1	0	0	5	2	4
Ages 15 plus	1	3	1	1	3	1	3	1	0	5	2	4

Hand Hygiene Monitoring Compliance (%)

	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	July 2017	Aug 2017	Sep 2017	Oct 2017
AHP	100	100	95	100	100	100	100	100	98	98	100	100
Ancillary	97	99	94	100	97	100	100	96	99	100	99	100
Medical	98	97	97	98	98	98	99	97	97	98	98	97
Nurse	99	99	99	99	99	99	100	98	100	100	99	99
Board Total	**99**	**99**	**96**	**99**	**99**	**99**	**100**	**98**	**99**	**99**	**99**	**99**

Cleaning Compliance (%)

	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	July 2017	Aug 2017	Sep 2017	Oct 2017
Board Total	95.5	97.3	95.4	95.0	96.0	96.0	96.5	96.6	97.0	96.8	96.4	96.7

Estates Monitoring Compliance (%)

	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	July 2017	Aug 2017	Sep 2017	Oct 2017
Board Total	97.5	98.4	96.2	96.3	98.6	99.5	99.5	99.1	99.8	99.7	99.2	99.8

BORDERS GENERAL HOSPITAL REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	July 2017	Aug 2017	Sep 2017	Oct 2017
MRSA	0	0	0	0	0	0	0	0	0	0	0	0
MSSA	1	1	1	0	1	0	1	1	1	1	1	0
Total SABS	1	1	1	0	1	0	1	1	1	1	1	0

Clostridium difficile infection monthly case numbers

	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	July 2017	Aug 2017	Sep 2017	Oct 2017
Ages 15-64	0	0	0	0	0	0	0	0	0	0	0	0
Ages 65 plus	0	1	1	0	1	1	0	0	0	3	1	3
Ages 15 plus	0	1	1	0	1	1	0	0	0	3	1	3

Cleaning Compliance (%)

	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	July 2017	Aug 2017	Sep 2017	Oct 2017
Board Total	96.7	95.9	96.1	95.3	95.5	96.0	96.7	96.8	97.0	96.7	96.6	97.0

Estates Monitoring Compliance (%)

	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	July 2017	Aug 2017	Sep 2017	Oct 2017
Board Total	99.7	100	99.5	99.6	99.8	99.5	99.7	99.7	99.9	99.6	98.2	99.8

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**
- **Melburn Lodge**

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

	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	July 2017	Aug 2017	Sep 2017	Oct 2017
MRSA	0	0	0	0	0	0	0	0	0	0	0	0
MSSA	0	0	0	0	0	0	0	0	0	0	0	0
Total SABS	0	0	0	0	0	0	0	0	0	0	0	0

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

	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	July 2017	Aug 2017	Sep 2017	Oct 2017
Ages 15-64	0	0	0	0	0	0	0	0	0	0	0	0
Ages 65 plus	1	0	0	0	1	0	1	0	0	0	0	1
Ages 15 plus	1	0	0	0	1	0	1	0	0	0	0	1

NHS OUT OF HOSPITAL REPORT CARD

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

	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	July 2017	Aug 2017	Sep 2017	Oct 2017
MRSA	0	0	1	0	0	0	1	0	0	0	0	0
MSSA	0	4	2	1	0	3	3	0	5	3	2	2
Total SABS	0	4	3	1	0	3	4	0	5	3	2	2

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

	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	June 2017	July 2017	Aug 2017	Sep 2017	Oct 2017
Ages 15-64	0	1	0	0	0	0	2	1	0	0	0	0
Ages 65 plus	0	1	0	1	1	0	0	0	0	2	1	0
Ages 15 plus	0	2	0	1	1	0	2	1	0	2	1	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

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