Borders NHS Board

NHS Borders

HEALTHCARE ASSOCIATED INFECTION – PREVENTION AND CONTROL REPORT NOVEMBER 2015

Aim

The purpose of this paper is to update Board members of 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	This is a bi-monthly update report with all risks 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 November 2015

- Early indications suggest that NHS Borders is not on target to achieve the *Staphylococcus aureus* Bacteraemia (SAB) March 2016 HEAT target rate of 24.0 cases or less per 100,000 acute occupied bed days (AOBD).

- Early indications suggest that NHS Borders is on target to achieve the *Clostridium difficile* infection (CDI) 2016 HEAT target rate of 32.0 cases or less per 100,000 total occupied bed days (TOBD) for patients aged 15 and over.

- NHS Borders received an Unannounced Theatre Follow-up Inspection of the Borders General Hospital on 29th and 30th September 2015. The report from this inspection will be published on 25th November 2015.

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 bacteraemias. These are a serious form of infection and there is a national target to reduce them. The number of patients with MSSA and MRSA bacteraemias 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* bacteraemias can be found at:

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

As Figure 1 shows, from April to October 2015, there have been 17 SAB cases of which 4 were Healthcare acquired and these represent the greatest opportunity for intervention to reduce numbers.

The new national HPS definition for Healthcare Associated Infections is very broad which has resulted in an apparent reduction in Community Infection. SABs categorised as Healthcare Associated Infections is a challenging area for NHS Scotland (41% of NHS Borders SAB cases since April 2015). This group include all patients who have had a

recent healthcare interaction including community health services such as GP, dentist or if the patient is a resident in a care home.

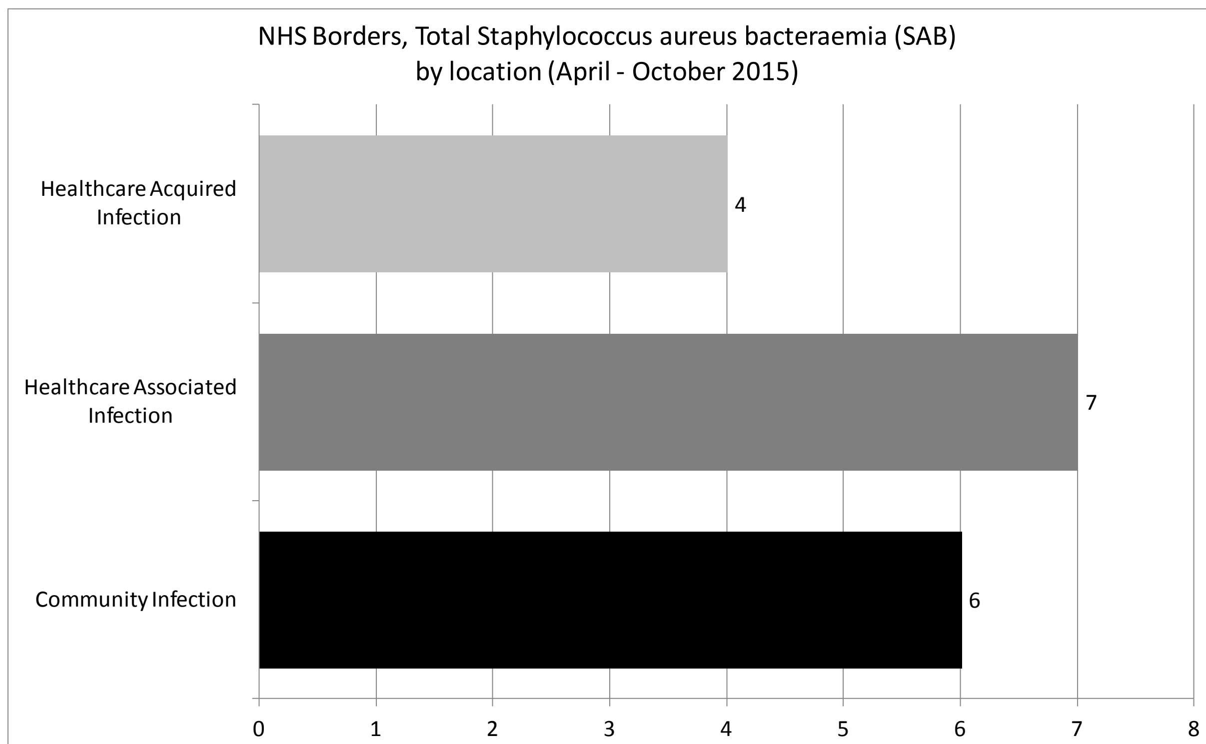


Figure 1: NHS Borders total staphylococcus aureus bacteraemia (SAB) location

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 committee update.

In interpreting Figure 2, it is important to remember that as this graph shows the number of days between infections, we are trying to achieve performance above the green average line.

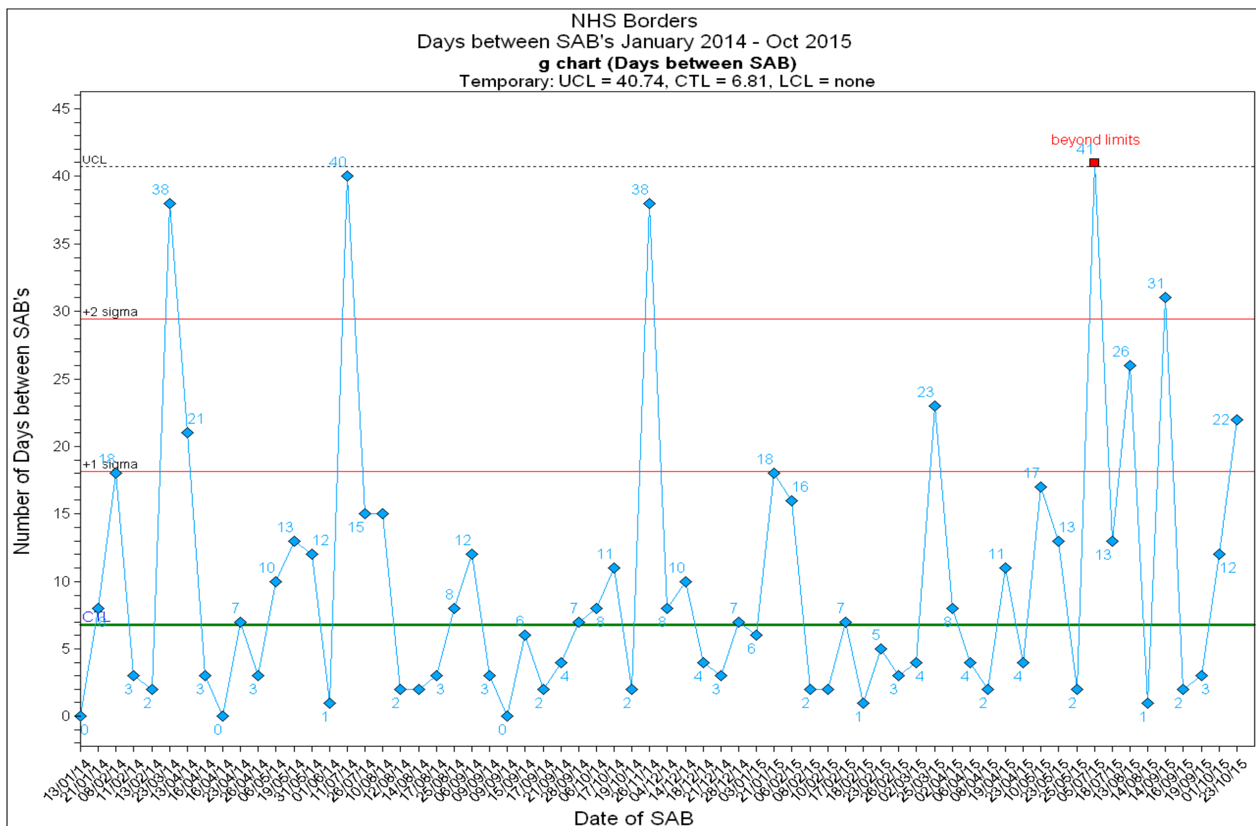


Figure 2: NHS Borders days between SAB cases (statistical process control chart)

Since April 2015 the majority of SAB cases have been Methicillin-susceptible *Staphylococcus aureus* (MSSA) with only 1 Methicillin-resistant *Staphylococcus aureus* (MRSA) case.

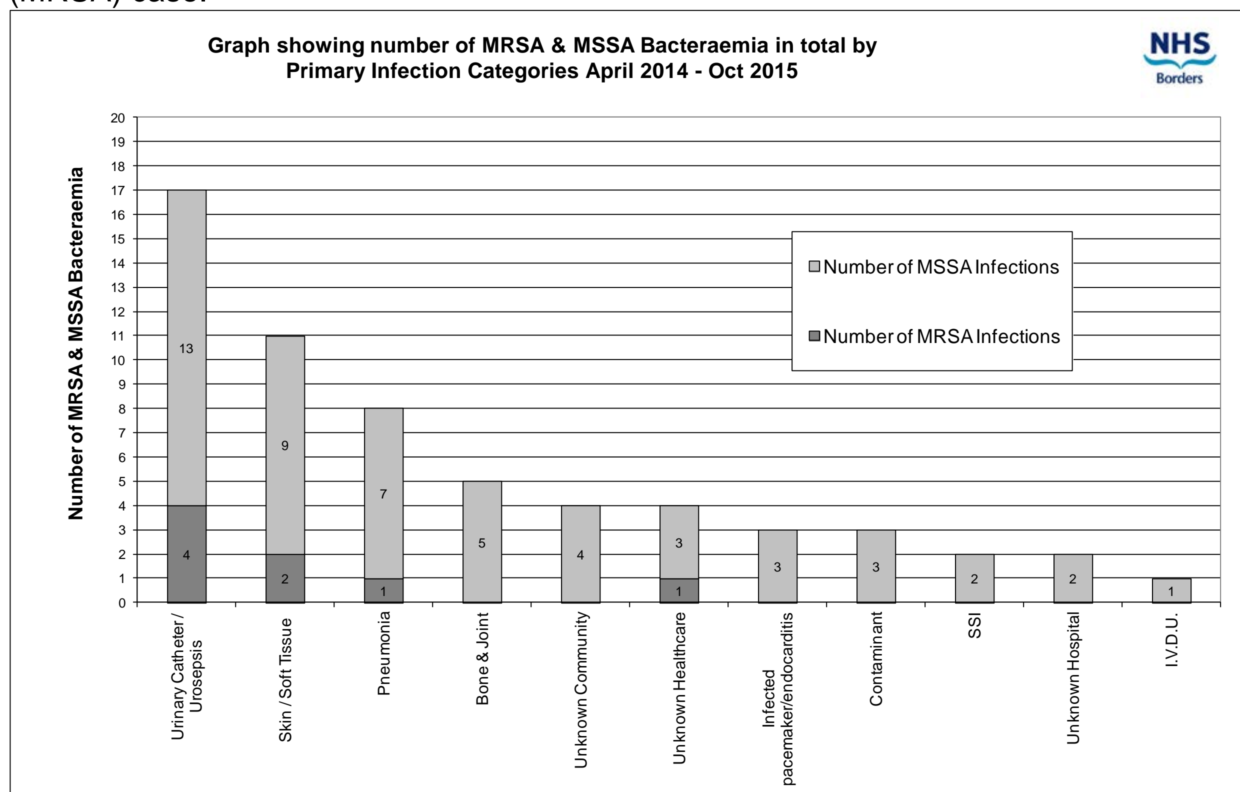


Figure 3: Total SAB by Primary Infection Categories April 2014 – October 2015

Figure 3 shows the cause of SABs (April 2014 – October 2015). The three main categories highlighted in Figure 3 are:

- **Urinary Catheter / Urosepsis** – Urinary catheters present an infection risk to patients. NHS Borders requires catheters to be reviewed by clinical staff in line with NHS Borders policy.

  NHS Borders has a well established Catheter Associated Urinary Tract Infection (CAUTI) Group, chaired by the Community Infection Control Nurse, to reduce patient harm in relation to the use of urinary catheters.

  A Urinary Catheter Passport has been developed and is in use. This is a patient-held record which empowers patients to take responsibility for the safe management of their catheter as well as prompting healthcare workers on safe maintenance practice and supporting early removal.

  Local CAUTI surveillance shows that the majority of cases originate in the community. The Community Infection Control Nurse has scheduled an educational session with district nurses with a focus on urinary catheter management. The Scottish Antimicrobial Prescribing tool for treatment of CAUTI is currently being rolled out to all care homes with support from GP practices.

- **Skin/ Soft Tissue** – A significant proportion of these SABs develop in the community without any previous healthcare intervention.

- **Pneumonia** – a definition will be developed for hospital acquired pneumonia and methodology to monitor hospital acquired pneumonia in one ward.

Every SAB case and *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. Progress is critically reviewed by the Infection Control Committee chaired by the HAI Executive Lead (Director of Nursing, Midwifery and Acute Services). This group also provides support and guidance to instil a Borders wide collaborative approach to achieve the HEAT targets.

***Clostridium difficile* infections (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

Figure 4, 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.

From April to October 2015 there have been 13 cases of *Clostridium difficile* infection (CDI).

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.

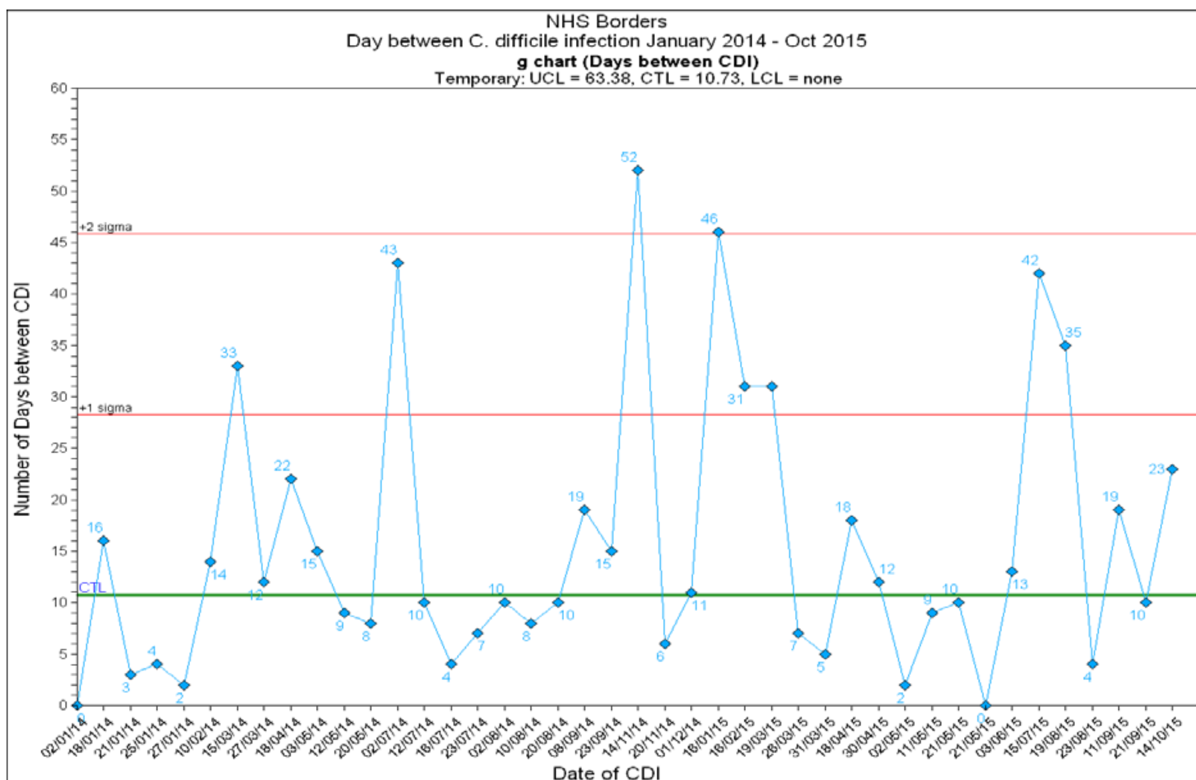


Figure 4: NHS Borders, days between CDI cases against indicative HEAT target

To date, there has been no evidence of cross transmission of *Clostridium difficile* infection (CDI) in NHS Borders.

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/
>
> NHS Boards monitor hand hygiene and ensure a zero tolerance approach to non compliance. The hand hygiene compliance score for the Board can be found at the end of section 1 and for each hospital in section 2. Information on national hand hygiene monitoring can be found at:
>
> http://www.hps.scot.nhs.uk/haiic/ic/nationalhandhygienecampaign.aspx

The hand hygiene data tables contained within the NHS Borders Report Card (Section 2 p.14) 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 and Senior Charge Nurses.

Hand hygiene is also incorporated into the annual infection control audit plan of compliance with the Standard Infection Control Precautions (SICPs) for 2015/16. Following each SICPs audit, the Senior Charge Nurse completes an action plan. A summary of this information is also reported in the Infection Control Monthly Report.

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

NHS Borders cleaning compliance has remained higher than the national average over recent years (Figure 5 below). The data presented within the NHS Borders Report Card (Section 2 p.14) is an average figure across the sites using the national cleaning and estates monitoring tool that was implemented in April 2012.

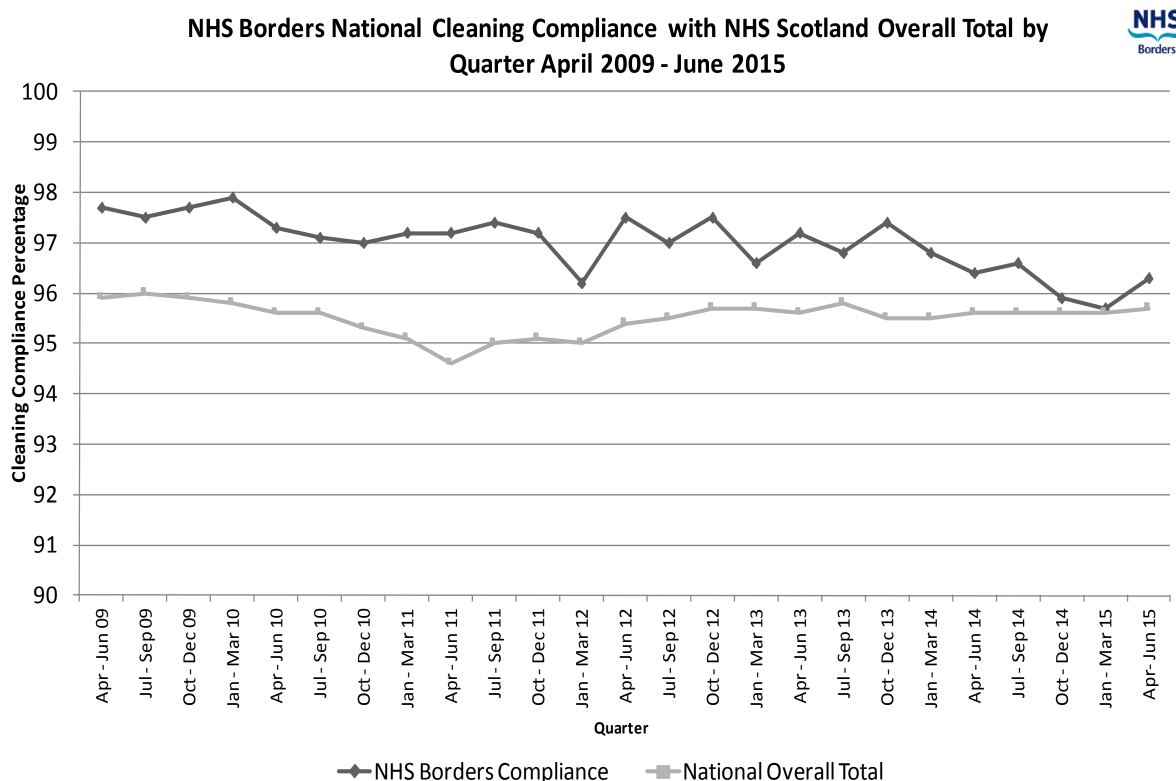


Figure 5: NHS Borders national cleaning compliance versus NHS Scotland's overall performance

The Domestic Services Manager and Infection Control Manager are working together to improve the rigour and consistency in cleanliness monitoring. This work contributed to the apparent reduced compliance during 2014 as shown on Figure 5. However, the most recent data shows an improvement for NHS Borders with cleaning compliance.

Other Healthcare Associated Infections (HAI) Related Activity

2015/16 Infection Control Workplan

As at 13th November 2015, 81% of actions due for completion in the 2015/16 work plan have been completed. Due to significant progress already made against the outstanding actions, the risk to the organisation of the delay in implementation is low.

Norovirus

Since the last Board update, one ward (Ward 4) has been affected by confirmed Norovirus.

This outbreak is being managed by NHS Borders Infection Prevention and Control Team with support from frontline colleagues. Daily Outbreak Control Meetings are convened. The focus of these meetings is to establish a continual up to date overview of the situation across NHS Borders, identity any issues relating to patient care, control measures to be established, and any communications required to be delivered to staff, visitors and members of the public.

Enhanced cleaning is in place within the affected area as well as public/ communal toilets and core areas of Borders General Hospital.

The Communications Team have taken a proactive approach to communication with patients, staff, visitors and members of the public, issuing regular press releases.

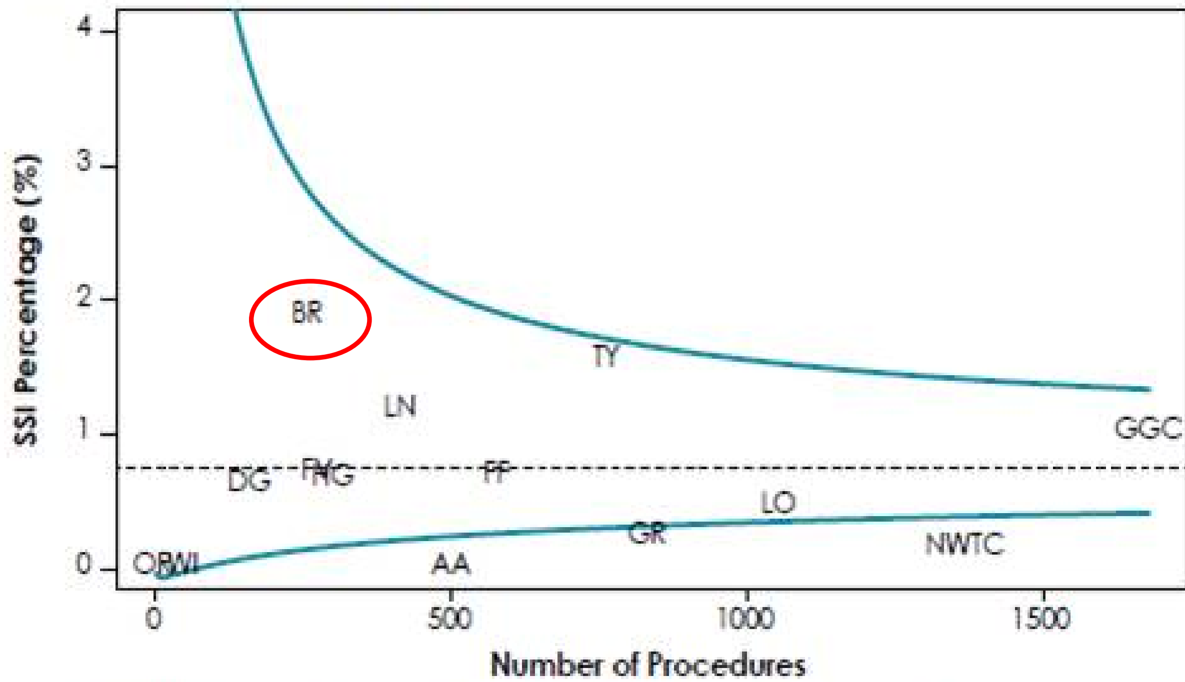
Key messages about Norovirus have been circulated to staff to support compliance with correct practices to reduce the impact of Norovirus.

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 and uses national definitions and methodology which enable comparison with overall NHS Scotland infection rates with the exception of knee arthroplasty which uses local definitions.

The most recent report comparing Health Boards in NHS Scotland was published in July 2015 and reported on SSI rates relating to the calendar year 2014.

Figure 6 shows the SSI rates relating to Hip Arthroplasty by Health Board. Figures 6 and 7 present the data in a ‘funnel plot’. If a Board is within the blue funnel lines, they are not considered to be a statistical outlier from the other Boards. Whilst Figure 6 shows that NHS Borders (BR) SSI rate in 2014 was above the Scottish average, this was not statistically significant.



* Note that in the figure above NHS Orkney and NHS Western Isles overlap.

Figure 6: Cumulative incidence (number of SSI per 100 procedures) for hip arthroplasty (inpatient and readmission until day 30), by NHS Board in 2014

Figure 7 below, shows the SSI rates relating to Caesarean Section by Health Board. The graph shows that NHS Borders (BR) SSI rate in 2014 was close to the Scottish average.

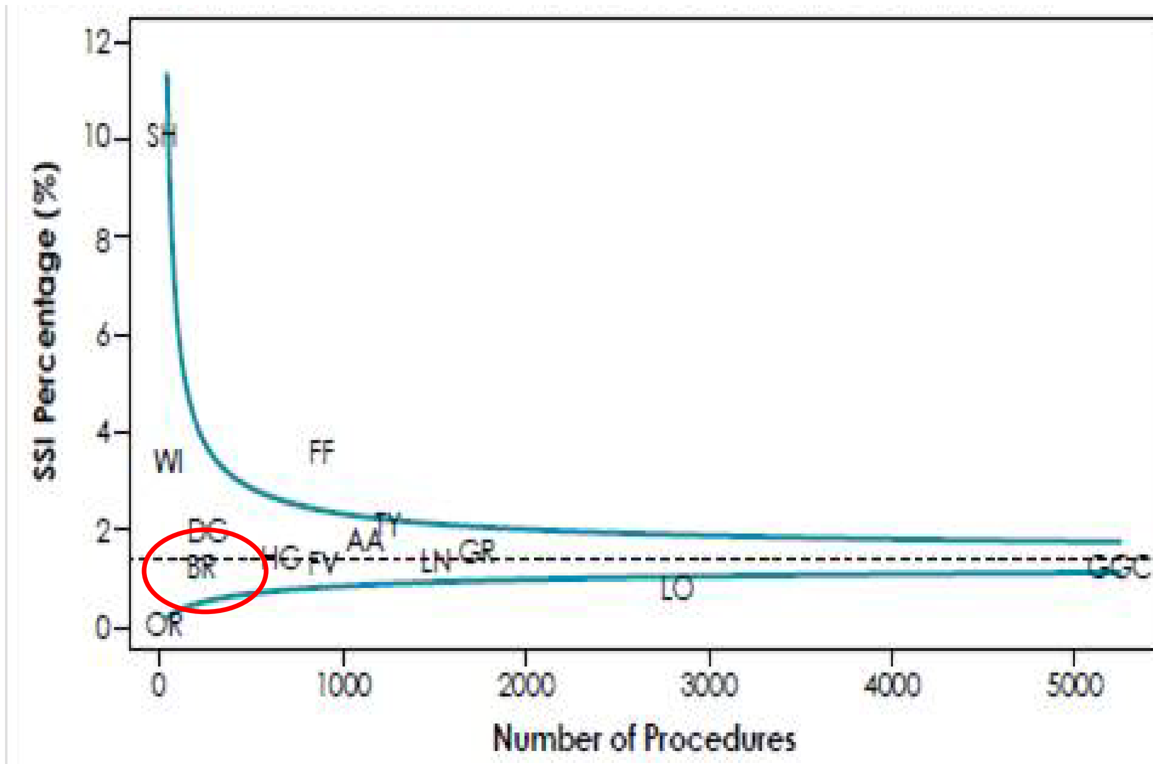


Figure 7: Cumulative incidence (number of SSI per 100 procedures) for caesarean section (inpatient and readmission until day 10), by NHS Board in 2014

NHS board abbreviations

AA	Ayrshire & Arran	LN	Lanarkshire
BR	Borders	LO	Lothian
DG	Dumfries & Galloway	NWTC	National Waiting Times Centre
FF	Fife	OR	Orkney
FV	Forth Valley	SH	Shetland
GR	Grampian	TY	Tayside
GGC	Greater Glasgow & Clyde	WI	Western Isles
HG	Highland		

Infection Control Audits

Since the last Board update, 3 areas (Ward 17, Kelso and Knoll) have been audited with all areas achieving “Green” status of 85% or above. The action plans were sent to the Senior Charge Nurse with completion required within 28 days of feedback.

Colour rating	% compliance	Re-monitoring timescale
RED	0% - 75%	3 months
AMBER	76% - 84%	6 months
GREEN	85% - 100%	12 months

Figure 8: Infection Control Re-Audit Schedule

Antimicrobial Stewardship

The Scottish Antimicrobial Prescribing Group (SAPG) and Scottish Government have agreed antimicrobial prescribing indicators to underpin the CDI HEAT Target. NHS Borders maintains routine monitoring of these indicators which include compliance with antimicrobial prescribing policy in a surgical ward and a medical ward (Figure 9 and Figure 10).

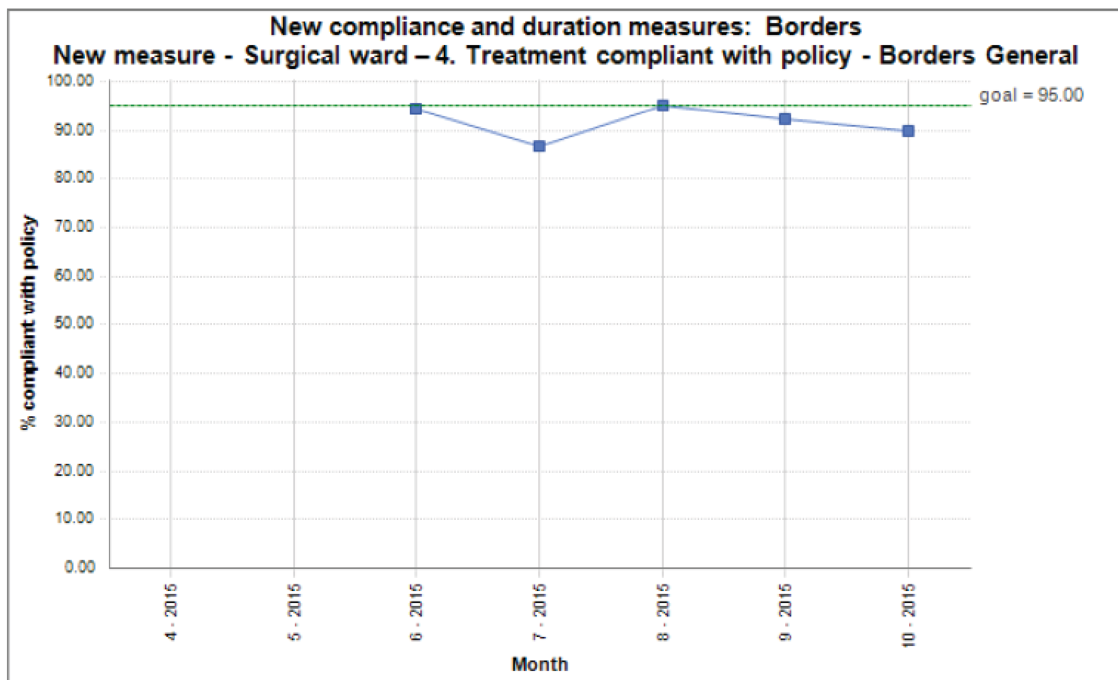


Figure 9: BGH Surgical Ward – Antimicrobial policy compliance

These national measures for performance indicators changed from June 2015. For this reason, earlier data is not presented in Figures 9 and 10.

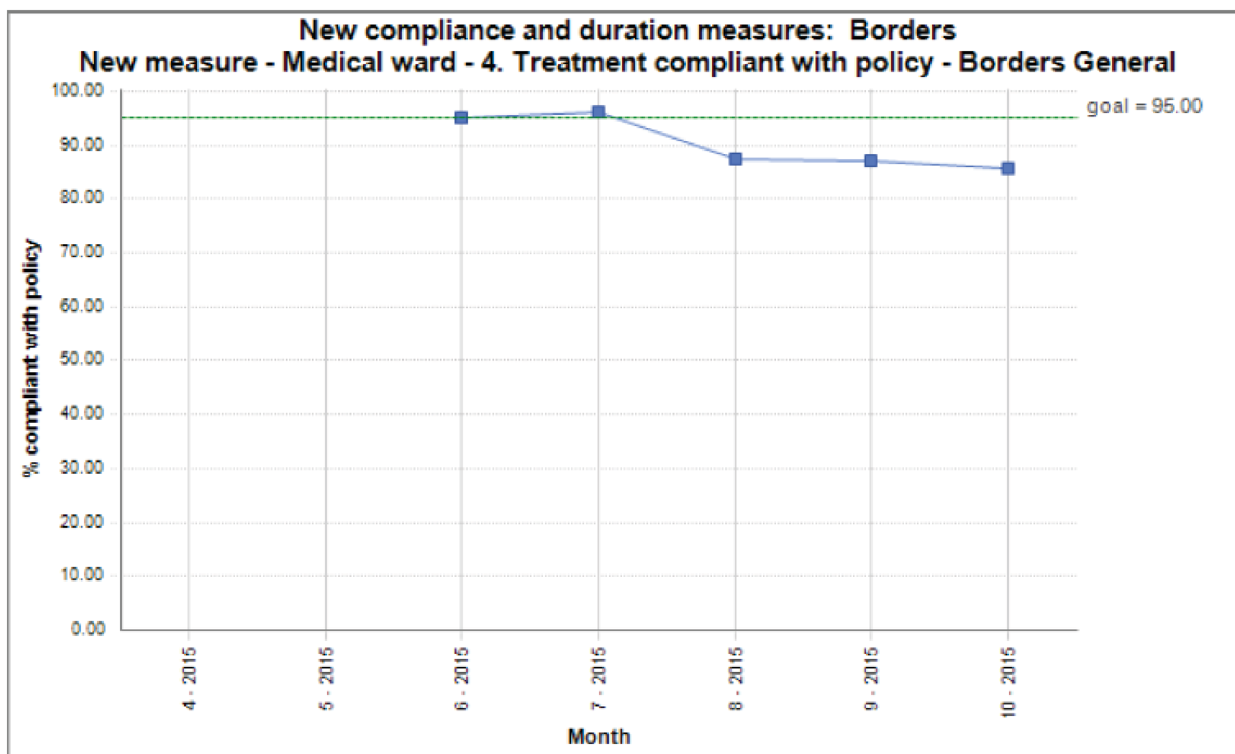


Figure 10: BGH Medical Ward – Antimicrobial policy compliance

The Antimicrobial Management Team continues to support compliance through established feedback to clinicians, SAB and CDI case reviews, and regular antibiotic ward rounds by the Consultant Microbiologist and Antimicrobial Pharmacist.

European Antibiotic Awareness Day on Wednesday 18 November is a European-wide annual event that aims to raise awareness on how to use antibiotics in a responsible way that will help keep them effective for the future.

NHS Borders is supporting this campaign with a proactive media release and a series of daily radio interviews week commencing 16th November. This year, as part of raising awareness, everyone in the Scottish Borders whether as a member of the public or in the medical community are being asked to become Antibiotic Guardians by making a pledge online at: www.antibioticguardian.com.

In addition, on the 18th November, there will be an information stand in BGH targeted to both staff and public about antimicrobial stewardship.

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§ionID=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§ionID=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 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	July 2015	Aug 2015	Sep 2015	Oct 2015
MRSA	0	1	1	2	0	1	0	0	0	0	0	0
MSSA	1	4	1	5	2	4	3	0	2	2	3	2
Total SABS	1	5	2	7	2	5	3	0	2	2	3	2

Clostridium difficile infection monthly case numbers

	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	July 2015	Aug 2015	Sep 2015	Oct 2015
Ages 15-64	1	1	0	0	0	0	1	1	0	0	1	0
Ages 65 plus	1	0	1	1	3	2	3	0	1	2	1	1
Ages 15 plus	2	1	1	1	3	2	4	1	1	2	2	1

Hand Hygiene Monitoring Compliance (%)

	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	July 2015	Aug 2015	Sep 2015	Oct 2015
AHP	100	100	100	93	100	91	98	100	100	100	100	100
Ancillary	88.1	100	97	89	88	94	96	96	97	95	98	96
Medical	95.5	96.4	96	92	95	93	98	97	96	95	97	97
Nurse	99.8	99.8	98	99	99	99	99	99	99	99	99	100
Board Total	98.3	99.3	97.8	96	97	97	99	98	98	98	99	99

Cleaning Compliance (%)

	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	July 2015	Aug 2015	Sep 2015	Oct 2015
Board Total	95.8	96.3	94.8	95.8	95.8	93.8	97.4	96.9	97.4	96.2	97.9	96.8

Estates Monitoring Compliance (%)

	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	July 2015	Aug 2015	Sep 2015	Oct 2015
Board Total	99.4	98.8	97.9	99.1	98.4	98.3	96.2	98.5	97.1	99.7	97.9	99.2

BORDERS GENERAL HOSPITAL REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	July 2015	Aug 2015	Sep 2015	Oct 2015
MRSA	0	0	0	2	0	0	0	0	0	0	0	0
MSSA	0	1	0	0	0	1	1	0	0	1	0	0
Total SABS	0	1	0	2	0	1	1	0	0	1	0	0

Clostridium difficile infection monthly case numbers

	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	July 2015	Aug 2015	Sep 2015	Oct 2015
Ages 15-64	0	0	0	0	0	0	0	0	0	0	0	0
Ages 65 plus	1	0	0	1	0	1	0	0	1	2	1	0
Ages 15 plus	1	0	0	1	0	1	0	0	1	2	1	0

Cleaning Compliance (%)

	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	July 2015	Aug 2015	Sep 2015	Oct 2015
Board Total	95.8	95.4	94.9	95.6	94.9	96.3	95.6	96.0	95.9	95.7	95.8	96.8

Estates Monitoring Compliance (%)

	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	July 2015	Aug 2015	Sep 2015	Oct 2015
Board Total	99.4	98.5	98.2	98.4	98.7	98.3	99	99.3	99.4	99.8	99.7	99.2

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 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	July 2015	Aug 2015	Sep 2015	Oct 2015
MRSA	0	1	0	0	0	0	0	0	0	0	0	0
MSSA	0	0	0	1	0	0	0	0	0	1	0	0
Total SABS	0	1	0	1	0	0	0	0	0	1	0	0

Clostridium difficile infection monthly case numbers

	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	July 2015	Aug 2015	Sep 2015	Oct 2015
Ages 15-64	0	0	0	0	0	0	0	0	0	0	0	0
Ages 65 plus	0	0	0	0	1	0	1	0	0	0	0	1
Ages 15 plus	0	0	0	0	1	0	1	0	0	0	0	1

NHS OUT OF HOSPITAL REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	July 2015	Aug 2015	Sep 2015	Oct 2015
MRSA	0	0	1	0	0	1	0	0	0	0	0	0
MSSA	1	3	1	4	2	3	2	0	2	0	3	2
Total SABS	1	3	2	4	2	4	2	0	2	0	3	2

Clostridium difficile infection monthly case numbers

	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	July 2015	Aug 2015	Sep 2015	Oct 2015
Ages 15-64	1	1	0	0	0	0	1	1	0	0	1	0
Ages 65 plus	0	0	1	0	2	1	2	0	0	0	0	0
Ages 15 plus	1	1	1	0	2	1	3	1	0	0	1	0