

**Borders NHS Board**
**HEALTHCARE ASSOCIATED INFECTION CONTROL AND PREVENTION REPORT –  
September 2011**
**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**

In line with the NHS Scotland HAI Action Plan 2008, there is a requirement for a HAI report to be presented to the Board on a two monthly basis.

**Summary**

This report provides an overview for Borders NHS Board of performance against 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

|  |  |
|--|--|
| <b>Policy/Strategy Implications</b>  | This report is in line with the NHS Scotland HAI Action Plan |
| <b>Consultation</b>  | Not applicable   |
| <b>Consultation with Professional Committees</b>                           | Not applicable   |
| <b>Risk Assessment</b>   | Not applicable   |
| <b>Compliance with Board Policy requirements on Equality and Diversity</b> | Yes  |
| <b>Resource/Staffing Implications</b>                                      | None identified  |

**Approved by**

| <b>Name</b>   | <b>Designation</b>                   | <b>Name</b> | <b>Designation</b> |
|---------------|--------------------------------------|-------------|--------------------|
| Sheena Wright | Director of Nursing<br>and Midwifery |             |                    |

**Author(s)**

| <b>Name</b> | <b>Designation</b>           | <b>Name</b>    | <b>Designation</b>          |
|-------------|------------------------------|----------------|-----------------------------|
| Sam Whiting | Infection Control<br>Manager | Judith Machell | Surveillance<br>Coordinator |

## **Healthcare Associated Infection Reporting template (HAIRT)**

### **NHS Borders (Healthcare Associated Infection Reporting Template (HAIRT) Part 1 Up to August 2011 (part 2 attached)**

#### **Introduction**

This report provides an overview for Board of progress relating to Infection Prevention and Control with particular reference to the incidence of Healthcare Associated Infections (HAI), performance against HEAT targets, hand hygiene and cleanliness monitoring.

In line with the NHS Scotland HAI Action Plan 2008, there is a requirement for a Healthcare Associated Infection Control and Prevention report to be presented to the Board on a two monthly basis.

#### **Key Issues**

- *Staphylococcus aureus* bacteraemia (SAB)
- *Clostridium difficile* infection (CDI)
- Hand hygiene compliance
- Cleanliness monitoring
- Education
- Outbreaks
- Progress against the 2011/12 Infection Control Work Plan

#### **Important Information**

Important information is presented in graphical format at the end of the report.

#### **Incidence of Healthcare Associated Infections**

All Scottish Health Boards are required to follow mandatory reporting requirements for Metcillin sensitive and resistant *Staphylococcus aureus* Bacteraemias (SAB) and on *Clostridium difficile* Infections (CDI). Health Protection Scotland compile quarterly reports comparing infection rates for all Scottish NHS Boards.

# 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 September 2011

- The number of *Staphylococcus aureus* Bacteraemia (SAB) is reducing to a level closer to the new HEAT target of 0.26 SAB cases per 1000 acute occupied bed days to be achieved by 31<sup>st</sup> March 2013.
- 
- NHS Borders remains on target to achieve the new HEAT target to reduce *Clostridium difficile* Infection (CDI) to a rate of 0.39 per 1000 Total Occupied Bed Days by 31<sup>st</sup> March 2013.

### *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](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](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/haic/sshaip/publicationsdetail.aspx?id=30248>

NHS Borders has a HEAT target to achieve a rate of 0.26 *Staphylococcus aureus* Bacteraemia (SAB) cases per 1000 acute occupied bed days. This rate was the “best in class” rate achieved by a single Health Board in the year ending March 2010; and is a rate that is considered to be achievable by all Boards.

This new target is reflected in latest data point (Jul 10 – Jun 11) on the graph on page 7. The performance data for this period is a provisional figure that will be revised when Health Protection Scotland (HPS) release confirmed data.

Every SAB case is subject to a rigorous Root Cause Analysis (RCA) which includes a feedback process to the clinicians caring for the patient. Any actions identified through this process are added to the SAB section of the Infection Control Work Plan.

For the period July 2010 – June 2011, NHS Borders SAB rate has improved to a level closer to the new HEAT target (0.32 SAB cases per 1000 acute occupied bed days).

### ***Clostridium difficile***

*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/haic/sshaip/ssdetail.aspx?id=277>

NHS Borders has a HEAT target to achieve a rate of 0.39 or less cases of *Clostridium difficile* infections (CDI) per 1000 total occupied bed days in patients aged 65 and over by the year ending March 2013.

The rate of 0.39 is based on the best performing board as measured in the year ending March 2010, demonstrating that this rate should be achievable by all boards.

NHS Borders is on target to achieve this HEAT target with a current rate of 0.18 CDI cases per 1000 total occupied bed days in patients aged 65 and over.

### **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 BGH in section 2. Information on national hand hygiene monitoring can be found at:

<http://www.hps.scot.nhs.uk/haic/ic/nationalhandhygienecampaign.aspx>

Board should note that following a request by the Government, the data in the graph on page 8 of this report has been revised to now show the results from the monthly patient safety hand hygiene audits. This data is based on wards conducting self-audits.

## 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>

Following additional investment, Domestic Services Rapid Response Teams are being developed. These teams will respond to ad-hoc cleaning duties to enable duty staff allocated to each clinical area to focus on core cleaning tasks.

## Outbreaks

Since the last Board update, there has been one Norovirus outbreak in the Knoll. The outbreak started on 31st July 2011 and ended on 12<sup>th</sup> August 2011 with 16 patients affected.

## Other HAI Related Activity

### Staff training

- An Infection Control e-learning module has been developed and introduced in NHS Borders focussed on Standard Infection Control Precautions. To date, 72.3% of all staff have completed this training with compliance monitored via the Performance Scorecards.

### Infection Control Audits

- A new infection control audit programme commenced in July 2011 with the Infection Control Team conducting an annual schedule of audits across BGH and Community Hospitals. The specific locations and audits included have been prioritised according to infection risk. Best practice is shared with Mental Health and Community Nursing.

### 2010/11 Infection Control Work Plan

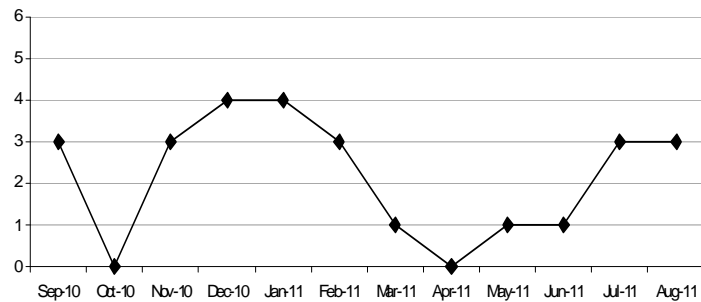
- As at 22<sup>nd</sup> August 2011, 83% of actions scheduled for completion have been completed. There has been some slippage in a number of actions due to prioritisation of mandatory national initiatives including implementing a revised MRSA screening process and preparing for a major infection point prevalence survey. It is expected that all actions will still be completed by 31<sup>st</sup> March 2011.

## NHS Board

The HEAT target graphs on the following page have been adjusted to include the new targets to be achieved by 31st March 2013. The last data point (Jul 10 - Jun 11) shows the new targets which are a rate of 0.39 cases of CDI per 1000 occupied bed days for patients aged 65+, and a rate of 0.26 SAB cases per 1000 acute occupied bed days. The performance figure against these targets is currently provisional and will be revised once official data is available from Health Protection Scotland.

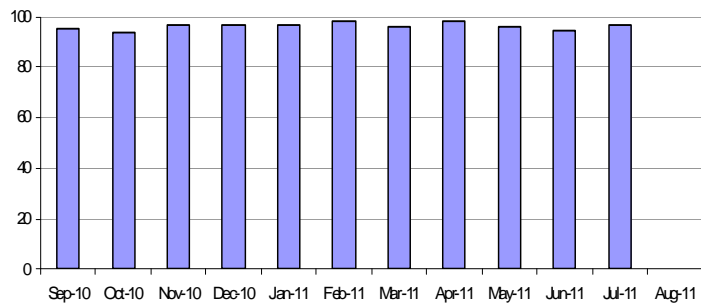
The hand hygiene compliance data is now based on monthly patient safety audit. National hand hygiene monitoring continues on a bi-monthly basis.

### MSSA Bacteraemia Cases



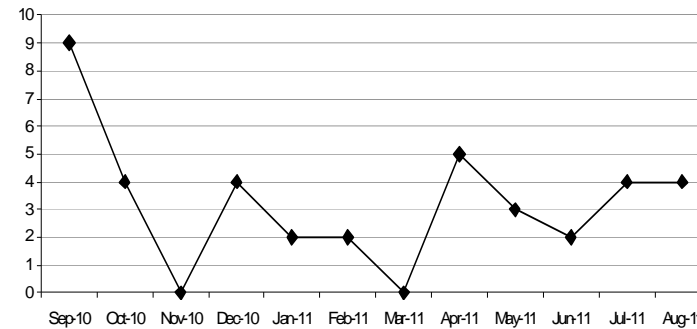
| Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 3      | 0      | 3      | 4      | 4      | 3      | 1      | 0      | 1      | 1      | 3      | 3      |

### Hand Hygiene Compliance



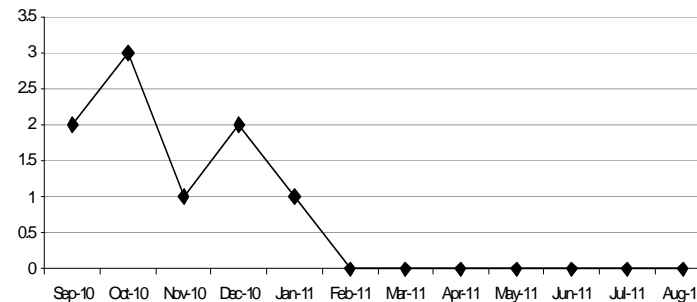
| Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 95     | 94     | 97     | 97     | 97     | 98     | 96     | 98     | 96     | 94.8   | 96.9   | 97.4   |

### Clostridium difficile Infection (CDI) Cases (all ages)



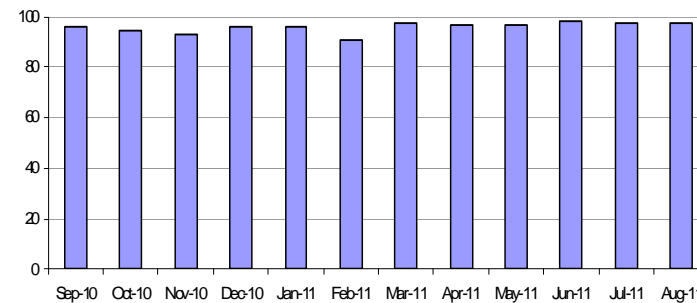
| Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 9      | 4      | 0      | 4      | 2      | 2      | 0      | 5      | 3      | 2      | 4      | 4      |

### MRSA Bacteraemia Cases



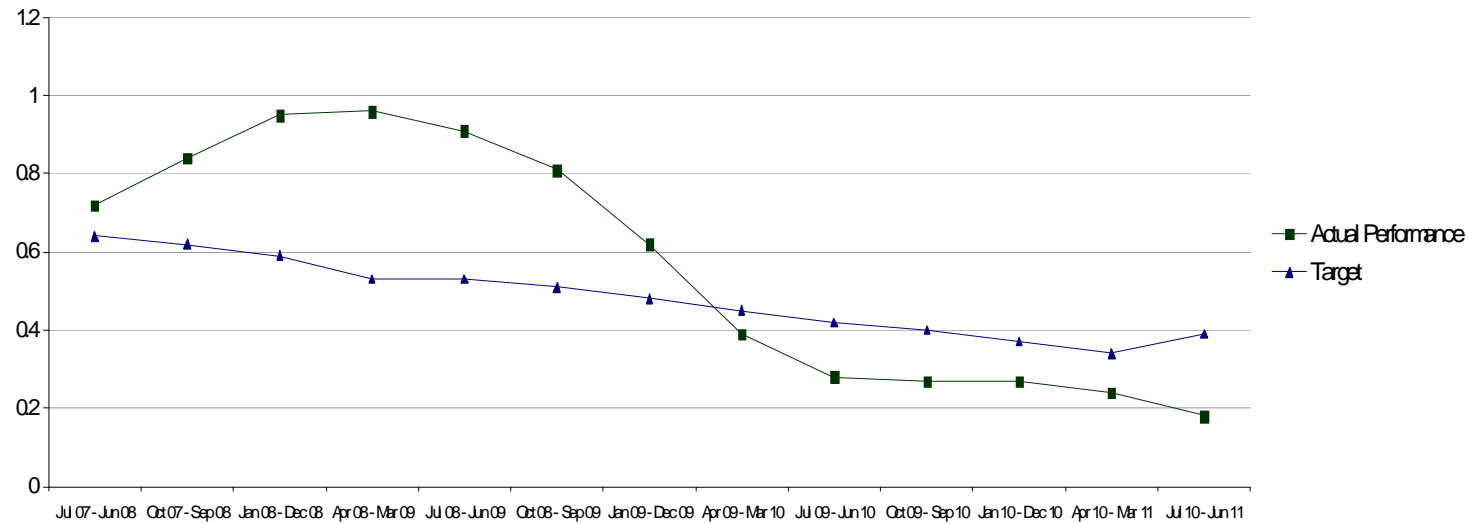
| Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2      | 3      | 1      | 2      | 1      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |

### Cleaning Compliance

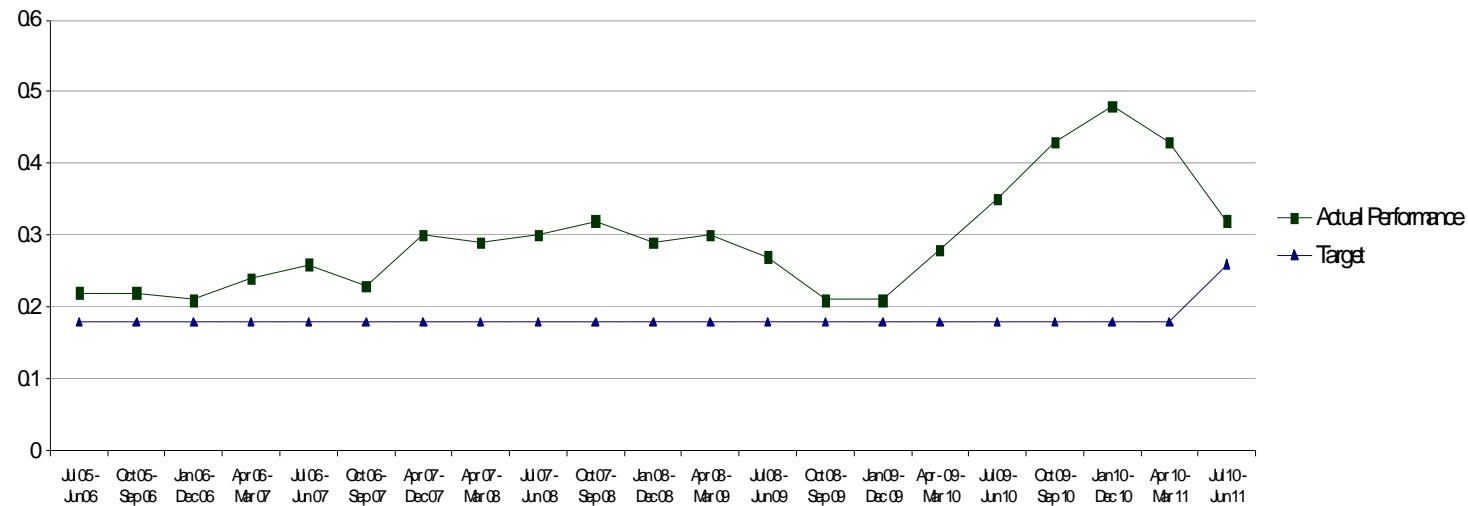


| Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 96.2   | 94.2   | 93.3   | 95.8   | 95.8   | 91     | 97.7   | 96.7   | 96.4   | 97.8   | 97.6   | 97.4   |

Quarterly rolling year *Clostridium difficile* Infection Cases in patients aged 65 and over per 1000 total occupied bed days for HEAT Target



Quarterly rolling year *Staphylococcus aureus* Bacteraemia Cases for HEAT Target



|                    | Jul 05-<br>Jun 06 | Oct 05-<br>Sep 06 | Jan 06-<br>Dec 06 | Apr 06-<br>Mar 07 | Jul 06-<br>Jun 07 | Oct 06-<br>Sep 07 | Apr 07-<br>Dec 07 | Apr 07-<br>Mar 08 | Jul 07-<br>Jun 08 | Oct 07-<br>Sep 08 | Jan 08-<br>Dec 08 | Apr 08-<br>Mar 09 | Jul 08-<br>Jun 09 | Oct 08-<br>Sep 09 | Jan 09-<br>Dec 09 | Apr 09-<br>Mar 10 | Jul 09-<br>Jun 10 | Oct 09-<br>Sep 10 | Jan 10-<br>Dec 10 | Apr 10-<br>Mar 11 | Jul 10-<br>Jun 11 |
|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Actual Performance | 0.22              | 0.22              | 0.21              | 0.24              | 0.26              | 0.23              | 0.30              | 0.29              | 0.30              | 0.32              | 0.29              | 0.30              | 0.27              | 0.21              | 0.21              | 0.28              | 0.35              | 0.43              | 0.48              | 0.43              | 0.32              |
| Target             | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.18              | 0.26              |

# 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 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 outwith 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 Borders General Hospital (BGH), 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). Data are presented as both a graph and a table giving case numbers. 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](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](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](http://www.nhs24.com/content/default.asp?page=s5_4&articleID=252&sectionID=1)

For BGH 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.

### Understanding the Report Cards – Hand Hygiene Compliance

Good hand hygiene is crucial for infection prevention and control. More information can be found from the Health Protection Scotland's national hand hygiene campaign website:

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

Hospitals carry out regular audits of how well their staff are complying with hand hygiene. The first page of each hospital report card presents the percentage of hand hygiene compliance for all staff in both graph and table form.

### Understanding the Report Cards – Cleaning Compliance

Hospitals strive to keep the care environment as clean as possible. This is monitored through cleaning 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/>

The first page of each hospital Report Card gives the hospitals cleaning compliance percentage in both graph and table form.

### Understanding the Report Cards – 'Out of Hospital Infections'

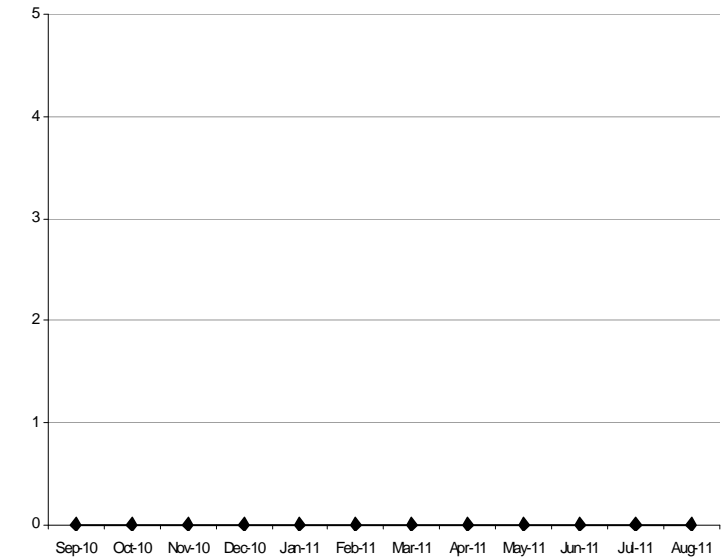
*Clostridium difficile* infections and *Staphylococcus aureus* (including MRSA) bacteraemia cases are all associated with being treated in hospitals. However, this is not the only place a patient may contract an infection. This total will also include infection from community sources such as GP surgeries and care homes. 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. Given the complex variety of sources for these infections it is not possible to break this data down in any more detail.

# Community Hospitals

In August there was 1 case of CDI in a community hospital.

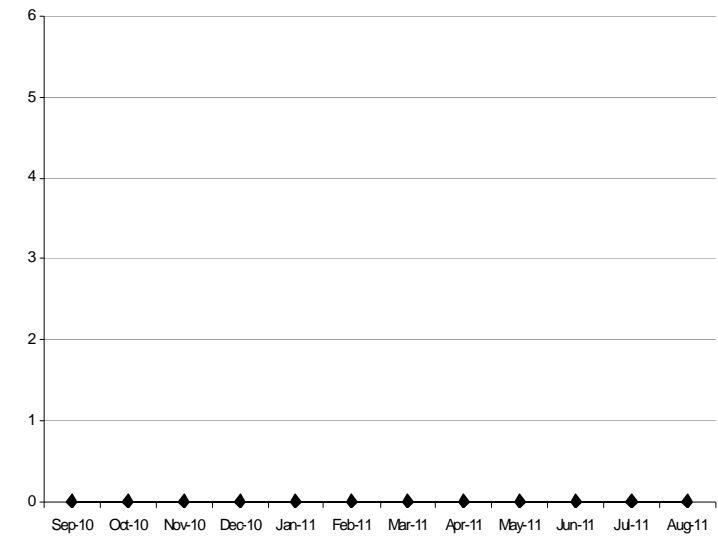
There has been one MRSA bacteraemia admitted into the BGH from a community hospital.

# Clostridium difficile Infection Cases (all ages)



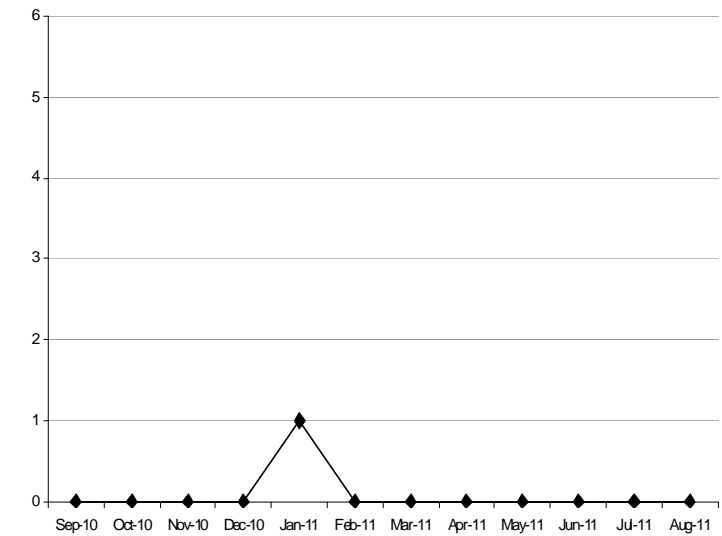
| Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |

# MSSA Bacteraemia Cases



| Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |

# MRSA Bacteraemia Cases

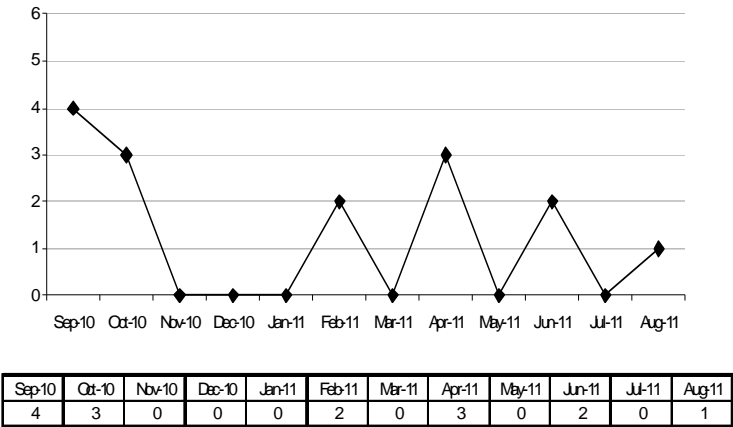


| Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0      | 0      | 0      | 0      | 1      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |

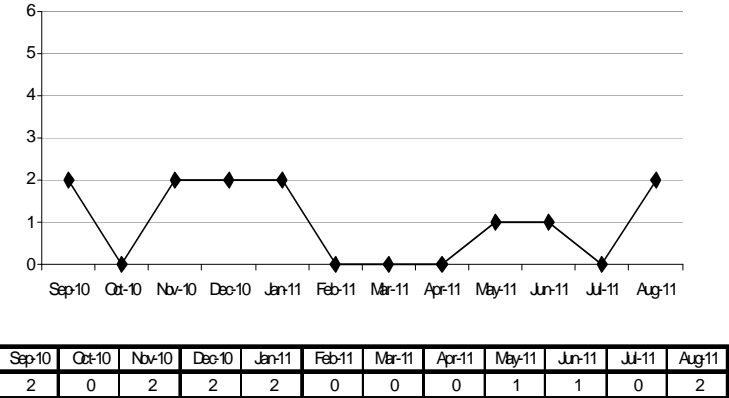
# Borders General Hospital

NHS Borders is on target to achieve the new HEAT target for CDI.

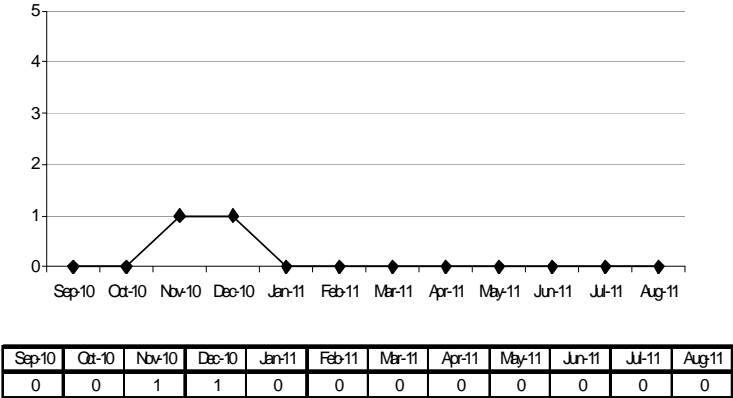
## Clostridium difficile Infection Cases (all ages)



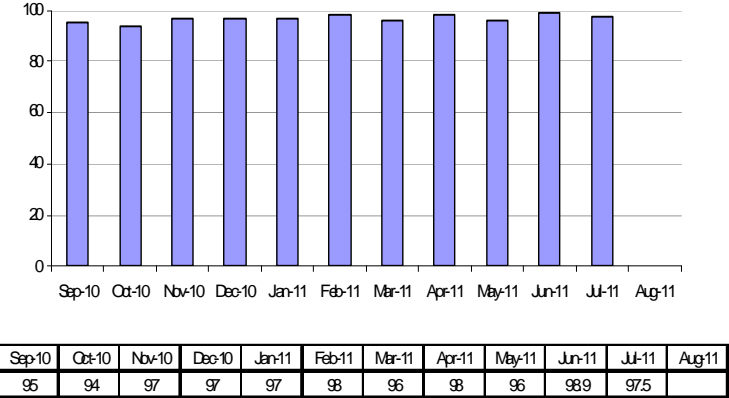
## MSSA Bacteraemia Cases



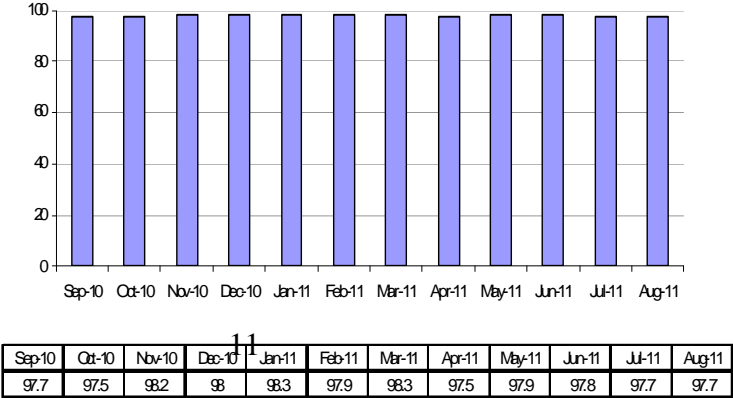
## MRSA Bacteraemia Cases



## Hand Hygiene Compliance



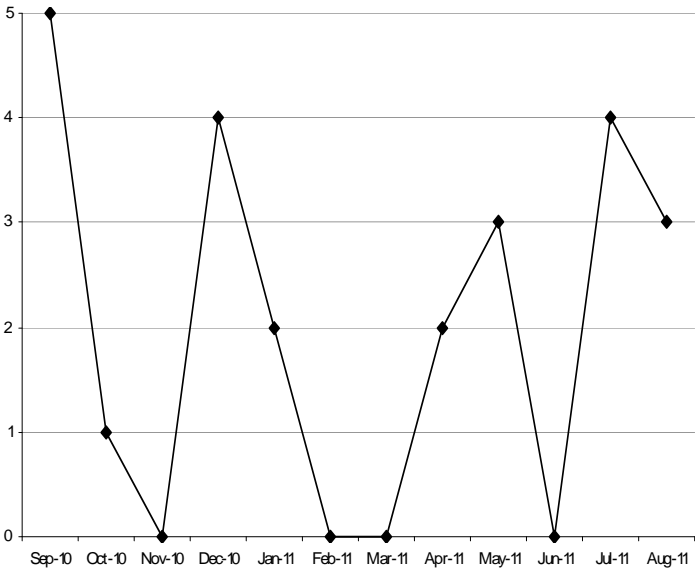
## Cleaning Compliance



## Out of Hospital Infections

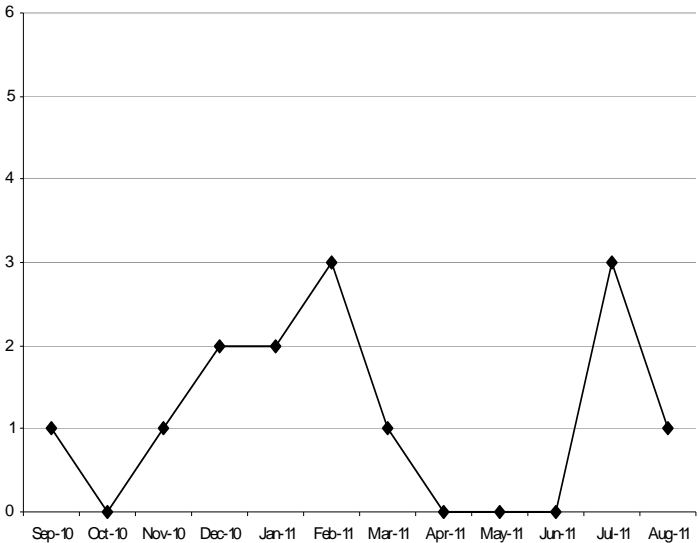
The one case of MRSA bacteraemia came from a patient admitted from a Care Home. All cases of MSSA bacteraemia were admitted via A&E, blood cultures were taken within 24 hours of admittance. None of the patients appeared to have had recent healthcare interventions within NHS Borders. The *Clostridium difficile* infections were detected from samples submitted from GP practices

## *Clostridium difficile* Infection Cases (all ages)



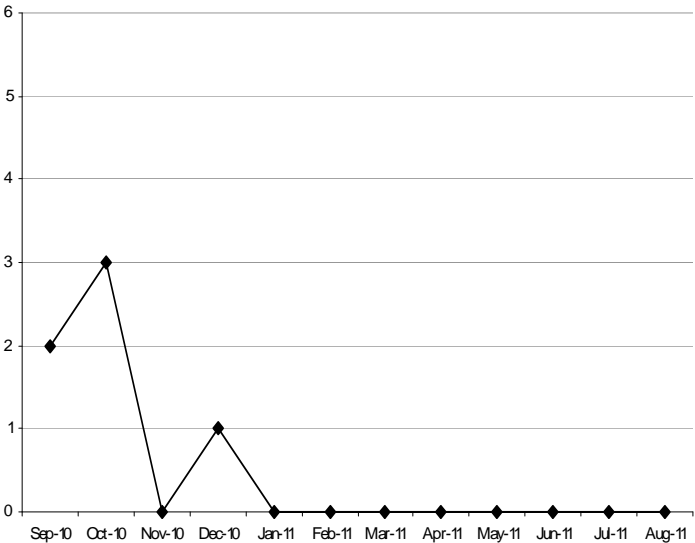
| Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 5      | 1      | 0      | 4      | 2      | 0      | 0      | 2      | 3      | 0      | 4      | 3      |

## MSSA Bacteraemia Cases



| Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1      | 0      | 1      | 2      | 2      | 3      | 1      | 0      | 0      | 0      | 3      | 1      |

## MRSA Bacteraemia Cases



| Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | Jul-11 | Aug-11 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2      | 3      | 0      | 1      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |