Borders NHS Board



<u>HEALTHCARE ASSOCIATED INFECTION CONTROL AND PREVENTION REPORT –</u> <u>February 2013</u>

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 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	Not applicable
Consultation with Professional	Not applicable
Committees	
Risk Assessment	Not applicable
Compliance with Board Policy	Yes
requirements on Equality and Diversity	
Resource/Staffing Implications	None identified

Approved by

Name	Designation	Name	Designation
Evelyn Fleck	Director of Nursing		
	and Midwifery		

Author(s)

Name	Designation	Name	Designation
Sam Whiting	Infection Control	Judith Machell	Surveillance
	Manager		Coordinator

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 2012

- NHS Borders is currently on target to achieve the Staphylococcus aureus Bacteraemia (SAB) 2013 HEAT target rate.
- NHS Borders currently has a Clostridium difficile infection (CDI) rate higher than the 2013 HEAT target rate.

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.nhsinform.co.uk/Health-Library/Articles/S/staphylococcal-infections/introduction

MRSA: http://www.nhsinform.co.uk/Health-Library/Articles/M/mrsa/introduction

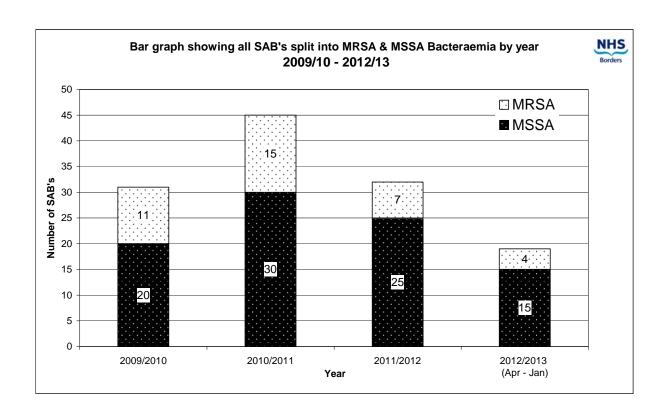
NHS Boards carry out surveillance of *Staphylococcus aureus* blood stream infections, known as bacteraemias. These are a serious form of infection and there is a national target to reduce them. The number of patients with MSSA and MRSA bacteraemias for the Board can be found at the end of section 1 and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

NHS Borders has a Scottish Government HEAT target to achieve a rate of 0.26 Staphylococcus aureus Bacteraemia (SAB) cases or less per 1000 acute occupied bed days by March 2013. 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.

The graph on Page 11 gives an impression of NHS Borders currently having a SAB rate higher than the HEAT target. The latest data point on this graph (January 2012 – December 2012) is currently provisional and will be revised once official data is available from Health Protection Scotland.

However, significant improvements have been made in relation to SAB numbers with NHS Borders currently on target to achieve the HEAT target between April 2012 and March 2013. This improvement is better displayed when comparing full year numbers as shown in the graph below.



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.

The Prevention of SABs Group continues to meet every month to monitor the implementation of actions to reduce the risks associated with SABs. Each ward is regularly audited by the Infection Prevention and Control Team for compliance with best practice measures that have been implemented relating to the insertion and maintenance of peripheral venous catheters (PVCs). Work continues with clinical services to continue to improve compliance.

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.nhsinform.co.uk/Health-Library/Articles/C/clostridium-difficile/introduction

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:

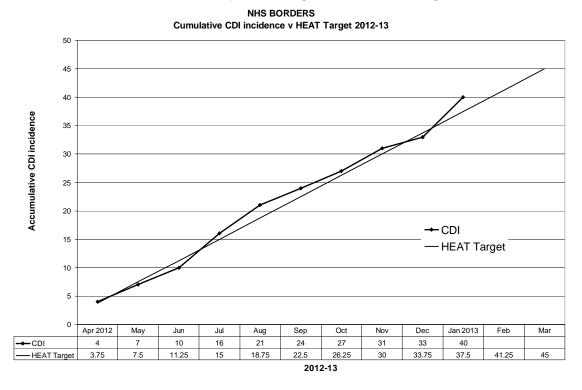
http://www.hps.scot.nhs.uk/haiic/sshaip/clostridiumdifficile.aspx?subjectid=79

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.

Following an increase in cases in July, August and January, NHS Borders CDI rate is currently above the HEAT target rate at 0.44. The latest data point on the graph on page 11 (January 2012 – December 2012) is currently provisional and may be revised once official data is available from Health Protection Scotland.

The HEAT target rate equates to a total of 45 cases per year. The graph below shows the cumulative number of cases since April 2012 against the HEAT target.



Each case of CDI is subject to a review including compliance with policies of any prescribed antimicrobials. This process includes discussion and feedback between the Consultant Microbiologist and the relevant doctor.

A Prevention of CDI Group has been established and held its first meeting within BGH. Initial involvement included Infection Control, Laboratories, Pharmacy and Public Health representation. This group will provide additional focus to this agenda and aims to widen its participation to include P&CS. Each case review will inform the development of workstreams to be progressed through this group and a targeted action plan to support improvement. Examples of work-streams may include antimicrobial prescribing, reporting and education. Please note this work-stream phase is in early development. Development of ICNet will also support local monitoring and analysis to achieve targeted improvement.

The Antimicrobial Management Team continues to monitor antimicrobial prescribing rates in both acute and community Clinical Boards. The Consultant Microbiologist continues to prioritise visits to GP Practices prescribing higher levels of antibiotics more associated with clostridium difficile.

NHS Scotland has seen huge success in the prevention and control of *C. difficile* infections. However recent surveillance has been showing a levelling of the previous downward trend. In December 2012 the Chief Nursing Officer advised NHS Boards of a revised protocol for microbiology laboratories. This is being implemented within 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 in the data tables on page 10 and 12 within this report are generated from wards conducting self-audits.

NHS Borders also continues to participate in national hand hygiene audits which are conducted every other month. The most recent published report is from January 2013. During the audit period (19th November 2012 – 30th November 2012) NHS Borders achieved an overall compliance rate of 97%.

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

High levels of cleanliness continue to be recorded through the monitoring process across NHS Borders estate. The data presented is an average figure across the sites using the new national cleaning and estates monitoring tool that was implemented in April 2012.

Infection Incidents

Since there last Board update, there have been outbreaks of Norovirus affecting a number of wards in Borders General Hospital. Over the same period, there has continued to be high incidence of Norovirus across the UK. The outbreaks have been managed by the Infection Prevention and Control Team and Hospital Executive Team with support from frontline colleagues. At the time of writing this report, there were no outbreaks across NHS Borders.

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, 85% of all
staff have completed this training with compliance monitored via the Performance
Scorecards. Work continues with Service and Operational Managers to increase
the uptake of this training.

Infection Control Audits

• In January 2013, an additional Infection Control Nurse was appointed which returns the Infection Control Team to full capacity. This has enabled the planned audit programme to resume. In January, wards in Borders General Hospital (BGH) were audited for compliance with the best practice 'care bundle' relating to the use of peripheral venous catheters (PVCs). Compliance with best practice is important as these devices are commonly used and are a risk factor for patients developing a staphylococcus aureus infection. Overall compliance had dropped since this was last audited in September 2012. BGH Hospital Executive Team is being supported by the Infection Control Team to ensure clinical improvements in this area. A reaudit of compliance is scheduled for March 2013.

2012/13 Infection Control Work Plan

 Prioritising Norovirus outbreak management, and technical delays in implementing an upgraded infection control IT system have impacted on the delivery of the Infection Control Work Plan. Whilst progress has been made, there are currently 6 actions overdue for completion. With these issues now resolved, the outstanding actions will be rapidly progressed.

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.

The Surgical Site Infection (SSI) surveillance is conducted on the following range of procedures:-

- o Caesarean section
- Hip Arthroplasty
- Knee Arthroplasty
- Colorectal Surgery

The following table shows the results of the surgical site infection (SSI) surveillance data for each procedure since surveillance started.

During 2012, there was an increase in surgical site infections following hip arthroplasty operations. A review did not identify any common factors that could have been indicative of an outbreak. The infections are from a range of organisms in both elective and emergency cases, undertaken by different surgeons.

A multi disciplinary short life working group (SLWG) was formed to investigate all aspects of the patient pathway with respect to identifying potential sources of

increased environmental infection load, or decrease in patient immuno-competence.

Since October 2012, there have not been any more SSI cases following hip arthroplasty.

Healthcare Environment Inspectorate

 In February 2013, the Healthcare Environment Inspectorate (HEI) published a report following an unannounced inspection of Borders General Hospital in December 2012.

The report confirmed that NHS Borders has made improvements since the previous inspection and is complying with the majority of NHS QIS HAI standards to protect patients, staff and visitors from the risk of acquiring an infection.

The inspection resulted in three requirements and two recommendations. An action plan is in place to ensure the recommendations set out in the report are implemented, and a number of those actions have already been completed.

Surgical Site Infection (SSI) Data Table

			NHS Borders			NHS S	cotland	
	Year	Number of Procedures	Number of Surgical Site Infections (SSIs)	SSI Rate %	95% Confidence Interval	National SSI Rate %	95% Confidence Interval	Comments
	2009	222	1	0.45	0.1 to 2.5	2.6	2.3 to 2.8	
C-Section	2010	257	3	1.17	0.4 to 3.4	2.6	2.4 to 2.9	
	2011	222	1	0.45	0 to 3.3	1.4	1.1 to 1.8	
	2012*	224	1	0.45	0.1 to 2.2	1.9	1.7 to 2.2	
	2009	230	2	0.87	0.2 to 3.1	1.2	1.0 to 1.4	
Hip Arthroplasty	2010	239	0	0.00	0 to 1.8	0.8	0.7 to 1.1	
	2011	222	0	0.00	0 to 3.3	1.4	1.1 to 1.8	
	2012*	283	8	2.83	1.6 to 6.0	0.7	0.5 to 0.9	Following a review of cases and implementation of an improvement prgramme, there have been no SSI's since October 2012.
Knee Arthroplasty	2011	154	1	0.65	0 to 2.4	0.2	0.1 to 0.5	Please note the small number of infections and procedures which
	2012*	178	1	0.56	0 to 2.4	0.2	0.7 to 0.3	impacts on the overall SSI rate.
Colorectal Surgery	2012*	85	3	3.53	0.8 to 10.4	15.1	11.3 to 20.0	

^{*}NB. 2012 data is provisional and may be subject to revision once validated by Health Protection 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 – *delete if appropriate*] 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 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). 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§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 <u>each hospital</u> the total number of cases for each month are those which have been reported as positive from a laboratory report on samples taken <u>more than</u> 48 hours after admission. For the purposes of these reports, positive samples taken from patients <u>within</u> 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 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. Given the complex variety of sources for these infections it is not possible to break this data down in any more detail.

NHS Borders Board Report Card

The HEAT target graphs on the following page have been adjusted to include the new targets to be achieved by 31st March 2013. The new targets are a rate of 0.39 cases of CDI per 1000 total occupied bed days for patients aged 65+, and a rate of 0.26 SAB cases per 1000 acute occupied bed days. The last data point on these graphs (Jan12 - Dec12) is currently provisional and will be revised once official data is available from Health Protection Scotland.

The hand hygiene compliance data in these repoirt cards is based on monthly patient safety audit. The hand hygiene, cleaning and estates data in this report card reflect overall compliance across acute, primary care and mental health sites.

Hand Hygiene Monitoring Compliance (%)

Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
96.4	96.2	98.7	97.8	96.8	98.9	98.7	99.4	99.5	97.9	98.4	99.0

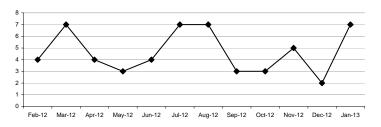
Cleaning Compliance (%)

Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
95.6	96.2	N/A	96.2	97.6	97.1	98.0	96.7	96.1	96.4	97.8	96.9

Estates Monitoring Compliance (%)

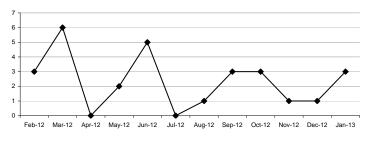
Г	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
Г	97.1	97.6	N/A	98.4	98.5	97.3	98.4	97.5	98.5	96.4	98.3	98.3

Clostridium difficile Cases (ages 15 and over)



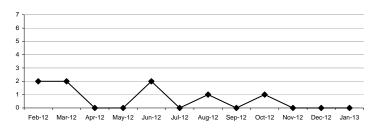
Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
4	7	4	3	4	7	7	3	3	5	2	7

Total Staphylococcus aureus Bacteraemia Cases (all ages)



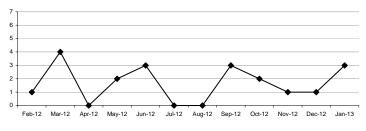
١	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
	3	6	0	2	5	0	1	3	3	1	1	3

MRSA Bacteraemia Cases (all ages)



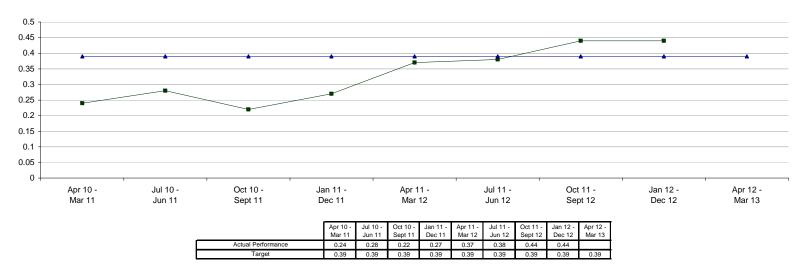
Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
2	2	0	0	2	0	1	0	1	0	0	0

MSSA Bacteraemia Cases (all ages)

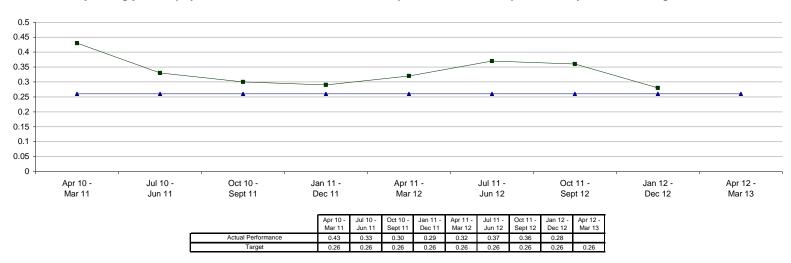


1												
	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
	1	4	0	2	3	0	0	3	2	1	1	3

Quarterly rolling year Clostridium difficile Infection Cases per 1000 total occupied bed days for HEAT Target Measurement



Quarterly rolling year Staphylococcus aureus Bacteraemia Rates per 1000 Acute Occupied Bed Days for HEAT Target Measurement



Borders General Hospital Report Card

The hand hygiene data in this report card is based on monthly patient safety audits conducted by each ward.

The hand hygiene, cleaning and estates data in this report card reflect overall compliance in Borders General Hospital.

Hand Hygiene Monitoring Compliance (%)

Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
96.4	97.4	98.7	97.2	98.7	99.0	98.7	99.4	99.4	97.7	98.0	98.7

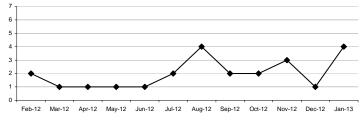
Cleaning Compliance (%)

Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
95.6	95.9	N/A	97.8	97.5	97.3	98.0	97.2	97.2	97.0	98.2	96.8

Estates Monitoring Compliance (%)

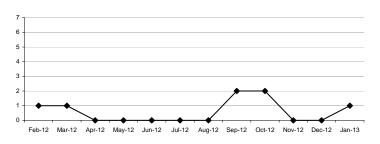
Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
97.1	97.9	N/A	98.7	97.8	97.3	98.5	98.3	98.4	98.0	98.7	98.3

Clostridium difficile Cases (ages 15 and over)



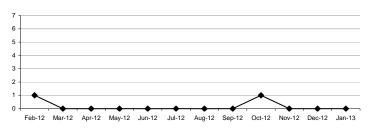
Feb-12 Mar-12 Apr-12 May-12 Jun-12 Jul-12 Aug-12 Sep-12 Oct-12 Nov-12 Dec-12 Jan-13 2 1 1 1 1 2 4 2 2 3 1 4

Total Staphylococcus aureus Bacteraemia Cases (all ages)



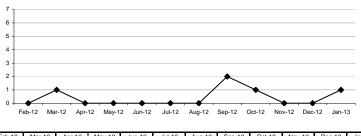
Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
1	1	0	0	0	0	0	2	2	0	0	1

MRSA Bacteraemia Cases (all ages)

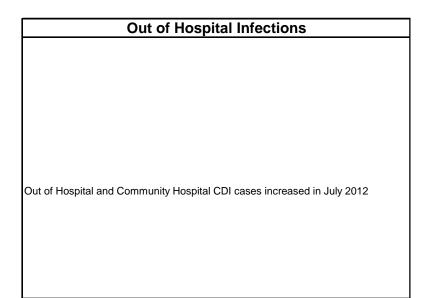


Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
1	0	0	0	0	0	0	0	1	0	0	0

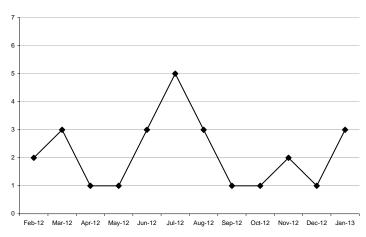
MSSA Bacteraemia Cases (all ages)



Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
0	1	0	0	0	0	0	2	1	0	0	1

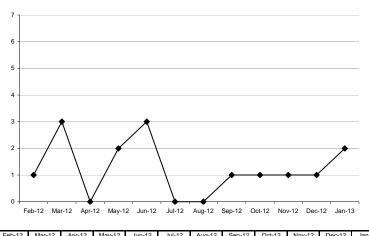


Clostridium difficile Infection Cases



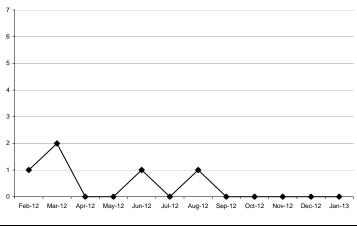
Feb-	12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
2		3	1	1	3	5	3	1	1	2	1	3

MSSA Bacteraemia Cases



Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
1	3	0	2	3	0	0	1	1	1	1	2

MRSA Bacteraemia Cases

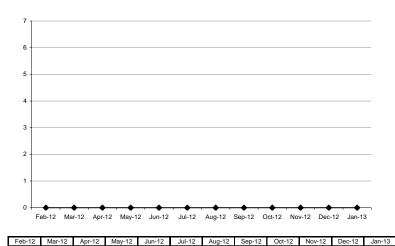


Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
1	2	0	0	1	0	1	0	0	0	0	0

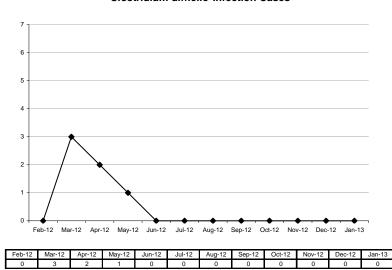
Community Hospitals

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 48 hours of admittance.

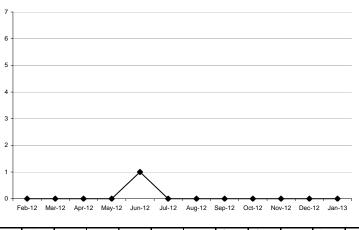
MSSA Bacteraemia Cases



Clostridium difficile Infection Cases



MRSA Bacteraemia Cases



Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13
0	0	0	0	1	0	0	0	0	0	0	0