

7.4

LOTHIAN NHS BOARD

Board Meeting
22 September 2010

Director of Public Health & Health Policy

HEALTHCARE ASSOCIATED INFECTION

1 Purpose of the Report

- 1.1 The purpose of this Report is to update the Board on progress and actions to manage and reduce Healthcare Associated Infection (HAI) across NHS Lothian. For a full report, please see the Healthcare Associated Infection Reporting Template (Appendix 1).

2 Recommendations

- 2.1 The Board is recommended to support the following activities in delivering the agenda to reduce and manage Healthcare Associated Infection:
- Maintain enhanced weekly surveillance of MRSA and MSSA Bacteraemia to target resources for a sustained reduction and continue the roll-out of the of the MRSA screening programme.
 - Accelerate the development and testing of processes and practice to prevent Healthcare Associated Infection related to central venous and peripheral cannulae as part of Scottish Patient Safety Programme (SPSP) work, along with the ongoing progression of the *Clostridium difficile* Infection (CDI) reduction programme.
 - Continuing communications to staff, patients and the public about the importance of hand hygiene,.
 - Increased compliance with best practice as recommended by the Antimicrobial Management Team.
 - Acknowledge the Healthcare Environment Inspectorate visit to St John's Hospital that took place on 19-20/8/2010. The inspection visit report will be sent to NHS Lothian on 8/9/2010 to check for factual accuracy; the completed confirmation of accuracy statement and improvement action plan are to be returned by 16/9/2010.
 - Recognise the need for ongoing work to prepare other hospitals for Healthcare Environment Inspectorate visits and to maintain standards in anticipation of unannounced Healthcare Environment Inspectorate visits.

3 Summary of the Issues

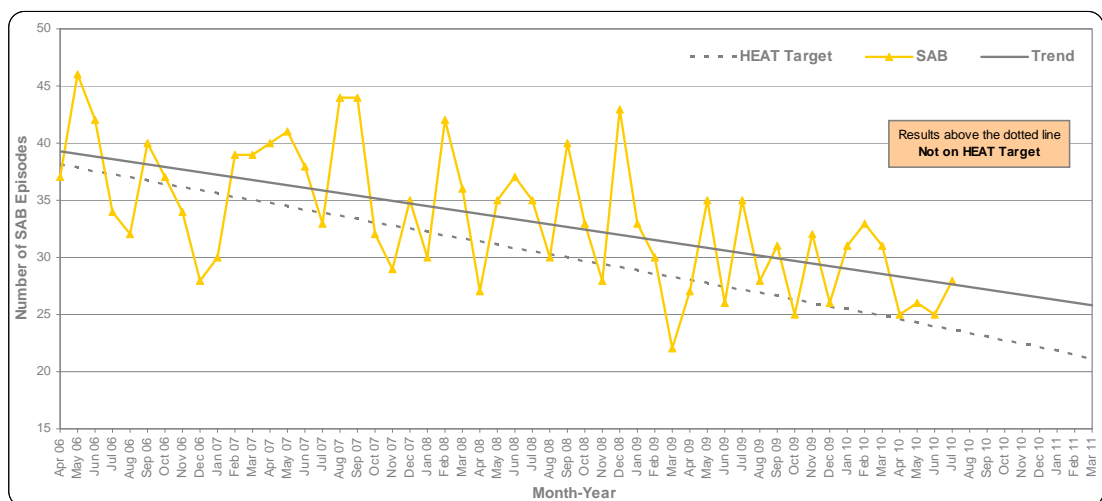
- 3.1 Targets:
- NHS Lothian's Health Improvement, Efficiency, Access and Treatment (HEAT) target for *Staphylococcus aureus* Bacteraemia (SAB) was a

40% reduction, from 498 episodes in 2005/06 to 299 episodes by March 2010. NHS Lothian's actual figure was 360 episodes, which represents a 28% reduction. MRSA was reduced from 244 episodes to 75 episodes, a reduction of 69%; MSSA remains the challenge for NHS Lothian. NHS Lothian's new Health Improvement, Efficiency, Access and Treatment target for all *Staphylococcus aureus* Bacteraemia infections is a 15% reduction based on the 2009/10 figure of 299. Thus the new target to achieve by March 2011 is 254 episodes (49%). As of July 2010 there have been 104 episodes of *Staphylococcus aureus* Bacteraemia recorded. To achieve the new target reduction by March 2011, the average for the next eight months should be no more than 18 episodes per month.

- NHS Lothian's new Health Improvement, Efficiency, Access and Treatment target for *Clostridium difficile* is a 50% reduction, based on the 2007/08 figure of 1,114. Thus the new target to be achieved by March 2011 is 557 episodes (50%). As of July 2010 there have been 143 episodes of *Clostridium difficile* in patients aged 65 or over.

3.2 *Staphylococcus aureus* Bacteraemia

- There were 28 episodes of *Staphylococcus aureus* Bacteraemia in July 2010 (9 MRSA, 20 MSSA), compared to 25 in June 2010 (9 MRSA, 16 MSSA), which is above the required trajectory. The August statistics were not available at time of writing.



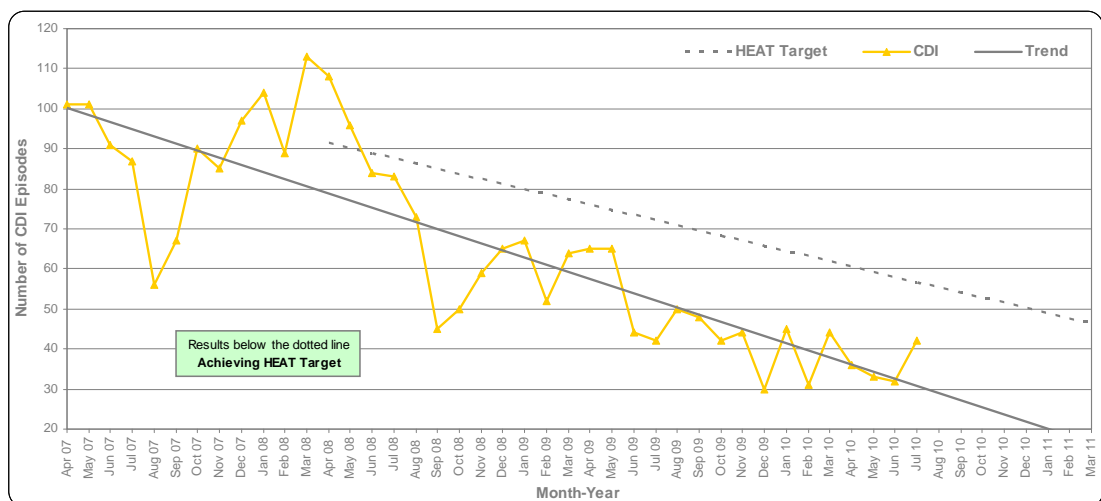
- Following a request by the Chief Nursing Officer, Health Protection Scotland and NHS Quality Improvement Service are working in partnership to assist the NHS Boards who did not achieve their *Staphylococcus aureus* Bacteraemia Health Improvement, Efficiency, Access and Treatment target for March 2010. The aim is to help and support Boards to achieve the modified target of an additional 15% reduction by March 2011. In August 2010, as NHS Lothian is not on target to meet the target, a meeting took place with key members of staff from NHS Lothian, Health Protection Scotland and NHS Quality Improvement Service. Tailored improvement support has been offered by the Quality Improvement Service; follow-up discussions to agree

support, timescales and clarity of measures to demonstrate local improvement are still to be arranged. As the result of discussion with all parties, it was agreed the priority areas for current and future actions within NHS Lothian should include:

1. Optimising invasive device use, including the insertion procedure for Peripheral Venous Cannulae and reducing the overall number of Peripheral Venous Cannulae.
2. The reduction of contaminated blood cultures from Accident and Emergency and the Medical Directorate generally. By site, almost 80% of the *Staphylococcus aureus* Bacteraemia manifested in either the Royal Infirmary of Edinburgh or the Western General Hospital. The true extent of avoidable *Staphylococcus aureus* Bacteraemia in Accident and Emergency is unknown and needs further exploration.
3. Optimising vascular access device care through reliable use of the Peripheral Venous Cannulae bundle in the surgical unit.
4. Additional data is required to identify the size of targets for *Staphylococcus aureus* Bacteraemia reduction in Accident and Emergency specifically, for example which *Staphylococcus aureus* Bacteraemia are true community, community onset-healthcare associated or contaminated blood cultures.
5. There is a need to review the process of investigating *Staphylococcus aureus* Bacteraemia and feeding back data to ensure optimal data are available on the locations where *Staphylococcus aureus* Bacteraemia manifest, as well as data on the clinical procedures which are resulting in *Staphylococcus aureus* Bacteraemia.

3.3 Clostridium difficile Infection

In July 2010 there were 42 episodes of *Clostridium difficile* Infection in patients aged 65 or over, compared to 32 episodes in patients aged 65 or over in June 2010. The August statistics were not available at time of writing.



- 3.4 Hand Hygiene
 - 3.4.1 NHS Lothian has achieved 93% compliance in the eighth bi-monthly National Hand Hygiene audits.
 - 3.4.2 Hand hygiene training and education continues to be delivered throughout all sites, with a focus on less compliant staff groups and areas. Close monitoring of local monthly hand hygiene audit feedback continues, with an increase in audit submission across all sites.
 - 3.4.3 The distribution of community hand hygiene material is complete, with additional awareness raising initiatives and education/training events being planned for the rest of this year.

- 3.5 MRSA National Screening Programme
 - 3.5.1 Since January 2010, NHS Lothian has successfully completed the roll-out of the national screening program to all wards and departments that admit within its remit. The remit covers all elective admissions within Lothian and emergency admissions to the four key areas: Dermatology, Renal, Vascular and Medicine of the Elderly.
 - 3.5.2 Screening activity: to date, NHS Lothian has screened over 7,500 patients via the national screening project, in addition to the patients that are screened via established screening practice in departments such as Orthopaedics, Vascular, Renal Burns and Respiratory. The current compliance rate is 90%, with a MRSA prevalence rate of 3.9%.

- 3.6 Domestic Services
 - 3.6.1 The Healthcare Environment Inspectorate undertook an announced visit to St John's Hospital on 19-20/8/2010. The inspection team considered that overall, the standard of cleanliness in the areas inspected was of a good standard. The inspection team commented that the documentation in use by Domestic Services was of a high standard and that the domestic staff observed at the time of the inspection were all familiar with and working to this documentation.
 - 3.6.2 Following a previous recommendation by the Healthcare Environment Inspectorate, Domestic Services have introduced a sign off procedure that allows the Senior Charge Nurse to be assured that the cleaning tasks carried out by domestic staff have been completed effectively. This is kept in the domestic staff yellow folder within the Domestic Service Room and is signed by each domestic working in the ward/department at the end of their shift and will confirm that the work has been completed as detailed in their work schedule and thorough clean rota. Work schedules and thorough clean rotas are also held in the yellow folder. There is also the opportunity on this form for the domestic to detail if there has been a problem in completing work, for example if they were unable to access a ward for a particular reason. The Charge Nurse can check this sheet at any time and will be asked for a signature at the end of the week. These have been introduced at the Western General Hospital and St. John's Hospital as a trial, which will be reviewed after a three month period; changes and amendments will be made as required before roll-out throughout Lothian.

3.7 Education

- 3.7.1 The Infection Control Team continues to implement lessons learned from attending the NHS Quality Improvement Service Infection Improvement and Implementation Programme improvement sessions.
- 3.7.2 The Mandatory Update Programme has been reviewed and is now being delivered by face to face and e-learning. Enhanced methods of how to monitor sustained compliance and staff understanding are being explored.

3.8 Antimicrobial Management Team

- 3.8.1 Production and implementation of prescribing policies/guidelines
The Antimicrobial Management Team have agreed a strategy for the review of the University Hospitals Division Antimicrobial Prescribing Guidelines, which ensured maximum input from relevant clinical teams. Updated guidelines were published on the Lothian intranet in December 2009, minimising the use of antimicrobials known to potentiate *Clostridium difficile* and included guidance on therapy duration and management of *Clostridium difficile* infection. Implementation of the new guidelines and adherence to key prescribing indicators for empirical prescribing were supported by liaison with clinical pharmacists, education session for junior clinicians delivered by Antimicrobial Management Team members, posters and credit card size aide-memoires.
- 3.8.2 Prescribing and monitoring protocols for gentamicin and vancomycin are being standardised nationally to improve patient safety. Local implementation required the development of local guideline documents and dosage calculators. The implementation of new guidelines will require extensive staff education, to include pharmacists, prescribers and other nursing staff.
- 3.8.3 Lothian Joint Formulary: the infection chapter is under review to ensure that recommended antibiotic agents are consistent (where appropriate) across primary and secondary care, bearing in mind differences between the populations.
- 3.8.4 Prescribing indicators and Empiric antibiotic prescribing indicators
Audit data for performance against the Prescribing Indicators has been supplied to relevant clinical leads for review and discussion with their teams. As this data is gathered on a monthly basis progress in achievement of improvements in performance can be readily assessed from the graphs produced. This data is now also available on the intranet and has been entered into the Institute of Healthcare Improvement extranet site so that national comparison can be made by the Scottish Antimicrobial Prescribing Group.
- 3.8.5 Surgical prophylaxis prescribing indicators
Data from Surgical Site Infection surveillance for obstetric and orthopaedic surgery and Scottish Patient Safety Programme peri-operative data for colorectal, vascular and cardiothoracic surgery has been entered into the Institute of Healthcare Improvement extranet site since April 2010. Audit data for performance against the Prescribing Indicators has been supplied to the lead surgeons of these specialties for review and discussion with their teams. It is also displayed on the

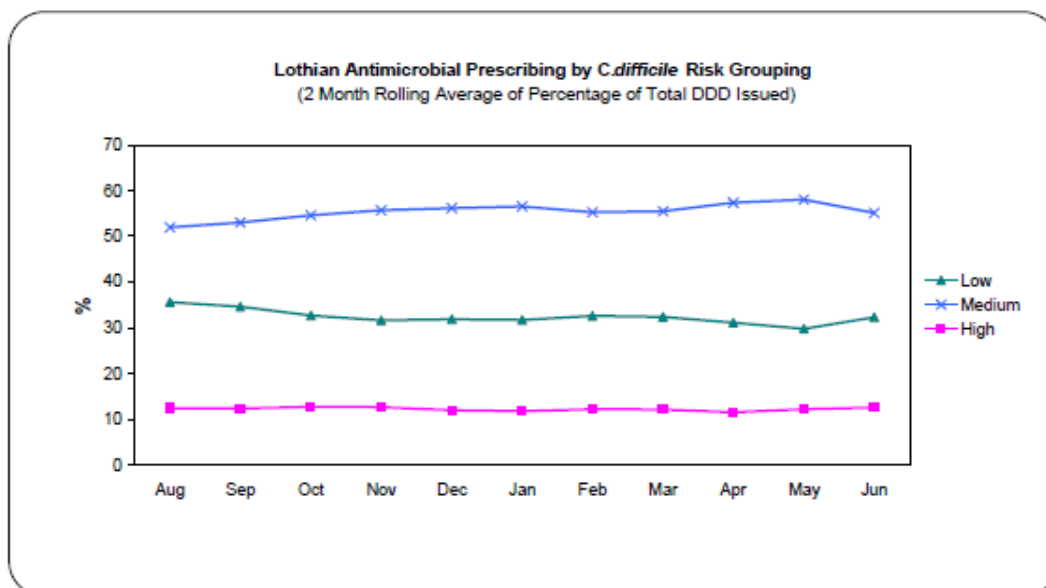
intranet. The Scottish Patient Safety Programme is working with the Scottish Antimicrobial Prescribing Group to develop a bundle for surgical prophylaxis which will incorporate collection of audit data for this Prescribing Indicator.

3.8.6 Primary care prescribing indicators

NHS Lothian continues to monitor and report the prescribing of antimicrobials in Primary Care with three existing local antibiotic prescribing indicators: total antibiotics, co-amoxiclav and quinolone prescribing. Additionally, there is the national prescribing indicator for primary care (seasonal variation in prescribing of quinolones less than 5%). For 2009-10 NHS Lothian achieved a 4% reduction in seasonal variation of quinolone prescribing, compared with 2008-09, to meet the target.

3.8.7 Audit and reporting

Reports of antimicrobial utilisation by defined daily dose per 1000 occupied bed days for key antimicrobial agents, along with infection rate data for *Clostridium difficile*, MRSA and MSSA are uploaded to the Anti Microbial Team intranet site on a quarterly basis. Audit data for prescribing indicators is also published there. Clinical teams have been informed of these reports and are expected to access and routinely discuss them. A Hospital Medicines Utilisation Database is being developed to report on top line antibiotic usage at hospital and national level. A Point Prevalence Study of antibiotic use was completed in June 2009 in one non-acute and three acute sites. Results were analysed by the Anti Microbial Team and forwarded to European Surveillance of Antimicrobial Consumption for inclusion in a European Survey of Antibiotic Prescribing. The Antimicrobial Team are to produce an action plan for a rolling programme of audits based on review of the antibiotic usage reports instead of repeating the Point Prevalence Study in June 2010. The Scottish Antimicrobial Prescribing Group produced a guidance and implementation timetable for Antimicrobial Teams for national and local surveillance of antimicrobial use and resistance.



3.8.8 Education

The Antimicrobial Management Team has delivered education programmes to non-medical prescribers on prudent antibiotic prescribing and is participating in the mandatory induction training programme for junior clinicians. Records of training activities performed by the Antimicrobial Management Team have been established. A review of antimicrobial prescribing for non-medical prescribers at undergraduate level is currently being undertaken.

3.9 Healthcare Environment Inspectorate

3.9.1 The focus of the Healthcare Environment Inspectorate is reducing Healthcare Associated Infection risk to patients through rigorous inspection framework.

3.9.2 The sixteen week follow up action plan for the Western General Hospital was submitted to the Healthcare Environment Inspectorate as requested on 13/8/2010.

3.9.3 The announced visit took place at St John's Hospital on 19-20/8/2010. The wards that were inspected included Wards 8, 11, 19a, 20, 21, 25, Accident and Emergency, Physiotherapy, Radiology and Out Patients 3, although the Public Representative visited many other areas.

3.9.4 The general overall feedback from the Inspection Team was they were satisfied with the standards at St John's Hospital and found evidence that NHS Lothian is complying with the majority of the key Healthcare Associated Infection Standards to protect patients, staff and visitors from the risk of acquiring infection. It was noted that there were areas where attention to detail could further improve standards, which will be highlighted in the inspection visit report and the subsequent NHS Lothian action plan.

4 Impact on Health Inequalities

4.1 Infection with the organisms used as markers for Healthcare Associated Infection is more common in patients with co-morbidities, diabetes and alcohol problems. As these are socio-economically patterned, reducing the burden of Healthcare Associated Infection will reduce the excess burden of avoidable disease in patients from these groups.

5 Resource Implications

5.1 The excess cost of each episode of *Staphylococcus aureus* Bacteraemia and *Clostridium difficile* infection lies between £4,000-£15,000. This is made up of the excess length of stay and additional treatment required.

Rona Broom

Acting Head of Service, Infection Control

NHS Lothian

7 September 2010

List of Appendices

Appendix 1: NHS Lothian's Healthcare Associated Infection Reporting
Template June 2010

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 2010 Report

NHS Lothian achieved a 69% reduction in Meticillin Resistant *Staphylococcus aureus* (MRSA) bacteraemia by March 2010. The overall *S. aureus* bacteraemia (SAB) reduction was 28%. During July 2010 there were 28 episodes of SAB recorded in NHS Lothian (8 MRSA, 20 MSSA).

NHS Lothian achieved a 51% reduction in *Clostridium difficile* Infection (CDI) which was 31% above the set target by March 2010. There were 42 episodes of CDI in patients aged 65 or over in July 2010, compared to 32 episodes in June 2010 in patients aged 65 or over.

***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 *S. aureus* (MSSA), but the more well known is Meticillin Resistant *S. aureus* (MRSA), 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 obtained from:

S. aureus www.nhs24.com/content/default.asp?page=s5_4&articleID=346

MRSA www.nhs24.com/content/default.asp?page=s5_4&articleID=252

NHS Boards carry out surveillance of *S. aureus* isolated from a Patients blood sample. These infections are referred to as a *S. aureus* Bacteraemia (SAB). These are a serious form of infection and there is a national target to reduce them. The number of patients with SAB caused by MSSA and MRSA 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 SAB can be obtained from:

www.hps.scot.nhs.uk/haic/sshaip/publicationsdetail.aspx?id=30248

There were 28 episodes of SAB (8 MRSA, 20 MSSA) recorded in July 2010 compared to 25 episodes (9 MRSA, 16 MSSA) in June 2010. NHS Lothian's HEAT target for SAB was a 40% reduction from 498 episodes in 2005/06 to 299 episodes by March 2010. NHS Lothian's actual figure was 360 episodes. This represents a 28% reduction which was 12% short of the target. MRSA was reduced from 244 episodes to 75 episodes, a reduction of 69%. MSSA remains the challenge for NHS Lothian. NHS Lothian's new HEAT target is a 15% reduction based on the 2009/10 figure of 299. Thus the new target to achieve by March 2011 is 254 episodes.

As of July 2010 there have been 104 episodes of *Staphylococcus aureus* bacteraemia recorded. To achieve the new target reduction by March 2011, the average for the next eight months should be no more than 18 episodes.

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 obtained from:

www.nhs.uk/conditions/Clostridium-difficile/Pages/Introduction.aspx

NHS Boards carry out surveillance of *C. difficile* Infection (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 CDI can be obtained from:

www.hps.scot.nhs.uk/haic/sshaip/ssdetail.aspx?id=277

Lothian initial HEAT target for CDI was a minimum 30% reduction by March 2011. At the end of year two, the final figure recorded was 550 episodes, a reduction of 51%. NHS Lothian's new HEAT target is a 50% reduction based on the 2007/08 figure of 1114. Thus the new target to be achieved by March 2011 is 557 episodes.

There were 42 episodes of CDI in patients aged 65 or over in July 2010, compared to 32 episodes in June 2010 in patients aged 65 or over. As of July 2010 NHS Lothian has recorded 143 episodes of CDI in patients aged 65 or over.

The annual incidence rate in Scotland is 0.71 cases of CDI per 1000 total Occupied Bed Days (OCBDs). NHS Lothian annual incidence is reported by HPS as just above the national average at 0.74.

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 obtained from:

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 obtained from:

www.hps.scot.nhs.uk/haic/ic/nationalhandhygienecampaign.aspx

The 8th Bi-monthly National Hand Hygiene audits indicate that NHS Lothian is achieving a 93% compliance with hand hygiene.

Hand hygiene education and training continues to be delivered across NHS Lothian with a focus on less compliant staff groups and areas. Close monitoring of local monthly hand hygiene audit feedback continues with an increase in audit submission across all sites.

Distribution of community hand hygiene materials is complete with additional awareness raising initiatives and education/training events being planned for the rest of this year.

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 obtained from:

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 obtained from:

www.nhshealthquality.org/nhsqis/6710.140.1366.html

The Healthcare Environment Inspectorate (HEI) undertook an announced visit to the St Johns on 19th & 20th August 2010.

The wards that were inspected included Wards 8, 11, 19a, 20, 21, 25, Accident and Emergency, Physiotherapy, Radiology, Out Patients 3, although the Public Representative visited many other areas.

The general overall feedback from the Inspection Team was they were satisfied with the standards at St Johns Hospital and found evidence that NHS Lothian is complying with the majority of the key Healthcare Associated Infection Standards to protect patients, staff and visitors from the risk of acquiring infection – one area was identified as having concerns and this is being addressed. It was noted that there were areas where attention to detail could further improve standards, which will be highlighted in the Report and the subsequent Action Plan.

The draft report is expected on the 8th September 2010.

Following a previous recommendation by the HEI team, Domestic Services have introduced a sign off procedure that allows the Senior Charge Nurse to be assured that the cleaning tasks carried out by domestic staff have been completed effectively. This is kept in the domestic staff yellow folder within the DSR and is signed by each domestic working in the ward/department at the end of their shift and will confirm that the work has been completed as detailed in their work schedule and thorough clean rota. Work schedules and thorough clean rotas are also held in the yellow folder.

There is also the opportunity on this form for the domestic to detail if there has been a problem in completing work e.g. unable to access a ward for a particular reason.

The Charge Nurse can check this sheet at any time and will be asked for a signature at the end of the week.

These have been introduced at the WGH & St. Johns as a trial with changes/amendments being made as required before role out throughout Lothian.

Outbreaks

Norovirus

A point prevalence report is submitted weekly to Health Protection Scotland and published on their website. Within NHS Lothian the first case of Norovirus outbreak for season 2009-2010 was recorded at RHSC during September 2009.

To date there have been 229 incidents of gastro-enteritis investigated in NHS Lothian. Of these, Norovirus has been confirmed in 181 (79%) of the incidents by the Virology laboratory. In the remaining 48 (21%) the cause was not identified. This was either due to Norovirus not being detected or no samples received from affected Patients.

Other HAI Activity

Education

The Infection Control Team continues to implement lessons learned from attending the NHS QIS Infection Improvement and Implementation Programme (iiiP) improvement sessions.

The Mandatory Update Programme has been reviewed and is now being delivered by face to face and e-learning. Enhanced methods of how to monitor sustained compliance and staff understanding are being explored.

Antimicrobial Management Team (AMT)

Production and implementation of prescribing policies/guidelines

The Antimicrobial Management Team have agreed a strategy for the review of the University Hospitals Division (UHD) Antimicrobial Prescribing Guidelines (APG), which ensured maximum input from relevant clinical teams. Updated guidelines were published on the Lothian intranet in December 2009, minimising the use of antimicrobials known to potentiate *Clostridium difficile*, and included guidance on therapy duration and management of *Clostridium difficile* infection. Implementation of the new guidelines and adherence to key prescribing indicators for empirical prescribing were supported by liaison with clinical pharmacists, education session for junior clinicians delivered by Antimicrobial Management Team members, posters and credit card size aide-memoires.

Prescribing and monitoring protocols for gentamicin and vancomycin are being standardised nationally to improve patient safety. Local implementation required the development of local guideline documents and dosage calculators. The implementation of new guidelines will require extensive staff education, to include pharmacists, prescribers and other nursing staff.

Lothian Joint Formulary (LJF): the infection chapter is under review to ensure that recommended antibiotic agents are consistent (where appropriate) across primary and secondary care, bearing in mind differences between the populations.

Prescribing indicators (PI) and

➤ **Empiric antibiotic prescribing indicators**

Audit data for performance against the Prescribing Indicators has been supplied to relevant clinical leads for review and discussion with their teams. As this data is gathered on a monthly basis progress in achievement of improvements in performance can be readily assessed from the graphs produced. This data is now also available on the intranet and has been entered into the Institute of Healthcare Improvement (IHI) extranet site so that national comparison can be made by the Scottish Antimicrobial Prescribing Group (SAPG).

➤ **Surgical prophylaxis prescribing indicators**

Data from Surgical Site Infection (SSI) surveillance for obstetric and orthopaedic surgery and Scottish Patient Safety Programme peri-operative data for colorectal, vascular and cardiothoracic surgery has been entered into the Institute of Healthcare Improvement extranet site since April 2010. Audit data for performance against the Prescribing Indicators has been supplied to the lead surgeons of these specialties for review and discussion with

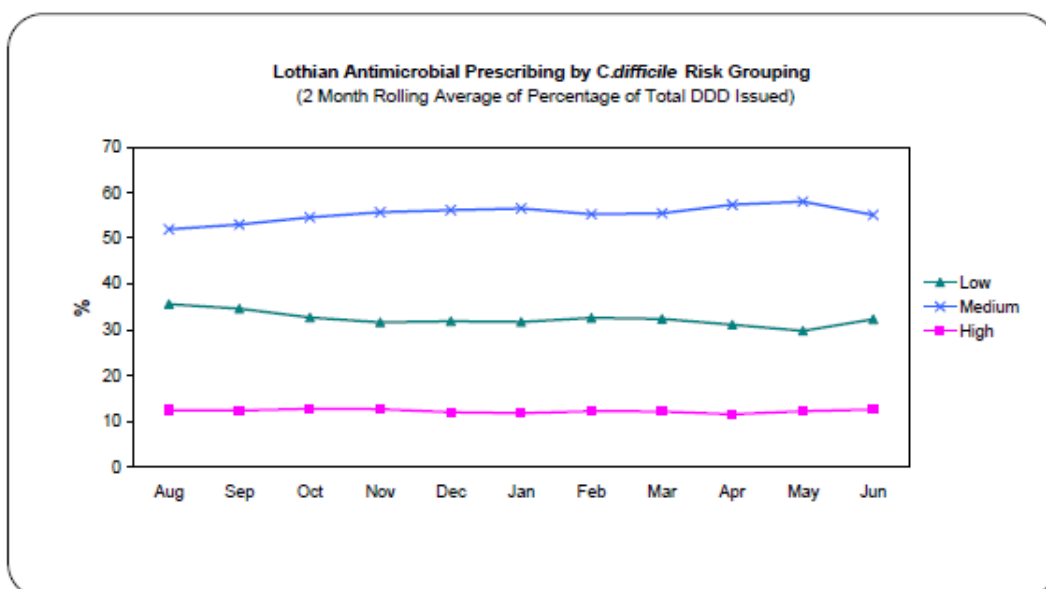
their teams. It is also displayed on the intranet. The Scottish Patient Safety Programme is working with the Scottish Antimicrobial Prescribing Group to develop a bundle for surgical prophylaxis which will incorporate collection of audit data for this Prescribing Indicator.

➤ **Primary care prescribing indicators**

NHS Lothian continues to monitor and report the prescribing of antimicrobials in Primary Care with three existing local antibiotic prescribing indicators: total antibiotics, co-amoxiclav and quinolone prescribing. Additionally, there is the national prescribing indicator for primary care (seasonal variation in prescribing of quinolones less than 5%). For 09/10 NHS Lothian achieved a 4% reduction in seasonal variation of quinolone prescribing compared with 08/09 to meet the target.

Audit and reporting

Reports of antimicrobial utilisation by DDD (Defined Daily Dose) per 1000 occupied bed days for key antimicrobial agents, along with infection rate data for *Clostridium difficile*, MRSA and MSSA are uploaded to the Anti Microbial Team intranet site on a quarterly basis. Audit data for prescribing indicators is also published there. Clinical teams have been informed of these reports and are expected to access and routinely discuss them. A Hospital Medicines Utilisation Database (HMUD) is being developed to report on top line antibiotic usage at hospital and national level. A Point Prevalence Study (PPS) of antibiotic use was completed in June 2009 in one non-acute and three acute sites. Results were analysed by the Anti Microbial Team and forwarded to European Surveillance of Antimicrobial Consumption (ESAC) for inclusion in a European Survey of Antibiotic Prescribing. The Antimicrobial Team are to produce an action plan for a rolling programme of audits based on review of the antibiotic usage reports instead of repeating the Point Prevalence Study in June 2010. The Scottish Antimicrobial Prescribing Group produced a guidance and implementation timetable for Antimicrobial Teams for national and local surveillance of antimicrobial use and resistance.



Education

The Antimicrobial Management Team has delivered education programmes to non-medical prescribers on prudent antibiotic prescribing and is participating in the mandatory induction training programme for junior clinicians. Records of training activities performed by the Antimicrobial Management Team have been established. A review of antimicrobial prescribing for non-medical prescribers at undergraduate level is currently being undertaken.

Scottish Patient Safety Programme (SPSP)

SAB reductions are being targeted through the 'Model for Improvement' and local ownership of compliance with 3 care bundles in particular:

- Central Venous Cannula (CVC) insertion
- Central Venous Cannula (CVC) maintenance bundle, and latterly
- Peripheral Vascular Cannula (PVC) bundle compliance.

Central Line Blood Stream Infection at WGH ITU is now at over 360 days since last infection.

NHS Lothian had a meeting with Health Protection Scotland (HPS) and NHS Quality Improvement Service (NHS QIS) to investigate how to reduce the number of SAB episodes. This meeting helped raise questions and identify areas which required further work, as well as giving support to help achieve this.

Work is ongoing with Theatres to ensure increased compliance with the CVC insertion bundle, through use of visual reminders of stickers or working towards having the documentation of the care bundle embedded in next revision of their standard documentation.

The CDI toolkit is being implemented and monitored across increasing numbers of clinical areas.

There has been national work with HPS in coordinating the Hand Hygiene audits for compliance with opportunities taken and technique used - NHS Lothian already incorporates the majority of these aspects in its audit tool.

MRSA National Screening Programme

Since January 2010 NHS Lothian has successfully completed the roll-out of the national screening program to all wards and departments that admit within its remit. The remit covers all elective admissions within Lothian and emergency admissions to the four key areas: Dermatology, Renal, Vascular and Medicine of the Elderly.

Screening activity: to date, NHS Lothian has screened over 7,500 patients via the national screening project, in addition to the patients that are screened via established screening practice in departments such as Orthopaedics, Vascular, Renal Burns and Respiratory. The current compliance rate is 90%, with a MRSA prevalence rate of 3.9%.

NHS Lothian

CDI Fluctuate but show signs of declining compared to Sep 2009 figures.

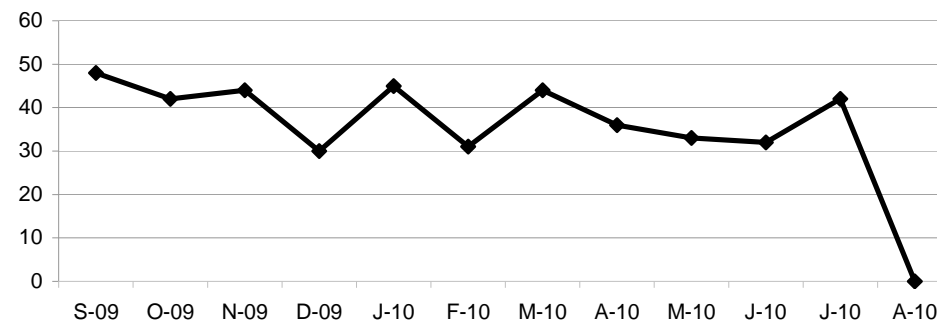
SAB Continue to fluctuate and are predominately due to MSSA.

CDI HEAT Target For NHS Lothian is 557 episodes in patients aged 65 or over by March 2011. This represents a 50% reduction from 2007-2008 figures. As of July 2010 NHS Lothians has recorded a total of 143 episodes.

SAB HEAT Target For NHS Lothian is 254 episodes by March 2011. This represents a 49% reduction from 2005-2006 figures. As of July 2010 NHS Lothian has recorded a total of 104 episodes.

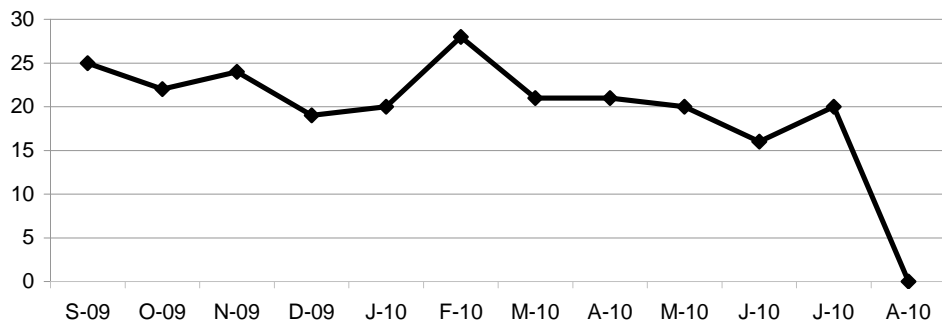
Data for August 2010 is not available until after 15th September 2010.

Clostridium difficile Infection



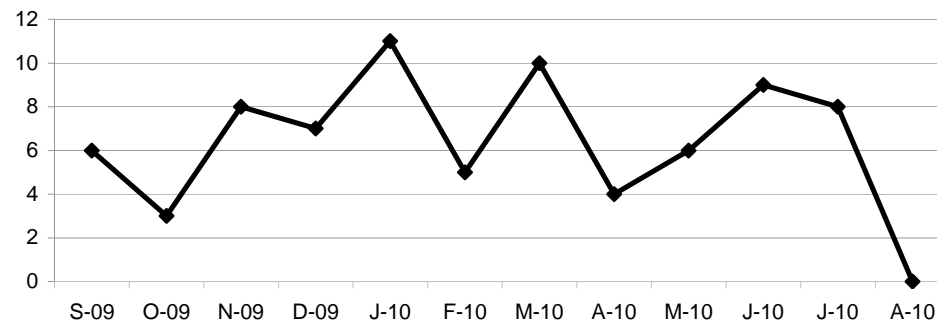
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
48	42	44	30	45	31	44	36	33	32	42	NA

MSSA Bacteraemia



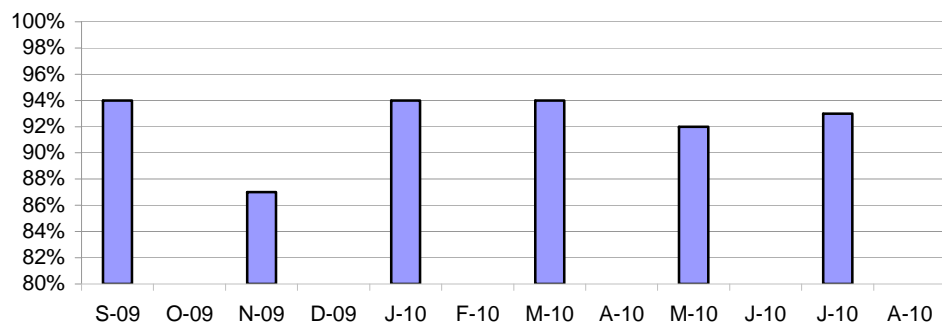
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
25	22	24	19	20	28	21	21	20	16	20	NA

MRSA Bacteraemia



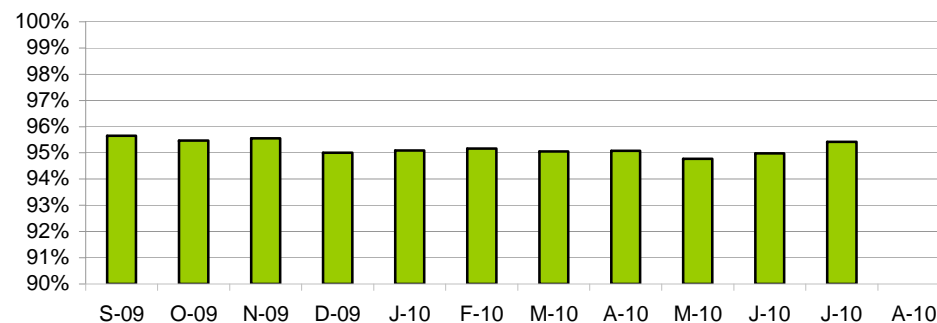
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
6	3	8	7	11	5	10	4	6	9	8	NA

Hand Hygiene Compliance



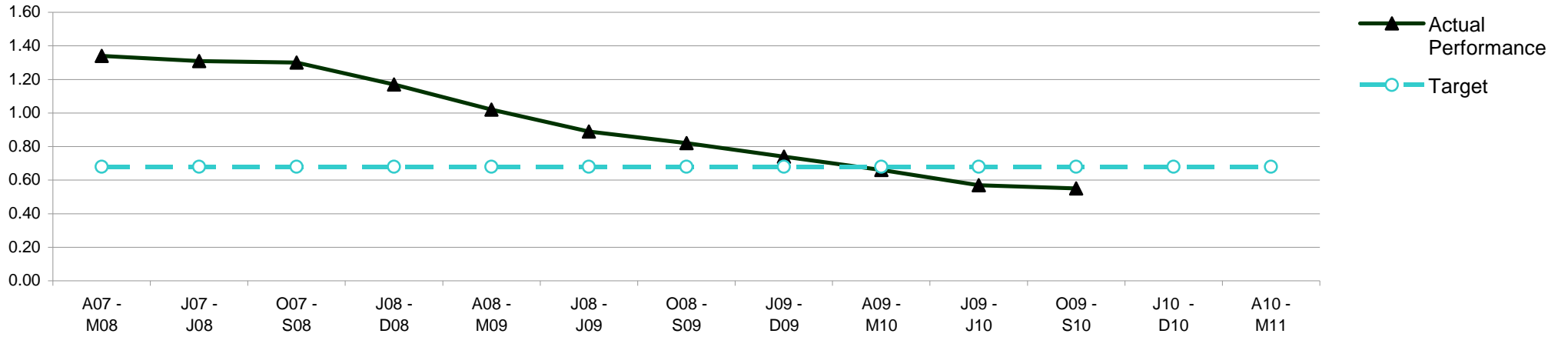
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
94%	NA	87%	NA	94%	NA	94%	NA	92%	NA	93%	NA

Cleaning Compliance



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
96%	95%	96%	95%	95%	95%	95%	95%	95%	95%	95%	NA

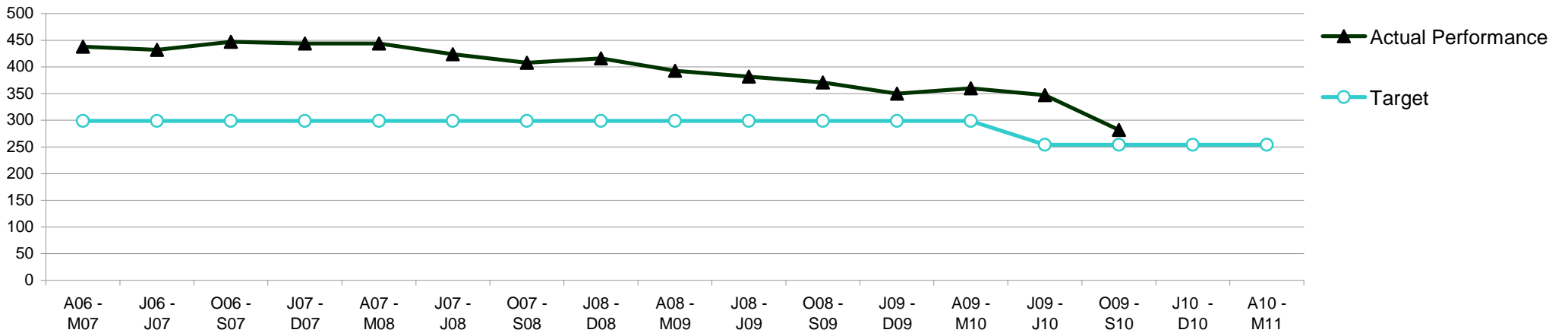
Quarterly Rolling Year *Clostridium difficile* Infection Cases per 1000 Total Occupied Bed Days for HEAT Target Measurement



* Data for period O09-S10 is incomplete.

	A07 - M08	J07 - J08	O07 - S08	J08 - D08	A08 - M09	J08 - J09	O08 - S09	J09 - D09	A09 - M10	J09 - J10	O09 - S10	J10 - D10	A10 - M11
Actual Performance	1.34	1.31	1.30	1.17	1.02	0.89	0.82	0.74	0.66	0.57	0.55		
Target	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68

Quarterly Rolling Year *Staphylococcus aureus* Bacteraemia Cases for HEAT Target Measurement



* Data for period O09-S10 is incomplete.

	A06 - M07	J06 - J07	O06 - S07	J07 - D07	A07 - M08	J07 - J08	O07 - S08	J08 - D08	A08 - M09	J08 - J09	O08 - S09	J09 - D09	A09 - M10	J09 - J10	O09 - S10	J10 - D10	A10 - M11
Actual Performance	438	432	447	444	444	424	408	416	393	382	371	350	360	347	282		
Target	299	299	299	299	299	299	299	299	299	299	299	299	299	254	254	254	254

Healthcare Associated Infection Reporting Template (HAIRT)

Section 2 – Healthcare Associated Infection Report Cards

The following section is a series of 'Report Cards' for the Royal Infirmary of Edinburgh, Western General Hospital, St Johns Hospital, Liberton Hospital, Royal Hospital for Sick Children and the Royal Victoria Hospital. In addition, information is provided for the Community Hospitals in NHS Lothian.

The 'Report Cards' report on the number of cases of *Clostridium difficile* Infection (CDI) and *Staphylococcus aureus* Bacteraemia (SAB) together with the cleaning compliance.

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

CDI and SAB cases are presented for each hospital, broken down by month. Cases of SAB are further broken down into Meticillin Sensitive *S. aureus* (MSSA) and Meticillin Resistant *S. 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:

C. difficile www.nhs24.com/content/default.asp?page=s5_4&articleID=2139§ionID=1

S. aureus www.nhs24.com/content/default.asp?page=s5_4&articleID=346

MRSA www.nhs24.com/content/default.asp?page=s5_4&articleID=252§ionID=1

For each acute hospital, the cases per 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

NHS Lothian does not have data Hand Hygiene Compliance data for individual hospitals. Please see the NHS Lothian summary in Section 1 – Board Wide Issues.

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 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'

CDI and SAB 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, hospices 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.

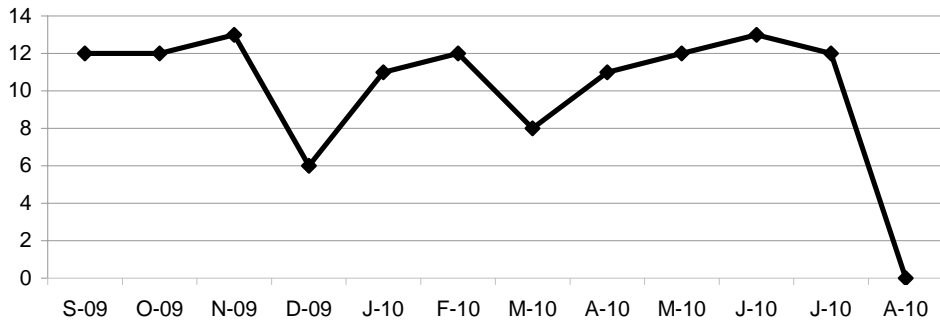
Royal Infirmary of Edinburgh

CDI During July 2010 there was an increase in Patients aged 65 or over where 18 cases were recorded.

SAB Continue to vary month by month. Cases of MSSA Bacteraemia peaked in November 2009 and June 2010 with 13 being recorded. Cases of MRSA Bacteraemia peaked in January 2010 and June 2010 with 7 and 6 being recorded.

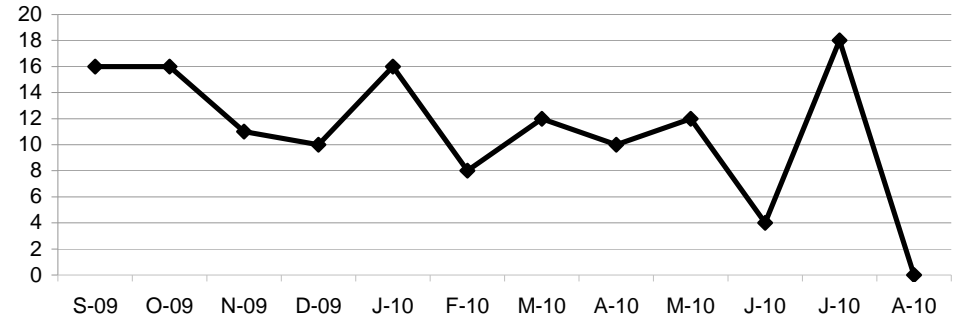
Data for August 2010 is not available until after 15th September 2010.

MSSA Bacteraemia



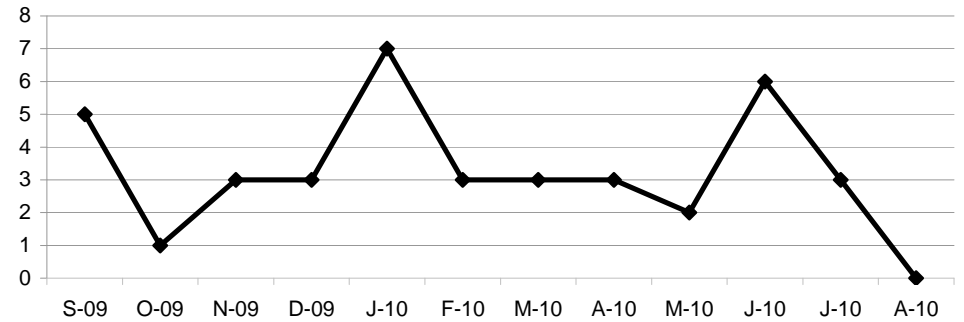
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
12	12	13	6	11	12	8	11	12	13	12	NA

Clostridium difficile Infection



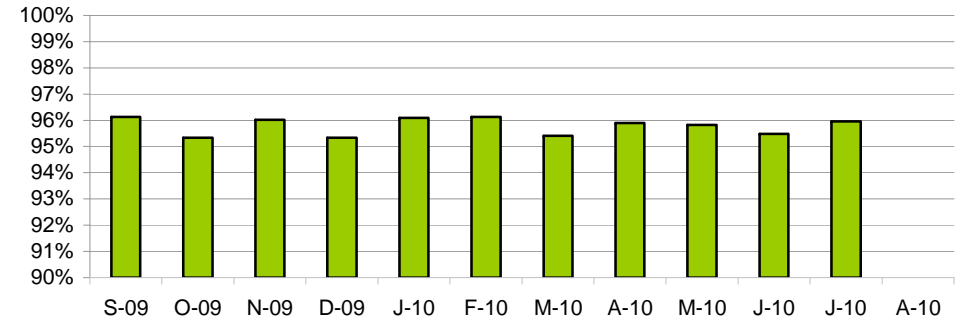
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
16	16	11	10	16	8	12	10	12	4	18	NA

MRSA Bacteraemia



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
5	1	3	3	7	3	3	3	2	6	3	NA

Cleaning Compliance



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
96%	95%	96%	95%	96%	96%	95%	96%	96%	95%	96%	NA

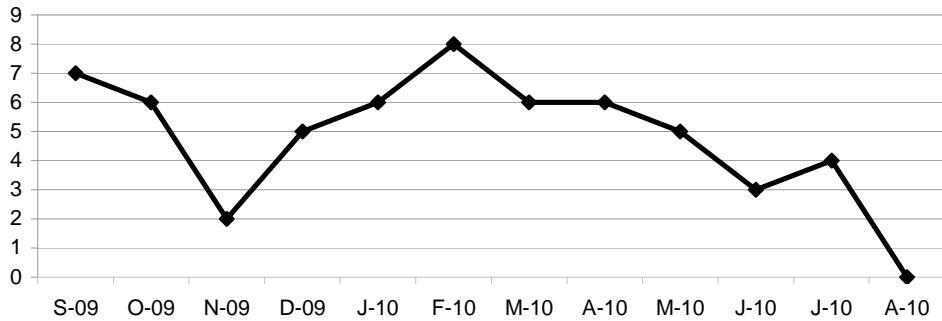
Western General Hospital

CDI Since April there has been a steady decline of CDI in Patients aged 65 or over. The highest number recorded in the last 12-month period was January 2010.

SAB Since February 2010 cases of MSSA Bacteraemia have been showing signs of decline. Cases of MRSA Bacteraemia peaked in July 2010 with 4 cases being recorded.

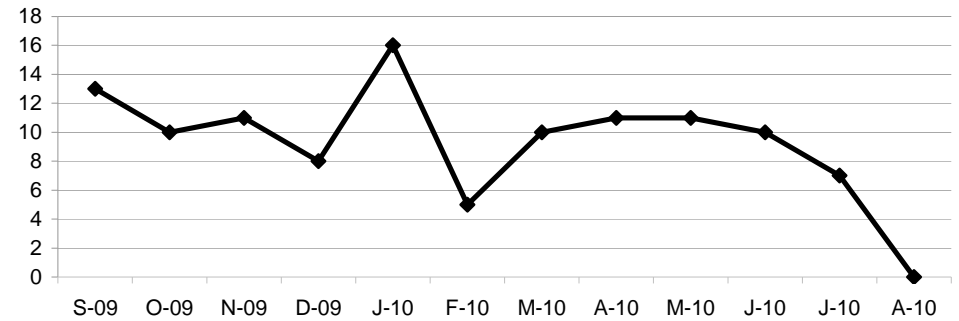
Data for August 2010 is not available until after 15th September 2010.

MSSA Bacteraemia



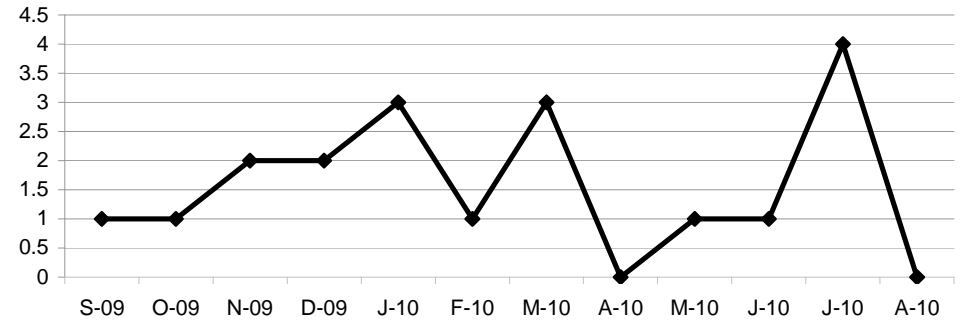
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
7	6	2	5	6	8	6	6	5	3	4	NA

Clostridium difficile Infection



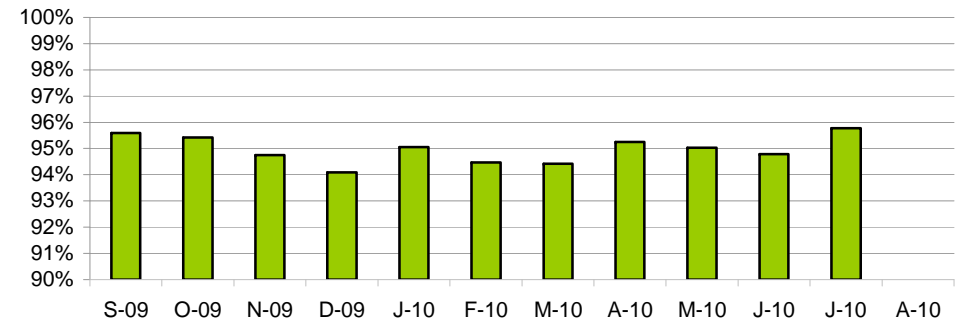
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
13	10	11	8	16	5	10	11	11	10	7	NA

MRSA Bacteraemia



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
1	1	2	2	3	1	3	0	1	1	4	NA

Cleaning Compliance



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
96%	95%	95%	94%	95%	94%	94%	95%	95%	95%	96%	NA

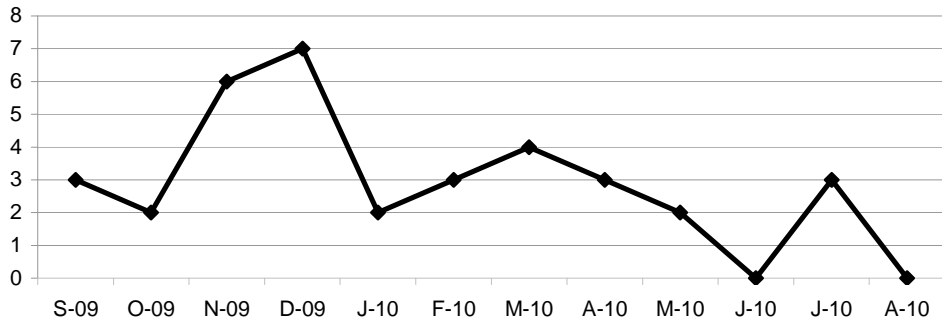
St Johns Hospital

CDI Cases started to increase during February 2010 to March 2010, however, would now appear to be decreasing.

SAB Both MSSA and MRSA Bacteraemia show signs of decreasing since peaking in December 2009 for MSSA Bacteraemia and March 2010 for MRSA Bacteraemia .

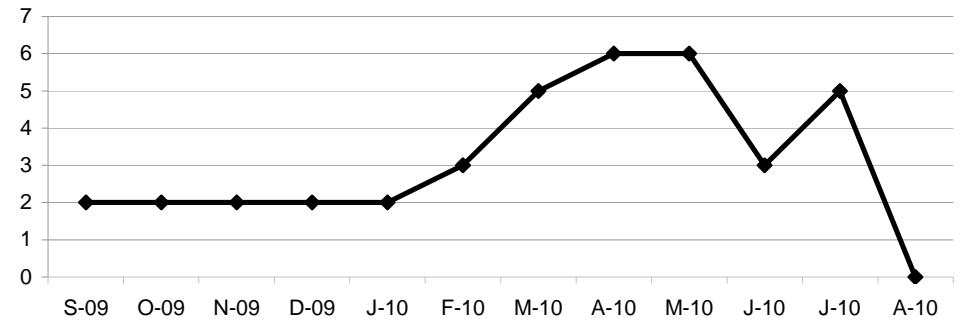
Data for August 2010 is not available until after 15th September 2010.

MSSA Bacteraemia



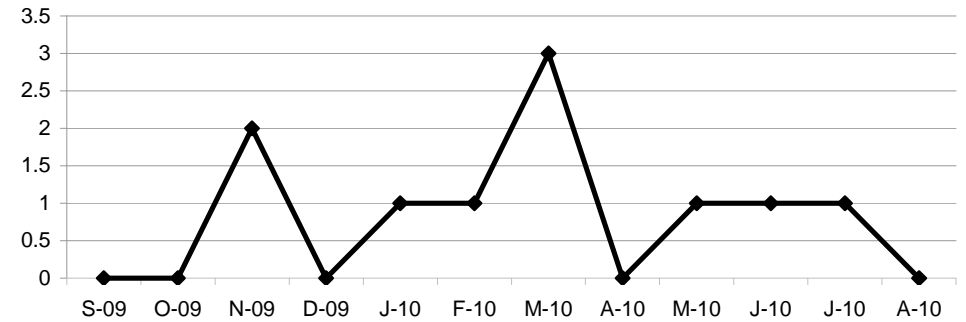
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
3	2	6	7	2	3	4	3	2	0	3	NA

Clostridium difficile Infection



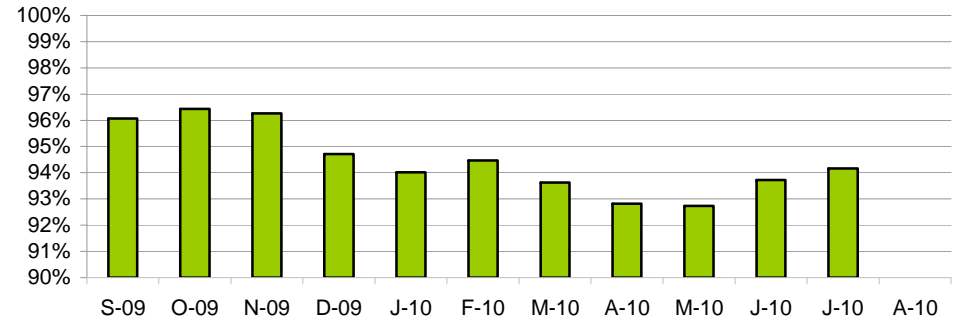
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
2	2	2	2	2	3	5	6	6	3	5	NA

MRSA Bacteraemia



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
0	0	2	0	1	1	3	0	1	1	1	NA

Cleaning Compliance



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
96%	96%	96%	95%	94%	94%	94%	93%	93%	94%	94%	NA

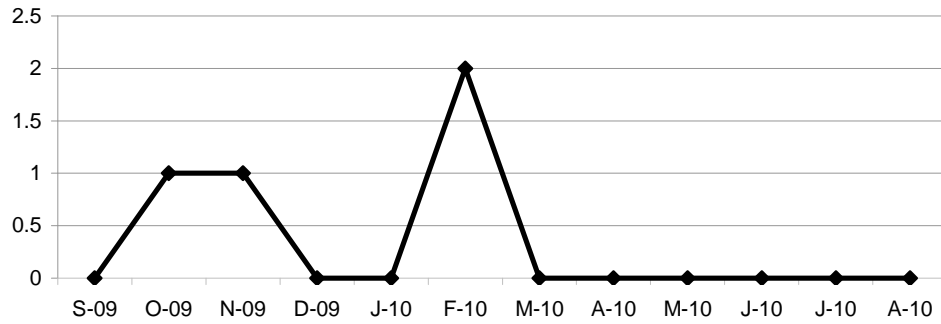
Liberton Hospital

CDI There have been no cases recorded since March 2010.

SAB There have not been any cases of MSSA Bacteraemia since February 2010 and no cases of MRSA Bacteraemia since June 2010.

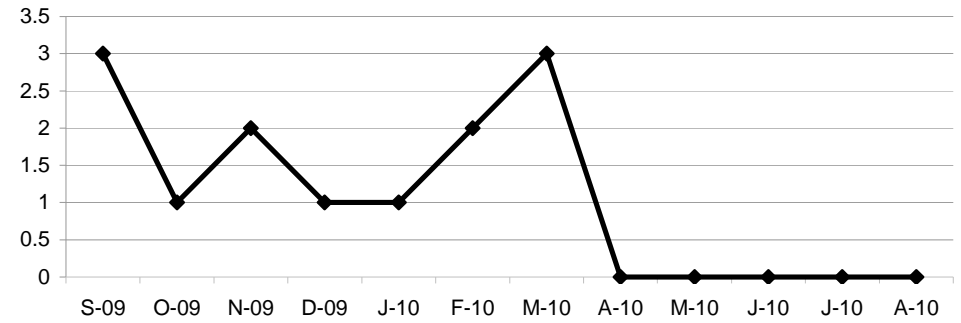
Data for August 2010 is not available until after 15th September 2010.

MSSA Bacteraemia



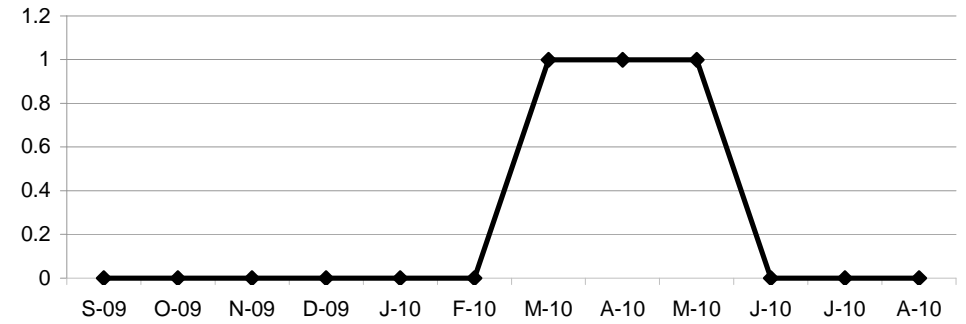
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
0	1	1	0	0	2	0	0	0	0	0	NA

Clostridium difficile Infection



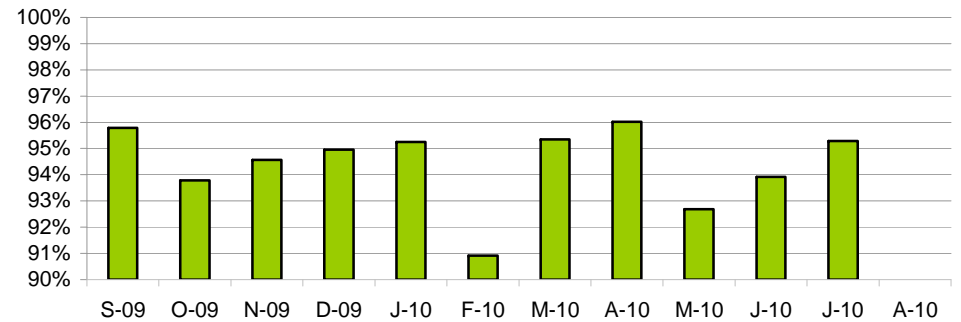
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
3	1	2	1	1	2	3	0	0	0	0	NA

MRSA Bacteraemia



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
0	0	0	0	0	0	1	1	1	0	0	NA

Cleaning Compliance



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
96%	94%	95%	95%	95%	91%	95%	96%	93%	94%	95%	NA

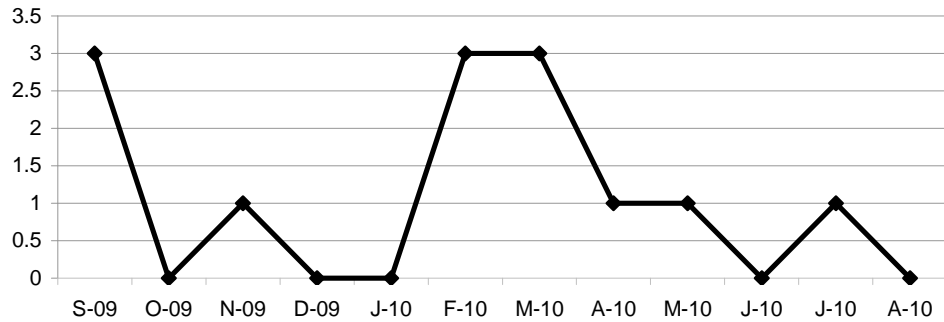
Royal Hospital for Sick Children

CDI Are not recorded in Patients under 65 years old.

SAB There have been 13 cases of MSSA Bacteraemia during the last 12 month period. During the same period, there have been no cases of MRSA Bacteraemia.

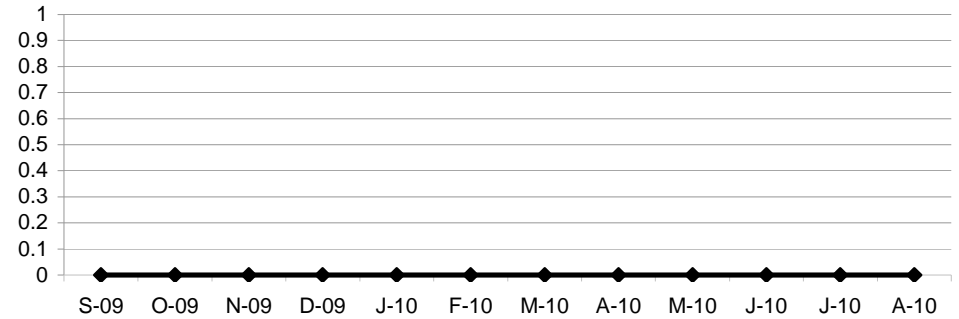
Data for August 2010 is not available until after 15th September 2010.

MSSA Bacteraemia



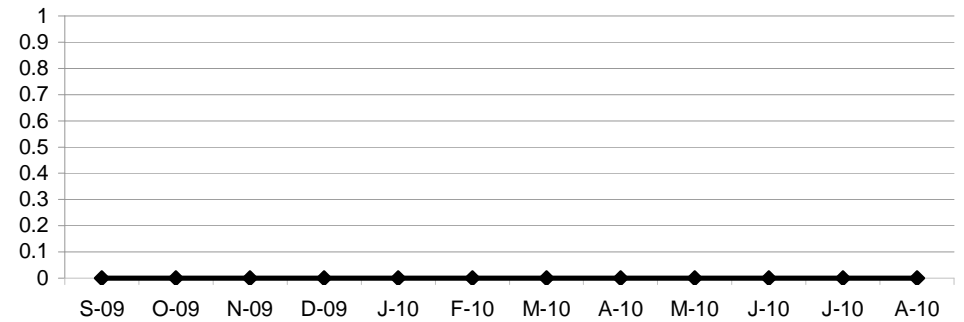
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
3	0	1	0	0	3	3	1	1	0	1	NA

Clostridium difficile Infection



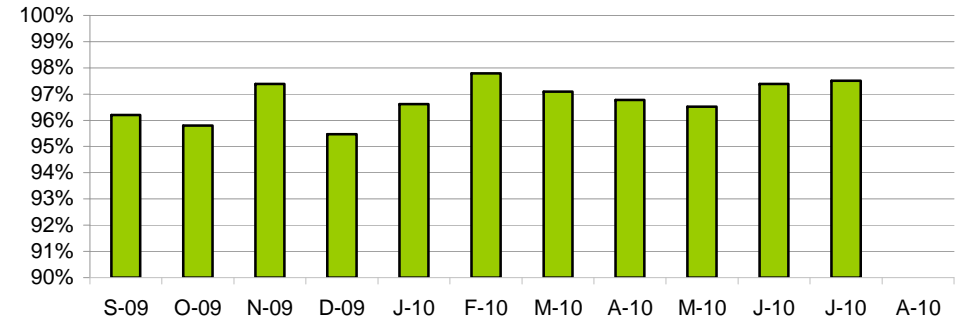
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
0	0	0	0	0	0	0	0	0	0	0	NA

MRSA Bacteraemia



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
0	0	0	0	0	0	0	0	0	0	0	NA

Cleaning Compliance



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
96%	96%	97%	95%	97%	98%	97%	97%	97%	97%	98%	NA

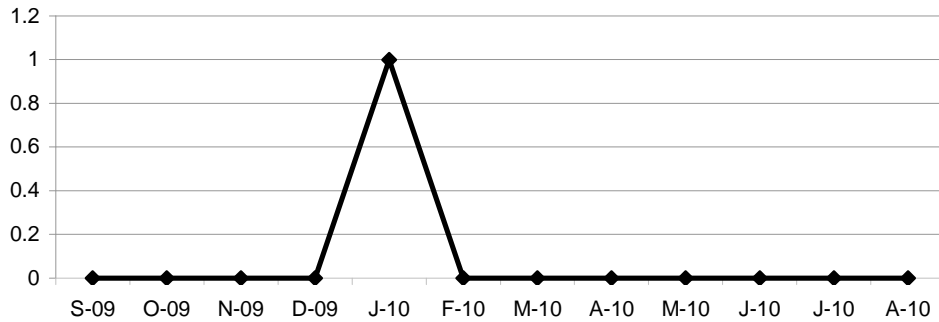
Royal Victoria Hospital

CDI Cases peaked in February 2010 with 7 Patients affected. Since then, CDI has continued to reduce and no cases were recorded in July 2010.

SAB There has only been 1 case of MSSA Bacteraemia and 3 cases of MSSA Bacteraemia during the last 12 months.

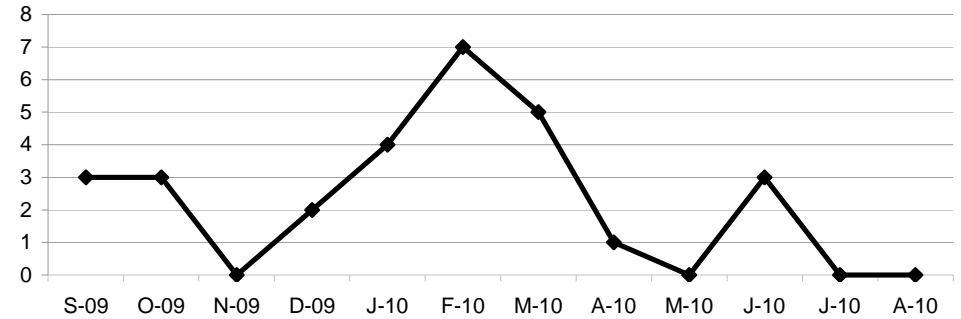
Data for August 2010 is not available until after 15th September 2010.

MSSA Bacteraemia



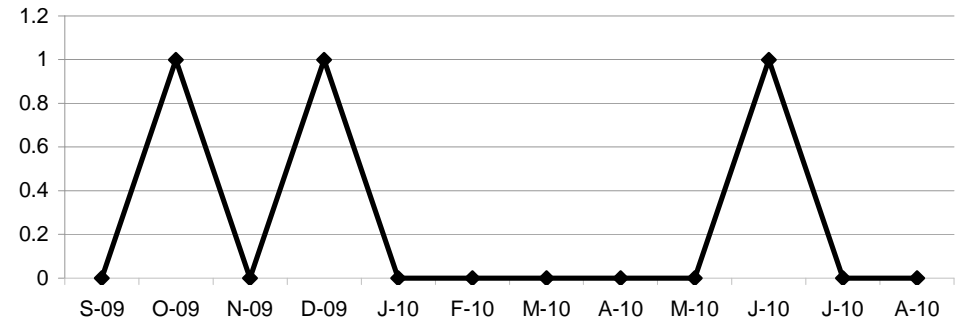
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
0	0	0	0	1	0	0	0	0	0	0	NA

Clostridium difficile Infection



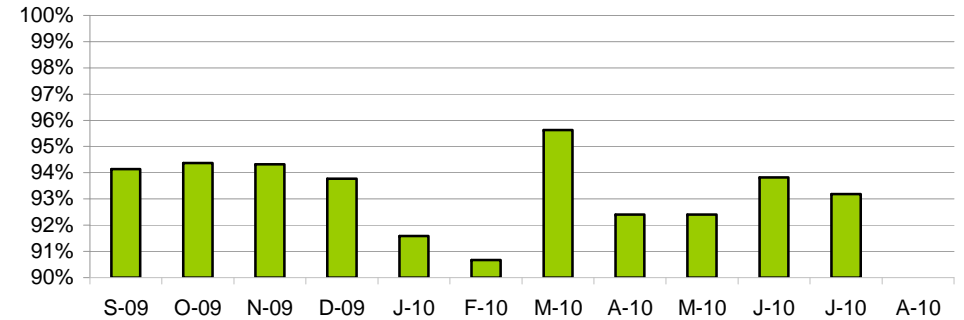
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
3	3	0	2	4	7	5	1	0	3	0	NA

MRSA Bacteraemia



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
0	1	0	1	0	0	0	0	0	1	0	NA

Cleaning Compliance



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
94%	94%	94%	94%	92%	91%	96%	92%	92%	94%	93%	NA

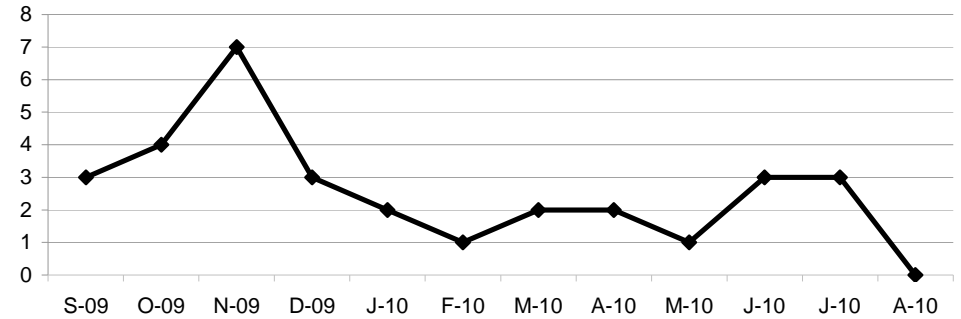
Community Hospitals

CDI Cases peaked in November 2009 with 7 Patients affected. Since then, CDI has continued to decline. There were 3 cases recorded in July 2010.

SAB There have been no cases of MSSA Bacteraemia since December 2009. To date there has only been a single case of MRSA Bacteraemia during 2010.

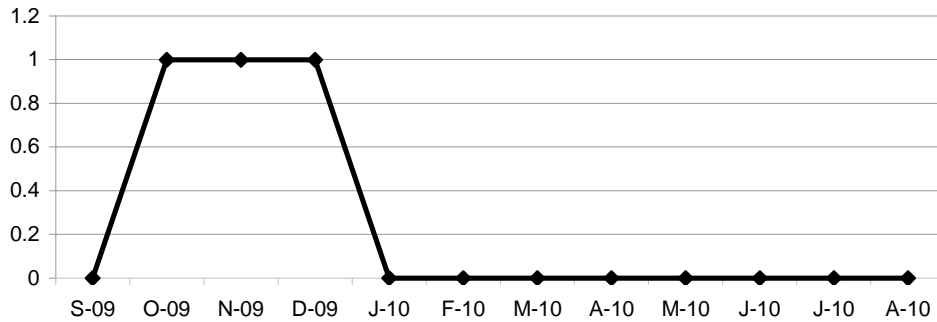
Data for August 2010 is not available until after 15th September 2010.

Clostridium difficile Infection



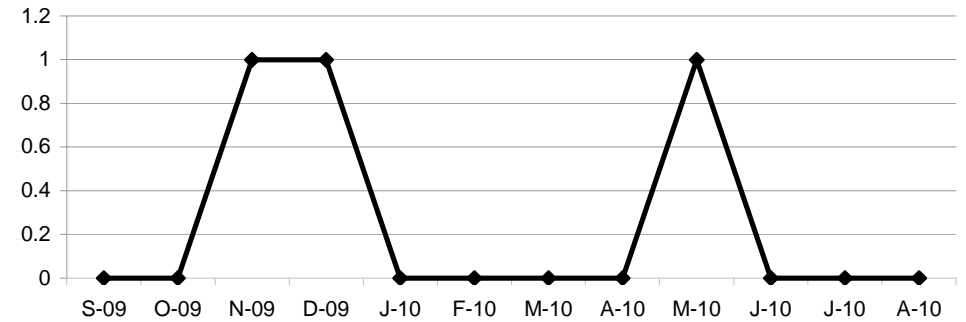
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
3	4	7	3	2	1	2	2	1	3	3	NA

MSSA Bacteraemia



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
0	1	1	1	0	0	0	0	0	0	0	NA

MRSA Bacteraemia



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
0	0	1	1	0	0	0	0	1	0	0	NA

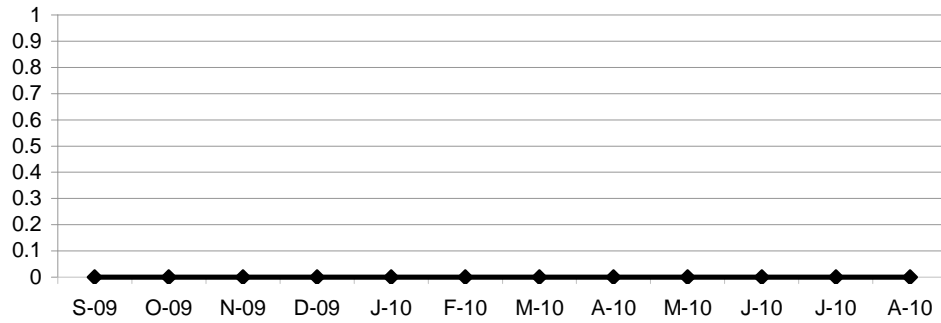
Out of Hospital Infections

CDI There has been a constant number of CDI cases detected in samples sent from GP surgeries and Hospices throughout NHS Lothian.

SAB Data for Community Acquired *S. aureus* Bacteraemia was not available at the time of producing this report.

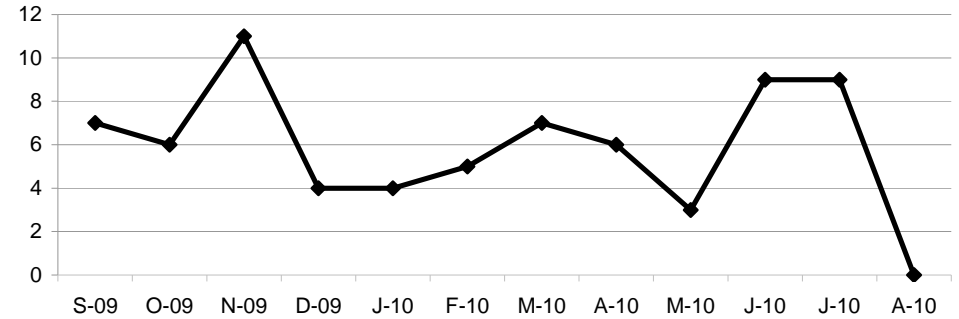
Data for August 2010 is not available until after 15th September 2010.

MSSA Bacteraemia



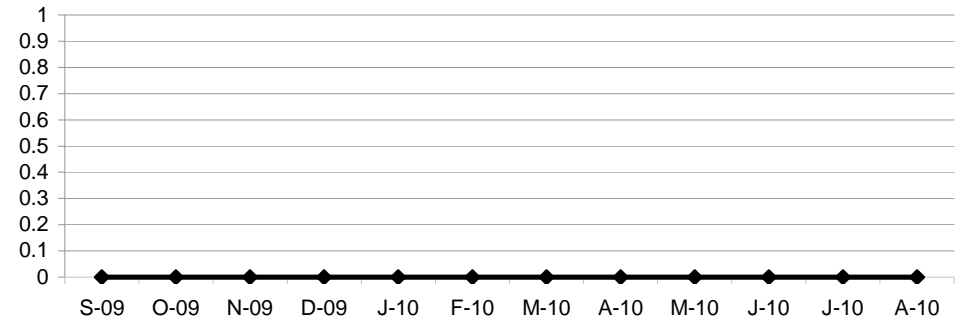
S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
0	0	0	0	0	0	0	0	0	0	0	NA

Clostridium difficile Infection



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
7	6	11	4	4	5	7	6	3	9	9	NA

MRSA Bacteraemia



S-09	O-09	N-09	D-09	J-10	F-10	M-10	A-10	M-10	J-10	J-10	A-10
0	0	0	0	0	0	0	0	0	0	0	NA

