

Prevention and Control of Infection Annual Report 2013/14

Approval record	Date approved
Board Prevention and Control of Infection Committee	22 April 2014
Clinical Governance Risk Management Group	21 May 2014
Chief Executive and Board	5 June 2014
Clinical Governance Committee	26 August 2014

Contents

1. Introduction	2
2. Healthcare Associated Infection (HAI)	3
3. Prevention and Control of Infection Policies	10
4. Prevention and Control of Infection Programme (PCIP)	10
5. Quality Improvement and Programme of Audit	10
6. HAI Education	11
7. Cleaning Services/ Housekeeping	12
8. Built Environment	15
9. Healthcare Environment Inspection	15

1.0 Introduction

Prevention and Control of Infection Team:

- Robert Gray, Senior Manager
Prevention and Control of Infection
- Sandra McAuley, Senior Nurse
Prevention and Control of Infection
- Susan Emmerson, Prevention and Control of Infection Nurse
- Lorna Wilson, Prevention and Control of Infection Nurse
- Annette Hollis, Tissue Viability Nurse
Alexa Crawford, Seconded Tissue Viability Nurse
- Dr Giles Edwards, Prevention and Control of Infection Doctor

Over 2013-14 services within the Golden Jubilee National Hospital (GJNH) we have:

- Maintained our low rates of Staphylococcus aureus bacteraemia (SAB).
- Maintained our low rates of hospital acquired Clostridium difficile infection (CDI), probably reaching an irreducible minimum.
- Maintained environmental cleanliness in clinical areas.
- Kept Surgical site infection within control limits in orthopaedics and cardiac surgery.
- Maintained hand hygiene opportunity and technique compliance.

This ensures that we have a safe environment for patients and a safe working environment for staff. Prevention and Control of Infection is everyone's responsibility and, as a multidisciplinary team, every member of staff is continuing to maintain the high standards expected in health care.

The following report details the activities of the Prevention and Control of Infection Team (PCIT) over 2013/14 against the planned Prevention and Control of Infection Programme (PCIP) agreed by the Prevention and Control of Infection Committee (PCIC), key stakeholders and senior and executive managers.

The PCIP is supported by a number of initiatives including the following local and national drivers:

- Scottish Patient Safety Programme
- National Hand Hygiene Campaign
- HEAT (Health, Improvement, Efficiency Access to Services and Treatment Targets for reduction of CDI and SAB)

2.0 Healthcare Associated Infection (HAI)

2.1 Staphylococcus aureus bacteraemia (S. aureus)

S. aureus is a gram positive bacterium which colonises the nasal cavity of about 30% of the healthy population. Although this colonisation is usually harmless, *S. aureus* may cause serious infection. These infections are commonly associated with healthcare interventions which allow the bacterium to infect normally sterile body sites.

The mandatory Scottish national Methicillin-resistant Staphylococcus aureus (MRSA) bacteraemia surveillance program was established by the Scottish Executive Health Department (SEHD) in 2001. In July 2006, the surveillance programme was extended by the SEHD to include all *S. aureus* bacteraemias in Scotland.

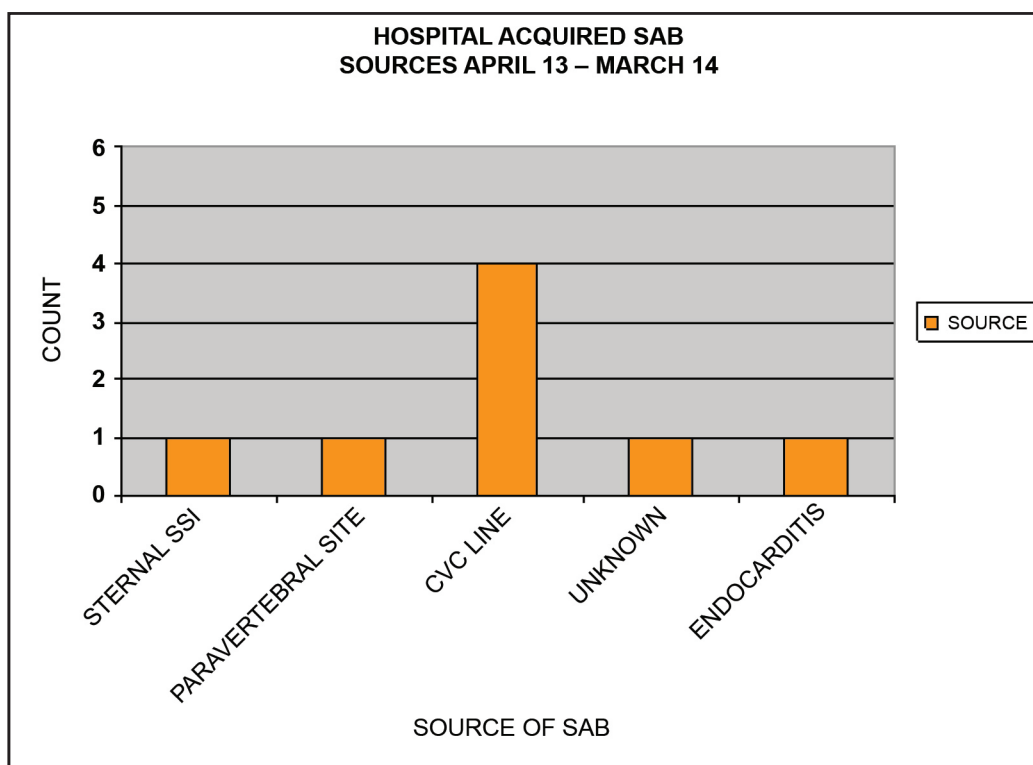
Annual Incidence

SAB LDP Heat Delivery Trajectories – 2013-2014

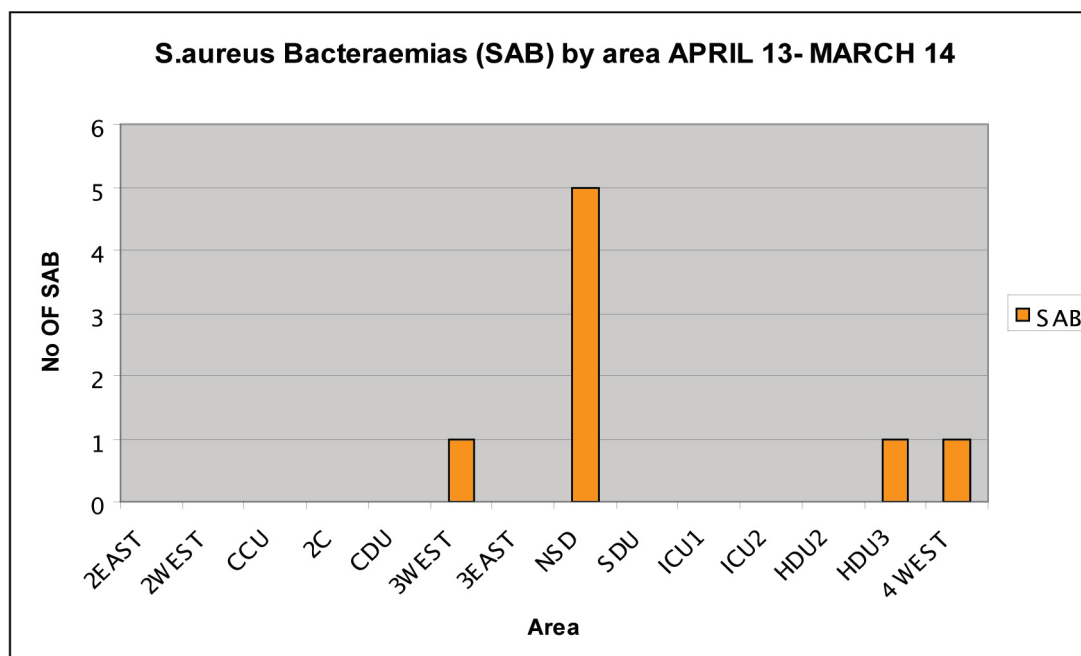
Boards are expected to achieve a rate of 0.24 cases per 1,000 acute occupied bed days or lower by year ending March 2016. Boards currently with a rate of less than 0.24 are expected to at least maintain this, as reflected in their trajectories.

Based on this statement and on local case numbers over the past year, our target is 0.12 per 1000 occupied bed days.

Our local data indicated our target for April 13- March 14 has been exceeded, indicating a SAB rate of 0.17 per 1000 acute occupied bed days, but still well within the national target of 0.24.



NB: 4 West moved to 3 West Feb14. 3 West moved to 3 East December 13. SDU Opened January 14.
SAB's noted in these areas occurred in pre transfer.



An increase in SAB related to central lines has been noted. Subsequent interventions have centred on increased control measures and vigilance with the Central Venous Catheter (CVC) maintenance bundle.

GJNH approach to SAB prevention and reduction

It is accepted nationally within Health Protection Scotland (HPS) that care must be taken in making comparisons with other Board's data because of the specialist patient population within GJNH. All SAB isolates identified within the laboratory are subject to case investigation to determine future learning and quality improvement.

Our overall SAB numbers are low and therefore small numbers of cases can quickly change our targeted approach to SAB reduction. The epidemiology of SAB infections has changed locally as a result of quality improvement. Sources of SAB are less easily attributed and are more sporadic in nature.

Actions to reduce SAB

Broad Hospital Acquired Infection (HAI) initiatives which influence our SAB rate include-

- Hand Hygiene monitoring.
- MRSA screening at pre-assessment clinics and admission.
- Compliance with National Housekeeping Specifications .
- Audit of the environment and practices via Prevention and Control of Infection Annual Reviews.
- NHS Education for Scotland (NES) Asepsis Model Ward Programme.

Surgical Site Infection (SSI) Related SAB

- Introduction of Methicillin Sensitive Staphylococcus aureus (MSSA) screening for cardiac and subsequent treatment pre and post op as a risk reduction approach.
- Surgical Site Infection Surveillance in collaboration with Health Protection Scotland and compared with Health Protection Agency data to allow rapid identification of increasing and decreasing trends of SSI.
- Standardisation of post op cardiac wound care.
- Development and implementation of a wound swabbing protocol and competency.

Device Related SAB

- Scottish Patient Safety Programme (SPSP) work streams continue to be implemented and in some instances demonstrate sustained compliance in Peripheral Vascular Catheter (PVC) and CVC bundles.

Contaminated samples

- Gold standard Blood Culture collection system to reduce risk of false positive contaminants.
- 2013/14 data indicates a 3% contamination rate (within national recommendations).

Clostridium difficile

In Scotland, mandatory surveillance of CDI was introduced in 2006 following reports of increasing CDI rates, the severity of the disease around the world and the rise in voluntary laboratory reports to HPS in the period 1996-2005. Surveillance initially recorded the incidence of CDI in patients aged 65 years and over. In April 2009, the programme was expanded to include patients aged 15-64 years.

CDI Local Delivery Plan (LDP) Heat Delivery Trajectories – 2013-2014

Boards are expected to achieve a rate of 0.25 cases of CDI per 1,000 occupied bed days by year ending March 2016. This relates to people aged 15 and over. Boards currently with a rate of less than 0.25 are expected to at least maintain this, as reflected in their trajectories.

Based on this statement and on local case numbers over the past year, our target is 0.01 per 1000 occupied bed days.

Our local data indicates our target for April 2013 - March 2014 has been exceeded, indicating a CDI rate of 0.06 per 1000 acute occupied bed days, well within the national target of 0.32.

GJNH approach to CDI prevention and reduction

Our numbers of CDI cases are low in comparison with other Boards, which likely relates to our specialist patient population.

Actions to reduce CDI

- Ongoing alert organism surveillance and close monitoring of the severity of cases by the PCIT.
- Unit specific reporting and triggers.
- Implementation of HPS Trigger Tool if trigger is breached.
- Implementation of HPS Severe Case Investigation Tool if the case definition is met.
- Typing of isolates when two or more cases occur within 30 days in one unit.

Antimicrobial Management Team (AMT) has introduced policy changes for surgical prophylaxis and audit in both Orthopaedics and Cardiothoracic. CDI is predominantly an antibiotic associated disease and the proposed changes will reduce the use of specific antibiotic groups which are associated with an increased risk of CDI. Progress on compliance will be monitored via AMT and reported to the Prevention and Control of Infection Committee and Drug and Therapeutics Committee.

2.2 National MRSA Screening Programme

In February 2011 the Chief Nursing Officer announced that the minimum screening practice across Scotland would be implemented fully in all eligible clinical areas by March 2012. Minimum screening practice takes the form of:

- A three question clinical risk assessment (CRA) where, if there is one or more positive answer, a nose and perineal swab are required.

OR

- All patients in the five high impact specialties (renal, cardiothoracic, vascular, intensive care and orthopaedics) are screened as a matter of course using nasal and perineal swabs.

The majority of GJNH patients fall into this latter category and our agreed approach is that all patients staying for a minimum of one night will be screened.

In 2013, HPS and the Scottish Government reviewed the Key Performance Indicators (KPI) for the National MRSA screening programme. Since the majority of our patients fall into the latter category of screening we have agreed with HPS and the Scottish Government that participation in the KPI data submission is not required, however we are keen to continue monitoring compliance in screening and publish this data locally within our HAI reports.

Based on 2013/14 data, an average of 3,122 swabs were processed per month. 119 patients were found to be positive prior to or on admission.

	Total swabs tested	Total number of swabs MRSA positive	% of total swabs taken MRSA positive	Total number of patients tested	Total number patients MRSA positive	
Total swabs taken between April 13 and March 14	37471	193	0.52	14470	119	0.82

Overall compliance with screening is excellent, where compliance is below 95% departments are informed and action plans implemented to resolve.

MRSA Screening Compliance April 2013- March 2014

April 13 - March 14	3West	3East	2C	2East	2West	CCU	NSD	ICU2	ICU1	HDU3	HDU2	SDU
Overall % MRSA												
Screening compliance	90%	97%	96%	95%	90%	95%	94%	97%	100%	95%	100%	95%

Hand Hygiene

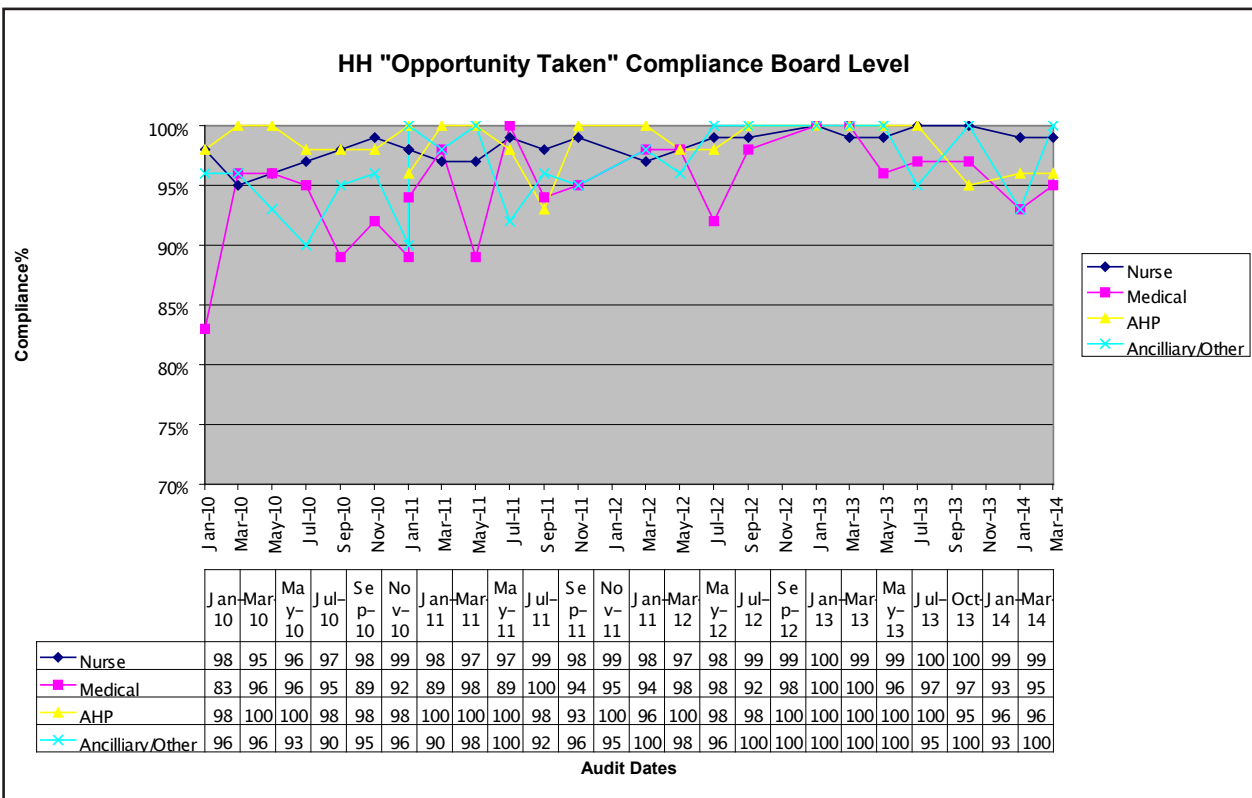
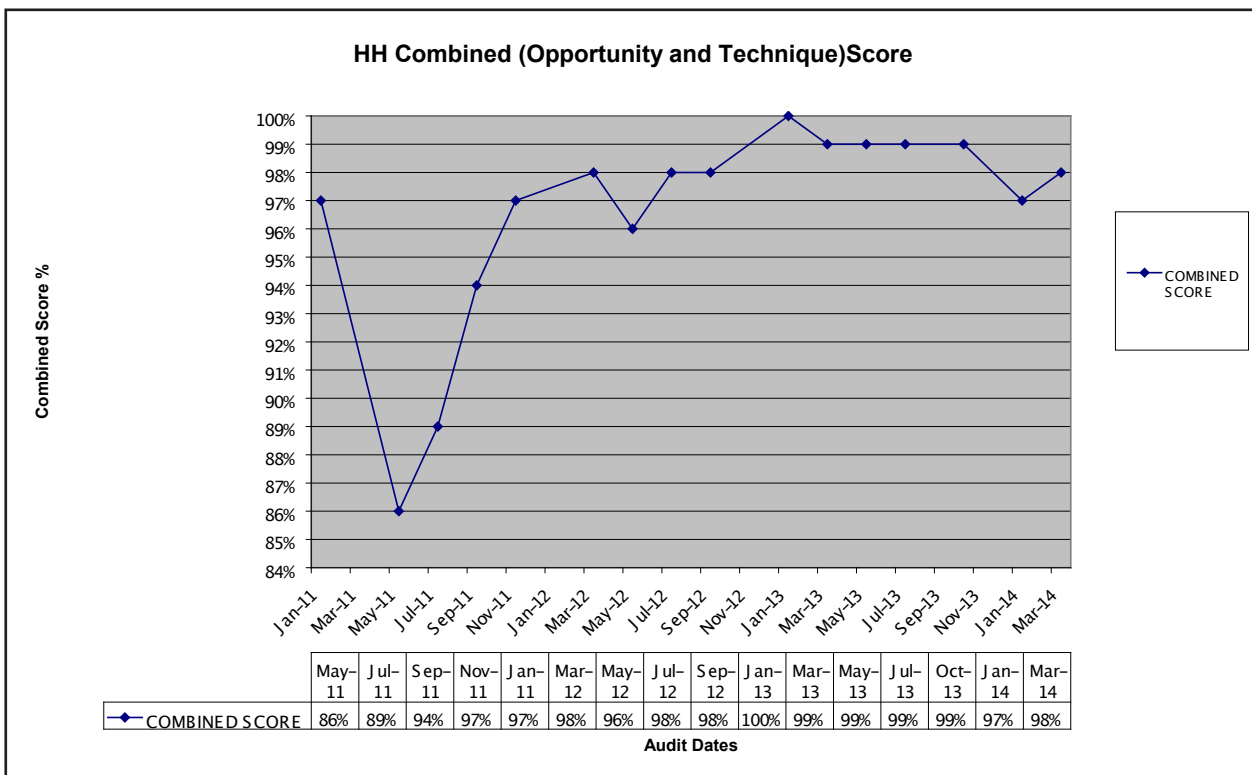
Hand hygiene is considered to be one of the most effective means of reducing and preventing the incidence of avoidable illness, in particular HAI.

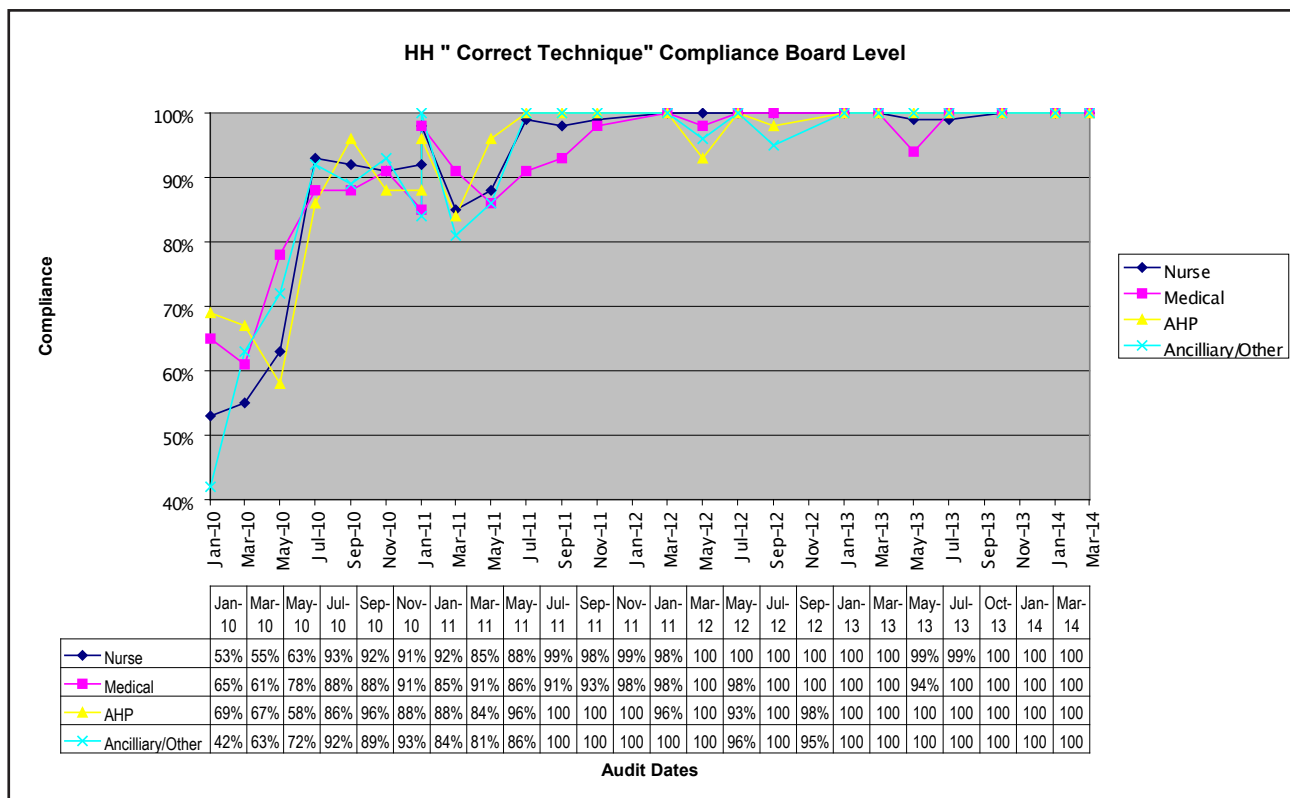
To raise awareness of the issues and importance of hand hygiene practice, in 2006 HPS, oversaw the development and delivery and monitoring of the National Hand Hygiene Campaign. From 1 October 2013 individual Health Boards were given the responsibility for monitoring and reporting hand hygiene compliance data and expected to reintegrate hand hygiene compliance monitoring into local improvement programmes. Additionally, Boards were required to ensure that they have suitable quality assurance processes in place.

GJNH has an established and embedded process that provides weekly hand hygiene audit and review via the Lanarkshire Quality Improvement Programme (LanQIP). The aim of this system is to allow for greater local ownership of data, driving improvement as required. Quality assurance of this data is supported by the Prevention and Control of Infection Nurse (PCIN).

Hand Hygiene data for 2013/14 demonstrates sustained compliance above 95% with opportunity and technique since 2011.

Hand Hygiene Data





2.3 Scottish Surveillance of HAI programme (SSHAIP)

The Scottish Surveillance of HAI Programme within HPS coordinates the SSI surveillance programme. The programme is mandatory in NHSScotland and all NHS boards are currently required to undertake surveillance for caesarean section and hip arthroplasty procedures as stated in the Health Department Letter (HDL) 2006 (38) [18] and Chief Executive's Letter (CEL) (11) 2009.

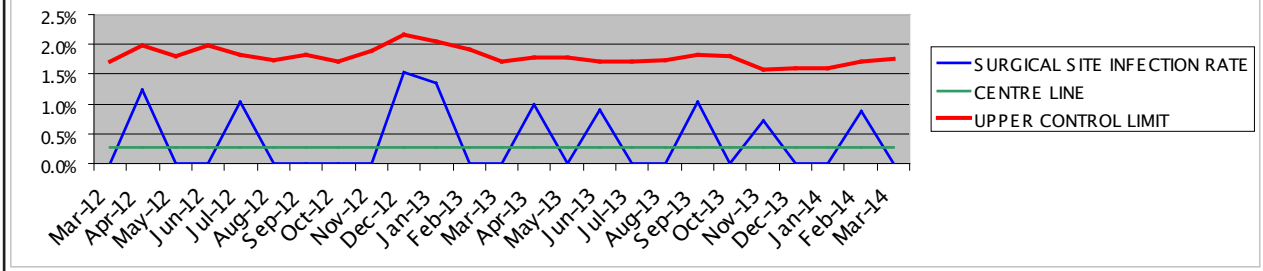
In 2011, amendments to the national surveillance requirements of HDL 2006 (38) were implemented, enabling SSI light surveillance methodology to be applied to mandatory and non mandatory procedures from 1 July 2011 (i.e. SSI forms are completed for confirmed SSI's, for all patients undergoing all procedures). This has since been our local approach to orthopaedic surgery surveillance. Post Discharge Surveillance requirements via re-admission data to 30 days post-op were unaffected by the amendments.

2.4 Orthopaedic Surgery Surveillance- Light Surveillance

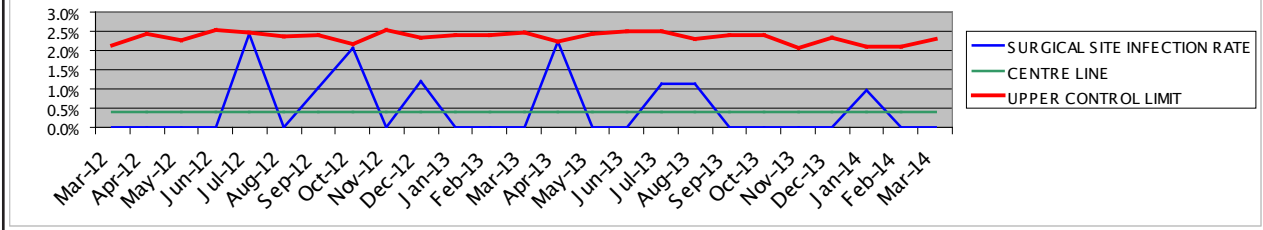
Orthopaedic surveillance is performed from surgery until 30 days post discharge. Numbers of post-op infections for both hip and knee implant surgery have remained within our control limits and surveillance is ongoing.

2013/14 Total Hip replacement SSI rate – 0.37%
 2013/14 Total Knee replacement SSI rate – 0.23%

Hip Replacement - Monthly Surgical Site Infection Rates



Knee Replacement- Monthly Surgical Site Infection Rates



2.5 Coronary Artery Bypass Graft (CABG) and Valve Surgery Surveillance – Full surveillance

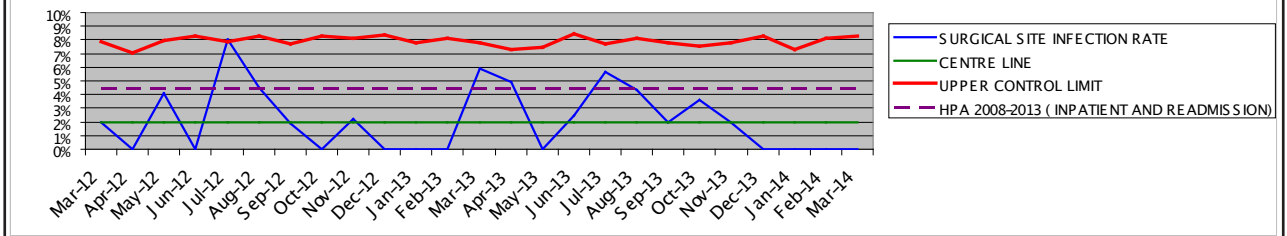
Cardiac surveillance is performed from surgery till 30 days post discharge. No other Board in NHSScotland collects this data, therefore benchmarking of data continues to use data from our NHS England counterparts via the Health Protection Agency (HPA).

All CABG and Cardiac data are within control limits.

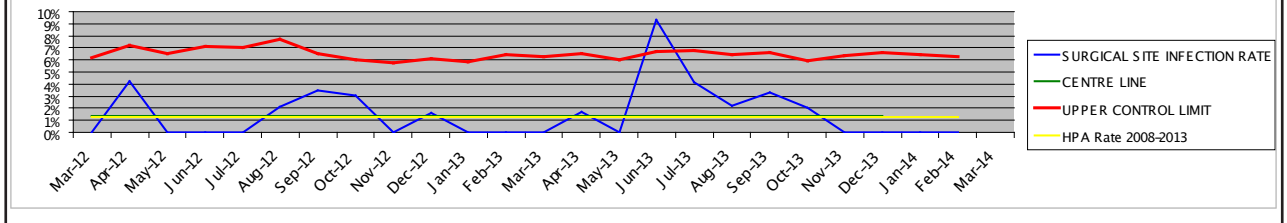
2013-14 CABG SSI rate – 2.16%

2013/14 Valve+/- CABG SSI rate – 1.9%

CABG- Monthly Surgical Site Infection Rates



Valve Replacement +/- CABG Surgery- Monthly Surgical Site Infection Rates



3.0 Prevention and Control of Infection Policies

All Prevention and Control of Infection policies have been reviewed as per the Policy Review calendar 2012 – 2015. Four remain outstanding dependant on national guidance.

Standard Infection Control Precautions (SICPs) Compliance

All Boards are expected to adopt the National Infection Prevention Control Manual, with SICPs being the inaugural chapter. The policy was published as three distinct SICPs documents:

1. The SICPs Policy is the practice guide, to be applied by all NHS staff.
2. The literature reviews available to all healthcare staff and for utilisation by Infection Prevention and Control Teams to inform local policy and guidance development.
3. A Compliance and Quality Improvement Data Collection Tool.

Locally, this policy has been implemented with an associated compliance monitoring tool. Results are reviewed monthly as part of PCIN audit activity.

4.0 Prevention and Control of Infection Programme (PCIP) 2013-14

The PCIP have achieved 100% of the planned outputs detailed in the PCIP 2013/14.

5.0 Quality Improvement and Programme of Audit

All audits/improvement activity have been completed in accordance with the 2013/14 audit plan and actions to revise issues have been completed where necessary.

Our senior PCIN has completed the Institute for Healthcare Improvement (IHI) Improvement Advisors Course and is working closely with work streams to facilitate compliance with HAI bundles, to build capacity and capability within teams.

CAUTI Prevention Programme – Cardiac Critical Care and Cardiac Theatres

This programme was introduced and lead by the Senior PCIN to promote and measure optimum urinary catheter insertion and maintenance by achieving 95% compliance with insertion and maintenance bundles by November 2013.

Insertion and Maintenance bundles were developed, tested and implemented in Critical Care and Theatres. Compliance data to date is promising, demonstrating compliance with the bundles. The group plan to focus on CAUTI Surveillance in the coming year.

SEPSIS

Sepsis is an established element of the Scottish Patient Safety Programme; the aim of the Sepsis work stream is to ensure the Sepsis 6 bundle remains reliable and sustainable.

Given our Board specialities and the use of the MEWS system, we have found there is an opportunity to test and implement Sepsis Screening and Sepsis 6.

Despite these challenges the Sepsis team:

- Developed and tested a Sepsis Screening Tool (currently on version 10) amended for inclusion in Thoracic ward (March 2014).
- Implemented “Forcing Functions”: a Sepsis pack (contains all equipment to achieve Sepsis 6).
- Labelled monitoring equipment “Think Sepsis”.
- Provided awareness sessions for key staff i.e. Nurse Practitioner and Hospital at Night Team.
- Blood Culture Competency updated to reflect guidance on taking blood culture when temperature 38 or above to reflect Sepsis Six tool.
- Blood Culture training and competency introduced.
- Sepsis is now a standing item at the Nurse Practitioner Meetings including progress to date and learning from missed opportunities (when applicable).
- Sepsis added to Advanced Nurse Practitioner (APN) safety brief.

Skills for Improvement Programme

To build improvement and capability capacity with the Board, the SPCIN in collaboration with NES and Scottish Patient Safety Programme Programme Manager agreed and delivered a programme for staff already engaged in SPSP to develop the skills, knowledge and confidence to initiate, plan, implement and report on local improvement projects or SPSP 10 Safety Essential/ Point of Care projects. Work is ongoing throughout 2014-15 to support staff in these projects.

6.0 HAI Education

HAI Education

The PCIT delivers an annual programme to all members of staff and includes induction, core training and mandatory annual updates.

The HAI Education group is a subgroup of the PCIC and is responsible for ensuring that mandatory training is being delivered. The Senior Prevention and Control of Infection Manager is the HAI Education lead and is a member of the NHS Education Scotland (NES) HAI education lead group with responsibility for updating the committee on any developments in HAI education.

Cleanliness Champion Programme

The ‘Cleanliness Champion’ programme was launched in 2003 and is now on version 3 – accessed via LearnPro. The new version of the programme now contains information about, and aligns to, Quality Improvement and the Scottish Patient Safety Programme.

The overall aim of the programme is to promote and maintain a healthcare culture in which patient safety related to prevention and control of infection is vital.

Staff undertaking the ‘Cleanliness Champion’ programme have a six month completion time limit. Senior charge nurses are accountable for ensuring they maintain up to date records of staff who commence and complete the Cleanliness Champion programme within their departments – a requirement of the Healthcare Environment Inspectorate February 2011.

Department	Number of Staff	Number of Cleanliness Champions	%
Nursing	778	162	21%
AHP /Ancillary	218	20	26%
Housekeeping	58	1	2%
CSPD	18	1	6%
NWTC Total	1073	184	17%

Aseptic Technique - Model Ward Project

In 2011/2012 a suite of online modules were developed to educate NHS clinical staff about Aseptic Technique, in order to promote safe practice which was consistent. The Prevention and Control of Infection Team at the Golden Jubilee National Hospital successfully bid for funding made available from NES to all health boards to further aid with implementation. The team used this funding to employ a short term an Aseptic Technique Facilitator to lead the improvement project using a model ward technique where staff could develop their understanding of Aseptic Technique and undertake the online training.

During the project, the Facilitator worked closely with ward staff to encourage module participation and liaised with ward management to coordinate module uptake. The project focused on modules 1, 3, 5 and 6 of the programme with observation of practice in those areas carried out by the Facilitator before and after the modules had been completed. These modules were chosen based on Board and ward's priorities.

MODULE 1 (Principles of AT)	MODULE 2 (PVC insertion)	MODULE 3 (Blood Cultures)	MODULE 4 (Urethral Catheters)	MODULE 5 (Wound Care)	MODULE 6 (Taking a specimen)
--	---	--	--	--	---

Following implementation, observed practice indicated a demonstrable raised awareness of Aseptic Technique.

On completion of the project, several measures have been put in place to ensure the ongoing development of module uptake across all clinical staff, these include:

- Nursing staff will complete the foundation module prior to core skills updates.
- New nursing staff will complete the modules as part of their induction training.
- Blood culture training will be incorporated in to the venepuncture study day, with staff being asked to complete module 3 prior to this.
- A team of nursing staff has been selected in critical care to assist in implementing training to existing staff in critical care.

Staff Development

Our PCIN has completed her infection control qualification.

The senior PCIN currently sits on the National Career Framework advisory group introducing PCIN competencies to NHSScotland; the team are currently testing a self assessment framework for PCIN development.

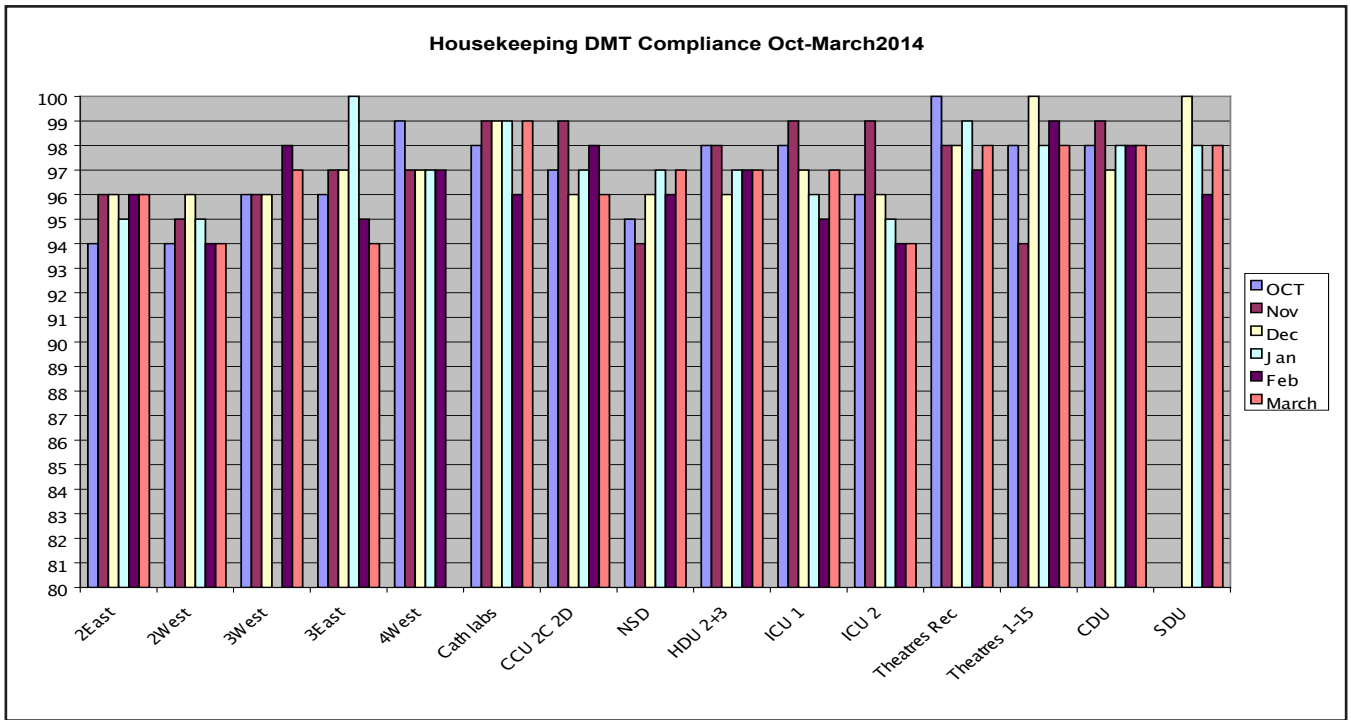
7.0 Cleaning Services/Housekeeping

Cleaning services continue to be monitored against the NHSScotland National Cleaning Service specifications using the HFS Domestic monitoring tool.

Health Board	1st Quarter Apr-Jun 2013/2014	2nd Quarter Jul-Sept 2013/2014	3rd Quarter Oct-Dec 2013/2014	4th Quarter Jan-Mar 2013/2014
NHSScotland	95.6	95.8	95.5	95.7
NHS Ayrshire and Arran	95.1	95.6	95.1	95.4
NHS Borders	97.2	96.8	97.4	96.8
NHS Dumfries and Galloway	96.4	96.6	97.9	96.5
NHS Fife	96.9	96.2	96.0	96.2
NHS Forth Valley	97.1	97.0	96.5	95.9
NHS Greater Glasgow and Clyde	94.8	94.9	95.0	95.1
NHS Golden Jubilee	97.6	97.7	97.6	97.0
NHS Grampian	94.8	95.0	92.7	93.9
NHS Highland	95.6	95.8	96.1	96.1
NHS Lanarkshire	96.6	96.4	96.1	96.7
NHS Lothian	96.3	96.2	96.3	96.2
NHS NSS SNBTS	98.9	98.1	98.8	97.7
NHS Orkney	94.8	96.2	95.7	96.3
NHS Scottish Ambulance Service	94.3	95.2	96.7	96.1
NHS Shetland	96.6	97.1	96.5	96.4
NHS State Hospital	96.3	95.4	96.6	95.0
NHS Tayside	94.4	95.0	94.6	94.8
NHS Western Isles	96.3	96.8	96.6	96.8

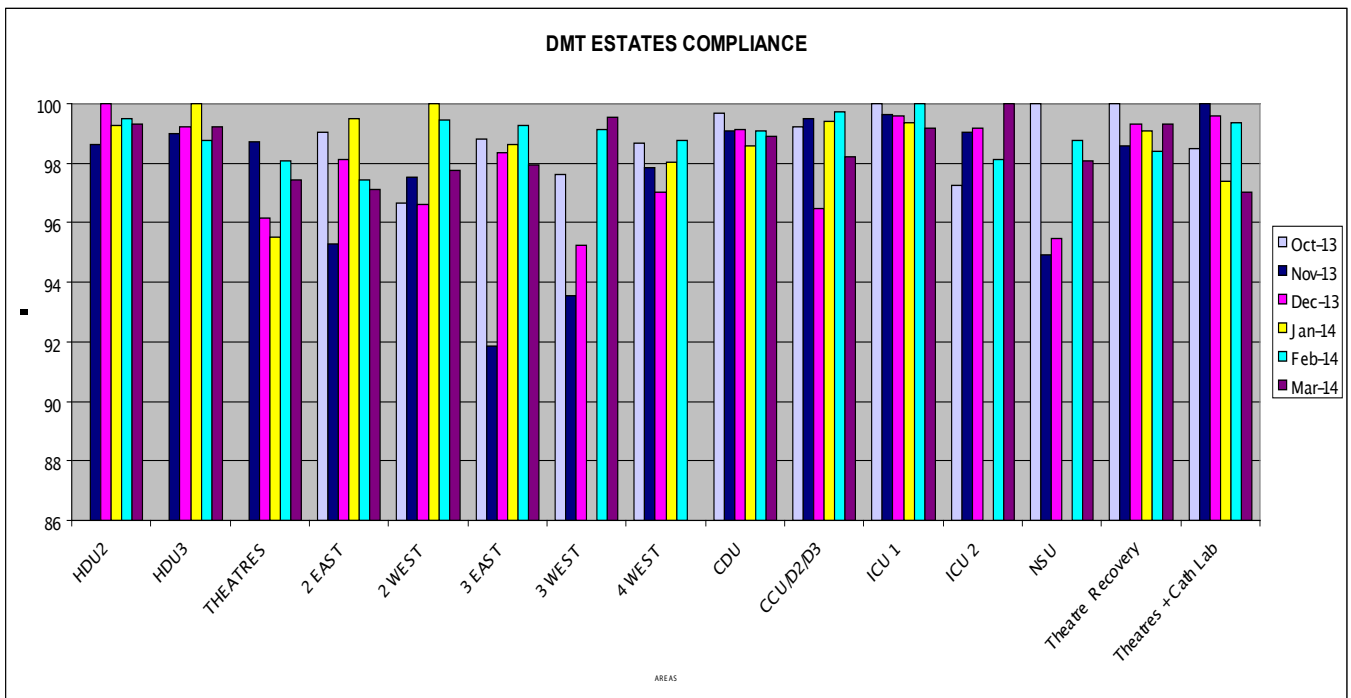
The table below shows scores for each clinical area over the past six months, with the majority showing an increase in score.

	October	November	December	January	February	March
2 East	94	96	96	95	96	96
2 West	94	95	96	95	94	94
3 West	96	96	96	N/A	98	97
3 East	96	97	97	100	95	94
4 West	99	97	97	97	97	N/A
Cath labs	98	99	99	99	96	99
CCU 2C 2D	97	99	96	97	98	96
NSD	95	94	96	97	96	97
HDU 2+3	98	98	96	97	97	97
ICU 1	98	99	97	96	95	97
ICU 2	96	99	96	95	94	94
Theatres Recovery	100	98	98	99	97	98
Theatres 1-15	98	94	100	98	99	98
CDU	98	99	97	98	98	98
SDU			100	98	96	98



NB: 4 West data collection ceased February 2014

HFS has worked with Boards across Scotland to develop an Estate monitoring tool that will complement the current Domestic Tool. Estate monitoring question sets are now included in the Domestic Tool allowing monitoring of cleanliness and patient care environment to be carried out simultaneously using a web based format. The graph below shows Estate scores since data collection began.



8.0 Built Environment

Building work, renovation or refurbishment in patient care areas can pose significantly increased risks of infection to vulnerable patients. HAI-SCRIBE (System for Controlling Risk in the Built Environment) engages the collaboration of expertise from a wide range of healthcare experts and directs efforts to reduce risk through assessment and planning prior to and during any building work. This multidisciplinary scribe is followed by continuous monitoring by the Prevention and Control of Infection and Housekeeping teams for the duration of the working project.

HAI – SCRIBE is well established and there is multidisciplinary representation for all works being carried out (including contractors) to ensure that risks are carefully considered particularly when work is planned for patient areas.

A total of 134 **HAI SCRIBE risk assessments** were carried out for work activity during 2012/13.

The HAI-SCRIBE Tool (version 2) was published in 2007 and is currently under review. The PCIM and Estate Manager are on the national review group with outputs expected later in 2014.

9.0 Healthcare Environment Inspection

No inspections were completed in 2013/14, although we continue to promote, monitor and encourage staff towards high standards of practices and environmental cleanliness.

The Prevention and Control of Infection Team extended sincere thanks to Robert Gray, (retiring Prevention and Control of Infection Manager) for his support, guidance and all he has contributed over the last 5 years.



All of our publications are available in different languages, larger print, braille (English only), audio tape or another format of your choice.

我們所有的印刷品均有不同語言版本、大字體版本、盲文（僅有英文）、錄音帶版本或你想要的另外形式供選擇。

كافة مطبوعاتنا متاحة بلغات مختلفة و بالأحرف الطباعية الكبيرة و بطريقة بريل الخاصة بالمكفوفين (باللغة الإنكليزية فقط) و على شريط كاسيت سمعي أو بصيغة بديلة حسب خيارك.

Tha gach sgrìobhainn againn rim faotainn ann an diofar chànanan, clò nas motha, Braille (Beurla a-mhàin), teip clàistinn no riochd eile a tha sibh airson a thaghadh.

हमारे सब प्रकाशन अनेक भाषाओं, बड़े अक्षरों की छपाई, ब्रेल (केवल अंग्रेज़ी), सुनने वाली कसेट या आपकी पसंदनुसार किसी अन्य फॉरमेट (आरूप) में भी उपलब्ध हैं।

我們所有的印刷品均有不同語言版本、大字体版本、盲文（仅有英文）、录音带版本或你想要的另外形式供选择。

ਸਾਡੇ ਸਾਰੇ ਪਰਚੇ ਅਤੇ ਕਿਤਾਬਚੇ ਵਗੈਰਾ ਵੱਖ ਵੱਖ ਭਾਸ਼ਾਵਾਂ ਵਿਚ, ਵੱਡੇ ਅੱਖਰਾਂ ਅਤੇ ਬ੍ਰੇਲ (ਸਿਰਫ਼ ਅੰਗਰੇਜ਼ੀ) ਵਿਚ, ਆੱਡੀਓ ਟੇਪ 'ਤੇ ਜਾਂ ਤੁਹਾਡੀ ਮਰਜ਼ੀ ਅਨੁਸਾਰ ਕਿਸੇ ਹੋਰ ਰੂਪ ਵਿਚ ਵੀ ਮਿਲ ਸਕਦੇ ਹਨ।

ہماری تمام مطبوعات مختلف زبانوں، بڑے حروف کی چھپائی، بریل (صرف انگریزی)، سننے والی کسٹ یا آپ کی پسند کے مطابق کسی دیگر صورت (فارمیٹ) میں بھی دستیاب ہیں۔

☎: 0141 951 5513

Please call the above number if you require this publication in an alternative format

