

Prevention and Control of Infection Annual Report 2012/13

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Golden Jubilee National Hospital Prevention and Control of Infection Manager	24 July 2013
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National Waiting Times Centre Chief Executive	15 July 2013

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Introduction

Prevention and Control of Infection Team:

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

Over 2012-13 services within the Golden Jubilee National Hospital we have:

- Continued to reduce Staphylococcus aureus bacteraemia (SAB)
- Controlled hospital acquired Clostridium difficile probably reaching an irreducible minimum
- Increased and maintained environmental cleanliness in clinical areas
- Kept Surgical site infection within control limits in orthopaedics and cardiac surgery
- Increased and maintained hand hygiene opportunity and technique

This provides an assurance that we have a safe environment for patients and a safe working environment for staff and visitors. Prevention and Control of Infection is everybody's business 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 2012/13 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)

- NHS Health Improvement Scotland
- Healthcare Environment Inspectorate
- NHS Quality Improvement Scotland Healthcare Associated Infection (HAI) Standards 2008
- National MRSA Screening Programme
- Monitoring of Cleaning Specifications
- Antimicrobial Management Team surgical prophylaxis policies
- HAI Taskforce Work plan
- Local Quality Scheme

Close surveillance of alert organisms and conditions such as Meticillin Resistant Staphylococcus aureus (MRSA), Clostridium difficile infection (CDI), Staphylococcus aureus bacteraemia (SAB) and pre-operative and admission screening for MRSA are a routine part of the alert organism surveillance programme.

Despite the challenges and infection risks associated with the services we deliver, the number of HAI from key alert organisms and conditions including MRSA, CDI and SABs continued to reduce over the year 2012/13.

HEAT targets for CDI and SAB are set nationally and considered to be a valid proxy for effective HAI practice. We participate in the national mandatory return of data for these programmes as well as Surgical Site Infection (SSI) surveillance of orthopaedic implant procedures and of cardiac surgery.

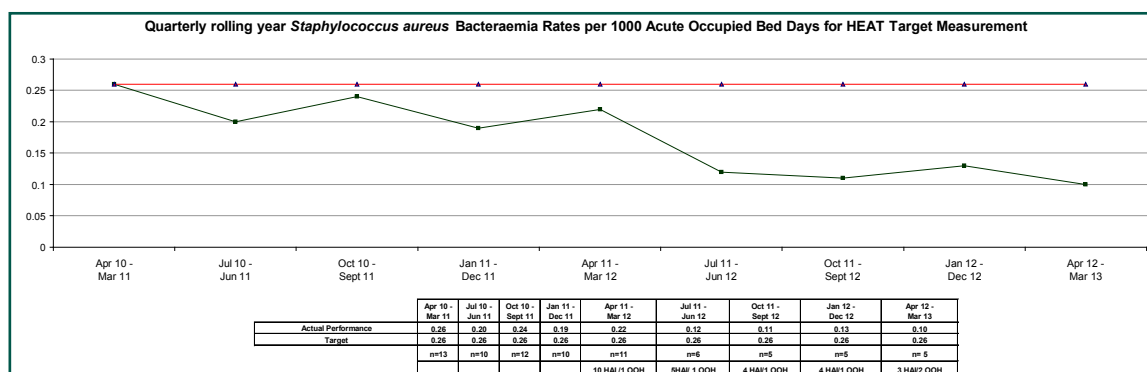
2. Healthcare Associated Infection (HAI)

2.1 Staphylococcus aureus Bacteraemia

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.

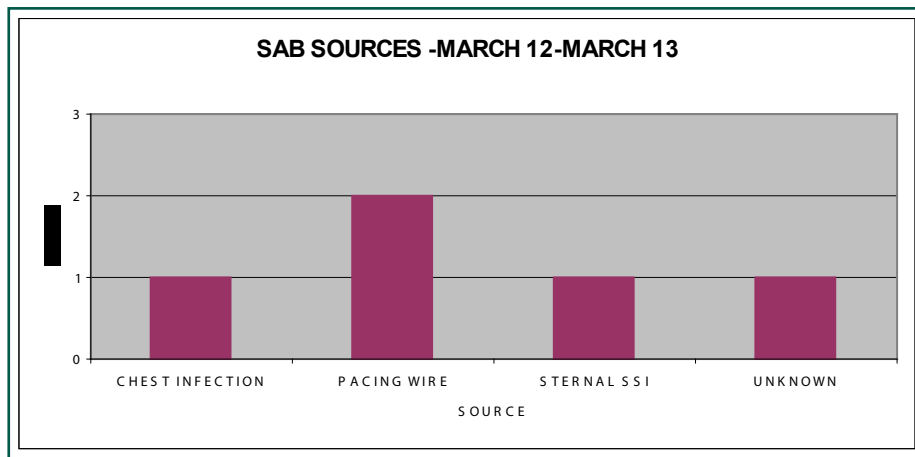
The mandatory Scottish national MRSA bacteraemia surveillance program was established by the Scottish Executive Health Department (SEHD) in 2001. In July 2006, the surveillance programme was extended by the SEHD to include all *S. aureus* bacteraemias in Scotland.

Annual Incidence



SAB rate overall 0.1 per 1000 acute occupied bed days (AOBD) n=5. There has been a sustained reduction in SAB over the past year with a **55% reduction** in SABs cases since 2011.

Our overall SAB numbers are low and therefore small numbers of cases can quickly change our targeted approach to SAB reduction. All SAB isolates identified within the laboratory are subject to case investigation lead by the Prevention and Control of Infection Nurses (PCIN). We have found the epidemiology of SAB infections has changed locally where sources of SAB are less easily attributed and are more sporadic in nature, as a result of quality improvement.



2012/13 Actions to reduce SAB

The PCIT have implemented a number of interventions to reduce SAB since 2010, further actions in 2012/13 are detailed below.

Broad HAI initiatives influencing our SAB reduction include:

- Continued review and intervention based on data from national Hand Hygiene Campaign.
- MRSA screening and intervention, where required, at pre-assessment clinics and admission.
- Continued review and intervention where required on data from National Housekeeping Specifications (DMT).
- Audit and intervention, where required, of the environment and practices via Prevention and Control of Infection Annual Reviews.

SSI Related SAB:

- Continued Cardiac Meticillin sensitive Staphylococcus aureus screening and subsequent treatment pre and post op as a risk reduction approach.
- SSI surveillance in collaboration with Health Protection Scotland (HPS) with comparison with Health Protection Agency (HPA) data to allow rapid identification of increasing and decreasing trends of SSI.

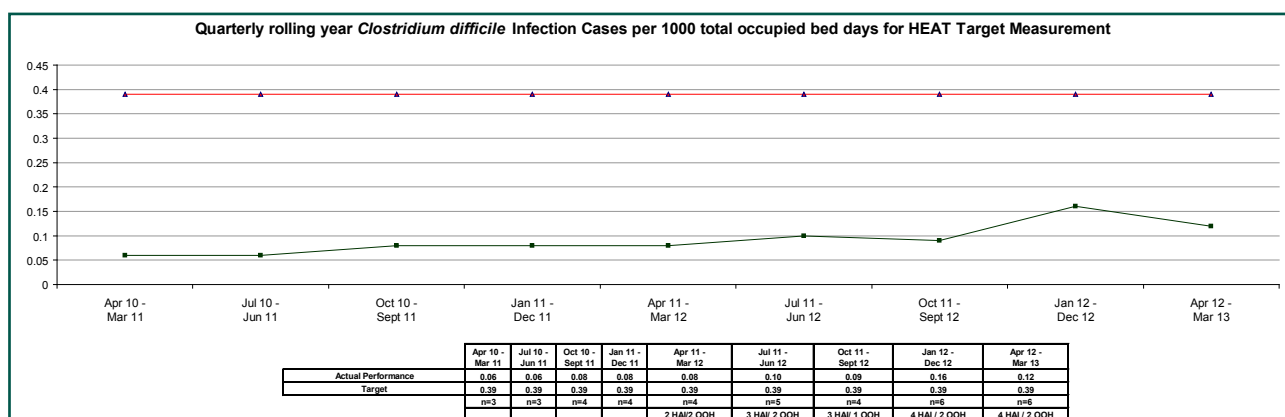
Device Related SAB:

- Scottish Patient Safety Programme work streams continue to implement and aim to sustain compliance in Peripheral Vascular Catheter (PVC) and Central Venous Catheter (CVC) care bundles. PCINs are responsible for monthly review of this data offering support where required.
- PCIN lead review of HPS evidence reviews to inform HAI care bundles.

2.2 Clostridium difficile

In Scotland, mandatory surveillance of CDI was introduced in 2006 following reports of increasing CDI rates and severity of 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.

Annual incidence



Our overall CDI rate is 0.12 per 1000 AOB. Our numbers of CDI cases are very low in comparison with other Boards, which is likely to relate to our specialist patient population. Data since 2010 indicates a fairly static incidence of CDI with variation as a result of out of hospital infections identified within the Board.

2012/13 Actions to reduce CDI:

The PCIT have implemented a number of interventions to reduce CDI since 2010 detailed below:

- Continued alert organism surveillance and close monitoring of the severity of cases by the PCIT.
- Continued monthly unit specific reporting.
- Triggers for action set for each unit. 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 prescribing audits and monitoring of compliance with policy have been implemented by the Antimicrobial Management Team.

2.3 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 as a minimum.
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 who are 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 2012 data, an average of **1150 patients were screened per month** (over 3000 swabs processed per month). An average of **0.9% (11) patients per month are found to be positive prior to or on admission**.

Overall compliance with screening is excellent, where compliance is below 100% departments are informed and action plans implemented to resolve.

Apr 12- Mar 13	4WEST	3WEST	3EAST	2C	2EAST	2WEST	CCU	NSD	ICU2	ICU1	HDU3	2EAST GENERAL
Average compliance												
OPD COMPLIANCE	100%	100%	100%	NA	100%	100%	NA	100%	100%	100%	100%	NA
ADMIT COMPLIANCE	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	NA
COMPLIANCE CHECKED WITH LAB RESULT	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	NA
10 day or weekly screened carried out	100%	86%	96%	NA	100%	79%	NA	NA	91%	NA	NA	NA

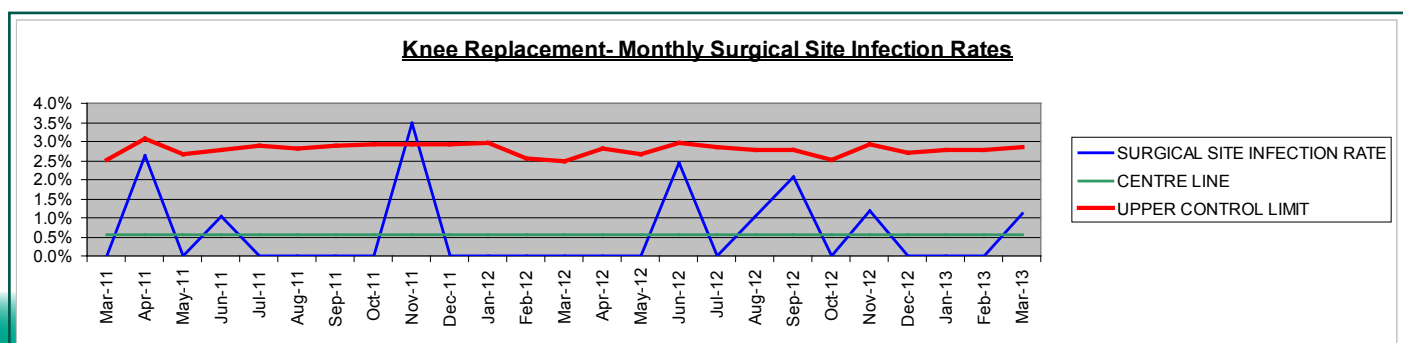
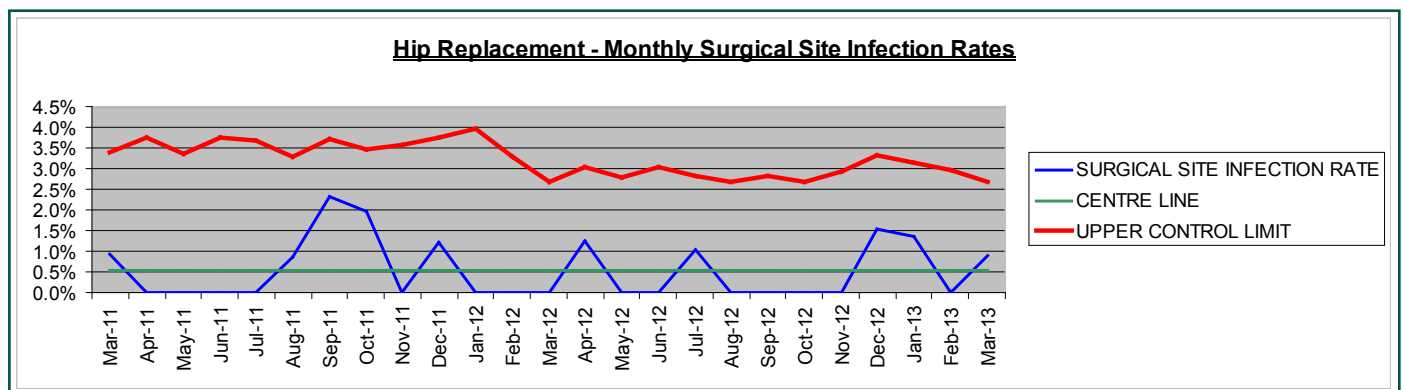
2.4 Scottish Surveillance of HAI programme (SSHAIP)

The Scottish Surveillance of HAI Programme (SSHAIP) 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 per 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 SSIs diagnosed and not for all patients undergoing a procedure). 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.

2.5 Orthopaedic Surgery Surveillance- Light Surveillance

Numbers of post-op infections for both hip and knee implant surgery have remained within our control limits and surveillance is ongoing.

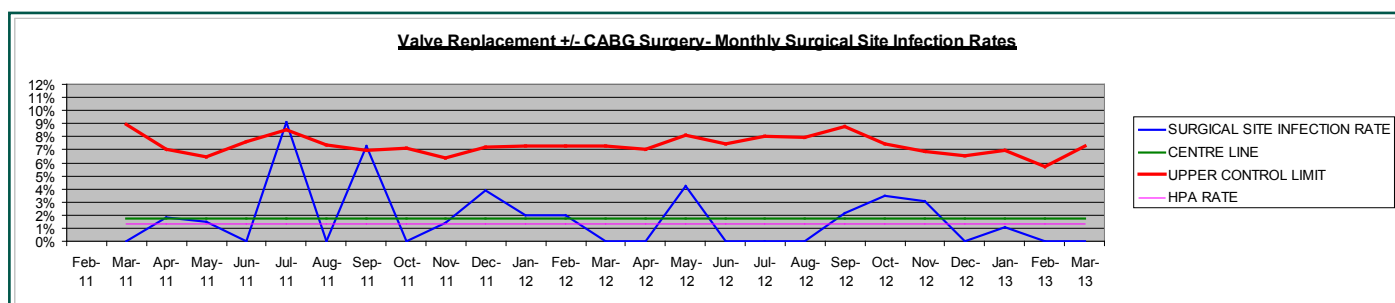
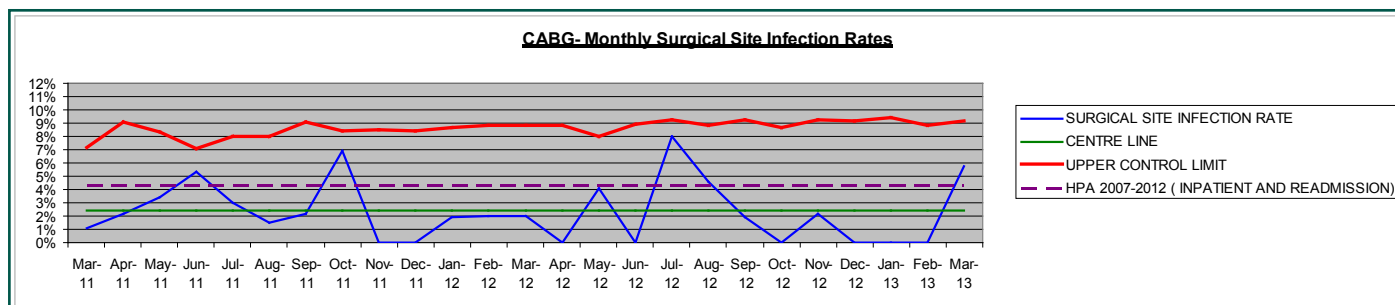


Coronary Artery Bypass Graft (CABG) and Valve Surgery Surveillance – Full surveillance

Cardiac surveillance is performed from surgery to 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 HPA.

All CABG and Cardiac data are within control limits.

In 2011, the Tissue Viability Nurse was instrumental in implementing a standardised approach to cardiac wound dressings ensuring consistency with national recommendations to ensure surgical wounds are covered for a minimum of 48 hours in accordance with HPA and HPA SSI reduction guidance.



3. Hand Hygiene

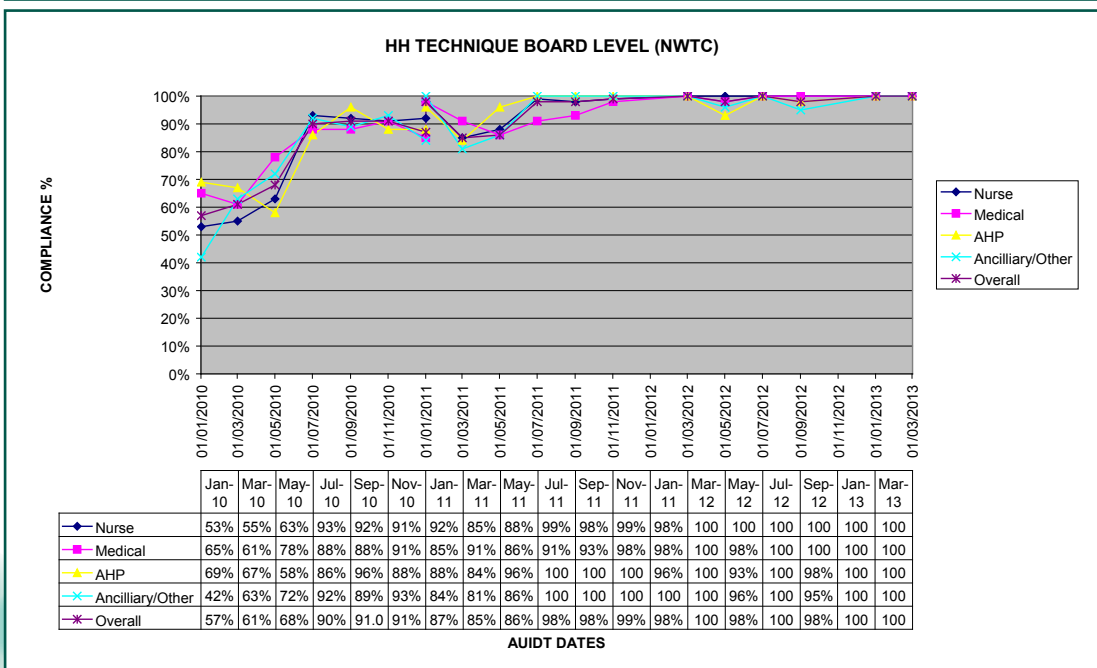
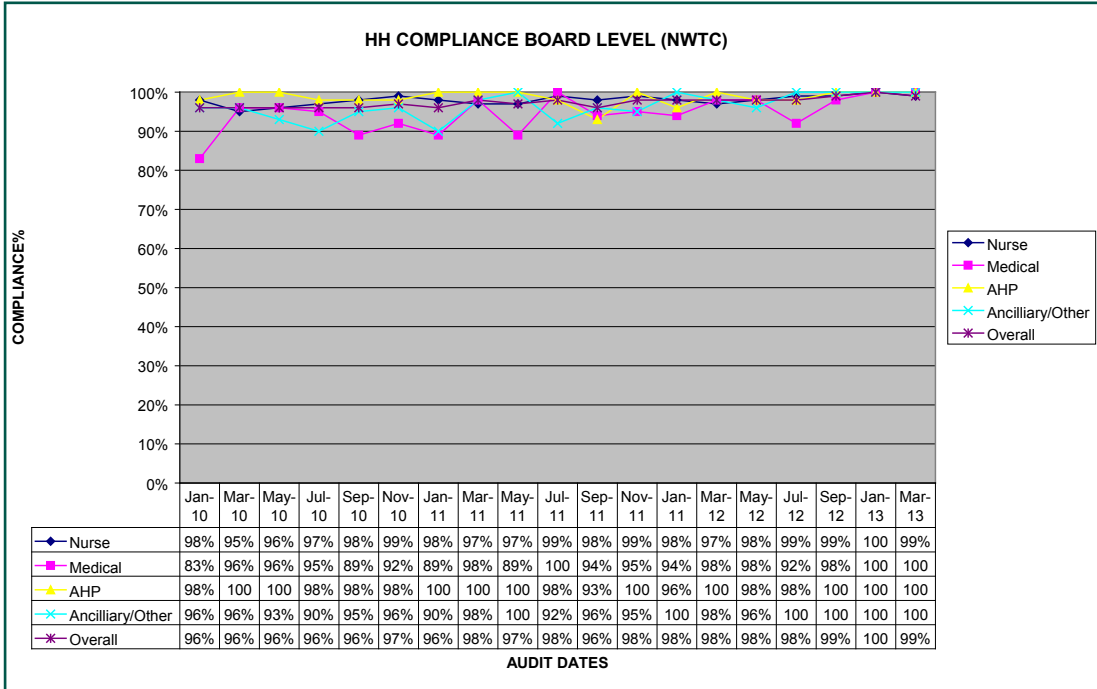
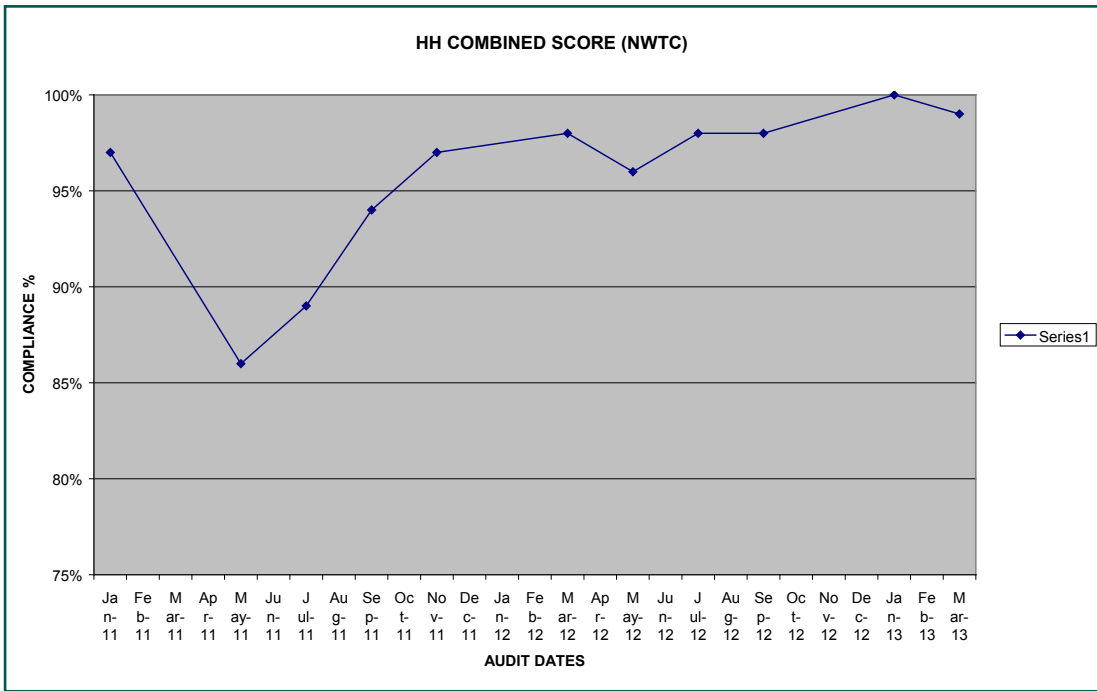
Hand hygiene is considered to be one of the most effective means of reducing and preventing the incidence of avoidable illness, in particular HAI. To raise awareness of the issues and importance of hand hygiene practice, in 2006 HPS, at the request of the HAI Task Force, oversaw the development and delivery of a National Hand Hygiene Campaign. To measure the success of the campaign, hand hygiene compliance monitoring was introduced in 2007.

GJNH has an established and embedded process that provides weekly hand hygiene audit via Lanarkshire Quality Improvement Programme (LanQIP). The aim of this system is to allow for greater local ownership of data, thereby driving local improvement as required.

The LanQIP system has subsequently been used to populate national audits since 2011.

The Local Health Board Coordinator for Hand Hygiene left post in late 2012, the outputs of this role have been incorporated in the activities of the PCINs. In addition to submission of national data, in 2013 the PCINs have been responsible for developing and implementing a hand hygiene module for Learn Pro and are proactively reviewing monthly data with feedback for improvement.

National bi monthly audits are required by the Scottish Government Health Directorates until March 2013 and provisional dates have been set for 2013-2014, however we await confirmation that the bi-monthly audits are to continue.



4. Prevention and Control of Infection Policies

All Prevention and Control of Infection policies have been reviewed as per the Policy Review calendar 2012 – 2015.

Chief Nursing Officer (2012) Implementation of National Manual Chapter 1- Standard Infection Control Precautions (SICPs)

All Boards were 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. The team has also been working with NHS Lanarkshire and NHS Greater Glasgow and Clyde to develop a national SICP compliance tool that can be housed on LanQIP.

5. Prevention and Control of Infection Programme 2012-13

The PCIP 2012/13 has achieved 93% of the projected outcomes for projects that have been completed and projects that are ongoing. The small numbers of outstanding objectives (4) are currently on hold awaiting national agency intervention.

6. Quality Improvement and Programme of Audit

All audits were completed in accordance with the 2012/13 audit plan and actions to revise issues have been completed where necessary. The audit programme is ongoing.

Our senior PCIN was successful in her application to enrol on the IHI Improvement Advisors Course. The programme of work during this period will focus on Catheter Associated Urinary Tract Infection. A team has been established in critical care and the group is currently working on developing, implementing and measuring compliance with urinary catheter maintenance within critical care.

7. 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.

NES issued the updated revised framework for mandatory induction training in 2012; our induction training has been reviewed and updated in accordance with this framework.

A number of eLearning modules have been developed by the PCINs for eJuBe in 2012/13 by the PCINs. These include:

- Induction Training – Clinical Staff
- Hand Hygiene Training

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 of the highest importance.

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 / complete the Cleanliness Champion programme within their departments – a requirement of the Healthcare Environment Inspectorate February 2011.

Cleanliness Champions Update 2013

Department	Number of staff	Number of Cleanliness Champions	%
Nursing	643.71	186	29%
AHP / Ancillary	91	8	9%
Housekeeping	60	2	3%
CSPD	18	1	5%
NWTC Total	812.71	197	24%

Staff Development

One of our PCINs was successful in her completion MSc Pg Cert Infection Control and ECDC accredited Intervention Epidemiology Methods Course.

Another PCIN continues to work toward her infection control qualification with anticipated completion in summer 2013.

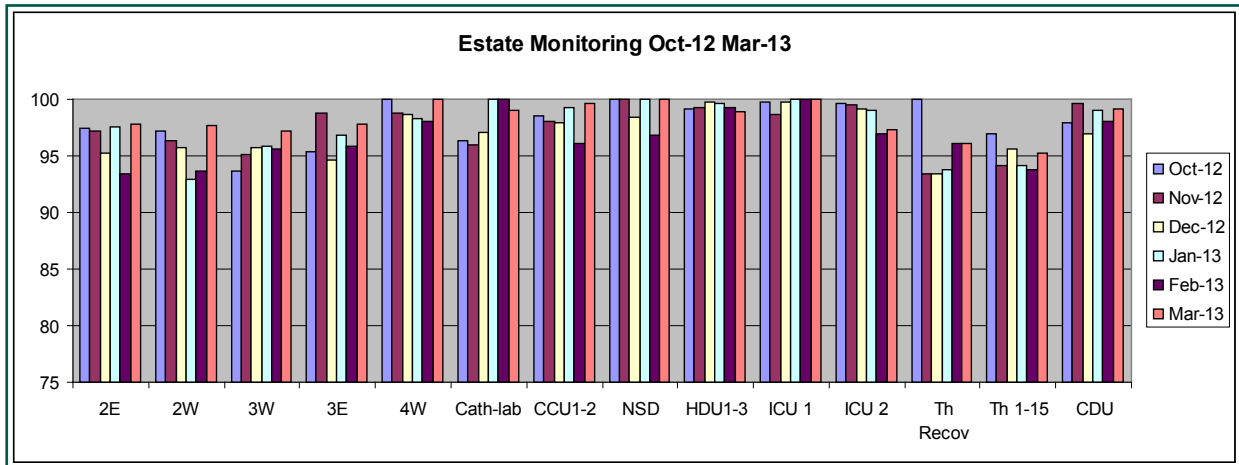
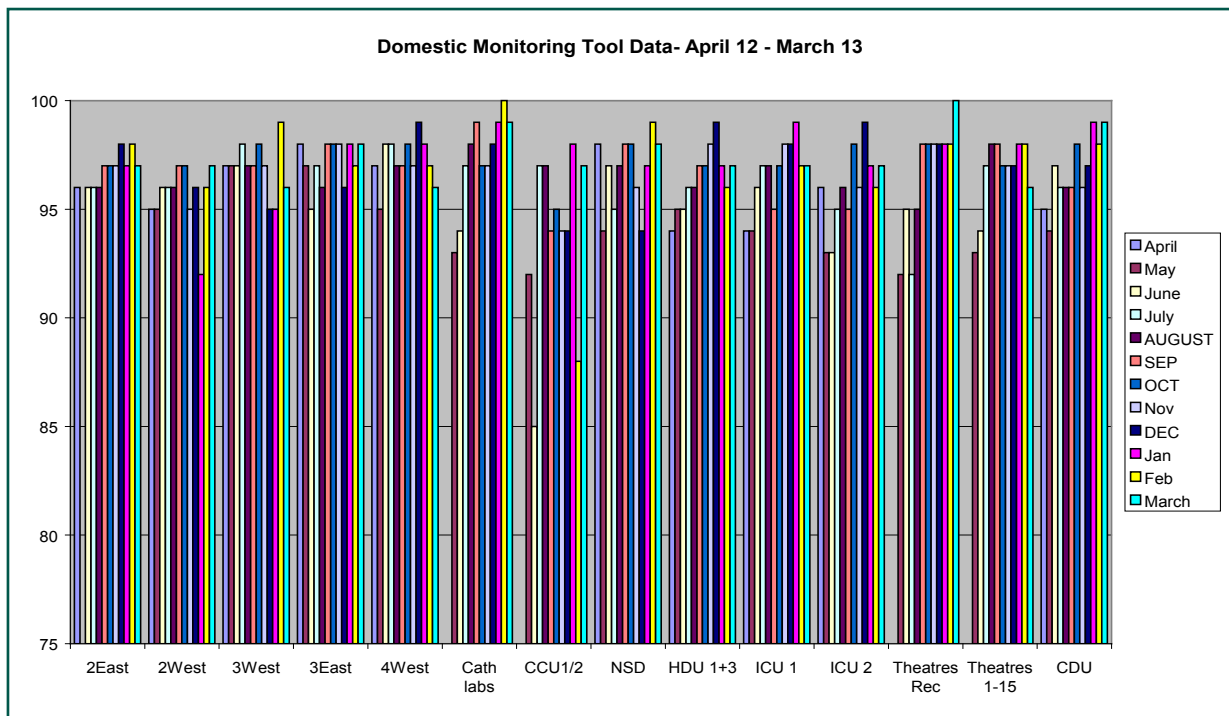
The senior PCIN currently sits on the National Career Framework advisory group introducing PCIN competencies to NHSScotland in 2013; the team are currently testing a self assessment framework for PCIN development.

8. Cleaning Services/ Housekeeping

Cleaning services continue to be monitored against the NHSScotland National Cleaning Service specifications using the HFS Domestic monitoring tool. The average cleaning score for 2012/13 was 97.1%, well above the 90% target in all areas.

The graph below shows scores for each of 14 clinical areas over the past year with the majority showing an increase in score.

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.



9. 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. A total of **50 HAI SCRIBE risk assessments** were carried out for work activity during 2012-13. 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.

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.

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.

10. Healthcare Environment Inspection

No inspections were completed in 2012/13, although we continue to promote, monitor and encourage staff towards high standards of practices and environmental cleanliness.



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