Golden Jubilee National Hospital

Prevention and Control of Infection Annual Report 2011/12

Approval record	Date approved
Golden Jubilee National Hospital Prevention and Control of Infection Manager	1 August 2012
Golden Jubilee National Hospital Board Prevention and Control of Infection Committee	17 September 2012
Golden Jubilee National Hospital Clinical Governance Committee	
National Waiting Times Centre Board Chief Executive	6 September 2012

Golden Jubilee National Hospital
NHS National Waiting Times Centre

Contents

1. Introduction

The following report details the activities of the Prevention and Control of Infection Team (PCIT) over 2011/12 against the planned Prevention and Control of Infection Programme (PCIP) agreed by the Prevention and Control of Infection Committee, key stakeholders, senior and executive managers.

The Prevention and Control of Infection Programme is supported by a number of initiatives including the following local and national drivers:

- Scottish Patient Safety Programme (SPSP)
- National Hand Hygiene Campaign
- HEAT Targets for reduction of CDI and SAB
- NHS Health Improvement Scotland (HIS) Healthcare Environment Inspectorate
- NHS QIS HAI Standards 2008
- National MRSA Screening Programme
- Monitoring of Cleaning Specifications
- Antimicrobial Management Team (AMT) 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) and 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 2011/12.

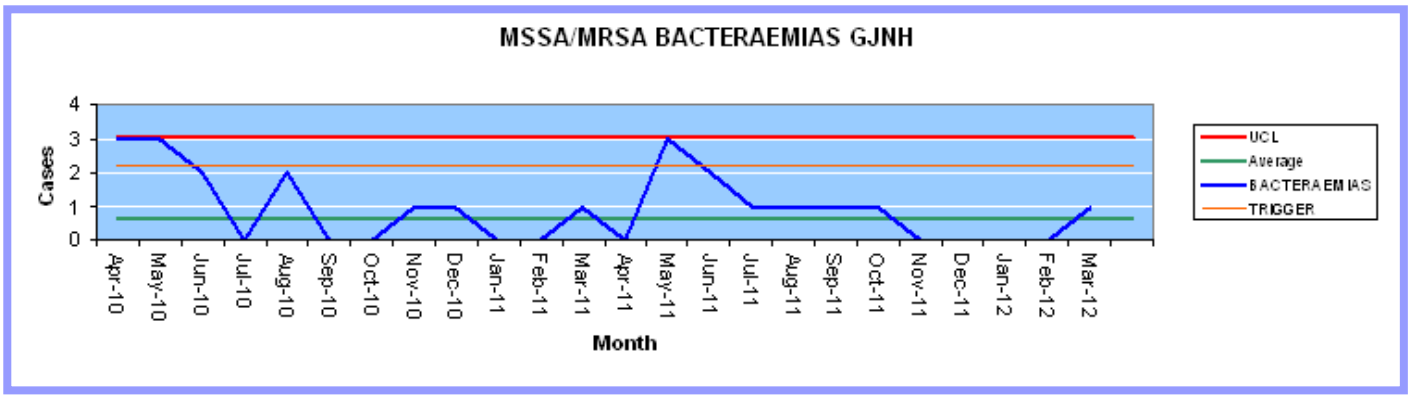
HEAT targets for CDI and SAB are set nationally and considered to be a valid proxy for effective HAI practice. We participate in the national mandatory return of data for these programmes as well as SSI surveillance of orthopaedic implant procedures and of cardiac surgery.

2. Healthcare Associated Infection (HAI)

2.1 Staphylococcus aureus Bacteraemias

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 programme 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 0.2 per 1000 acute occupied bed days (AOBD) n=10. There has been a sustained reduction in SAB over the past year with a **52% reduction** in SABs cases since April 2011.

Local approach to SAB prevention and reduction

Our overall SAB numbers are low and therefore small numbers of cases can quickly change our targeted approach to SAB reduction. Previously this has focused on the reduction of Surgical Site Infection and Catheter Related Blood Stream Infection (CRBSI) SAB's. However 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, e.g. leg ulcer/ chest infection.

Actions to reduce SAB

Broad HAI initiatives which influence our SAB rate include:

- Hand Hygiene campaign
- MRSA screening at preassessment clinics and admission
- Compliance with National Housekeeping Specifications
- Audit of the environment and practices via Prevention and Control of Infection Annual Reviews

SSI Related SAB

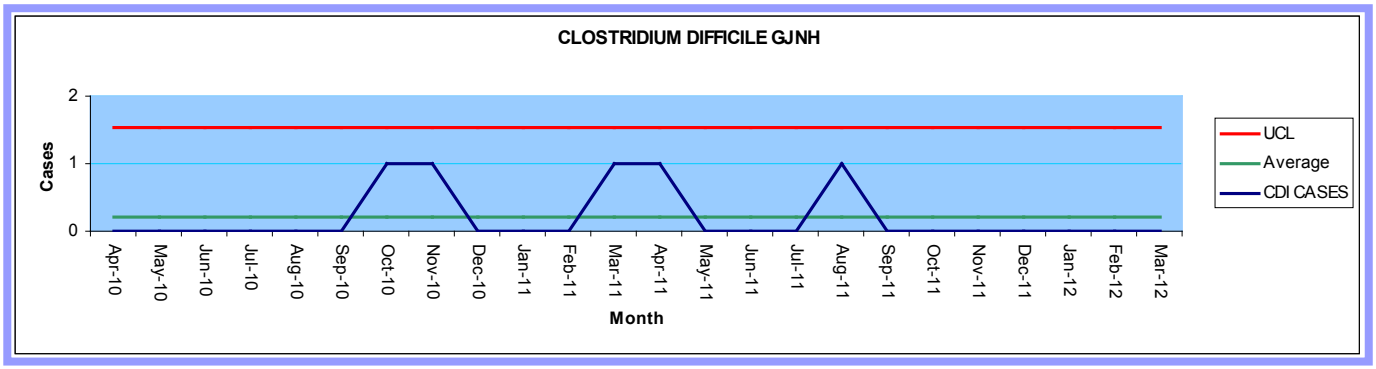
- Introduction of MSSA screening for cardiac and subsequent treatment pre and post op as a risk reduction approach.
- SSI surveillance in collaboration with Health Protection Scotland and comparison with Health Protection Agency CABG data to allow rapid identification of increasing and decreasing trends of SSI.
- Proposals to standardise post op cardiac wound care have commenced.
- A wound swabbing protocol and training tool was developed in collaboration with Cardiothoracic Nurses and issued Board wide in February.

Device Related SAB

- SPSP workstreams continue to implement and sustain compliance in peripheral vascular catheter (PVC) and central venous catheter (CVC) bundles. Introduction of Lanarkshire Quality Improvement Portal (LanQIP) allows easy assessment of compliance locally and help to target interventions accordingly.

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 Health Protection Scotland 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 0.04 per 1000 AOBDs. This demonstrates a sustained reduction over the past year with an overall **31% reduction** in C.difficile cases since April 2010.
Our numbers of CDI cases are very low in comparison with other Boards, which is likely to relate to our specialist patient population.

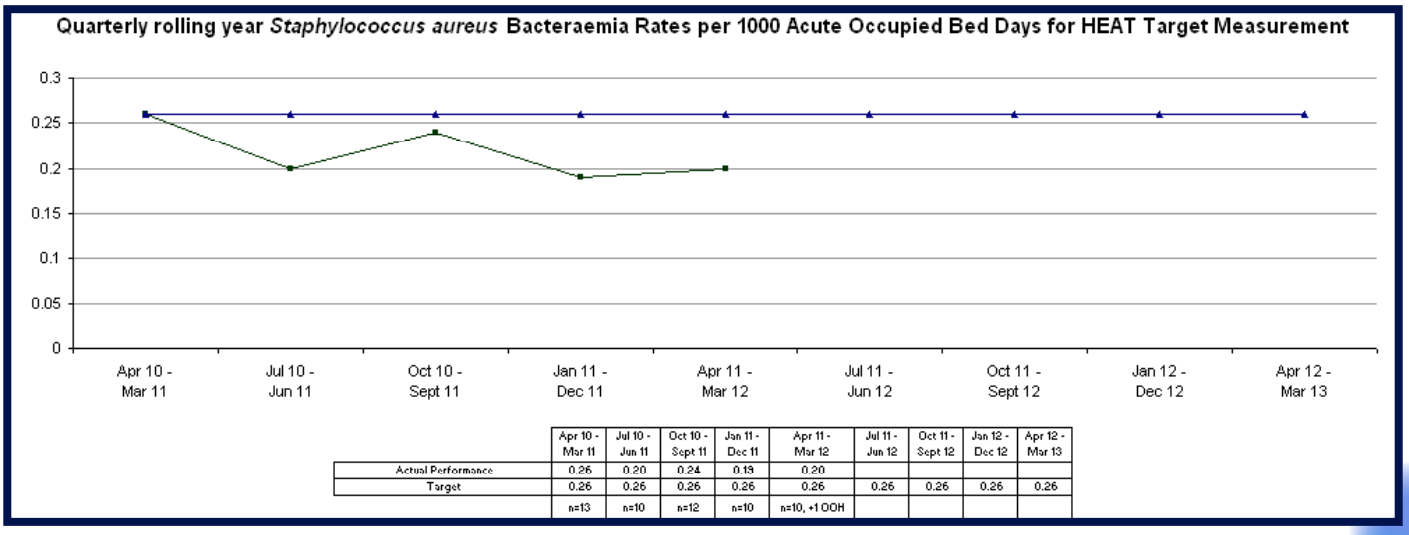
Local approach to CDI prevention and reduction

Actions to reduce CDI

- Ongoing alert organism surveillance and close monitoring of the severity of cases by the PCIT.
- Ongoing 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.
- PCIN's test SPSP Care Bundles for CDI, although because of low numbers opportunities to test are limited.
- Antimicrobial Management Team (AMT) has introduced policy changes for surgical prophylaxis 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 implementation will be through the AMT and reported to the Prevention and Control of Infection Committee and the Drug and Therapeutics Committee.
- Antimicrobial prescribing audits and monitoring of compliance with policy have been implemented by AMT.

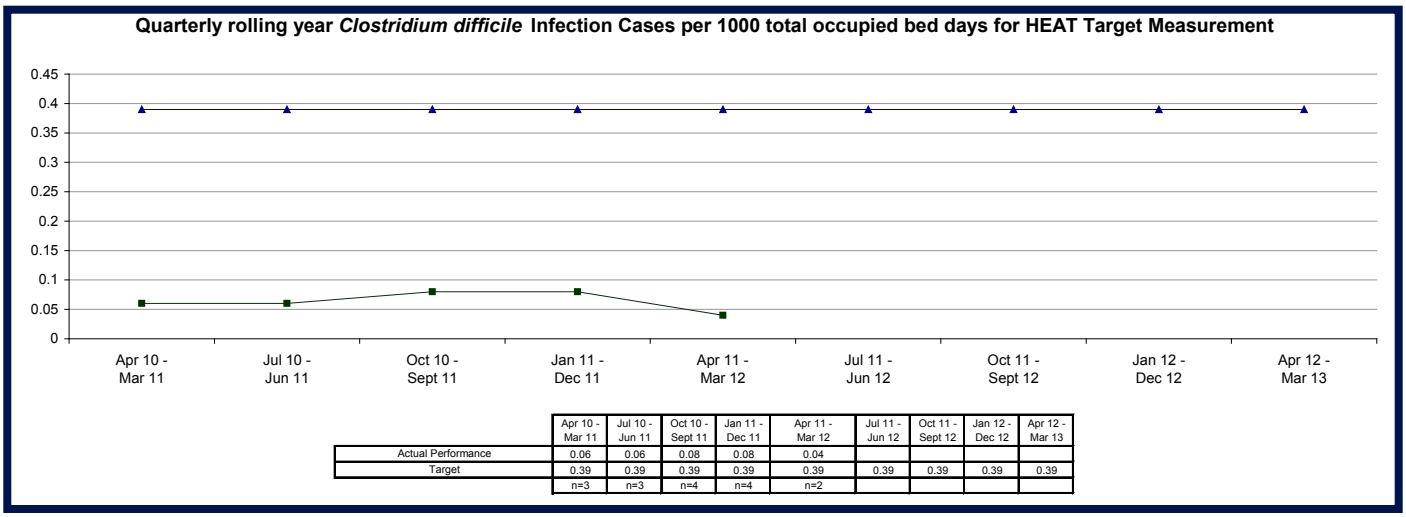
2.3 HEAT Targets

SAB reduction target is 0.26 cases per 1000 AOBD by the end of March 2013. It is recognised locally and nationally at HPS and SGHD that this will be a challenge for the Golden Jubilee National Hospital (GJNH) because of small numbers and the nature of our surgical/clinical interventions and higher risk patients



	Apr 10 - Mar 11	Jul 10 - Jun 11	Oct 10 - Sept 11	Jan 11 - Dec 11	Apr 11 - Mar 12	Jul 11 - Jun 12	Oct 11 - Sept 12	Jan 12 - Dec 12	Apr 12 - Mar 13
Actual Performance	0.26	0.20	0.24	0.19	0.20				
Target	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
	n=13	n=10	n=12	n=10	n=10, +1 OOH				

CDI reduction target in patients aged 65 and over. This target is set nationally at 0.39 cases per 1000 AOBD by the end of March 2013. However, GJNH rates are lower than the national target therefore we are expected to at least sustain this level and continue to reduce our C diff cases and as a result, our target is set at 0.1 /1000 AOBD.



	Apr 10 - Mar 11	Jul 10 - Jun 11	Oct 10 - Sept 11	Jan 11 - Dec 11	Apr 11 - Mar 12	Jul 11 - Jun 12	Oct 11 - Sept 12	Jan 12 - Dec 12	Apr 12 - Mar 13
Actual Performance	0.06	0.06	0.08	0.08	0.04				
Target	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
	n=3	n=3	n=4	n=4	n=2				

2.4 National MRSA Screening Programme roll out

In April 2009, the SGHD announced the implementation of a National MRSA Screening Programme in Scotland. The initial policy was based on the interim report of the MRSA Screening Pathfinder Programme published in April 2009.

The policy states that all elective admissions plus emergency admissions to care of the elderly, Nephrology/renal, dermatology and vascular surgery specialties should be screened for MRSA using nasal swab based screening. Special studies carried out in 2010 provided further information on the true effectiveness of nasal swabbing as a screening tool, and established that application of a simple Clinical Risk Assessment (CRA) tool, comprising three questions, allowed targeting of a small proportion of patients (around 10%) for swab screening using two anatomical sites (nose and perineum) with similar effectiveness but at a fraction of the cost. The CRA approach also offers the opportunity to apply a consistent risk-based approach to pre-emptive management of patients at high risk of colonisation and infection. In addition, SGHD has accepted the recommendation from the MRSA Screening National Steering Group and the HAI Task Force that patients in defined high-impact specialties should all be offered swab-based screening (two anatomical sites) in addition to CRA screening.

Local Approach to MRSA Screening

In February 2011 the Chief Nursing Officer CNO announced that the minimum screening practice across Scotland would be implemented fully in all eligible clinical areas by March 2012. This target has been achieved in GJNH and screening continues to be monitored monthly with exceptional results. Key performance indicators are being developed and when agreed will form the basis of ongoing reporting.

Minimum screening practice takes the form of a three question CRA:

1. Has the patient previously been MRSA positive?
2. Was the patient admitted from somewhere other than their own home? (e.g other care facility)
3. Does the patient have a wound or device present?

If there is one or more positive answer then a nose and perineal swab are taken as a minimum.

The MRSA National Programme Board also recommends that all patients in the five high impact specialties (renal, cardiothoracic, vascular, intensive care and orthopaedics) be screened as a matter of course using nasal and perineal swabs.

The majority of GJNH patients fall into this category and it has been agreed that within GJNH all patients having a minimum of one overnight stay will be screened. We will also continue to record responses to the CRA questions and this data will help to inform the direction of our screening programme as we move forward.

Our compliance with screening (see below) has been monitored monthly and with a few exceptions around emergency admissions we are now achieving 100% compliance. We have also added a locally set target for patients with stays longer than 10 days being screened on the tenth day and weekly thereafter.

	Total swabs tested	Total number of swabs MRSA positive	% of total swabs taken MRSA positive	Total number of patients tested	Total number of patients MRSA positive	
Total swabs taken between April 2011 and March 2012	36016	232	0.6%	14673	138	0.9%

April 2011-March 2012	4West	3West	3East	2C	2East	2West	CCU	NSD	ICU2	ICU1	HDU	2East general
OPD compliance	100%	100%	100%	na	100%	100%	na	100%	100%	100%	100%	100%
Admit compliance	100%	100%	100%	94%	100%	100%	98%	100%	100%	100%	100%	93%
Compliance checked with lab result	100%	100%	100%	94%	100%	100%	98%	100%	100%	100%	100%	93%
10 day or weekly screened carried out	100%	95%	98%	na	99%	98%	100%	100%	99%	na	100%	100%

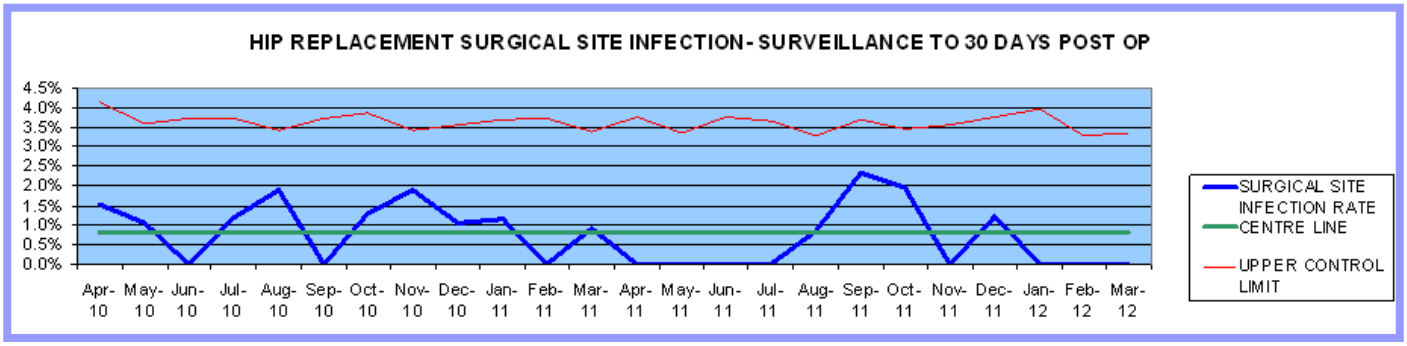
2.5 Scottish Surveillance of HAI programme (SSHAIP)

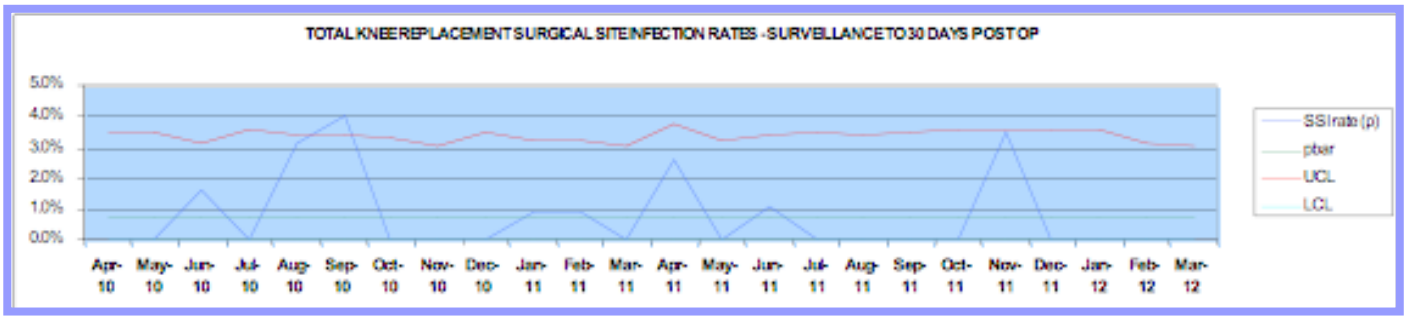
The Scottish Surveillance of HAI Programme (SSHAIP) within HPS coordinates the SSI surveillance programme. The programme is mandatory in NHSScotland and all NHS boards are currently required to undertake surveillance for caesarean section and hip arthroplasty procedures as per Health Department Letter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

However, to support the Point Prevalence Survey (PPS) in 2011, the SGHD issued temporary amendments to the national surveillance requirements of HDL 2006 (38). This enabled SSI light surveillance methodology to be applied to mandatory and non mandatory procedures from 1 July 2011. SSI light surveillance collects denominator data for each procedure category plus detailed patient level data on each SSI as per the current methodology i.e. SSI forms are completed for SSIs diagnosed and not for all patients undergoing a procedure. Post discharge surveillance (PDS) via re-admission data to 30 days post op were unaffected by the amendments.

Orthopaedic Surgery Surveillance

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

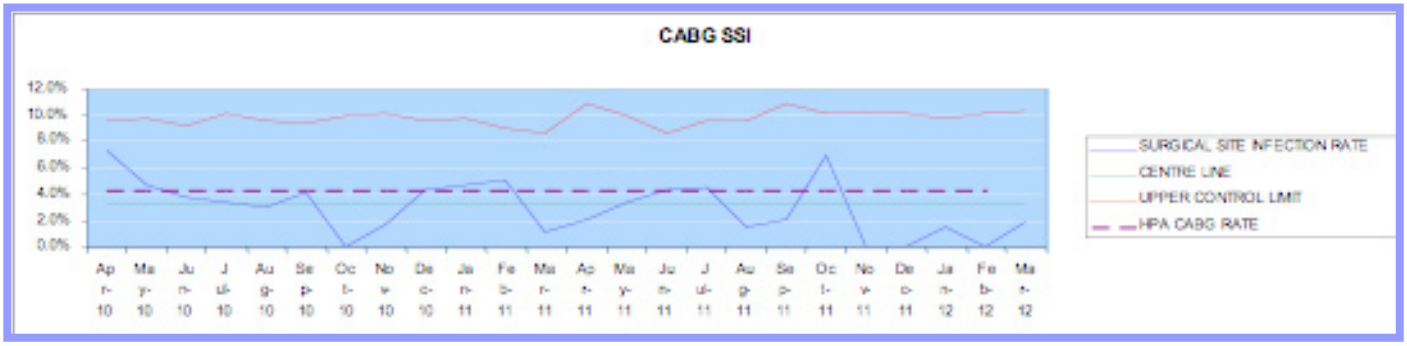


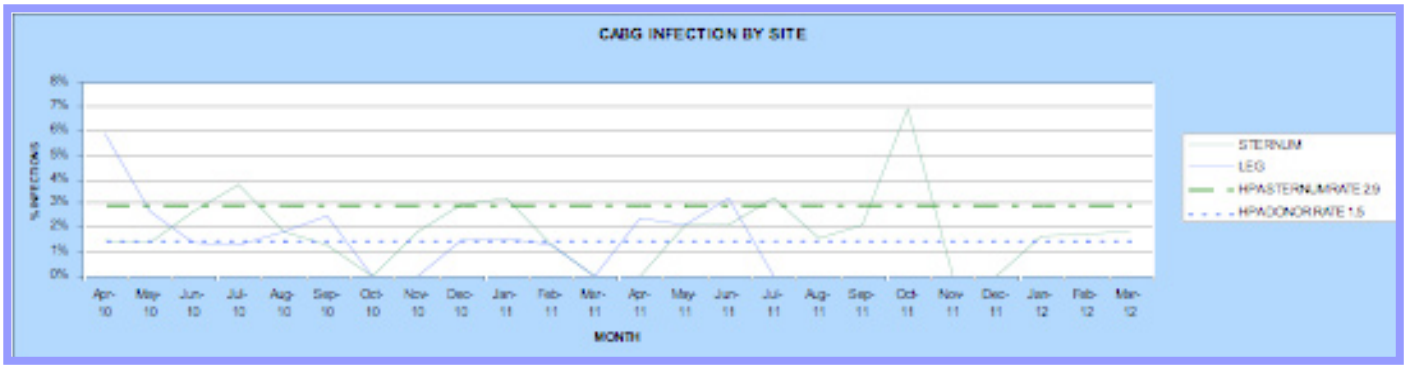


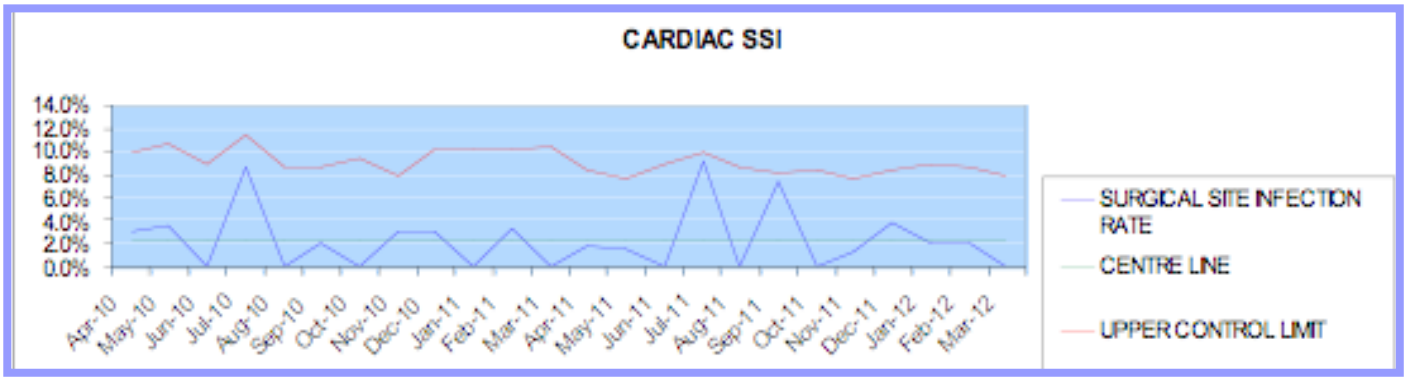
Coronary Artery Bypass Graft (CABG) and Valve Surgery Surveillance

Cardiac surveillance is performed from surgery to 30 days post discharge. Following a meeting with epidemiologists at HPS, benchmarking of SSI rates has been agreed with HPA for CABG surgery.

CABG and cardiac surgery has been aligned into separate groups, in order to report SSI rates comparable to HPA. The HPA rate is noted within the SPC chart for CABG, HPS data for cardiac surgery will be available in the near future. All CABG and Cardiac data are within control limits.







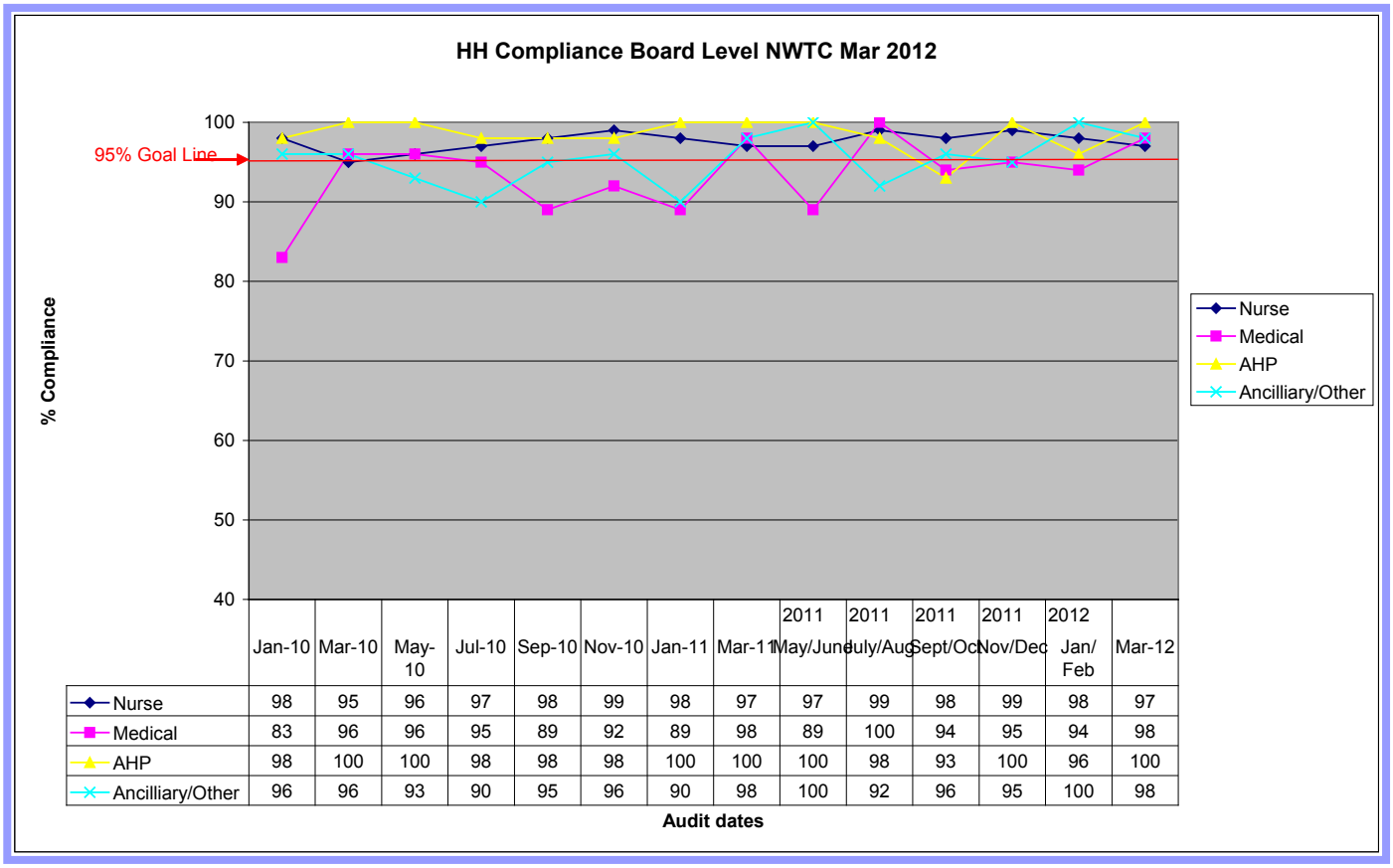
3. Hand Hygiene

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.

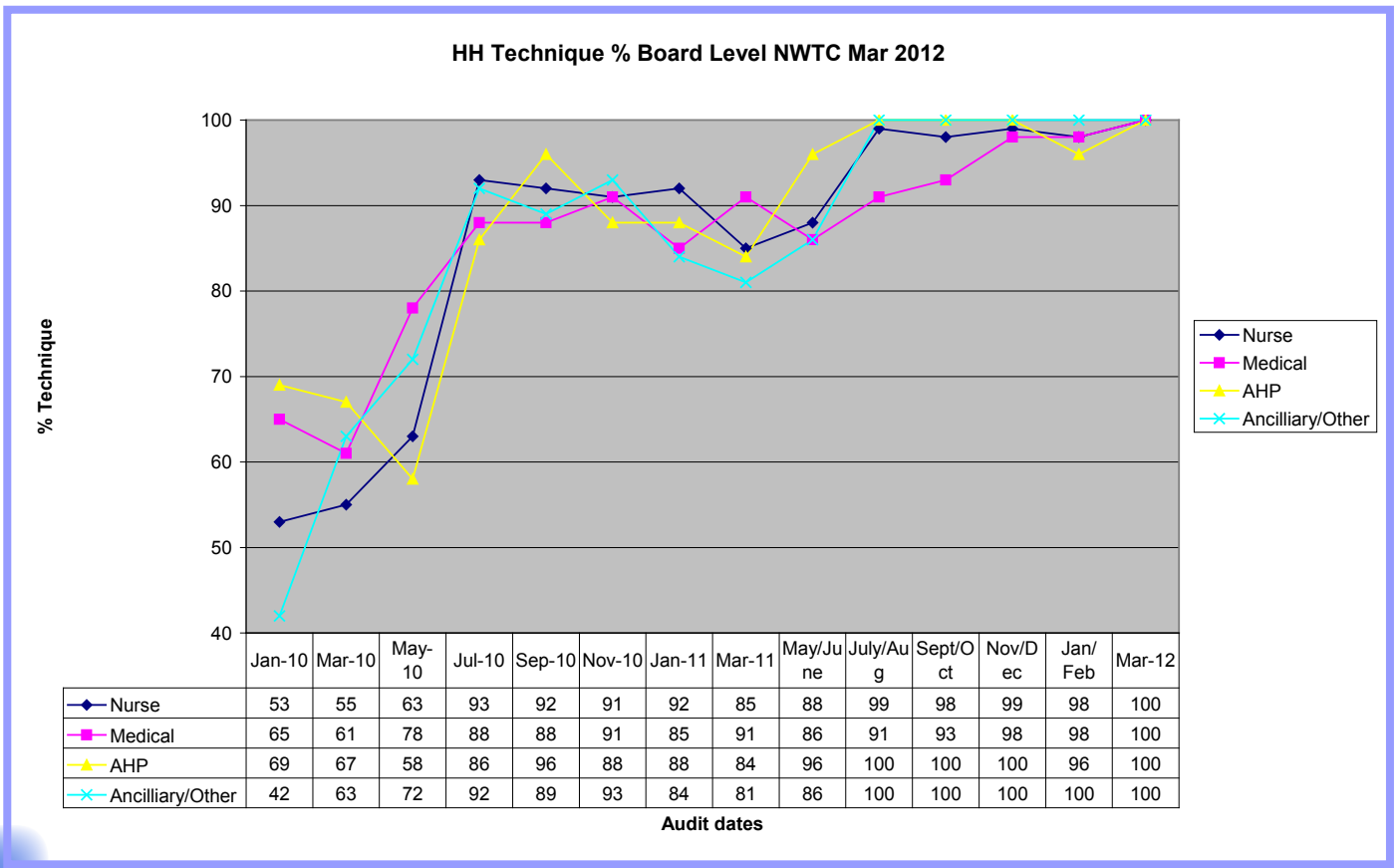
The objective of this campaign was to reduce avoidable infection amongst patients, staff, visitors and the general public by improving hand hygiene practice in Scotland. The audience for the campaign included both the public and NHS staff, patients and visitors. It was intended that as a consequence of the campaign, there would be a sustainable change in the culture towards hand hygiene practices by everyone.

To measure the success of the campaign, hand hygiene compliance monitoring was introduced in 2007. In 2008, to assist NHS Boards to achieve the campaign goals, Local Health Board Co-ordinators (LHBCs) were appointed across NHSScotland. These LHBCs worked within their own NHS Boards to promote, measure and develop hand hygiene practices amongst all NHS Staff. The appointment of LHBCs enabled a uniform approach to measurement to be developed and provided a forum for good practices to be shared. The measurement of hand hygiene was enhanced in 2009 following the launch of a zero tolerance approach to non-compliance with hand hygiene by the Cabinet Secretary for Health and Wellbeing. Monitoring of hand hygiene was increased from quarterly to bi-monthly and the measurement was extended to all clinical areas.

Annual data



	Jan-10	Mar-10	May-10	Jul-10	Sep-10	Nov-10	Jan-11	Mar-11	2011 May/June	2011 July/Aug	2011 Sept/Oct	2011 Nov/Dec	2012 Jan/Feb	Mar-12
Nurse	98	95	96	97	98	99	98	97	97	99	98	99	98	97
Medical	83	96	96	95	89	92	89	98	89	100	94	95	94	98
AHP	98	100	100	98	98	98	100	100	100	98	93	100	96	100
Ancilliary/Other	96	96	93	90	95	96	90	98	100	92	96	95	100	98



	Jan-10	Mar-10	May-10	Jul-10	Sep-10	Nov-10	Jan-11	Mar-11	May/June	July/Aug	Sept/Oct	Nov/Dec	Jan/Feb	Mar-12
Nurse	53	55	63	93	92	91	92	85	88	99	98	99	98	100
Medical	65	61	78	88	88	91	85	91	86	91	93	98	98	100
AHP	69	67	58	86	96	88	88	84	96	100	100	100	96	100
Ancilliary/Other	42	63	72	92	89	93	84	81	86	100	100	100	100	100

Data Collection

GJNH has established and embedded a process that provides weekly hand hygiene audit via LanQIP. LanQIP is a data repository system for live audit data and includes hand hygiene, along with other SPSP measures plus Clinical Quality Indicators. This 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 in 2011/12.

LHBC Role

The LHBC has taken on the additional responsibility of the SPSP programme management. The exit strategy has always revolved around the integration of hand hygiene activity into the SPSP programme and that audit and policy compliance would be driven by ward/department staff.

There was the ongoing challenge of encouraging staff to take ownership of data - encouraging action plans and addressing poor compliance and technique locally, ensuring local audits are robust etc. Any area perceived as having a poor quality audit process were coached/ trained and advised on how to ensure a better process. In addition, each department was issued a strategy outlining what hand hygiene activity should be underway in each area.

Education and Mandatory Training

Hand Hygiene training is mandatory for all staff on an annual update basis – this is provided via direct training sessions and we have also introduced an eLearning module on eJube. This has been received particularly well by clinical staff who can find it more difficult to attend sessions because of their clinical commitments.

Zero Tolerance

We continue to promote the concept of zero tolerance to non-compliance with hand hygiene.

4. Scottish National Point Prevalence Survey of HAI and Antimicrobial Prescribing

The team collected data for submission to the National PPS in September 2011.The results of this PPS indicate that HAI is lower in acute and non-acute care than the last national survey. This national picture is mirrored here locally and affirms our targeted interventions in relation to SSI and SAB.

5. Prevention and Control of Infection Link Practitioners (PCILP)

PCILP competencies were developed for 2011/12 to focus the work of the PCILP network. The success of this work has depended greatly on the commitment of the individual PCILP and Senior Charge Nurses SCN. PCILP competencies have been reviewed for 2012/13 and aim to continue to promote PCILP collaboration.

6. Prevention and Control of Infection Policies

All Prevention and Control of Infection policies have been reviewed as per the Policy Review calendar 2009 – 2011. A new review calendar is in place for 2012-15 with reviews progressing to plan.

7. Prevention and Control of Infection Programme (PCIP) 2011-12

The ICP 2011/12 has achieved 94.9% of the projected outcomes for projects that have been completed and projects that are ongoing. The small numbers of outstanding objectives (five) are currently on hold.

8. Quality Improvement and Programme of Audit

All audits were completed in accordance with the 2011/12 Audit Plan and actions to revise issues have been completed where necessary. The audit programme is ongoing.

9. HAI Education

Cleanliness Champion Programme

There are currently 108 Cleanliness Champions who have completed the programme within the organisation. In addition there are staff who completed the programme within other organisations or during nursing training programmes.

The HEI announced visit in 2011 set as a requirement that the organisation "Be able to demonstrate uptake and completion of the cleanliness champion programme to meet targets set nationally".

Senior Charge Nurses are responsible for demonstrating uptake within their departments and are responsible for updating their records when new staff complete their programme or staff leave the department.

Version 2 of the programme was reviewed in 2011 and, as a result, Version 3 is to be launched in May 2012 and will be accessed via learnPro.

All learners to Version 2 are required to complete the programme within a six month time limit, and this will also apply to Version 3.

HAI Education

The Prevention and Control of Infection Team delivers an annual programme to all members of staff and includes induction, core training and mandatory annual updates.

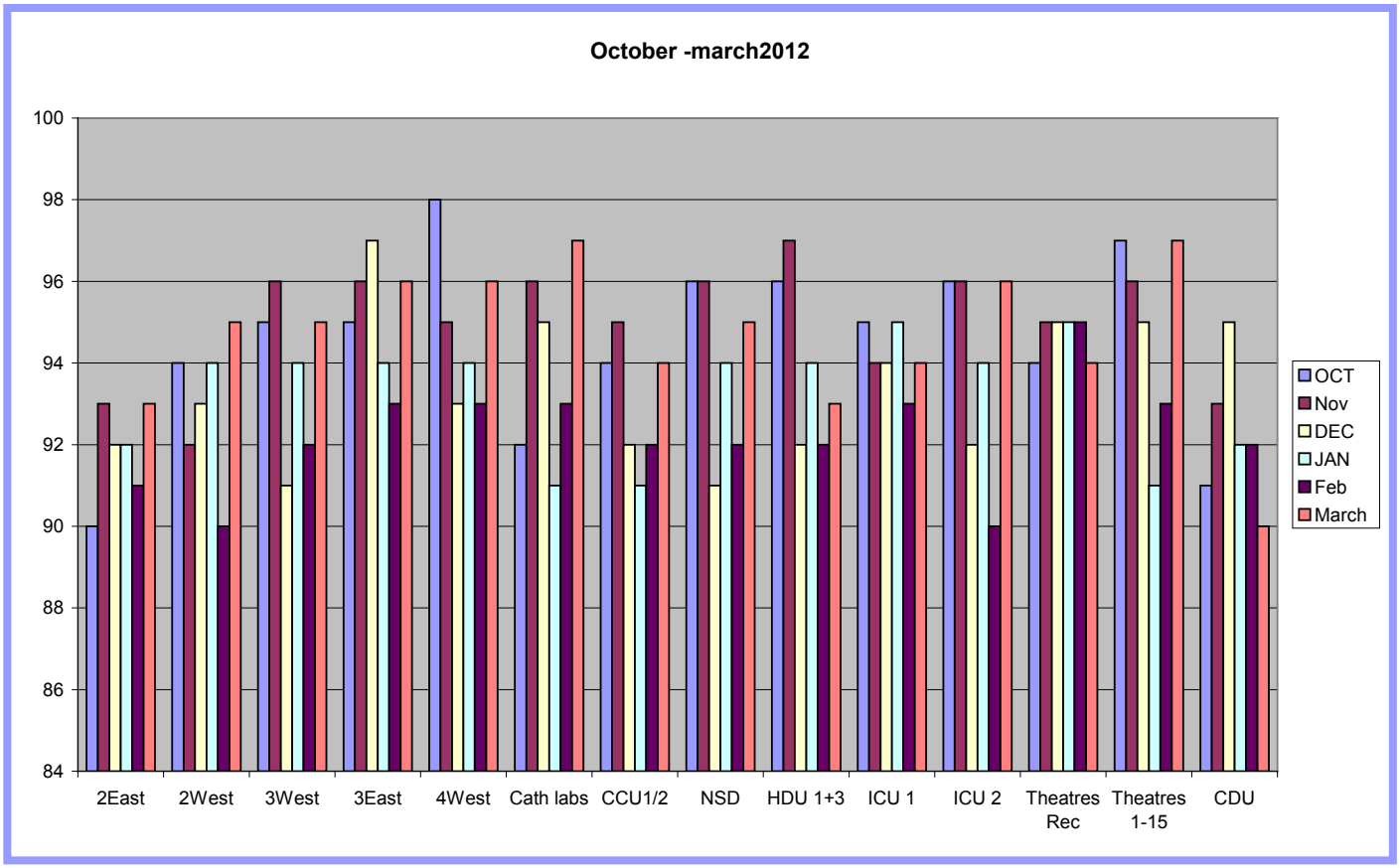
The HAI Education Group is a subgroup of the Prevention and Control of Infection Committee and is responsible for ensuring that mandatory training is being delivered. The PCIM is the HAI Education lead and is a member of the NES HAI Education Lead Group with responsibility for updating the committee on any developments in HAI education.

A number of eLearning modules have been developed by the team for eJuBe in 2011/12 by the PCIN's. These include:

- Hand Hygiene – Clinical Staff
- Induction Training for Medics
- Tuberculosis

10. Cleaning Services/ Housekeeping April 2011-March 2012

The average cleaning score for 2011/12 was 93.5%. This is an increase from 91.7% over 2010/11. The increased score over the past two years is partly due to the introduction of nightshift housekeeping staff to deal with areas which are difficult to access during the day, e.g. theatres, cardiac catheterisation labs and outpatient departments. However, scores have also improved at a time of increased scrutiny. According to the revised cleaning specifications, most of our wards and departments met the criteria for high risk areas which require increased frequency for cleaning and audit.



11. 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. The number of HAI SCRIBE risk assessments carried out throughout this period was 48. This multidisciplinary scribe is followed by continuous monitoring by the Prevention and Control of Infection and Housekeeping teams during the duration of the working project.

12. Healthcare Environment Inspection

The HEI carried out an unannounced inspection on 27 March 2012, reporting that the hospital was very clean and commending our very low infection rates. Two requirements were highlighted during the inspection.

1) The inspection highlighted a problem with our electronic policy management system whereby a default review date is attached automatically, and this did not match the three year rolling review programme dates. This has been reviewed and dates have been reset.

2) Our hand hygiene policy update had been delayed until the National Infection Prevention and Control Manual Standard precautions and audit frequencies are agreed and reissued. However, HEI have issued a requirement that our hand hygiene policy reflects the national policy. This will be implemented before the national deadline of 30 June 2012.

The next inspection could be announced or unannounced and therefore our challenge is to continue to maintain our high standards and improve on this first inspection. Get it right first time, every time.

13. Tissue Viability

The Tissue Viability Service is facilitated by one Tissue Viability Nurse supported by Tissue Viability Link Practitioners and the Tissue Viability Group.

Pressure Ulcer Prevention

A Pressure Ulcer Prevalence Audit was completed in April 2011 and, while the results showed a low prevalence, it highlighted areas for improvement. Training has been given to all clinical areas on how to improve practice. One issue highlighted from the audit was the lack of a preventative care plan for patients with pre-existing pressure damage and patients at risk of pressure damage; this has been taken forward by The National Tissue Viability Programme for Pressure Ulcer Prevention programme.

The National Tissue Viability Programme for Pressure Ulcer Prevention is in the third year and looking at the implementation of paperwork to help assist in the prevention and care of clients with pressure ulcers. The Tissue Viability Nurse is the local facilitator for the Board and has taken the lead with embedding and assessing compliance the Pressure Ulcer Safety Cross and the Surface, Skin inspection, Keep moving, Incontinence and Nutrition SSKIN Care Plan Bundle into the appropriate clinical areas. The Tissue Viability Nurse works with the Senior Charge Nurses and Clinical Educators with the training on these documents.

Wound Assessment

Wound assessment and accurate documentation continue to be two critical elements of effective wound care. The initial and ongoing assessments provide the information on which the subsequent plan of care is based. Documentation provides a record and evaluation of the wound status, on which changes to the plan are based. National documentation from the National Tissue Viability Programme has been implemented gradually within the Board since 2009, and is now fully established in all appropriate clinical areas.

Tissue Viability and Cardiothoracic Surgery

Following a successful trial, post operative cardiac dressing has been standardised and fully implemented (the Jubilee Technique of a combined hydrofibre and hydrocolloid) for all patients.

In 2010 the Tissue Viability Service became involved in the dressing management of Ventricular Assisted Devices. This involved developing guidelines and educating staff, patients, carers and members of the Primary Care Team. A step by step guideline has been developed and is currently in use for staff, patients and carers to assist when changing the dressings.

Wound Clinic

The Wound Clinic continues to help manage outpatients with any wound issues. Referrals are taken from Primary Care, Consultants, Senior Nursing Staff and Cardiac Rehabilitation nurses.

Education

Education is ongoing within Tissue Viability with sessions provided during induction and hospital core training days attended annually by all staff. Ad hoc training continues as required, either at the patient bedside when reviewing and advising on a wound, or as requested by the clinical areas.

Profiling Surfaces

Profiling surfaces (special mattresses, pressure relieving equipment etc) are still ordered externally on a rental basis to meet the needs of the hospital. The efficiency of this service has been reviewed and an internal store of profiling equipment for Critical Care has been established allowing all patients in Critical Care to be placed on the appropriate equipment at the appropriate time.

Wound Formulary

The West of Scotland Technical User Group (TUG) are currently developing a wound formulary for all boards. When complete, the formulary will be implemented in the hospital. This should rationalise the use of wound care products across Scotland.

Negative Pressure Wound Therapy

Negative Pressure Wound therapy is actively used in the Board. Following evaluation of various systems over 2011/12, two devices are currently in use. Tissue Viability Link nurses had initial training and then cascaded to staff in the clinical areas. Training continues to be provided through the Tissue Viability Link meetings and on an ad hoc basis. Working with the educators from both companies, competencies in Negative Pressure Therapy for nursing staff are being adapted for GJNH.

Prevention and Control of Infection / Tissue Viability / Housekeeping Team

Infection Control Doctor	**Dr Giles Edwards**
Senior Manager Prevention and Control of Infection	**Robert Gray**
Prevention and Control of Infection Nurses	**Sandra McAuley (Senior Nurse)** **Susan Emmerson** **Lorna Walls**
Tissue Viability Nurse	**Eilidh Henderson (Seconded post)** **Annette Hollis (Mat Leave)**
Local Health Board Co-ordinator, Hand Hygiene / SPSP Programme Manager	**Bernadette McCulloch**
Housekeeping Operational Manager	**Lynn Moffat**

Supported by the Laboratories, the Prevention and Control of Infection Link Practitioners, Cleanliness Champions, Clinical Educators, Housekeeping Department and all hospital staff.