ANNUAL INFECTION PREVENTION AND CONTROL REPORT
2013/14

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May 2014
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1. **INTRODUCTION**

This is the 2013/14 Greater Glasgow & Clyde Annual Infection Prevention and Control Report. The report outlines progress within NHSGGC against the key objectives set out in the 2013/14 Annual Infection Prevention and Control Programme.

Prevention and control of infection continues to have the highest priority within NHSGGC and the Board Infection Control Committee (BICC), in conjunction with clinical service providers, has developed and implemented a challenging programme of work during 2013/14.

During 2013/14 NHSGGC has implemented a range of measures and controls which are working toward the March 2015 HEAT Targets for *Staph aureus* bacteraemias and *Clostridium difficile* Infection (CDI). The NHS Board and Quality & Performance Committee continue to receive ongoing assurance through the publication of bi-monthly reports on key indicators for the prevention and control of infection. Central to these achievements are the detailed work plans, governance systems and monitoring and reporting arrangements for the effective Infection Prevention and Control of infection across NHSGGC.

Good practice in Infection Prevention and Control does not rest solely within the remit of our Infection Prevention and Control Committees and Teams. Every member of staff has a professional responsibility to prevent healthcare associated infection and is accountable for their actions in relation to this. Our service users expect and require us to apply evidence based practice at all times. The most up to date version of the Infection Prevention and Control policies and links to education modules can be found at: [www.nhsggc.org.uk/infectioncontrol](http://www.nhsggc.org.uk/infectioncontrol)
2. **HEALTHCARE EFFICIENCY AND ACCESS TO TREATMENT TARGETS (HEAT)**

*Staphylococcus aureus* Bacteraemias (SAB)

The revised National HEAT target requires all Boards in Scotland to achieve a rate of 24 cases per 100,000 AOBDs or lower by 31\textsuperscript{st} March 2015. For the last available reporting quarter (January – March 2014), NHSGGC reported 26.3 cases per 100,000 AOBDs and NHS Scotland reported 28.4 per 100,000 AOBDs.

![NHSGGC MRSA/MSSA Bacteraemia rate per 100,000 Acute Occupied Bed days](chart)

The last two quarters of 2013 had shown an increase in the amount of reported cases. During this period, 42% of hospital acquired *Staphylococcus aureus* Bacteraemias were directly associated with an intravenous access device (peripheral and central venous catheters). A subsequent reduction in overall case numbers was achieved in the first quarter of 2014.

Peripheral Venous Catheters (PVCs) are one of the most frequently used medical invasive devices within healthcare, with over 30% of patients having one in place at any one time.
Central Venous Catheters (CVCs) are already commonplace within intensive care and renal dialysis units however they are also becoming more routine within acute and community healthcare provision for cancer treatment, nutritional support and for the delivery of long courses of prescribed medication such as antimicrobial therapy.

In conjunction with Practice Development and Interventional Radiology we have developed a standardised approach across the Acute Division to the insertion & maintenance of PVCs and CVCs. A new PVC care plan was trialled at the Royal Alexandra Hospital and received very favourable user feedback from clinical teams and will be implemented throughout NHSGGC in late Spring 2014. To complement the introduction of the Vascular Access Policy a PVC Standard Operating Procedure (SOP) for Adults and information posters have also been developed, again for use throughout the Acute Division.

A CVC care plan and SOP have also been developed to ensure a consistent approach to insertion & maintenance of these devices within NHSGGC experienced an 11.5% increase from the previous year on the total number of SABs, however, the proportion of cases now reported as ‘out of hospital’ is also increasing. In 2013, 62% of MSSA/MRSA bacteraemias met this definition. Further stratification of ‘out of hospital’ cases is shown in Figure 2. There was also a slight increase in the amount of MSSA/MRSA bacteraemia specimens that were deemed contaminants. This would indicate that the technique used to obtain the blood culture was in some way sub-optimal. This may be from contamination from the patient’s skin due to inadequate cleansing by the clinician prior to obtaining the blood culture or from the clinician contaminating any part of device used to take the culture by poor aseptic technique.

For national reporting; because these samples have isolated *Staphylococcus aureus* they are still counted as bona fide cultures, irrespective of the patient’s clinical condition and are considered as ‘out of hospital’ infections.
Thirty seven per cent of all SAB cases have had some healthcare interaction (hospitalisation, invasive device management, wound management as an outpatient / community patient, or renal dialysis as an outpatient / community patient) within the previous 12 months and had a blood culture specimen taken on arrival to hospital or less than 48 hours after admission. Targeted invasive device management interventions will also have an impact on reducing cases in patients receiving care out with the acute hospital environment, most notably in vascular access devices such as tunnelled central venous catheters in renal dialysis patients.

A Clinical Review Tool (CRT) has been developed to enable local clinical investigation and take cognisance of treatment, preventative actions and recommendations. All completed CRTs will be analysed and reported quarterly to identify lessons learned and examine possible future interventions.

**Figure 2**

![Origin of MSSA/MRSA Bacteraemia Cases reported in 2013 (n=463)](chart)

- **Contaminated** (n=22) 5%
- **True community** (n=94) 20%
- **COHAI** (n=173) 37%
- **HAI** (n=174) 38%

62% of cases in 2013 were 'Out of Hospital' infections

**Current situation**

Figures for the first two months of 2014 have shown a significant decrease in patient cases. Sustaining this reduction in those cases which are amenable to improvement requires the continued support of all clinical staff within the acute directorates to ensure that optimal practice is upheld in procedures which require an aseptic technique e.g. invasive device insertion and intervention, blood culture technique, wound care, etc.
**Clostridium difficile**

A revised HEAT target due to be achieved in 2015 is a reduction in the rate of *Clostridium difficile* infections (CDI) in persons aged 15 and over to 32 cases or less per 100 000 total occupied bed days. This acknowledges the prevalence of CDI in those aged 15-64 and subsequent national reports will include this extended dataset.

The National Report published April 2014 (October - December 2013) shows the rate of *C. difficile* within NHSGGC as 31.9 cases per 100 000 occupied bed days in ages 15 & over and places the Board below the national mean (32.9 cases per 100 000 OBDs). (Figure 3)

![NHSGGC Clostridium difficile infection rate per 100 000 total occupied bed days in ages 15 & over April 2009 - December 2013](image)

Figures for those aged 15 & over, 15- 64 and ages 65 & over are displayed in table 1.

**Table 1.**

<table>
<thead>
<tr>
<th>Age group</th>
<th>NHSGGC (cases per 100 000 OBDs)</th>
<th>Scotland (cases per 100 000 OBDs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 &amp; over (HEAT target)</td>
<td>31.9</td>
<td>32.9</td>
</tr>
<tr>
<td>15-64 years</td>
<td>29.9</td>
<td>35.2</td>
</tr>
<tr>
<td>65 &amp; over (previous HEAT target)</td>
<td>32.8</td>
<td>32.0</td>
</tr>
</tbody>
</table>

Infection Control Teams in NHSGGC complete the Health Protection Scotland Trigger Tool if there are two or more linked HAI cases of CDI in any clinical area in a two week period. Part of this process includes the referral to the Antimicrobial Management Team who will review the use of antibiotics within the area.
3. **THE SCOTTISH NATIONAL HAND HYGIENE CAMPAIGN**

The campaign was launched in January 2007 with the aim of improving hand hygiene compliance amongst frontline NHS staff and providing education to the public. Local Health Board Co-ordinators (LHBCs) were employed in all Health Boards to implement the key aims of the campaign.

NHSGGC has systems in place to monitor Hand Hygiene Compliance on a monthly basis in all clinical areas. These results are utilised to populate the bi-monthly HAIRT reports.

A summary of the HAIRT results are shown below.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AHP</td>
<td>97%</td>
<td>97%</td>
<td>97%</td>
<td>97%</td>
<td>98%</td>
<td>98%</td>
<td>99%</td>
</tr>
<tr>
<td>Ancillary</td>
<td>91%</td>
<td>92%</td>
<td>97%</td>
<td>93%</td>
<td>94%</td>
<td>92%</td>
<td>94%</td>
</tr>
<tr>
<td>Medical</td>
<td>95%</td>
<td>94%</td>
<td>95%</td>
<td>96%</td>
<td>96%</td>
<td>94%</td>
<td>95%</td>
</tr>
<tr>
<td>Nurse</td>
<td>99%</td>
<td>99%</td>
<td>99%</td>
<td>99%</td>
<td>99%</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>Board Total</td>
<td>97%</td>
<td>97%</td>
<td>98%</td>
<td>98%</td>
<td>98%</td>
<td>97%</td>
<td>98%</td>
</tr>
</tbody>
</table>

These represent *Combined Compliance*, when a member of staff must follow Correct Technique Criteria when carrying out hand hygiene opportunities. This includes being bare below the elbows.

Quality Assurance of the process and methodology adopted by the wards is carried out by the LHBC, in accordance with the directive from SGHD that each Health Board be responsible for this.
4. **SURVEILLANCE – NATIONAL PROGRAMMES AND MANDATORY REQUIREMENTS**

HDL (2006) 38 & CEL 11 (2009) detail the mandatory requirement for HAI Surveillance. NHSGGC remains fully compliant with the requirements of these documents in both undertaking and reporting surveillance on the following.

- Meticillin Resistant *Staph aureus* Bacteraemias (MRSA)
- Meticillin Sensitive *Staph aureus* Bacteraemias (MSSA)
- *Clostridium difficile* Infections (CDI)
- Surgical Site Infection (SSI) in hip arthroplasty, knee arthroplasty, caesarean section, large bowel surgery and repair of neck of femur

For the last nationally comparable quarter (1st October 2013 to 31st December 2013), NHSGGC Surgical Site Infection rates for knee arthroplasty and repair of neck of femur procedures were marginally above the national rate but remain within 95% confidence intervals. From June 2013, NHSGGC no longer report Reduction of Long Bone as a procedure category following changes to the coding structure with the release of 6th Edition Surgical Site Infection Surveillance Protocol. There were no infections reported during the review in large bowel surgery and this surveillance has now concluded.

The SSI rates for Caesarean section (inpatient and PDS to day 10), Hip arthroplasty (inpatient and readmission to day 30), Knee arthroplasty (inpatient), Large bowel surgery (inpatient) and Repair of neck of femur (inpatient) procedures within NHS Greater Glasgow & Clyde, 01/10/2013 - 31/12/2013 are presented in Table 3 below:

<table>
<thead>
<tr>
<th>Category of Procedure</th>
<th>Surveillance Type</th>
<th>Number of Procedures</th>
<th>SSI</th>
<th>SSI Rate (%)</th>
<th>95% Confidence Interval</th>
<th>National SSI rate (%)</th>
<th>National 95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caesarean section</td>
<td>Light</td>
<td>1315</td>
<td>16</td>
<td>1.2</td>
<td>0.8 to 2.0</td>
<td>1.3</td>
<td>1.0 to 1.7</td>
</tr>
<tr>
<td></td>
<td>Light</td>
<td>446</td>
<td>3</td>
<td>0.7</td>
<td>0.2 to 2.0</td>
<td>0.7</td>
<td>0.4 to 1.2</td>
</tr>
<tr>
<td>Hip arthroplasty</td>
<td>Light</td>
<td>446</td>
<td>1</td>
<td>0.2</td>
<td>0.0 to 1.3</td>
<td>0.1</td>
<td>0.0 to 0.5</td>
</tr>
<tr>
<td></td>
<td>Full</td>
<td>12</td>
<td>0</td>
<td>0.0</td>
<td>0.0 to 24.2</td>
<td>12.0</td>
<td>8.1 to 17.3</td>
</tr>
<tr>
<td>Knee arthroplasty</td>
<td>Light</td>
<td>446</td>
<td>1</td>
<td>0.2</td>
<td>0.0 to 1.3</td>
<td>0.1</td>
<td>0.0 to 0.5</td>
</tr>
<tr>
<td>Large bowel surgery</td>
<td>Light</td>
<td>425</td>
<td>4</td>
<td>0.9</td>
<td>0.4 to 2.4</td>
<td>0.6</td>
<td>0.8 to 1.3</td>
</tr>
<tr>
<td>Repair of neck of femur</td>
<td></td>
<td>-</td>
<td>2644</td>
<td>0.9</td>
<td>0.6 to 1.3</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 3
5. **AUDIT**

Infection Prevention and Control Teams in NHSGGC undertake Safe Patient Environment Audits (SPE) in all clinical areas in Acute and Partnerships to provide assurance that patients are cared for in a safe environment. These audits are undertaken as a minimum yearly, using standardised agreed definitions. A traffic light system is used to determine the time scale for re-audit. The audits are collated and a report and action plan generated which is distributed to all key stakeholders. Action plans are completed by the relevant Senior Charge Nurse, Domestic and Estates Department and are returned to ICT within a 1 month period.

<table>
<thead>
<tr>
<th>Colour Rating</th>
<th>% Compliance</th>
<th>Re audit ward/dept</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Red</strong></td>
<td>0 - 65%</td>
<td>Infection Prevention and Control to re-audit within 3 months</td>
</tr>
<tr>
<td><strong>Amber</strong></td>
<td>66 – 79%</td>
<td>Infection Prevention and Control to re-audit with 6 months</td>
</tr>
<tr>
<td><strong>Green</strong></td>
<td>80% - 90%</td>
<td>Infection Prevention and Control to re-audit within 12 months</td>
</tr>
<tr>
<td><strong>Gold</strong></td>
<td>91% - 100%</td>
<td>Infection Prevention and Control to re-audit within 12 months</td>
</tr>
</tbody>
</table>

**The following audit tools have been updated this year:**

- General Environmental Audit Tool
- Dental/Treatment Room Audit
- Environmental Audit of Decontamination Areas
- PVC Audit Tool

The Infection Prevention and Control teams carried out two PVC audits this year. A snapshot of wards per Directorate across the five sectors of NHS GG&C were audited in April 2012 (42 wards) and again in November 2012 (40 wards).
The aim of the audit was to assess compliance with the completion and adherence to the PVC care plan which has been in place since March 2011. It is envisaged that the use of the care plan will ensure that a consistent approach is in place to reduce the risk of infection to patients.

Their use is one of the measures put in place to meet the Healthcare Associated Infection (HAI) HEAT target to reduce *Staph aureus* bacteraemias (SABs) to 0.26 cases per 1000 acute occupied bed days (AOBDs), or lower, by 31st March 2013. Compliance with the NHS GG&C care bundle has been monitored by the Healthcare Environment Inspectorate (HEI) as part of their monitoring tool and compliance has been variable.
6. **POLICIES**

NHSGGC has a comprehensive manual of board-wide policies for the Infection Prevention and Control. All policies are developed and disseminated to a specific standard operating procedure which includes consultation through the Acute Infection Control Committee and Partnership Infection Control Support Group and subsequent approval at the Board Infection Control Committee.

During 2012 a link to the IPC Manual was placed on the desktop of every PC in NHSGGC. This link cannot be removed and should ensure that all staff have immediate access to the manual at all times and up-to-date (or latest) Infection Prevention and Control documents. All paper manuals were removed.

In 2012 the National Prevention and Control of Infection Manual First chapter (Standard Infection Control Precautions - SICPs) was launched by Health Protection Scotland. This was placed on the NHS Greater Glasgow and Clyde’s Infection Prevention and Control Site in January 2013. Part of this launch included the requirement to monitor compliance with SICP. The IPCT in NHSGGC have undertaken a baseline SICP audit across acute and mental health wards led by a Senior Infection Prevention and Control Nurse.

**Updated Policies & SOPs**

The following were developed or updated between April 2013 and March 2014

**Updated Policies**

- Outbreak Policy for Outbreaks in Healthcare Premises
- The Management of Patients with Transmissible Spongiform Encephalopathy (TSE) including all forms of Creutzfeldt-Jakob Disease (CJD).
- *Clostridium difficile* infection Policy
- Influenza Policy
- Loose stools Policy
- Measles Policy
- Mumps Policy
Updated Policies (continued)

- Rubella Policy
- Norovirus Policy.

Updated Standard Operating Procedures

- SOP – Policy Development and approval
- SOP – Terminal clean of isolation rooms
- SOP – Twice daily clean of isolation rooms
- SOP – Terminal clean of a ward

Patient Information Leaflet

- MRSA : Information for patients and carers
- MRSA : Some facts
- CDI : Information for patients and carers
- CDI : Some facts
7. GOVERNANCE AND ACCOUNTABILITY

NHSGGC Bi-monthly HAI report

NHS GGC Board and the Quality and Performance Committee continue to receive bi-monthly reports on key performance indicators on healthcare associated infections.

These reports are designed to:
- Ensure visibility on HAI data and issues for the NHS Board and Quality & Performance Committee members.
- Facilitate assurance and awareness around HAI prevalence within NHSGGC.
- Demonstrate performance against Infection Control HEAT targets and mandatory surveillance programmes.
- Place hospital specific information on HAIs in the public domain in the context of an open Board meeting and on the Board website thereafter.

Governance Relating to Infection Prevention and Control within Acute Operating Division

Each of the acute directorates receives comprehensive monthly reports on key performance indicators on HAI. Infection Prevention & Control is a standing agenda item on each Directorate’s Senior Management Team and/ or Governance Forums and Infection Control elements are integrated within the Performance Review process within the Acute Operating Division. A Lead Infection Control Nurse and Infection Control Doctor is aligned to each of the clinical directorates. Each ward and department receives monthly Statistical Process Control Charts for MRSA and CDI together with regular environmental audit reports and hand hygiene compliance data.

Governance Relating to Infection Prevention and Control within Partnership Organisations.

The Partnership Infection Control Support Group (PICSG) oversees the implementation of the NHSGGC Infection Control Programme within non-acute service delivery areas. During 2013/14 the group has developed and monitors progress against a specific action plan for Infection Prevention and Control within Partnership services.
Specific governance arrangements within our Partnership organisations are:-

- Governance for non-acute inpatient beds is affected and overseen through the Director of Nursing for Mental Health Services.
- Accountability for Infection Prevention and Control within CH(C)Ps rests with local managers.
- The Director of Nursing for Mental Health Services Chairs PICSG and represents PICSG at BICC.
- Each partnership/sector has a nominated member of their Senior Management Team as their lead for HAI and representative on PICSG.
8. **EDUCATION**

The Infection Control Team within NHSGGC continues to provide a comprehensive programme of education and training in Infection Prevention and Control. The NHS Greater Glasgow & Clyde (NHSGGC) Board Infection Control Committee recognises that there are significant risks to patients, healthcare workers (HCWs) and visitors as a consequence of Healthcare Associated Infection (HAI). These risks necessitate a specific Infection Prevention and Control (IPC) Education Strategy to educate the workforce and to ensure that the knowledge of the workforce on infection prevention and control is sufficient to prevent and minimise as far as possible, the risks of all HAI as a consequence of inadequate education.

**Cleanliness Champions Programme**

The Cleanliness Champions Programme is part of the Scottish Government's Action Plan to combat Healthcare Associated Infection (HAI) within NHS Scotland. The programme is primarily web-based but can be completed via hard copy and is designed to be self-directed with some mentorship support. Based on Standard Infection Control Precautions, it focuses on safe practice and safe environment and sits within a wider educational framework for HAI within NHS Scotland. NHSGGC has a total of 3029 members of staff who have completed this training programme.

NHSGGC continue to be represented on both the NES Cleanliness Champion Management Induction Programme and Editorial groups. This allows NHSGGC educational needs to be addressed through the national groups.

**Learn Pro**

Training Tracker will no longer be available for staff to access from 31st March 2014. From this date, staff will be encouraged to access NHSGGC Infection Control education modules on-line via Learn Pro. NHS Education for Scotland (NES) continues to provide Infection Control education packages via LearnPro.

The Infection Control Team supports delivery of this education through the ongoing updating of education resources to reflect current policy and available evidence.
**Induction & Face to Face Training**

The Infection Control Team developed a standard induction presentation which is delivered across the Acute Division as part of NHSGGC mandatory training.

In addition Infection Control Teams (ICT) in all hospital sites provide education locally both independently and with other partners, e.g. practice development to all grades of staff within NHSGGC. Members of the ICT also provide education to undergraduate medical and nursing students throughout Glasgow and Clyde and also provide training opportunities for volunteers working within NHSGGC premises.

**Mandatory Education Update Training**

This course was developed in 2010/11 and is now in the second cycle, and delivers mandatory update training across the Acute Division. Infection Control is a core part of this training and has been supporting its delivery since its launch.
9. **DECONTAMINATION**

NHSGGC is required to comply with national directives/standards for the decontamination of re-usable Medical Devices

**Central Decontamination Units**

There are three Central Decontamination Units processing surgical instruments within NHSGG&C. These are located at Cowlairs in Glasgow, Inverclyde in Greenock and Glasgow Dental Hospital.

All units are accredited BS EN ISO 13485;2003 Quality Management and Medical Devices Directive (MDD)93/42/EEC units. The Glasgow Dental Hospital completed accreditation in June 2012. All reusable surgical instruments used in Acute sites in Glasgow are processed in Cowlairs Central Decontamination Unit. All reusable surgical instruments used in Acute sites across the Clyde Sector are processed at Inverclyde Central Decontamination Unit. All surgical instruments used within Glasgow Dental Hospital are processed within the onsite facility.

In April 2012 work being completed at the Southern General Hospital TSSU for contingency planning arrangements ceased with realignment of work between Cowlairs and Inverclyde Central decontamination Units.

The Decontamination Service Governance arrangements are supported by a range of local site groups and a Steering Group. These Groups are only effective if all Directorates attend and input to them to highlight how the service can be developed.

**Decontamination in Primary Care**

After evaluation of the high level option business case by the CHCP Directors at the start of the 2012/13 financial year the decision was taken that Glasgow Dental Hospital Decontamination Unit would provide services for 14 Community dentists which commenced during the 2012/13 year. Podiatry Services are making progress with moving to single use disposable products. Services to Greenock prison commenced from Inverclyde CDU in May 2012.
Decontamination of Flexible Endoscopes

A Sub-Group of Senior Management Team, chaired by the Director of Facilities, oversees the implementation of the draft HPS Technical Requirements for the processing of flexible endoscopes. Flexible Endoscopes are decontaminated within local Endoscopy Suites or in centralised Endoscopy Reprocessing Units (ERU) located within each Acute sites. Eight locations within NHSGG&C have departments which meet new current regulations. These are New Stobhill Hospital, New Victoria Infirmary Hospital, Vale of Leven, Glasgow Royal Infirmary, Southern General Hospital and Inverclyde Royal Hospital Gartnavel General Hospital and Royal Alexandra Hospital units were completed during the summer of 2012. RAH Unit not fully operational as yet scopes from Day Surgery Unit and in patient theatre are still being processed locally. Planning has been completed for the new Southern General Hospital Endoscopy Suite during 2012/13.

A NHSGGC sub-group has been established to monitor the water quality for all the endoscopy units and standard operating procedures have been created to address any issues that may arise. This has standardised the processes throughout NHSGGC.

Misc

The NHSGGC decontamination sub group continues to address any decontamination issues outwith the areas of endoscopy and central decontamination of instruments. The remit of the group is:-

- To provide technical expertise and a consensus on the ideal best practice of decontamination for any given issues.
- To participate and assist in risk assessments by NHSGGC on decontamination issues.
- A dedicated e-mail address has been established to allow staff to contact the decontamination sub-group. A webpage within the NHSGGC infection control site allows responses to queries to be centrally stored and available to all staff.
10. **HEI : HEALTHCARE ENVIRONMENT INSPECTORATE**

**Healthcare Environment Inspectorate – Summary of Visits**

**Background**
The Healthcare Environment Inspectorate (HEI) was set up by the Cabinet Secretary for Health and Wellbeing in April 2009 with a remit to undertake a programme of inspections in acute hospitals. The HEI is independent of NHS Boards and reports directly to Scottish Government and Ministers. It carries out both planned and unannounced inspections of hospitals and, for administrative purposes, is based within NHS Quality Improvement Scotland.

*From April 2013 to March 2014 NHSGG&C has had 6 unannounced visits:*

- Vale of Leven Hospital, January 2014 – 2 requirements and 2 recommendations
- Victoria Infirmary, November 2013 – 0 requirements and 0 recommendation
- Western Infirmary, August 2013 – 5 requirements and 3 recommendations
- Royal Alexandra Hospital, July 2013 – follow up visit
- Victoria Infirmary, July 2013 – 6 requirements and 1 recommendation
- Gartnavel General Hospital, March 2013 – 3 requirements and 1 recommendation

*From April 2013 to March 2014 NHSGG&C has had 1 announced visit:*

- Southern General Hospital, May 2013 – 0 requirements and 3 recommendations

**Outstanding Issues (as yet unresolved) from Recommendations and Requirements**

**NHSGGC should:**
Ensure that where the PVC care plan is in place, staff are adhering to the local policy and completing the accompanying documentation. This will ensure that the PVC bundle is implemented more consistently.

- *PVC care plan and SOP developed and aligned to new IV Access Policy. PVC ward audits by IPCT continue.*
Key ICP Themes from Requirements

NHSGGC were required to:

Ensure that controls for legionella and pseudomonas in water are in place and that all staff are aware of their responsibilities to reduce risk to vulnerable patients associated with water in healthcare premises. *(CEL 08(2013) and the Health Protection Scotland and NHS National Services Scotland joint document: Guidance for neonatal units (NNUs) (levels 1, 2 & 3), adult and paediatric intensive care units (ICUs) in Scotland to minimise the risk of Pseudomonas aeruginosa infection from water (2013))*


Ensure that standard infection control precautions (SICPs) are implemented by all healthcare staff with all patients for all healthcare interventions.

- *SICPs baseline audit carried out across GGC and reported locally to SCN. SICPs audit tool will be embedded as part of SPSP and rolled across every ward in GGC. IPCTs will also adopt SICP audit tool within their Safe Patient Environment tool.*

Ensure that an effective system is in place to disseminate HAI information to patients and visitors.

- *As per bed space cleaning checklist – staff are required to record that they have put HAI information in the lockers of all patients. IPCT now meet with patients who have been newly diagnosed with MRSA to provide information and answer any questions they may have.*

Key IPC-Themes from Recommendations

NHSGGC should reinforce the use of the weekly cleaning assurance checklist to all ward staff.

- *IPCT continue to audit use of weekly assurance checklist as part of Safe Patient Environment audit in each clinical area throughout GGC.*
Members of the IPCT continue to participate in the corporate Inspection Process which is lead by the Acute Nurse Director. The inspection reports can be viewed at [www.nhshealthquality.org](http://www.nhshealthquality.org). The Inspectorate now include inspection of standards for Older People in Acute Care (OPAC). Reports from these inspections are reported in other forums.
11. **ANTIMICROBIAL MANAGEMENT TEAM**

The focus of the AMT is to provide Board wide leadership on the safe and cost-effective use of antimicrobials underpinned by surveillance of antibiotic use and compliance with guidelines. Minimisation of the collateral microbial effects of antibiotics such as *Clostridium difficile* and antibiotic resistance continues to be an AMT priority, with a focus on reducing and containing the prescribing of broad spectrum agents whilst providing safe and suitable alternative therapies. The AMT is represented on both the BICC and the AICC whilst IPC is represented on the Antimicrobial utilisation sub-committee of the Area Drugs and Therapeutics committee. The AMT and antimicrobial pharmacists are actively engaged with the HEI process.

In secondary care a trend in increasing co-amoxiclav, piperacillin-tazobactam and meropenem prescribing has been observed whilst cephalosporin prescribing remains at low levels. Comparison with other boards shows similar prescribing trends. The AMT continues to work with site based teams and directorates to promote adherence with GGC guidance. Alternative anti-Gram negative agents (fosfomycin, aztreonam and temocillin) recommended in recent SAPG guidance are being introduced into practice primarily to minimise carbapenem use.

Board-wide promotion of appropriate prescribing of quinolones in general practice was associated with an 8.3% reduction in prescribing and achievement of the national target of <5% seasonal variation (see table below). In June 2013 a new primary care prescribing target of number of antibiotic items dispensed (50% of practices to achieve ≤1.8 items/1000 patients per day) was introduced to replace the quinolone target. Baseline estimates in Jan – March 2013 suggest 20% of practices are meeting the target. Prescribing advisers are supporting GPs with achieving this target.

Prescribing indicators for the Scottish Government *Clostridium difficile* HEAT target for GGC are shown below. GGC has shown sustained improvement in meeting or maintaining these targets. Particular improvements have been noted in colorectal prophylaxis.
Minimising the unintended consequences of antimicrobials remains an important focus for the AMT. A recent retrospective review of Gram negative bacteraemia per and post introduction of guidance in 2008 shows improved survival in this cohort post introduction of guidance probably reflecting lower CDI and improved use of gentamicin, particularly in health care associated GNB.

Summary statistics for the prescribing indicators supporting the Scottish Government *Clostridium difficile* HEAT target are shown below:

<table>
<thead>
<tr>
<th>Source/Clinical sites</th>
<th>Indicator</th>
<th>Target</th>
<th>GGC (achieving target)</th>
<th>National median (Boards achieving target)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary Care data compares winter 2011/12 with summer 2013</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All GP practices</td>
<td>Quinolone seasonal variation ≤5%</td>
<td></td>
<td>-13.3% (Yes)</td>
<td>-1.7% (13/14)</td>
</tr>
<tr>
<td><strong>Secondary Care data from April 2011 until September 2013</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colorectal surgery</td>
<td>Single dose antibiotic prophylaxis ≥95%</td>
<td></td>
<td>97% (Yes)</td>
<td>98% (10/14)</td>
</tr>
<tr>
<td>Colorectal surgery</td>
<td>Compliant with local policy ≥95%</td>
<td></td>
<td>91% (No)</td>
<td>93% (7/14)</td>
</tr>
<tr>
<td>Acute admissions (medicine)</td>
<td>Indication for antibiotic recorded ≥95%</td>
<td></td>
<td>98% (Yes)</td>
<td>98% (14/14)</td>
</tr>
<tr>
<td></td>
<td>Choice as per guidance ≥95%</td>
<td></td>
<td>95% (Yes)</td>
<td>92% (4/14)</td>
</tr>
<tr>
<td>Acute admissions (surgical)</td>
<td>Indication for antibiotic recorded ≥95%</td>
<td></td>
<td>95% (Yes)</td>
<td>94% (7/14)</td>
</tr>
<tr>
<td></td>
<td>Choice as per guidance ≥95%</td>
<td></td>
<td>90% (No)</td>
<td>90% (4/14)</td>
</tr>
</tbody>
</table>
12. **SCOTTISH PATIENT SAFETY PROGRAMME**

This last year has seen completion of the peri operative and critical care work streams as compliance has been reliable and the processes required to meet the bundles are embedded. Services are required to provide assurance that there is still compliance in the future by implementing local audits which would be less frequent than the current SPSP.

There has been a drive to sweep up any outstanding issues with the General Ward bundle. Some aspects demonstrated good compliance whereas other elements required help to ensure they were embedded. This work is ongoing and improvement have been noted in Hand Hygiene (100% of teams demonstrated reliability), Early Warning Scores (98% of teams demonstrated reliability) and Safety Brief (94% of teams demonstrated reliability).

The Acute Infection Control Committee recognised that problems remained with the PVC bundle (89% of teams demonstrated reliability) and it remained a challenge to insist the cannula was dated and timed. It was felt the emphasis should be focused on the daily review of the PVC and utilising the PVC care plan to ensure this happens. Therefore a decision was made to stop the practice of dating and timing the cannula and instead to ask staff to commence a care plan as soon as it has been noted that a PVC is present or has been inserted. A new care plan was developed to support improvement in compliance with this element.

The aim for the Sepsis Work stream was to obtain process reliability for the Sepsis 6 Bundle in the NHS GG&C pilot population by December 2013 and has been achieved by the pilot team at RAH. All sites now have at least one team established (25 teams registered on project) with 15 recruited in last six months.

VTE Collaborative launched in 2012 with the aim to achieve reliable risk assessment and appropriate thromboprophylaxis administration in 95% of all adult hospital admissions by December 2014.
29 teams are currently confirmed into the programme in NHSGGC which is 13% of applicable areas so much work is still to be done to spread the work to all wards.

Plans are currently underway for the Deteriorating Patient work stream to ensure the infrastructure, steering group and more detailed project plan is established in order to take this work forward. Some provisional work is already underway with a pilot site already testing at RAH. The IRH will be the first location for larger scale piloting.

New work has commenced in late 2013 which will include work streams to inform a Scottish Patient Safety Indicator the aim of which is 95% of people in acute adult health care free from the following four harms:

- Cardiac Arrest
- Catheter Associated Urinary Tract Infection (CAUTI)
- Pressure Ulcers
- Falls

Work is underway to establish these work streams and how they will combine to achieve the indicator score.

**Infection Control Incident Reporting**

From April 2013 to March 2014 a total of 171 infection control incidents were reported, which is considerably less than the previous year which was 320. However between the 2 years the reporting criteria for reporting SABs changed so that only a SAB resulting in death would be reported which explains the difference in reporting rates. Figure 1 demonstrates the subcategories of Infection Control incidents excluding the SAB incidents. A slight increase can be seen in CDI, outbreak, terminal clean and post op infection with a decrease noted in decontamination failures, failures to complete infection control risk assessment, ability to isolate and others.
However by reviewing figure 2 it is obvious the largest reduction has been the SAB incidents reported which is related to only the most severe, causing death being reported. In the 2012/2013 time period there were 11 SABs with the patient outcome of death and 127 with the patient outcome of infection. In the 2013/2014 time period there were 16 SABs with the patient outcome of death and 9 with the patient outcome of infection.
Figure 3 demonstrates the patient outcome. 43 patients in total were reported with an outcome of “death”; CDI 21, CJD 1, SAB 16, other 5. For 48 incidents reported the patient outcome was infection and for 20 cases the outcome was unable to be assessed.
13. **FACILITIES**

**CLEANING SERVICES**

In the published results for the National Cleaning Specification and National Monitoring Framework, NHSGGC has consistently scored green within the Domestic Framework for 2013/14.

The Estates Tool overall score for NHSGG&C scored green for 2013/14. Focus has been maintained in investment on HAI related issues and the built environment. The current focus of attention within Facilities continues to be continuous quality improvement initiatives.

Initiatives worked on during 2013/14 include:

- Domestic Supervisors retraining on the National Cleaning Specification
- Roll out Board wide to all areas of the FM First on line Operational Estates reporting tool.
- Implementation of a Domestic Supervisors Action Learning Set to address operational issues and challenges
- Participation in the ongoing review of National Cleaning Specification
14. **PATIENT EXPERIENCE**

Patient Experience, formerly known as Public Focus, Patient Involvement, remains a key priority area within the Prevention and Control of Infection programme, with public members continuing to participate fully in the Board Infection Control Committee and Partnerships Infection Control Support Group. The Board approved a number of key objectives around PFPI for 2013/2014 which were developed in association with our public partners. Activities embedded within our programme have been developed to ensure that the NHS Board responsibilities of participation in all three aspects of the Scottish Government Participation Standard within the Infection Control Service are met.

A member of the Infection Control Team leads on Patient Experience initiatives and sits on the Patient Experience Steering Group. The purpose of this is to ensure that:

1. Our Public partners continue to participate in the development of the infection control programme on new and revised policies, care plans and to participate in the development of new patient information leaflets.
2. Our public partners are routinely consulted on initiatives including the National Hand Hygiene campaign, MRSA Screening and new hospitals projects.

A member of the Infection Control Team also works closely with facilities and community engagement staff to ensure that:

1. Members of the public are educated on key standards and practices in infection control including use of audit tools for hand hygiene and safe patient environment.
2. Public partners who participate on monitoring projects including cleaning services standards and HEI inspections are provided with information to enable full participation in these processes.
Public partners’ views are sought when planning new infection control initiatives such as the design of new hand hygiene posters and placement of alcohol hand gel in public areas of healthcare premises.

**Infection Prevention & Control Person Centred Care Group**

A GG&C Infection Prevention and Control Person Centre Care Group was set up in 2013 led by a Lead ICN. The group have focused on two pieces of work since its inception. The first small study looked at patients views on their isolation experience using a patient questionnaire

The findings resulted in the following actions:

- ICN to inform the patient of their alert organism and provide the relevant information leaflet. It is anticipated that if an ICN explains to the patient why they are in isolation this could reduce their anxiety.
- ICT’s to look at the content of IC leaflets as only a third of our patients found them beneficial.
- ICT will investigate if there is any scientific evidence necessitating single room door closure for patients in isolation.
- ICT will request that patients in single rooms have their buzzers to hand.

The second piece of work is an Infection Control Service Evaluation

A nursing staff Infection Prevention and Control Service satisfaction questionnaire has been sent to each acute ward in NHS GG&C to enable the Infection Prevention and Control Service to evaluate the service provided and comment on any areas which could be improved. The questionnaire is anonymised and we have requested that it is completed by the Senior Charge Nurse, a Staff Nurse and a Nursing Auxiliary within each ward.

The data will be analysed once data collection is completed.
15. **RESEARCH**

Members of the NHSGGC Infection Control Team have participated in a number of research projects relating to the management and control of infectious disease in 2012-2013.

**Publications**


**Posters/Oral presentations**

11\textsuperscript{th} Tripartite Meeting of the PanCeltic Microbiology Association, 2013

- Balfour AE, Harvey-Wood K. QPCR of Pertussis and laboratory involvement with national agencies during an epidemic.

Federation of Infection Societies 2013

- Gillies J, Inkster T, Cordina C. Epidemiology of infective endocarditis in a national cardiothoracic centre; a 4yr retrospective review.

Cottom L, Hasnie S, Inkster T. An audit of the diagnosis and management of septic arthritis in three Glasgow teaching hospitals.

**European Congress of Clinical Microbiology and Infectious Disease 2014**


Wiuff C, Banks A, Henderson D, Coia J, Inkster T. The changing epidemiology of *Clostridium difficile* ribotypes in Scotland between 2009-2013

Cottom L, Lochead G, Wright P. An audit of compliance with NHSGGC Primary Care Guidelines for the investigation of vaginal discharge in women of reproductive age.

**MSc projects in progress**

Risk factors associated with PCP – a case control study - Susie Dodd

Nurses understanding of MRSA screening and eradication - Hayley Kane

What would motivate nurses and doctors to change their behaviour and / or attitudes to improve infection prevention and control compliance - Marlene Hay
16. **EMERGING PATHOGENS**

Antimicrobial Resistance and Infection Control

The spread of antimicrobial resistance (AMR) remains a major public health concern. This has two main aspects: firstly in relation to AMR as a whole a Commons Select Committee was established in December to hear evidence on AMR following the publication of the UK CMO report published in March 2013, and the 5-year UK AMR Strategy (2013).

Challenges to achieving the goals of the strategy included:

- Lack of integration of the approach to infection control and antimicrobial prescribing in hospital and community settings (including care homes as hot spots) as antimicrobial resistance develops and spreads in all of these settings

- Lack of understanding of the background levels of AMR in the general population (colonisation rates and percentage who develop infection)

The IPCT will continue to work closely with the antimicrobial management teams in adults and paediatrics to ensure that IC systems are collecting the appropriate alert organisms to underpin these processes and with Public Health to ensure optimal management of infection in community settings.

Secondly further work on assessment of outbreak preparedness for Carbapenemase Resistant Enterobacteriaceae (CPE) outbreaks is underway by HPS. This includes endoscopy related outbreaks. The focus of current guidance is on identification of patients at high risk of having alert organisms, and the screening / isolation of these patients until they are discharged or identified as being negative. A recent paper on the public health principles of CPE screening concluded:

- HPS should develop a PID to support NHS boards with the implementation of CPE screening
- A diagnostic approach to identification of CPEs should be agreed and implemented in all NHS boards
- A review of new literature published since the interim guidance literature reviews should be carried out
- Possible methods of measuring the prevalence of CPE colonisation in Scotland should be scoped
- Study options to identify risk factors for colonisation with CPE in Scotland should be scoped
- Standardised national materials e.g. information leaflets, posters, communication strategies should be developed
- The costs associated with CPE screening should be estimated

Outbreaks related to endoscopy and water sources

Already highlighted in the outbreak sections there are now several reports of endoscopy related “outbreaks” with CPEs in particular relating to ERCP suggesting that ERCP endoscopes might pose a particular challenge for cleaning and disinfection. The risks of transmission of infection related to endoscopy remain very low, however the IPCT along with CDU at Cowlairs are aware of potential problems and will be reviewing current practices.

An outbreak of S maltophilia in an ICU in another board led to a review of current guidance and a conclusion that no additional precautions were required.

*S. aureus*

*S. aureus* surgical site infection

While the number of MRSA bacteremias remain low MSSA infection has not significantly decreased. Further work is ongoing to assess firstly the role of decolonisation of *S. aureus* carriage in high risk surgery and secondly whether a Clinical Risk Assessment (CRA) approach can be used for MSSA.
PVL positive *S. aureus*

Panton-Valentine Leukocidin (PVL) is a toxic substance produced by some strains of *Staphylococcus aureus* which is associated with an increased ability to cause disease.

Although several other countries, including Northern Ireland, have encountered problems with PVL-related disease, infections caused by PVL remain uncommon in Scotland and, to date, most have been caused by bacteria which are sensitive to a range of antibiotics.

The IPCT will continue to monitor PVL cases in the context of national epidemiology.
LOOKING FORWARD:- 2014/2015

NHSGGC will continue the focused priority afforded to Infection Control related issues during 2014/15.

Key challenges will include:-

- The reconfiguration of acute hospital services and the creation of Health and Social Care Partnerships.
- The revised National HEAT Target for SABs for a reduction to 0.24 cases or less per 1000 AOBDS by 31st March 2015.
- The ongoing cycle of HEI inspections within acute hospitals and possible extension of inspections to non acute hospitals.
- Maintaining the current low levels of CDI within NHSGGC to deliver the 2015 HEAT Target.

Whilst operating within the challenging financial environment facing NHS Scotland in 2014 onwards.

Tom Walsh
Board Infection Control Manager
NHSGGC
May 2014
## GLOSSARY

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AMR</td>
<td>Annual Management Review</td>
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<tr>
<td>AMT</td>
<td>Antimicrobial Management Team</td>
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<td>BICC</td>
<td>Board Infection Control Committee</td>
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<td>CEL</td>
<td>Chief Executive Letter issued by Scottish Government Health Directorates (SGHD)</td>
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<td>CH(C)P</td>
<td>Community Health and Care Partnership</td>
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<td>CVC</td>
<td>Central Vascular Catheter</td>
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<td>HAI</td>
<td>Originally used to mean hospital acquired infection, the official 'Scottish Government' term is now Healthcare Associated Infection. These are considered to be infections that were not incubating prior to contact with a healthcare facility or undergoing a health-care intervention. It must be noted that HAI infection is not always an avoidable infection.</td>
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<tr>
<td>HAIRT</td>
<td>Healthcare Associated Infection Reporting Template</td>
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<td>HDL</td>
<td>Health Department Letter</td>
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<td>HDU</td>
<td>High Dependency Unit</td>
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<td>IPC</td>
<td>Infection Prevention &amp; Control</td>
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<td>LanQIP</td>
<td>Lanarkshire Quality Improvement Portal</td>
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<td>LHBC</td>
<td>Local Health Board Co-ordinator</td>
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<tr>
<td>OBD</td>
<td>Occupied Bed Days</td>
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<tr>
<td>PICSG</td>
<td>Partnership Infection Control Support Group</td>
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<tr>
<td>PVC</td>
<td>Peripheral Vascular Catheter</td>
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<tr>
<td>SABs</td>
<td>Staphylococcus Aureus Bacteraemia</td>
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<td>SGHD</td>
<td>Scottish Government Health Directorates</td>
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<tr>
<td>SPSP</td>
<td>Scottish Patient Safety Programme</td>
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<tr>
<td>VAP</td>
<td>Ventilator Associated Pneumonia</td>
</tr>
<tr>
<td>4c ANTIBIOTICS</td>
<td>Cephalosporins, Co-amoxiclav, Ciprofloxacin (and the other quinolones) and Clindamycin</td>
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