

NHS Greater Glasgow & Clyde



NHS Board Meeting

Medical Director

21 February 2017

Paper No: 17/08

Healthcare Associated Infection Reporting Template (HAIRT)

Recommendation: For noting

Purpose of Paper: Update on NHSGGC performance against HEAT and other HAI Targets and performance measures.

Key Issues to be considered:

Validated HPS / ISD data : Quarter 3 (July-September) 2016			
HEAT Targets	GGC	National	HEAT target
SAB rate per 100,000 AOB	33.7 (117 cases)	33.2	24.0
CDI rate per 100,000 TOB	37.9 (120 cases)	31.4	32.0

Table 1. Progress against National HAI HEAT targets 01/07/2016 – 30/09/2016

- **117** *Staphylococcus aureus* Bacteraemia (SAB) cases were reported for July to September 2016 with a rate of **33.7** cases per 100,000 AOB. NHSGGC is marginally above the national rate of 33.2 cases per 100,000 AOB. Of our reported cases, 28% (n=33) were of community onset and are less amenable to improvement measures within our acute hospitals. Local surveillance shows an 11% **decrease**, with 104 patient cases in Quarter 4 (October to December 2016).
- **120** *Clostridium difficile* (CDI) cases were reported for July to September 2016 with a rate of **37.9** cases per 100,000 TOB. Following an increase in CDI cases in Quarter 3 enhanced surveillance was implemented in order to better determine the origin of the CDI and therefore target interventions appropriately. There was no evidence of cross transmission to explain the increase however this was a high risk patient group with antibiotic history, proton pump inhibitors and underlying bowel disorders identified. Local surveillance for Q4 (October-December) shows a **significant decrease** of 35% in CDI cases with **78** cases reported and 42% of these were not hospital acquired infections (HAI). The estimated rate for Quarter 4 is **24.8** per 100,000 TOB.
- Local improvement actions within orthopaedic surgery procedures included in the national surgical site infection (SSI) Programme are ongoing where the numbers of infections are continuing to be higher than expected.
- The published SSI rate for Caesarean sections for July-September 2016 was 1.8%. Although this was slightly above the national SSI rate of 1.6% these rates are low and are well within the 95% confidence intervals (1.2-2.6%). Local surveillance for October-December 2016 is ongoing at time of report however shows a **reduction** in the SSI rate to 1.1%.

Any Patient Safety /Patient Experience Issues:

Local surveillance shows that NHSGGC are still above the National SAB HEAT target of 75 patient cases for Q4. NHSGGC are continuing to monitor this to ensure remedial actions are implemented to improve performance and reduce avoidable SAB cases and meet HEAT target requirements.

Any Financial Implications from this Paper: No

Any Staffing Implications from this Paper: No

Any Equality Implications from this Paper: No

Any Health Inequalities Implications from this Paper: No

Has a Risk Assessment been carried out for this issue? If yes, please detail the outcome:

No

Highlight the Corporate Plan priorities to which your paper relates: Improving quality, efficiency and effectiveness.

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Date: 21/02/2017

Healthcare Associated Infection Reporting Template (HAIRT)

Section 1 – Board Wide Issues

This is the bi-monthly publication of the reporting template for submission to the NHS Board as required by the national HAI Action Plan.

***Staphylococcus aureus* (including Meticillin resistant *Staphylococcus aureus* (MRSA))**

Staphylococcus aureus Bacteraemia Surveillance and Actions

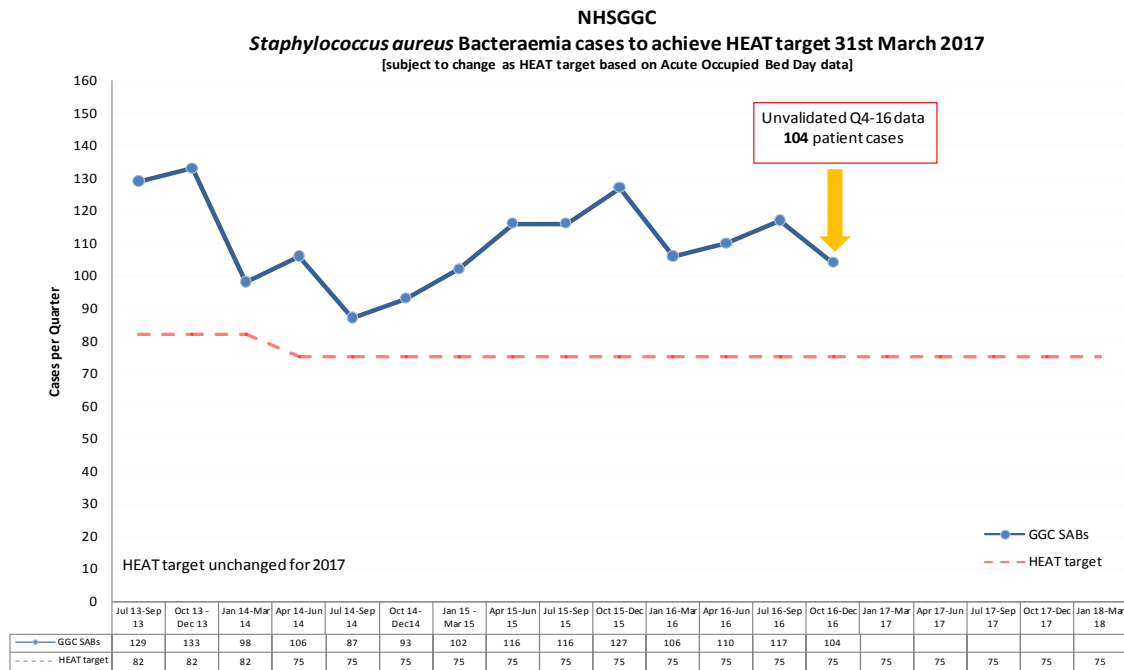


Figure 1. SAB patient cases by quarter

Figure 1 shows a variation in the number of reported *Staphylococcus aureus* bacteraemia (SAB) cases from July 2013 onwards to a peak in Quarter 4 of 2013 and again in Quarter 4 in 2015. The figure above highlights an upward trend in the total number of SABs from January to September 2016 however the number of cases **decreased** in Quarter 4 (Oct-Dec) of 2016. Work is continuing in 2017 across all acute sectors through a series of education and audit initiatives. This is supported by an HAI Quality Improvement Facilitator (QIF) who is continuing to apply improvement methodology to test and recommend improvements on specific focus points, specifically surrounding one of the most commonly used invasive devices; Peripheral Venous Catheters (PVC). A revised care plan has been piloted at Glasgow Royal Infirmary and will be rolled out for use throughout NHSGGC. Review of the Standard Operating Procedure (SOP) for PVCs will also be commenced in spring 2017 and will incorporate the revised care plan. An audit of insertion criteria for PVCs is currently being undertaken by medical staff on the QUEH site.

MRSA bacteraemia rates have remained low in recent years following the introduction of a screening and eradication programme. This approach did not identify carriage of Meticillin sensitive *Staphylococcus aureus* (MSSA) which the majority of NHSGGC SABs are caused by. Meticillin Sensitive *Staphylococcus aureus* (MSSA) bacteraemia rates have continued with little change and data published by HPS in January 2017 has indicated that SAB rates in Scotland continue to plateau.

At least one third of the general population carry MSSA in their nose; the percentage is even higher in hospitalised patients. The Lead Infection Control Doctor (ICD) is currently leading on a

project to screen high-risk Renal Replacement Therapy (RRT) patients for *S. aureus* nasal carriage prior to line insertion. If positive, patients will undergo decolonisation in the expectation that this will reduce the burden of *S. aureus* at the time of insertion of venous access devices used for RRT. MSSA is difficult to eradicate completely hence the approach to reduce the burden in the nose at the most critical time, i.e. line insertion. This work is due to commence in February 2017.

In late 2015 a Board-wide SAB Reduction Action Plan was initiated and a further review is scheduled for March 2017 to re-evaluate any areas for targeted improvement measures. This will be presented at both the Acute and Board Infection Control Committees for review and discussion.

Quarter 3: 2016 (July-September 2016) NHSGGC Surveillance

For the last published quarter (July-September 2016) NHSGGC reported **33.7** SAB cases per 100,000 AOBDS (**117** patient cases). The proportion of cases is displayed in **Figure 2**; 39% of the cases were hospital acquired i.e. from a blood culture taken ≥ 48 hours after admission. However it should be noted that 28% of cases were of community onset and therefore less amenable to improvement strategies within our acute hospitals.

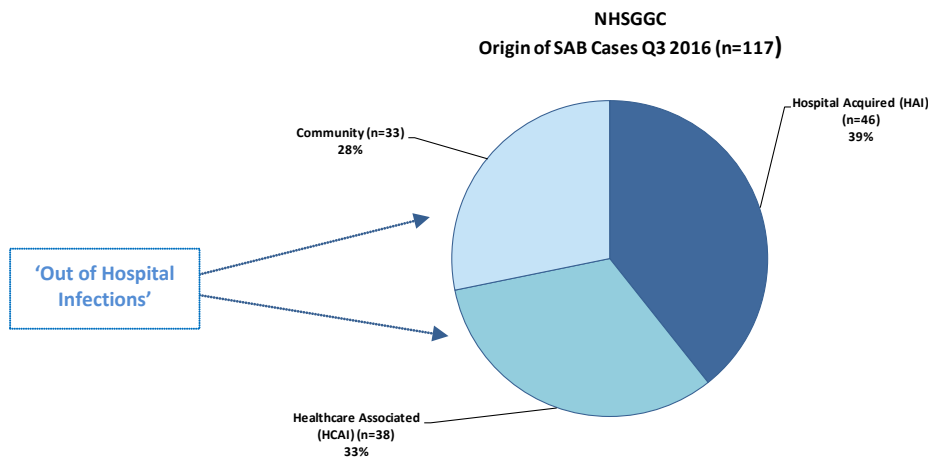


Figure 2 Origin of SAB between 01/07/16 – 30/09/16

Quarter 4: 2016 (October-December 2016) Local Surveillance Status

The proportion of hospital acquired SAB cases remains similar to Q3 with 38% (n=40) patients developing a SAB after admission to an NHSGGC hospital; 29% (n=30) patients were confirmed to have a healthcare associated infection (HCAI) and the remaining 33% were community acquired cases.

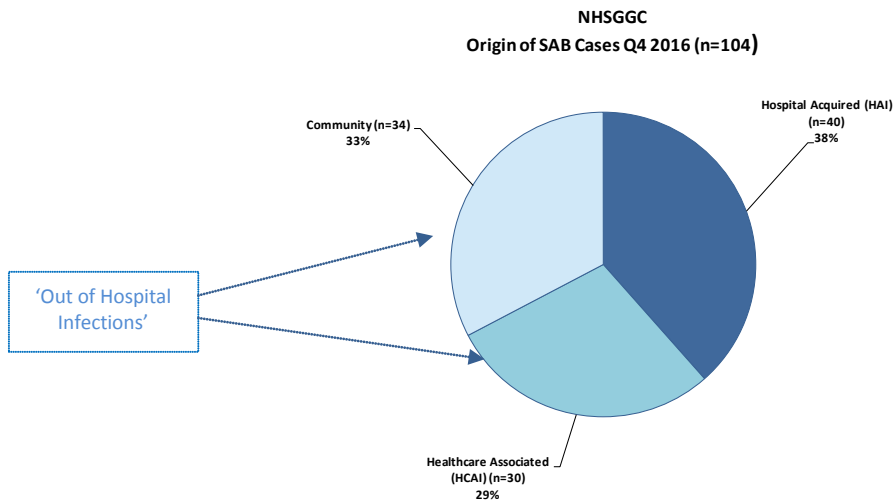


Figure 3 Origin of SAB between 01/10/16 – 31/12/16

Q4-2016 Source of Bacteraemia (all cases)	Number of Patients
No identifiable source of sepsis	22
Intravenous Access Device (PVC or CVC)	21
Skin/soft tissue	15
Related to illicit IV drug use	11
Respiratory infection	7
Contaminant	5
Urinary tract infection	4
Surgical site infection	3
Septic arthritis	3
Discitis/Osteomyelitis	2
Inferior vena cava filter	1
Post op sepsis	1
Under investigation	1
Genitourinary system	1
Cerebroventricular shunt	1
Chorioamnionitis	1
Pacemaker	1
Lung abscess	1
Necrotic toe	1
Endocarditis	1
Renal tract infection	1
Total	104

Table 2. Source of SAB between 01/10/16 – 31/12/16

For the Quarter October-December 2016 “no identifiable source of sepsis” is the most common cause of SAB in GGC with 22 cases. These cases continue to be investigated thoroughly by the Clinical Team and the local Infection Prevention and Control Team (IPCT) but despite this on many occasions no single causative factor for SAB development can be identified.

IV access devices remain a significant cause of SAB with 21 cases. A change to the clinical review of such cases was implemented in December 2016 and any 'preventable' cases are assigned to Datix to enable rapid local review.

All Significant Clinical Incidents identified by Datix are reviewed at the Board's Clinical Governance Forum thus ensuring that shared organisational learning is not lost due to the changes in this process.

NHSGGC MRSA Screening Project

The Scottish Government announced new national minimum MRSA screening recommendations in 2011. National Key Performance Indicators (KPIs) have been implemented within all NHS Boards required to achieve 90% compliance with Clinical Risk Assessment (CRA) of patients to identify MRSA colonisation.

CRA compliance for Q3 (October-December) 2016 in GGC was **88%**. NHSGGC IPCT continues to encourage clinical areas to complete the CRA and education for clinical teams on how to screen and why this is required is available. Results on specific ward compliance rates are now returned to the Sector / Directorate Senior Management Teams in order to identify areas that require support / education in relation to this screening initiative.

A comparison is provided in **Table 3** which shows a variable CRA compliance rate over the past four quarters.

Please note that reporting quarters for this project are different to those used for CDI, SAB and SSI

	2015-16 Q4 (Jan-Mar)	2016-17 Q1 (Apr-Jun)	2016-17 Q2 (Jul-Sep)	2016-17 Q3 (Oct-Dec)
Greater Glasgow & Clyde	87%	79%	89%	88%
Scotland	80%	82%	84%	tbc

Table 3. Quarterly screening compliance
National Data Source: HPS MRSA Screening Team November 2016

Clostridium difficile

Surveillance and Actions

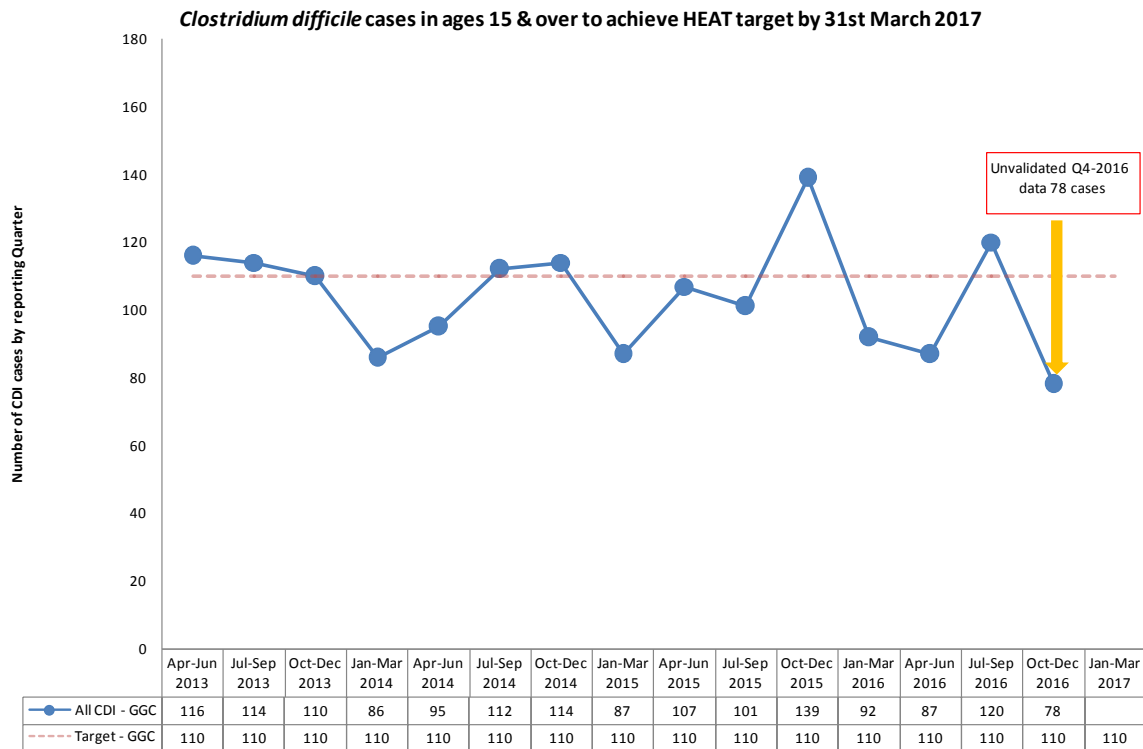


Figure 2: CDI patient cases by quarter

Figure 2 above shows a variable number of CDI cases reported by quarter in ages 15 and over from April 2013 to December 2016.

Quarter 3: 2016 (July-September) NHSGGC Surveillance

In the last published reporting Quarter (July-September 2016) NHSGGC reported **37.9** CDI cases per 100,000 TOBD (120 patient cases). This is **above** the NHS Scotland reported national CDI rate of **31.4** per 100,000 TOBD and also **above** the 2017 HEAT requirements. The National HEAT target in ages 15 and over is **32** cases per 100,000 TOBDs.

Quarter 4: 2016 (October-December) Local Surveillance Status

Local surveillance for Q4 2016 is now complete with a significant reduction to **78** reported cases (Figure 2).

Local investigation has identified that 42% of these cases **were not** hospital acquired (n=33), see Table 4 below.

Seven cases reported were from GP specimens and of the remaining cases from patients within NHSGGC hospitals 62% (n=44) had received Proton Pump Inhibitor (PPI) medication which reduces stomach acid production and may be associated with an increased risk of CDI acquisition. Three quarters of cases (n=53) had also received antimicrobial therapy in the previous four weeks to positive stool specimen.

Improvement interventions surrounding prescribing awareness of these findings has been established and further stratification of CDI cases has been put in place (enhanced surveillance) to investigate if recent hospitalisation has played a part in CDI acquisition. Two thirds of the

cases (n=52) who developed CDI this quarter had been in hospital in the 28 days preceding their positive specimen

CDI Cases (Q4 Oct-Dec 2016) Origin	Number of Cases
Hospital Acquired	45
Healthcare Associated	11
Indeterminate	4
Community Associated	18
Total	78

Table 4. Origin of CDI

From October 2016 the definition applied by the IPCT for CDI patients changed to the following:

Local Enhanced CDI Surveillance in NHSGGC: Definition of Origin

Hospital acquired CDI is defined as when a CDI patient has had onset of symptoms at least 48 hours following admission to a hospital.

Healthcare associated CDI is defined as when a CDI patients has had onset of symptoms up to four weeks after discharge from a hospital.

Indeterminate cases of CDI is defined as a CDI patient who was discharged from a hospital 4-12 weeks before the onset of symptoms.

Community associated CDI is defined as a CDI patient with onset of symptoms while outside a hospital and without discharge from a hospital within the previous 12 weeks; or with onset of symptoms within 48 hours following admission to a hospital without stay in a hospital within the previous 12 weeks.

OUTBREAKS / EXCEPTIONS

There have been four incidents / outbreaks classified as GREEN / AMBER using the Health Protection Scotland (HPS) Hospital Infection Incident Assessment Tool (HIIAT) during this reporting period.

November 2016: Royal Alexandra Hospital - HAI CDI

Two cases of HAI CDI in two days; one patient has been transferred to Ward 14, the other patient was not considered to be a severe case and remains in the High Dependency Unit (HDU). HPS Trigger Tool commenced - HIIAT GREEN. Both isolates were typed and were different strains.

November 2016: Queen Elizabeth University Hospital - HAI CDI

Two cases of HAI CDI in three days; HPS Trigger Tool commenced - HIIAT GREEN. Both isolates were typed and were different strains.

November 2016: Royal Hospital for Children - *Serratia marcescens*

Environmental Gram negative organisms are emerging pathogens in Neonatal Intensive Care Units NICU). NHSGGC proactively screens NICU patients for *Serratia marcescens* and have trigger levels for action. Four new cases of *Serratia marcescens* colonisation reported to IPCT from routine weekly screening in Neonatal Intensive Care Unit (ICU). All patients were reported as colonised and not giving cause for concern during this incident. Last new case for this cluster was on 06/11/16. All isolates sent for typing. Of the 4 new cases, 3

were unique and 1 was similar to the isolate from the previous cluster not present in ward at this time - HIIAT AMBER. Outbreak declared over on 09/12/16. Because these organisms are environmental in nature additional environmental control measures have been implemented. Healthcare Infection Incident and Outbreak Reporting Template (HIIORT) sent to HPS / Scottish Government Health Directorate (SGHD).

December 2016: Beatson West of Scotland Cancer Centre - Respiratory Syncytial Virus (RSV)

Twelve RSV HAI cases in Ward B7 Haemato-oncology and 4 HAI cases in Ward B4; both wards closed HIIAT RED. Significant impact on service and sadly one patient died. Haemato-oncology patients are a high risk group for RSV infection and all patients had underlying haematological malignancies. We are in the process of implementing near patient testing which will enable both rapid diagnosis (within 40 minutes) of patients in the future.

Norovirus

Norovirus activity was reported in five hospitals with 5 wards closed in November 2016 and in five hospitals with 11 wards closed in December 2016.

Month	Dec-15	Jan-16	Feb-16	Mar -16	Apr -16	May-16	Jun-16	Jul -16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
Ward Closures	2	2	2	3	6	13	3	1	3	2	6	5	11
Bed Days Lost	14	16	15	45	155	250	76	6	5	49	179	115	136

Table 5 NHSGGC Ward closures due to suspected/confirmed Norovirus.

Data on the numbers of wards closed due to confirmed or suspected Norovirus is available from HPS on a weekly basis: <http://www.hps.scot.nhs.uk/giz/norovirusurveillance.aspx>

From mid-November 2016 the number of cases within our NHSGGC hospitals will be reported daily to senior managers and Public Health to provide prospective information on Norovirus activity throughout the winter.

Healthcare Environment Inspectorate (HEI)

There have been three unannounced HEI / HAI inspections since the last published HAIRT. The Princess Royal Maternity (PRM) was inspected on 19 and 20 October 2016, and the Queen Elizabeth University Hospital (QEUH) between 12-15 December 2016 and 16-17 January 2017. The report for the visits to the QEUH is due to be published on 15 March 2017.

The report on the visit to the PRM was published on 11 January 2017. There were seven requirements and no recommendations:

Requirement 1: NHS Greater Glasgow and Clyde must ensure that staff in the neonatal unit and labour ward have knowledge of how to manage blood and body fluid spillages safely to minimise risks to patients, relatives and staff. This was previously identified as a requirement in the April 2014 inspection report for Princess Royal Maternity Hospital.

Action: IPCT provided SICP's education to staff within the PRM. Each Senior Charge Nurse / Midwife (SCN/M) will audit staff knowledge monthly and provide a documented report to the Lead Nurse/Midwife on an ongoing basis.

Requirement 2: NHS Greater Glasgow and Clyde must ensure that all staff involved with the management and storage of expressed breast milk are aware of and follow the NHS board's expressed breast milk policy. This will ensure that stored expressed breast milk is safe to use. This was previously identified as a requirement in the April 2014 inspection report for Princess Royal Maternity Hospital.

Actions:

- This issue was highlighted in the safety brief including specifics in what the fridge temperature specifications should be and the escalation process if this was not correct.
- All relevant staff in NHSGGC were trained in safe storage of breast milk.
- Fridge recording charts were reformulated to ensure clarity (now included temperature specification and escalation procedure) and implemented in all areas.
- SCM Assurance Checklist now includes weekly checking of breast milk recording charts.

Requirement 3: NHS Greater Glasgow and Clyde must ensure that audit results are fed back to staff to drive improvement and communicate any identified risks.

Action: The current practice is that the IPCT provides immediate verbal feedback to the SCN / Lead Nurse at the time of the IPC Audit. The SCN and Lead Nurse also receive an e-mail immediately after audit and they also receive an action plan with recommendations for remedial action with timescales. The SCN is now responsible for the cascade of the audit results to all staff in the ward / department via the ward or department notice board displays, staff safety briefs and discussions at meetings.

Requirement 4: NHS Greater Glasgow and Clyde must provide a safe and clean environment in the emergency birthing room and entrance area and ensure that these areas are cleaned and monitored in line with Health Facilities Scotland's (HFS) National Cleaning Services Specification (2009) and Facilities Management Tool.

Action: Revised specification code in place; it is now an H code. A revised cleaning schedule and daily sign-off is in place; area is now cleaned each morning at 7.00am.

Requirement 5: NHS Greater Glasgow and Clyde must ensure that all incubator, cot and Resuscitaire mattresses are clean and in a good state of repair. This will minimise the risk of cross-infection to patients.

Action: All mattresses are now reviewed and any non compliant discarded. The Standard Operating Procedure (SOP) for near patient equipment and SOP for mattress inspection has been highlighted in safety briefs. SOP for cleaning of mattresses with no zip has been included in the bedside checklist.

Requirement 6: NHS Greater Glasgow and Clyde must ensure that all equipment used in clinical areas is fit for purpose and able to be effectively decontaminated, and all equipment is properly decontaminated following use and is stored clean and ready to use. This will minimise the risk of cross-infection to patients.

Action: All staff were reminded of their responsibilities with regards to the cleaning of near patient equipment and the completion of bed space checklists for both occupied and unoccupied spaces. Retractable leads used to secure stethoscopes were removed.

Requirement 7: NHS Greater Glasgow and Clyde must ensure that the control measures in Health Protection Scotland's 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 (2014) are adhered to in the neonatal unit. This will minimise the risk of *Pseudomonas aeruginosa* infection to patients.

Action: Reusable incubator humidity tanks which can be autoclaved between patients or weekly (whatever is the soonest) will be. Humidity tanks which cannot be autoclaved will be cleaned between patients as per the manufacturer's instruction.

What the hospital did well

- Hand hygiene practice was good.
- Generally the ward and department environments inspected were clean.
- Parents and patients were complimentary about the standard of cleanliness of the environment and equipment used for patient care.

All HEI Reports for NHS Greater Glasgow and Clyde can be viewed by clicking on the following link
http://www.healthcareimprovementscotland.org/programmes/inspecting_and_regulating_care/environment_inspectorate_hei/hei_reports.aspx

Other HAI Related Activity

National HAI and Antimicrobial Prescribing Point Prevalence Survey 2016 (01/09/2016 - 18/11/2016)

Please note the national report has not yet been published however figures contained in this report have been validated by Health Protection Scotland.

Local analysis of the Point Prevalence data is very positive and shows a **decrease** in the HAI rate within Acute Hospitals from the previous survey undertaken in 2011.

The local results have indicated an overall HAI rate of **3.1%** for NHSGGC Acute Hospitals which is a **reduction** from the 2011 rates of 4.7% for NHSGGC and 4.9% nationally. Ten hospitals were visited and 3834 patients were included in the survey. Details of Acute Hospitals are displayed in **Table 6** below.

ACUTE

	WARDS SURVEYED	PATIENTS SURVEYED	PATIENTS WITH HAI	TOTAL HAI DETECTED	HAI RATE
Queen Elizabeth University Hospital	72	1336	46	53	3.4%
Glasgow Royal Infirmary	46	713	18	19	2.5%
Princess Royal Maternity	8	117	2	2	1.7%
Royal Alexandra Hospital	32	572	22	23	3.8%
Gartnavel General Hospital	20	318	8	9	2.5%
Inverclyde Royal Hospital	19	314	9	11	2.9%
Vale of Leven Hospital	6	81	1	1	1.2%
GGC ACUTE HOSPITALS TOTAL	203	3451	106	118	3.1%

Table 6. Acute Hospitals

Mearns Kirk House and Gartnavel Royal Hospital were included in the non-acute hospitals survey and had a combined HAI rate of 0.5%. The Royal Hospital for Children had an HAI rate of 3.6%; a reduction from 6.1% in 2011.

Data on antimicrobial dosing and indications was also collected and this will be presented in the national report. Invasive device use was also captured and shows a slight increase in the proportion of venous access devices used in patients within our acute hospitals.

Further details of the national survey will be included in subsequent reports however local analysis has allowed timely feedback to clinical services and will enable local review of measures to be considered for further reduction of avoidable HAI.

Surgical Site Infection (SSI) Surveillance

NHSGGC participates in the Surgical Site Infection Surveillance Programme that is mandatory in all NHS Boards in Scotland. All NHS Boards are required to undertake in-patient and 30-day re-admission surveillance for hip arthroplasty, and in-patient and post discharge surveillance to day-10 for Caesarean section procedures as per the mandatory requirements of HDL (2006) 38 and CEL (11) 2009. Post discharge surveillance until day-10 post operation is undertaken with the assistance of our Community Midwifery colleagues.

Health Protection Scotland last available quarter (July-September 2016)

Category of Procedure	Operations	Infections	NHSGGC SSI rate (%)	NHSGGC 95% CI	National Dataset SSI rate (%)	National 95% CI
Caesarean section	1378	25	1.8	(1.2, 2.6)	1.6	(1.2, 1.9)
Hip arthroplasty	390	5	1.3	(0.5, 2.9)	0.6	(0.3, 1.0)

Table 7. SSI rates for Caesarean section (in-patient and PDS to day-10), Hip arthroplasty (in-patient and re-admission to day-30) procedures within NHS Greater Glasgow & Clyde, 01/07/2016 - 30/09/2016.

For the last available reporting quarter (July-September 2016) the SSI rate (1.3%) for hip arthroplasty although higher than the national average was well within the confidence intervals for this category (0.5-2.9). It should be noted that overall infection numbers are very low.

Continued improvement actions included in previous reports are ongoing and focus on Health Protection Scotland's 'Prevention of SSI' measures.

This set of measures form a 'bundle' which when used together can improve patient safety outcomes and include actions to be implemented pre, peri and post-operatively. These evidence based best practice measures should be undertaken for every surgical procedure and not just those that are captured in the SSI Surveillance Programme. These can be accessed at: <http://www.hps.scot.nhs.uk/resourcedocument.aspx?id=2803>

Q4 (October-December 2016) Local SSI Surveillance Status

Surveillance is now complete for the quarter and local surveillance data for October-December 2016 is displayed in **Table 8** below.

Surveillance of the following procedures commenced in July 2016 (in-patient and 30-day re-admission)

- Large Bowel surgery (GGC wide)
- Major Vascular surgery (QEUH)
- Craniotomy, Craniectomy and Cranioplasty (Institute of Neurological Sciences, QEUH campus)

- Spinal surgery (Institute of Neurological Sciences)

It should be noted that the above surgical procedures will not be included in the national reporting figures or published by Health Protection Scotland therefore **caution should be taken** when interpreting local SSI rates in future publications to enable local baseline data to be established.

These are new categories of surveillance therefore comparative data is awaited however NHSGGC rates are below those in the published literature.

Quarter 4 (Oct-Dec 2016) : Local SSI Surveillance Status				
	Category of Procedure	Operations	Infections	NHSGGC SSI Rate (%)
Mandatory	Caesarean section	1269	14	1.1
	Hip arthroplasty	456	2	0.4
Voluntary	Knee arthroplasty	431	3	0.7
	Repair of neck of femur	405	8	2.0
	Large Bowel Surgery	200	7	3.5
	Major Vascular Surgery	215	5	2.3
Additional INS, QEUH only	Cranial Surgery	162	5	3.1
	Spinal Surgery	218	3	1.4

Table 8. Local SSI Surveillance 01/10/16 - 31/12/16

Statistical Process Control Charts

All Hospital Level Statistical Process Control Charts (SPCs) continue to remain within normal control limits.

Charts for Queen Elizabeth University Hospital and Royal Hospital for Children are not statistically significant due to having less than 25 data points.

Cleaning and the Healthcare Environment

All areas within NHSGGC scored **GREEN (>90%)** in the most recent report on the National Cleaning Specification.

Healthcare Associated Infection Reporting Template (HAIRT)

Section 2 – Healthcare Associated Infection Report Cards

The following section is a series of 'Report Cards' that provide information for each acute hospital and key community hospitals in the Board, on the number of cases of *Staphylococcus aureus* blood stream infections (also broken down into MSSA and MRSA) and *Clostridium difficile* infections, as well as hand hygiene and cleaning compliance. In addition there is a single report card which covers all community hospitals [which do not have individual cards] and a report which covers infections identified as having been contracted from outwith hospital. The information in the report cards is provisional local data and may differ from the national surveillance reports carried out by Health Protection Scotland (HPS) and Health Facilities Scotland (HFS). The national reports are official statistics which undergo rigorous validation which means final national figures may differ from those reported here. However these reports aim to provide more detailed and up-to-date information on HAI activities at local level than is possible to provide through the national statistics.

Understanding the Report Cards – Infection Case Numbers

Clostridium difficile infections (CDI) and *Staphylococcus aureus* bacteraemia (SAB) cases are presented for each hospital, broken down by month. SAB cases are further broken down into Meticillin Sensitive *Staphylococcus aureus* (MSSA) and Meticillin Resistant *Staphylococcus aureus* (MRSA). More information on these organisms can be found on the HPS website:

Clostridium difficile: <http://www.hps.scot.nhs.uk/haic/sshaip/clostridiumdifficile.aspx?subjectid=79>

Staphylococcus aureus Bacteraemia:

<http://www.hps.scot.nhs.uk/haic/sshaip/mrsabacteraemiasurveillance.aspx?subjectid=D>

For each hospital the total number of cases for each month are those which have been reported as positive from a laboratory report on samples taken more than 48 hours after admission. For the purposes of these reports positive samples taken from patients within 48 hours of admission will be considered to be confirmation that the infection was contracted prior to hospital admission and will be shown in the "out of hospital" report card.

Targets

There are national targets associated with reductions in *C. diff* and SABs. More information on these can be found on the Scotland Performs website:

<http://www.scotland.gov.uk/About/Performance/scotPerforms/partnerstories/NHSScotlandperformance>

Understanding the Report Cards – Hand Hygiene Compliance

Hospitals carry out regular audits of how well their staff are complying with hand hygiene. The Board report card presents the combined percentage of hand hygiene compliance with both opportunity taken and technique used broken down by staff group.

Understanding the Report Cards – Cleaning Compliance

Hospitals strive to keep the care environment as clean as possible. This is monitored through cleaning and estates compliance audits. More information on how hospitals carry out these audits can be found on the HFS website: <http://www.hfs.scot.nhs.uk/online-services/publications/hai/>

Understanding the Report Cards – 'Out of Hospital Infections'

CDI and SAB cases (including MRSA) are all associated with being treated in hospitals however this is not the only place a patient may contract an infection. This total will also include infection from community sources such as GP surgeries and care homes. The final Report Card report in this section covers 'Out of Hospital Infections' and reports on SAB and CDI cases reported to a Health Board which are not attributable to a hospital.

NHS GREATER GLASGOW & CLYDE

REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
MRSA	3	2	4	2	6	1	1	2	2	1	1	0
MSSA	32	41	24	46	37	18	33	37	42	33	39	30
Total SABS	35	43	28	48	43	19	34	39	44	34	40	30

Clostridium difficile infection monthly case numbers

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Ages 15-64	11	9	14	13	12	10	16	9	16	10	6	5
Ages 65 plus	11	21	26	22	21	9	28	29	22	19	23	15
Total Ages 15 plus	22	30	40	35	33	19	44	38	38	29	29	20

Hand Hygiene Monitoring Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
AHP	98	97	97	97	97	97	99	98	98	99	99	98
Ancillary	94	94	93	93	92	94	91	95	92	92	93	92
Medical	95	94	96	96	95	96	95	95	96	96	96	97
Nurse	99	99	99	99	98	98	99	99	99	99	98	99
Board Total	98	97	98	98	97	97	98	98	98	98	98	98

Cleaning Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	95.6	96.2	95.8	95.6	95.8	95.8	95.7	95.9	95.9	96.1	95.7	96.0

Estates Monitoring Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	95.6	96.1	97.7	97.5	97.1	97.6	98.4	98.5	98.4	99.0	98.8	98.9

GLASGOW ROYAL INFIRMARY / PRINCESS ROYAL MATERNITY

REPORT CARD

***Staphylococcus aureus* bacteraemia monthly case numbers**

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
MRSA	0	0	1	0	0	0	0	0	0	0	0	0
MSSA	3	6	2	6	6	2	2	2	3	2	5	1
Total SABS	3	6	3	6	6	2	2	2	3	2	5	1

***Clostridium difficile* infection monthly case numbers**

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Ages 15-64	3	0	2	1	2	1	3	0	5	1	1	0
Ages 65 plus	4	4	6	6	2	0	3	3	2	2	3	4
Ages 15 plus	7	4	8	7	4	1	6	3	7	3	4	4

Cleaning Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	95.7	96.0	96.0	95.9	96.0	95.9	95.6	95.8	95.5	95.7	95.7	95.8

Estates Monitoring Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	98.9	99.5	99.6	99.5	99.5	99.6	99.7	99.6	99.6	99.7	99.7	99.8

ROYAL ALEXANDRA HOSPITAL

REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
MRSA	0	0	1	0	0	0	1	0	0	0	0	0
MSSA	1	3	1	2	0	0	2	1	3	2	0	2
Total SABS	1	3	2	2	0	0	3	1	3	2	0	2

Clostridium difficile infection monthly case numbers

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Ages 15-64	0	0	0	0	1	0	0	0	1	1	1	1
Ages 65 plus	0	0	2	1	0	3	3	0	1	2	3	2
Ages 15 plus	0	0	2	1	1	3	3	0	2	3	4	3

Cleaning Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	96.5	96.8	96.2	96.5	96.7	96.0	96.8	96.6	95.9	96.3	96.4	96.2

Estates Monitoring Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	98.9	99.0	98.5	99.2	98.9	97.7	98.9	97.3	98.7	98.1	97.8	96.4

INVERCLYDE ROYAL HOSPITAL

REPORT CARD

***Staphylococcus aureus* bacteraemia monthly case numbers**

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
MRSA	0	0	0	0	0	0	0	0	0	0	0	0
MSSA	1	1	1	0	1	0	1	0	0	0	1	1
Total SABS	1	1	1	0	1	0	1	0	0	0	1	1

***Clostridium difficile* infection monthly case numbers**

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Ages 15-64	0	2	0	0	0	1	0	0	0	0	0	0
Ages 65 plus	1	0	2	1	0	0	0	0	3	0	2	2
Ages 15 plus	1	2	2	1	0	1	0	0	3	0	2	2

Cleaning Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	95.6	97.2	95.2	96.0	96.7	95.4	95.8	95.9	95.5	95.8	96.5	95.6

Estates Monitoring Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	97.7	98.5	97.3	97.3	98.4	96.6	97.1	97.5	97.2	97.2	97.9	96.8

VALE OF LEVEN HOSPITAL

REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
MRSA	0	0	0	0	0	0	0	0	0	0	0	0
MSSA	0	0	1	0	0	0	1	0	0	0	0	0
Total SABS	0	0	1	0	0	0	1	0	0	0	0	0

Clostridium difficile infection monthly case numbers

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Ages 15-64	0	0	0	0	0	0	0	0	0	0	0	0
Ages 65 plus	0	0	0	0	1	0	1	0	0	2	0	1
Ages 15 plus	0	0	0	0	1	0	1	0	0	2	0	1

Cleaning Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	96.5	96.9	97.0	97.2	97.0	97.0	97.3	97.0	97.4	97.4	97.5	97.7

Estates Monitoring Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	99.3	99.4	99.3	99.6	99.3	99.2	99.1	99.5	99.5	99.5	99.5	99.8

GARTNAVEL GENERAL HOSPITAL

REPORT CARD

Figures combined for
Gartnavel General Hospital, The Beatson WoSCC and Homeopathic Hospital

***Staphylococcus aureus* bacteraemia monthly case numbers**

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
MRSA	0	1	0	0	0	0	0	0	0	0	0	0
MSSA	0	1	0	3	0	1	2	0	1	2	1	0
Total SABS	0	2	0	3	0	1	2	0	1	2	1	0

***Clostridium difficile* infection monthly case numbers**

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Ages 15-64	0	0	1	0	0	1	0	0	1	0	0	0
Ages 65 plus	1	2	1	1	2	0	3	0	0	1	0	1
Ages 15 plus	1	2	2	1	2	1	3	0	1	1	0	1

Cleaning Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	97.0	96.8	96.6	96.3	96.1	96.6	97.3	97.0	96.7	96.5	95.9	96.7

Estates Monitoring Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	98.6	99.1	98.2	99.0	98.6	99.0	98.7	99.1	99.2	99.0	99.2	99.5

QUEEN ELIZABETH UNIVERSITY HOSPITAL

REPORT CARD

***Staphylococcus aureus* bacteraemia monthly case numbers**

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
MRSA	0	0	0	0	1	0	0	0	0	1	0	0
MSSA	4	2	2	7	2	4	4	7	11	4	6	6
Total SABS	4	2	2	7	3	4	4	7	11	5	6	6

***Clostridium difficile* infection monthly case numbers**

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Ages 15-64	0	1	0	2	2	3	2	2	1	1	1	1
Ages 65 plus	0	1	3	3	6	1	2	3	3	5	4	2
Ages 15 plus	0	2	3	5	8	4	4	5	4	6	5	3

Cleaning Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	93.9	94.3	95.0	94.0	95.0	95.3	95.5	95.9	95.1	95.9	94.5	95.3

Estates Monitoring Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	99.8	99.5	99.9	99.8	99.9	99.8	99.9	99.8	99.8	99.7	99.2	99.6

ROYAL HOSPITAL FOR CHILDREN

REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
MRSA	0	0	0	0	0	0	0	0	0	0	0	0
MSSA	1	2	0	3	2	1	1	0	1	0	2	1
Total SABS	1	2	0	3	2	1	1	0	1	0	2	1

Clostridium difficile infection monthly case numbers (in ages 15 & over only)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Ages 15 plus	0	0	0	0	0	0	0	0	1	0	0	0

Cleaning Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	96.4	96.6	95.8	96.5	96.8	96.0	96.9	96.5	95.8	97.0	96.3	96.0

Estates Monitoring Compliance (%)

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Board Total	99.8	99.8	99.7	99.6	99.7	99.3	99.8	99.5	99.6	99.8	99.9	99.4

**NHS GREATER GLASGOW & CLYDE
COMMUNITY HOSPITALS REPORT CARD**

The community hospitals covered in this report card include:

- Lightburn Hospital
- Dykebar Hospital
- Gartnavel Royal Hospital
- Leverndale Hospital
- MacKinnon House
- Mearnskirk House
- New Victoria Hospital
- Parkhead Hospital
- Ravenscraig Hospital
- Stobhill Hospital

***Staphylococcus aureus* bacteraemia monthly case numbers**

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
MRSA	0	0	1	0	0	0	0	0	0	0	0	0
MSSA	1	2	1	1	2	0	0	2	1	1	2	0
Total SABS	1	2	2	1	2	0	0	2	1	1	2	0

***Clostridium difficile* infection monthly case numbers**

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Ages 15-64	0	0	0	0	0	0	0	0	0	0	0	0
Ages 65 plus	0	1	1	0	1	0	0	0	0	0	0	1
Ages 15 plus	0	1	1	0	1	0	0	0	0	0	0	1

NHS GREATER GLASGOW & CLYDE

OUT OF HOSPITAL REPORT CARD

***Staphylococcus aureus* bacteraemia monthly case numbers**

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
MRSA	3	1	1	2	5	1	0	2	2	0	1	0
MSSA	21	24	16	24	24	10	20	25	22	22	22	19
Total SABS	24	25	17	26	29	11	20	27	24	22	23	19

***Clostridium difficile* infection monthly case numbers**

	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Ages 15-64	8	6	11	10	7	4	11	7	7	7	3	3
Ages 65 plus	5	13	11	10	9	5	16	23	13	7	11	2
Ages 15 plus (Total)	13	19	22	20	16	9	27	30	20	14	14	5

Data for *Clostridium difficile* Infection (CDI) cases in ages 15 plus:

55% of all CDI cases reported in NHSGGC between January 2016 and December 2016 are attributed as *Out of Hospital* infections.

Data for *Staphylococcus aureus* bacteraemia (SAB) cases:

61% of all *Staphylococcus aureus* Bacteraemia cases reported in NHSGGC between January 2016 and December 2016 are attributed as *Out of Hospital* infections.

GLOSSARY

AMT	Antimicrobial Management Team
AOBD	Acute Occupied Bed Days
Alert organism alert condition	Any of a number of organisms or infections that could indicate, or cause, outbreaks of infection in the hospital or community.
Bacteraemia	Infection in the blood. Also known as Blood Stream Infection (BSI).
CDI	<i>Clostridium difficile</i> Infection. Also referred to as <i>C. diff</i> is a Gram-positive spore-forming anaerobic bacterium. <i>C. difficile</i> is the most common cause of gastro-intestinal infection in hospitals. It causes two conditions; antibiotic associated diarrhoea and the more severe and occasionally life-threatening pseudomembranous colitis. Control of the organism can be problematic due to the formation of spores and difficulty in removing them. Patients who have had antibiotics within the last eight weeks are most at risk of acquisition of the organism.
CEL	Chief Executive Letter issued by Scottish Government Health Directorates (SGHD)
CRA	Clinical Risk Assessment
CVC	Central Vascular Catheter
Code of Practice	Code of Practice - The NHS Scotland Code of Practice for the Local Management of Hygiene and Healthcare Associated Infection issued 2004 contains the components that must be complied with by all NHS HCWs in Scotland. http://www.scotland.gov.uk/Publications/2004/05/19315/36624
GRO	General Registers Office
HAI	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 healthcare intervention. It must be noted that HAI infection is not always an avoidable infection. Please note that for <i>S.aureus</i> Bacteraemia surveillance – HAI refers to 'hospital acquired cases as per HPS National reporting requirements. See http://www.documents.hps.scot.nhs.uk/hai/sshaip/guidelines/s-aureus/esab-protocol-v2-2014-11.pdf
HCAI	Healthcare Associated Infection (for CDI and SAB classification)
HCW	Healthcare Worker
HDL	Health Department Letter
HDU	High Dependency Unit
HEAT Target	Health Efficiency and Access to Treatment . Targets set by the Scottish Government.
HFS	Health Facilities Scotland
HH	Hand Hygiene
HIIAT	Hospital Infection Incident Assessment Tool
HIIORT	Healthcare Infection Incident and Outbreak Reporting Template
HIS	Health Improvement Scotland
HPS	Health Protection Scotland
ICN / T / D / M	Infection Control Nurse / Team / Doctor / Manager
ICP	Infection Control Programme
ICU	Intensive Care Unit
ISD	Information Services Division A division of National Services Scotland, part of NHS Scotland. ISD provides health information, health intelligence, statistical services and advice that support the NHS in progressing quality improvement in health and care, and facilitates robust planning and decision making.
KPI	Key Performance Indicator
MRSA	Meticillin resistant <i>Staphylococcus aureus</i> . A <i>Staphylococcus aureus</i> resistant to first line antibiotics; most commonly known as a hospital acquired organism.
MSSA	Meticillin Sensitive <i>Staphylococcus aureus</i>
PDS	Post Discharge Surveillance (Caesarean Section procedures only)
PFPI	Public Focus Patient Involvement
PHPU	Public Health Protection Unit
PPI	Proton Pump Inhibitors . A group of medications used to decrease gastric acid production.
PVC	Peripheral Vascular Catheter
QIF	Quality Improvement Facilitator
RRT	Renal Replacement Therapy
RSV	Respiratory Syncytial Virus . A contagious respiratory infection.
SAB	<i>Staphylococcus aureus</i> Bacteraemia
SCN / M	Senior Charge Nurse / Midwife
SICP	Standard Infection Control Precautions
SGHD	Scottish Government Health Directorate
SOP	Standard Operating Procedure
SPC	Statistical Process Control (Charts)
SSI	Surgical Site Infection
TOBD	Total Occupied Bed Days
VRE	Vancomycin resistant enterococcus - an alert organism. A common organism that can be inherently resistant to Vancomycin but can also acquire (and transfer resistance) to other organisms. Has caused outbreaks reported in the literature in a variety of high-risk settings, e.g. renal or bone marrow transplant units.