NHS Greater Glasgow & Clyde	**Paper No. 20/27**
Meeting:	**Board Meeting**
Date of Meeting:	**30th June 2020**
Purpose of Paper:	**For Noting**
Classification:	**Board Official**
Sponsoring Director:	**Prof Angela Wallace** **Executive Director of Infection Prevention and Control**

Healthcare Associated Infection Reporting Template
For Assurance

Executive Sponsor: Prof Angela Wallace, Executive Director IPC.
Authors: Mrs Sandra Devine, Interim Infection Control Manager & Professor Angela Wallace, Executive Director Infection Prevention and Control.

Executive Summary

The Healthcare Associated Infection Reporting Template (HAIRT) is a mandatory reporting tool for the Board to have oversight of the HAI targets (*Staphylococcus aureus* bacteraemias (SAB), *Clostridioides difficile* infections (CDI), *E. coli* bacteraemias(ECB), incidents and outbreaks and all other HAI activities across NHS Greater Glasgow & Clyde (NHSGGC).

Recommendation:

The NHS Board is asked to:

- Note the HAIRT report
- Note the performance in respect of the Annual Operational Plan (AOP) Standards for SAB, CDI & ECB
- Note the detailed activity in support of the prevention and control of Healthcare Associated Infection
- Note contribution of IPCT to GGC recovery plans.

Key Issues to be considered:

- New AOP targets set for 2019-2022 for SAB, CDI and ECB are now presented in this report.
- SAB remain within normal control limits.
- CDI remain within normal control limits.
- ECB remain within normal control limits.
- There were two deaths where *C.difficile* was recorded on a death certificate and no deaths for MRSA recorded on a death certification.
- Surgical Site Infection (SSI) surveillance has paused from April to date as part of the COVID-19 surveillance response.
- Bacteraemia enhanced surveillance is now using light methodology as part of the COVID-19 surveillance response (light methodology involves viewing all the clinical information available from patient management systems rather than from clinical teams within the ward).
- The HAIRT report continues to be reviewed and consultation process to develop the presentation of HAI performance.

- COVID-19 activity has significantly reduced in June 2020. The IPCT continue to review every case and are currently assisting with 'Track and Trace' as directed by the Public Health Protection Unit

Financial Implications
None

Workforce Implications
None

Risk Assessment
Work is ongoing to continually reduce all reducible SAB, CDI and ECB across NHSGGC.

Relevance to Strategic Priorities
Annual Operating Plan (AOP) Standards in respect of SAB, CDI & ECB

- The HAIRT report is currently under review

Equality Declaration
The author can confirm that due regard has been given to the Equality Act 2010 and compliance with the three aims of the Equality Duty as part of the decision making process. Further to an evaluation it is noted that:

- The paper is not relevant to Equality and Diversity

Consultation Process
Infection Prevention and Control Team (IPCT) & Board Infection Control Committee

Healthcare Associated Infection Summary – April/May 2020

The HAIRT Report is the national mandatory reporting tool and is presented bi-monthly to the NHS Board. This is a requirement by the Scottish Government HAI Task Force and informs NHSGGC of activity and performance against Healthcare Associated Infection Standards and performance measures. This section of the report focuses on NHSGGC Board-wide prevention and control activity and actions.

SUMMARY FOR THIS MONTH

- Boards Cleaning compliance is 95% and Estates compliance 97% for this period.
- SSI surveillance is temporarily paused. The IPCT are continuing background monitoring via ICNet to identify any positive microbiology in surveillance procedure categories and return this information to clinical teams.
- SAB - HCAI standard aim is 70 cases or less per quarter by 2022. NHSGGC were only 5 cases above aim for the period January-March 2020.
- Responding to COVID-19 continues to be a priority for the IPCT.
- The IPCT are supporting the organisation to inform recovery plans post COVID-19.
- The IPCT continue to provide assurance to HPS in accordance with the National Support Framework in relation to PICU. All required evidence has been submitted by GGC and we await feedback from HPS.
- Close communication with Health Protection Scotland (HPS) and other external organisations has been ongoing throughout the pandemic, with contributions from several members of the IPCT to National Groups using their experience of COVID-19 in the context of frontline services to shape national policy.
- GGC IPCT provided support to the Louisa Jordan Hospital in terms of access to GGC IPCT Standard Operating Procedures (SOPs), education materials and access to the IPCT patient management system (ICNET).

All of the above actions continue to support the organisations Safe and Effective Care Objective.

Performance at a glance

	April	May	Bi-Monthly RAG status	RAG status toward AOP target (based on trajectory to March 2022)
Staphylococcus aureus bacteraemia (SAB)	**25**	**31**		↓
Clostridioides difficile infection (CDI)	**19**	**22**		↑
Escherichia coli Bacteraemia (ECB)	**56**	**66**		↓
Hospital acquired IV access device associated SAB	**n/a**	**8**		*Data not available
Hand Hygiene	**99%**	**99%**		
National Cleaning compliance (Board wide)	**95%**	**96%**		
National Estates compliance (Board wide)	**97%**	**97%**		
Surgical Site Infections (SSIS) mandatory procedures	**n/a**	**n/a**	n/a	

Key infection control challenges (relating to performance)

<u>*Staphylococcus aureus* bacteraemia</u>

- There were 6 hospital acquired SAB in April and 19 in May

<u>*Clostridioides difficile* infection</u>

- There were 8 hospital acquired CDI in April and 1 case in May

<u>*Escherichia coli* bacteraemia</u>

- There were 12 hospital acquired ECB in April and 18 in May

SAB, CDI and ECB case numbers remain within control limits this month

<u>Surgical site infection surveillance</u>

- Surveillance paused (CNO letter 25 March 2020)

	Key HAI related activities • There were two patients in April where *C. difficile* was recorded as either a primary or contributory factor on their death certificate and one in May. There were no recorded deaths in April or May where MRSA was listed as either a primary or contributory factor. • IPCAT Audits recommenced on 1 June 2020. • Routine weekly ward visits to all wards re-commenced 15 May 2020. • All suspended IPCT activities have now returned to normal and business continuity plans have been stood down.

Glossary of abbreviations

Following feedback from stakeholders, below is a list of abbreviations used within this report:

HAI - Hospital acquired infection (not present or incubating on admission to hospital and arising ≥ 48 hours after admission). Please note this excludes COVID-19 cases (hospital onset currently thought to be >14 days)
HCAI - Healthcare associated infection
SAB - *Staphylococcus aureus* bacteraemia
IVAD - Intravenous access device
CDI - *Clostridioides difficile* infection
AOP - Annual Operational Plan
NES - National Education for Scotland
IPCT - Infection Prevention & Control Team
HEI - Healthcare Environment Inspectorate
SSI - Surgical Site Infection
SICPs - Standard Infection Control Precautions
PVC - Peripheral Vascular Catheter

Definitions used for *S. aureus* and *E.coli* bacteraemias

Definition of a bacteraemia

Bacteraemia is the presence of bacteria in the blood. Blood is normally a sterile environment, so the detection of bacteria in the blood (most commonly accomplished by blood cultures) is always abnormal. It is distinct from sepsis, which is the host response to the bacteria. Bacteria can enter the bloodstream as a severe complication of infection (like pneumonia, meningitis, urinary tract infections etc.), during surgery, or due to invasive devices such as PVCs, Hickman lines, urinary catheters etc. Transient bacteraemias can result after dental procedures or even brushing of teeth although this poses little or no threat to the person in normal situations.

Bacteraemia can have several important health consequences. The immune response to the bacteria can cause sepsis and septic shock which has a high mortality rate. Bacteria can also spread via the blood to other parts of the body (haematogenous spread), causing infections away from the original site of infection, such as endocarditis (infection of the heart valves) or osteomyelitis (infection of the bones). Treatment for bacteraemia is with antibiotics for many weeks in some circumstances however cases such as *Staph aureus* bacteraemia, usually 14 days of antibiotic therapy is required.

Origin definitions for bacteraemia

Healthcare Associated Infection	**Hospital Acquired Infection** Positive blood culture obtained from a patient who has been hospitalised for ≥48 hours. If the patient was transferred from another hospital, the duration of in-patient stay is calculated from the date of the first hospital admission. If the patient was a neonate / baby who has never left hospital since being born. OR The patient was discharged from hospital in the 48 hours prior to the positive blood culture being taken. OR A patient who receives regular haemodialysis as an out-patient. OR Contaminant if the blood aspirated in hospital. OR If infection source / entry point is surgical site infection (SSI). *[This will be attributed to hospital of surgical procedure]*
	Healthcare Associated Infection Positive blood culture obtained from a patient within 48 hours of admission to hospital and fulfils one or more of the following criteria: Was hospitalised overnight in the 30 days prior to the positive blood culture being taken. OR Resides in a nursing, long-term care facility or residential home. OR IV, or intra-articular medication in the 30 days prior to the positive blood culture being taken, but excluding IV illicit drug use. OR Had the use of a registered medical device in the 30 days prior to the positive blood culture being taken, e.g. intermittent self-catheterisation or percutaneous endoscopic gastrostomy (PEG) tube with or without the direct involvement of a healthcare worker (excludes haemodialysis lines see HAI). OR Underwent any medical procedure which broke mucous or skin barrier, i.e. biopsies or dental extraction in the 30 days prior to the positive blood culture being taken. OR Underwent care for a medical condition by a healthcare worker in the community which involved contact with non-intact skin, mucous membranes or the use of an invasive device in the 30 days prior to the positive blood culture being taken, e.g. podiatry or dressing of chronic ulcers, catheter change or insertion.
Community Acquired Infection	Positive blood culture obtained from a patient within 48 hours of admission to hospital who does not fulfil any of the criteria for healthcare associated bloodstream infection.

HCAI Surveillance

NHSGGC has systems in place to monitor key targets and areas for delivery. The surveillance and HCAI systems and ways of working allow early detection and indication of areas of concern or deteriorating performance. The IPCT undertake formal ward audits (IPCAT) in addition to regular weekly ward visits by the IPC Nurse; infection investigation is also a significant function within the team as part of the AOP target reporting. This activity provides robust intelligence of how infection prevention is maintained across all areas and is reported on a monthly basis to all appropriate stakeholders.

***Staphylococcus aureus* bacteraemia (SAB)**

All blood cultures that grow bacteria are reported nationally and it was found that *S. aureus* became the most common bacteria isolated from blood culture. As *S. aureus* is an organism that is found commonly on skin it was assumed (nationally) the bacteraemias occurred via a device such as a peripheral vascular catheter (PVC) and as such a national reduction strategy was initiated and became part of the then HEAT targets in 2006. The target was a national reduction rather than a board-specific reduction however the latest target set for 2019-2022 are Board-specific, based on current infection rates.

NHSGGC's approach to SAB prevention and reduction

All *Staph aureus* bacteraemia are monitored and reported by the IPCT. Investigations to the cause of infection consist of examining the patients notes, microbiology, biochemistry and haematology reports to identify potential causes of the infection; from this, in most cases, a provisional cause is identified however if necessary, this is discussed further with the clinical team responsible for the management of the patient to assist further with the investigation. Any issues identified during the investigations, such as incomplete bundle* etc., is highlighted at this time and where appropriate a DATIX report is generated. Once a conclusion has been agreed, the information is discussed with the Infection Control Doctor and outcomes agreed. This information is part of mandatory reporting and is submitted to HPS quarterly.

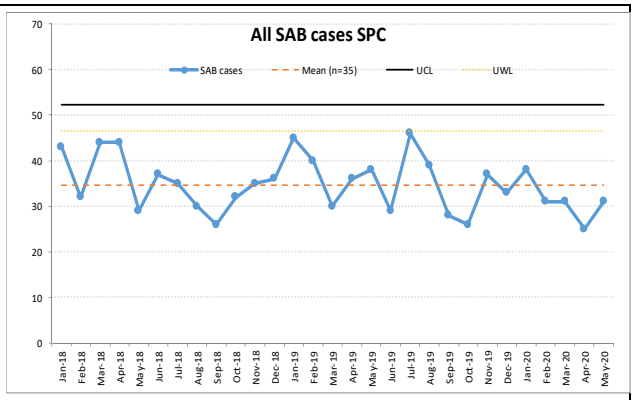
*Care "bundles" are simple sets of evidence-based practices that when implemented collectively, improve the reliability of their delivery and improve patient outcomes. There are several care bundles in use within IPC in GGC, i.e. PVC, CVC, SSI and Urinary Catheter Care (UCC). Compliance with these bundles are monitored via the IPC audit IPCAT, and if there is an incident or outbreak.

Information on patients with SABs and any follow-up actions are reported to the Directorate/Division in two ways; in their monthly summary reports, and quarterly in a SAB specific report. A monthly GGC report is also produced and circulated and this is presented as a summary at the Acute Clinical Governance Committee. All SABs associated with an IV access device are followed-up by an audit of PVC/CVC practice in the ward or clinical area of origin, and the results are returned to the Chief Nurse for the Sector/Directorate. The analysis of the data and subsequent SAB reports enables the IPCT to identify trends in particular sources of infections such as Hickman line infections etc. and it also enables us to identify areas requiring further support. The data also influences the elements contained in the IPCT annual work plan.

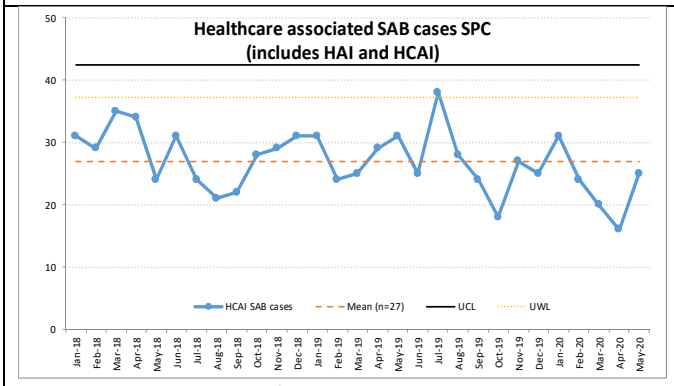
	April 2020	May 2020
Total	**25**	**31**
Hospital	6	19
Healthcare	10	6
Community	9	6

RAG Status *- GREEN denotes monthly case numbers are less than the mean monthly SAB totals. AMBER denotes when monthly case numbers are above the mean monthly SAB totals but less than three standard deviations from the mean. RED denotes monthly case numbers are above three standard deviations from the mean.*

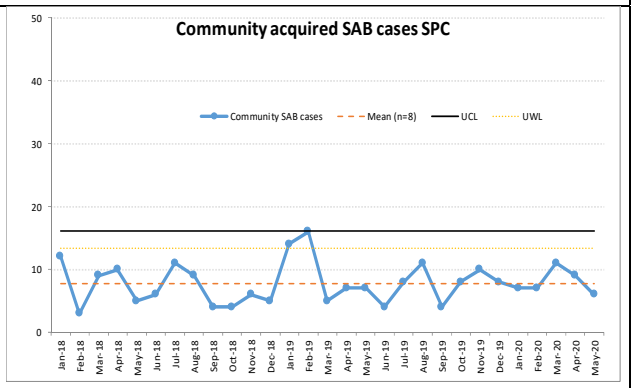
Healthcare associated *S. aureus* bacteraemia total: June 2019 to date = 301



Comment: Increase in hospital acquired cases in May. All investigated and all were in different wards across six hospital sites. No common factors were identified.



Comment: Number of cases increased in May however remains below the mean (average).



Comment: Case numbers remain within control limits.

Breakdown of Healthcare SAB entry point

April

Source	No of Cases
Light surveillance methodology	

May

Hospital acquired	No of Cases = 19
UNDER INVESTIGATION	5
PVC	5
Source not identified	2
Respiratory infection	2
Dialysis line non tunnelled	1
CVC non tunnelled	1
Vascular graft >day 90 post surgery	1
PICC/Midline	1
Surgical site infection (organ/space)	1
Healthcare associated	**No of Cases = 6**
Abscess	2
Portacath insertion >8 weeks	1
Source not identified	1
Dental	1
Pancreatic collection	1

There were 5224 blood cultures taken in the month of April. Of those, there were in total 25 blood cultures that grew *S. aureus*.

This accounts for 0.5% of all blood cultures taken that month.

Hospital SABs account for 0.1% of blood cultures taken.

IV access device (IVAD) associated SABs

In addition to the nationally set targets, infections from an IV access device caused by *S. aureus* are investigated fully and reported.

NHSGGC's approach to SAB prevention and reduction

Continual monitoring and analysis of local surveillance data enables the IPCT and managers to identify and work towards ways to reduce infections associated with IV access devices. All SABs are reviewed and investigated fully and highlighted to the patients' clinicians, nursing staff and management. Where appropriate, a DATIX is generated to enable infections that require learning is shared and discussed at local clinical governance meetings.

In addition, the IPCT assess bundle compliance of three invasive devices (PVCs, urinary catheters, CVCs etc.) as part of their IPCAT audit programme and this is reported in the monthly Directorate Reports. There is also a multi-disciplinary GGC SAB Group which comprises clinicians from many areas in order to review information and devise strategies to reduce SABs.

May 2020

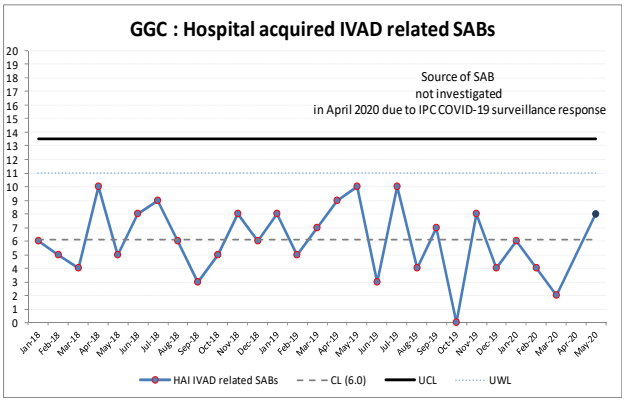
Enhanced bacteraemia surveillance temporarily switched to light methodology as directed by SG because of the acknowledged increased workload of IPCTs responding to the challenges of COVID-19. No data on source of SAB collected in April.

Eight hospital acquired cases in May 2020:

Location of IV access device related SABs

BOC Ward B1
GRI Ward 9
IRH G North
QEUH CC ITU1
QEUH Ward 10D
QEUH Ward 11D
QEUH Ward 4D
QEUH Ward 6B

RAG Status **-** *GREEN denotes monthly case numbers are less than the mean monthly total. AMBER denotes when monthly case numbers are above the monthly mean but less than three standard deviations from the monthly mean. RED denotes monthly case numbers are above three standard deviations from the monthly mean.*

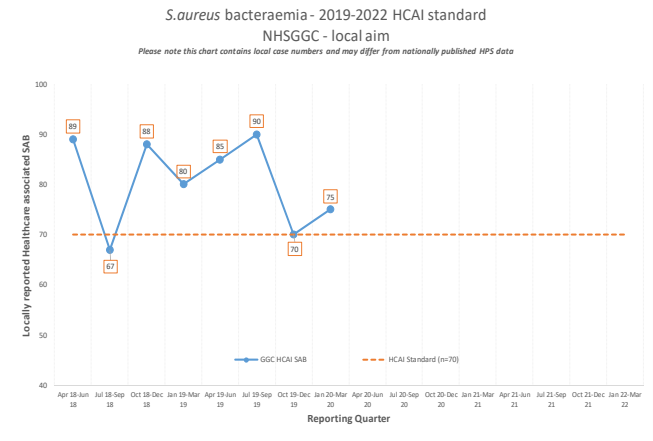


Comment: Above chart mean in May 2020. Ward audits of device care plan undertaken by IPCT and results prospectively fed back to nursing team. Common themes were the failure to complete the care plan and consequently the care bundle.

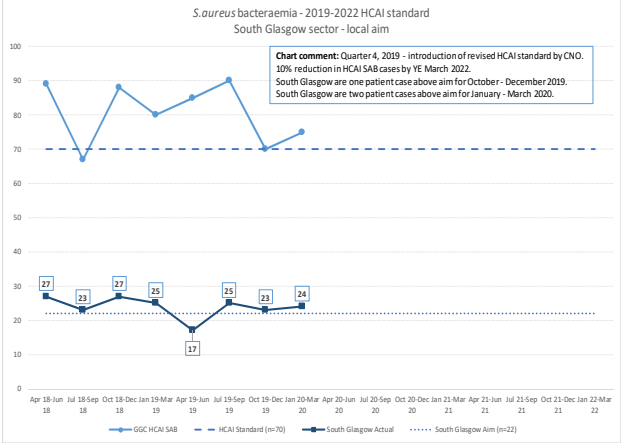
Healthcare Associated Infection Standards – local reduction aims

- *S. aureus* bacteraemia – reduction of 10% from 2019 to 2022

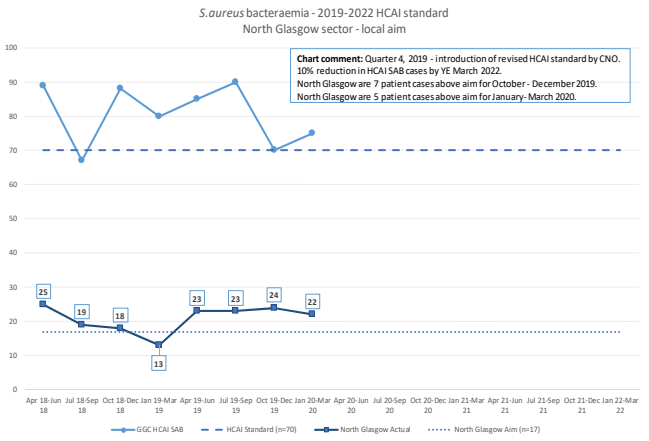
Local quarterly reduction aim charts have been produced for GGC as a whole and for the five Acute sectors.



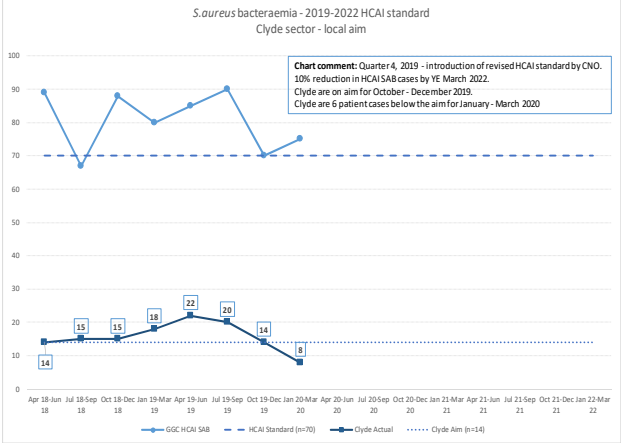
Comment: HCAI standard aim is 70 cases or less per quarter by 2022. NHSGGC were 5 cases above aim for January-March 2020.



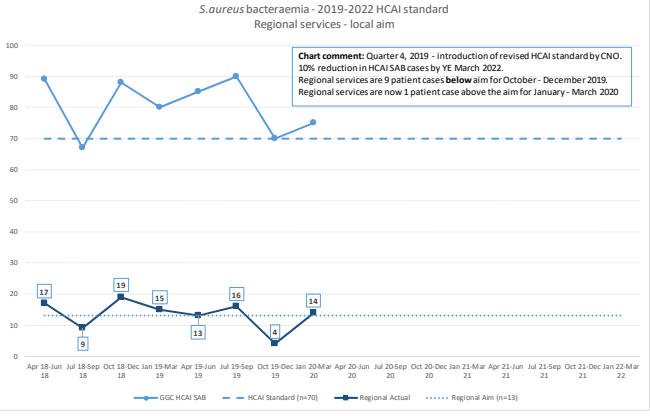
Comment: South Glasgow Sector aim is 22 cases or less per quarter. 2 patient cases above aim for the last reporting quarter.



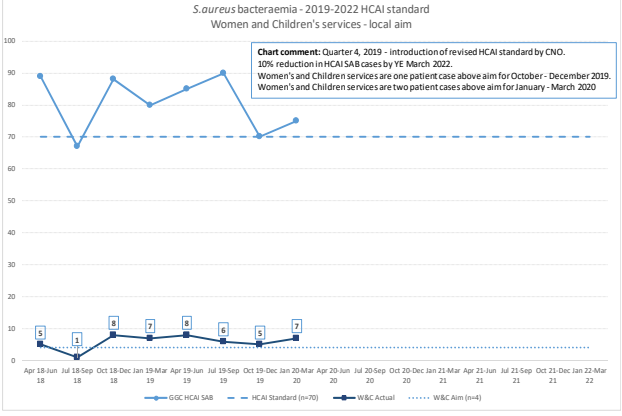
Comment: North Glasgow are 5 patient cases above HCAI aim for the quarter. Local improvement work to reduce the number of IV access device related cases is ongoing.



Comment: Clyde sector are below aim for this quarter with 8 cases



Comment: Regional Services are just 1 patient case above aim for the quarter.



Comment: Women and Children's are 3 cases above aim. Improvement work with regards to CLABSI is ongoing in RHC and this group focus on reviewing practice and evaluating new technologies and evidence.

Escherichia coli bacteraemia (ECB)

NHSGGC's approach to ECB prevention and reduction

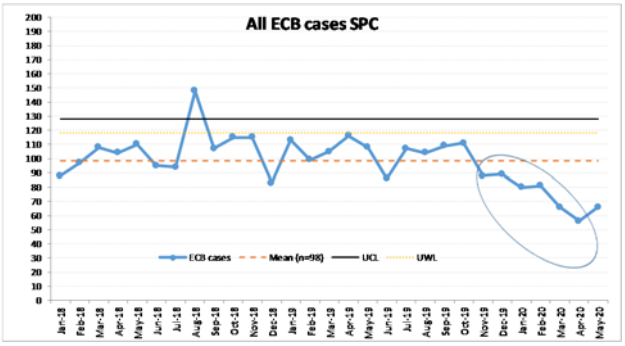
E. coli is one of the most predominant organism of the gut flora, and for the last several years the incidence of E. coli isolated from blood cultures, i.e. causing sepsis, has increased so much that it is the most frequently isolated organism in the UK. As a result of this, the HAI Policy Unit has now included E. coli as part of the AOP targets. The most common cause of E. coli bacteraemia (ECB) is from complications arising from urinary tract infections (UTIs), hepato-biliary infections (gall bladder infections) and urinary catheters infections.

Daily case totals for all three HCAI standards are reported to the IPC senior management team to provide a prospective update on the current situation within the Board.

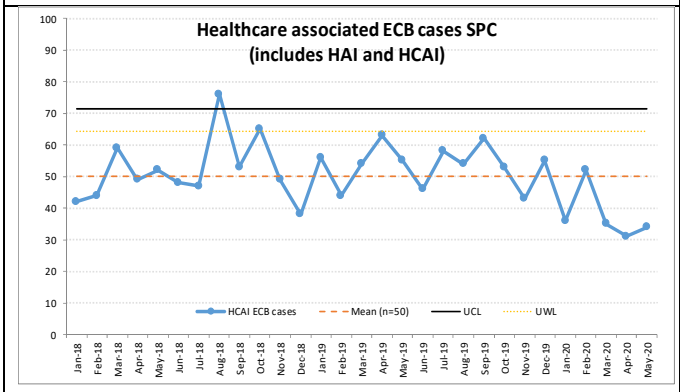
	April 2020	May 2020
Total	**56**	**66**
Hospital	12	18
Healthcare	19	16
Community	25	32

***RAG Status** - GREEN denotes monthly case numbers are less than the mean monthly total. AMBER denotes when monthly case numbers are above the monthly mean but less than three standard deviations from the monthly mean. RED denotes monthly case numbers are above three standard deviations from the monthly mean.*

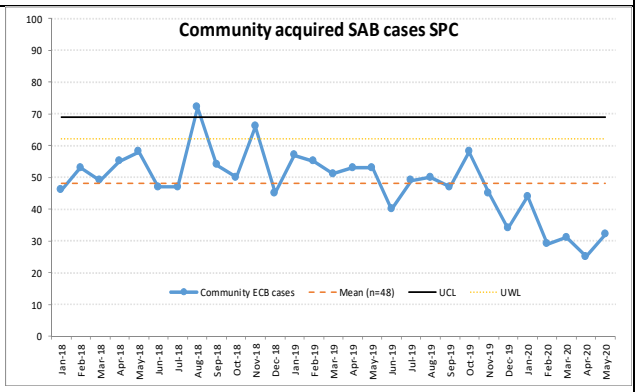
Healthcare associated *E. coli* bacteraemia total: June 2019 to date = 559



Comment: SPC chart for all E. coli bacteraemia showed a downward trend in the last six months to April. Very slight increase in May and remains below chart mean.



Comment: There is some variability in recent months however remains below chart upper control limit.



Comment: There has been a very slight increase in community onset cases in May.

Breakdown of Healthcare ECB entry point

April

Source	No of Cases
Light surveillance methodology	

May

Hospital acquired	No of Cases=18
Urinary Catheter	6
Source not identified	4
Hepatobiliary	3
Lower urinary tract infection	2
Endocarditis	1
Prosthetic hip surgery >90 days previously	1
PICC/Midline (*IV access device)*	1

There were 5224 blood cultures taken in April. Of those, there were in total 56 blood cultures that grew *E. coli*.

This accounts for 1.1% of all blood cultures taken that month.

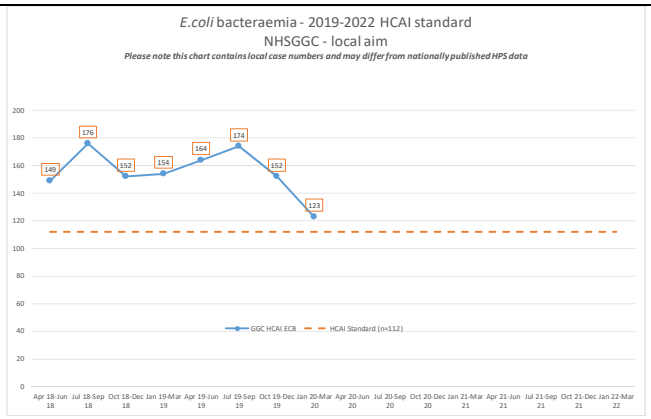
Hospital ECBs account for 0.3% of blood cultures taken.

Healthcare associated	No of Cases=16
Hepatobiliary	4
Lower urinary tract infection	3
UNDER INVESTIGATION	2
Urinary Catheter	2
Hydronephrosis	1
Source not identified	1
Pyelonephritis	1
Perianal abscess	1
Polycystic kidneys	1

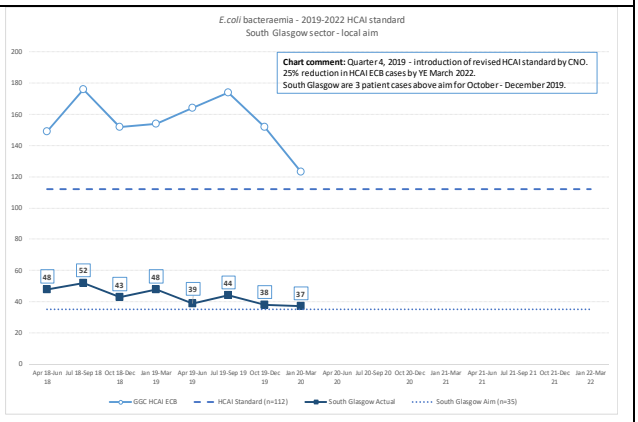
Healthcare Associated Infection Standards – local reduction aims

- *E.coli* bacteraemia – initial reduction of 25% by 2021/22

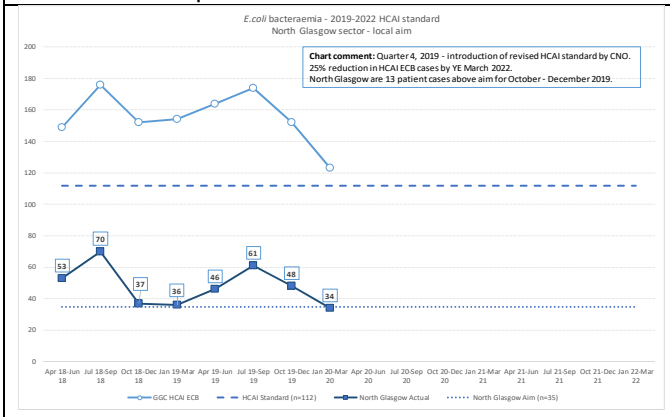
Local reduction aim charts have been produced for GGC as a whole and for the five Acute sectors. The IPC Work Plan for 2020/2021 includes the development of tools to assist clinical teams to improve the incidence of E. coli bacteraemia.



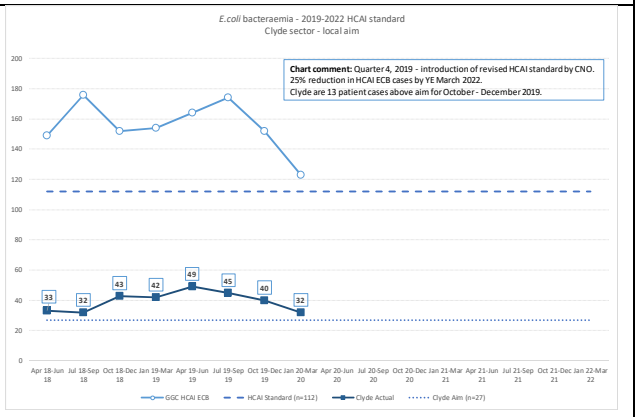
Comment: There has been a reduction in HCAI ECB case in the last two quarters.



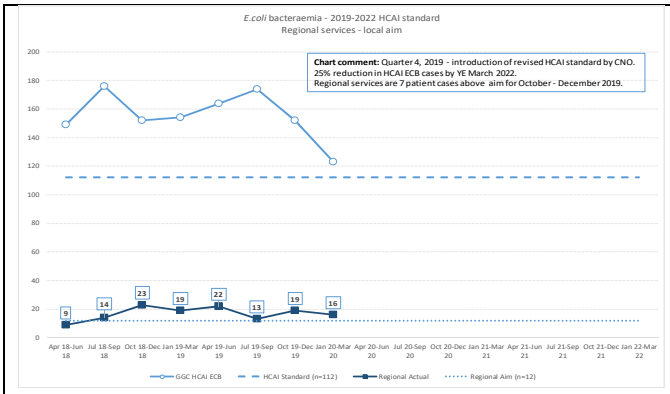
Comment: South Glasgow are 2 patient cases above aim for the quarter.



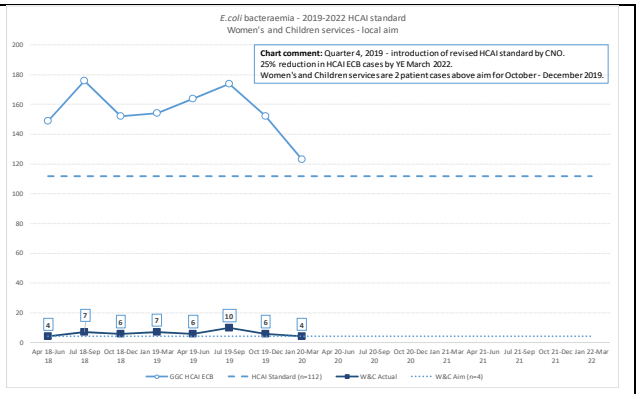
Comment: North Glasgow are 1 patient case below aim.



Comment: Clyde are 5 patient cases above aim. The IPC Work Plan for 2020/2021 includes the development of tools to assist clinical teams to improve the incidence of E. coli bacteraemia.



Comment: Regional Services are 4 patient cases above aim. The IPC Work Plan for 2020/2021 includes the development of tools to assist clinical teams to improve the incidence of E. coli bacteraemia.



Comment: Women and Children's are on aim to meet the target.

Clostridioides difficile infection (CDI)

Reporting to HPS of C*. difficile* infections has been mandatory for several years in NHS Scotland. NHSGGC has met its targets over the years and has maintained a low rate of infection. Similar to the SAB target, the new target set for 2019-2022 is based on our Board's rate rather than an overall national rate.

C. difficile can be part of the normal gut flora and can occur when patients receive broad-spectrum antibiotics which eliminate other gut flora, allowing *C. difficile* to proliferate and cause infection. This is the predominant source of infection in GGC. *C. difficile* in the environment can form resilient spores which enable the organism to survive in the environment for many months, and poor environmental cleaning or poor hand hygiene can lead to the organism transferring to other patients leading to infection. Another route of infection is when a patient receives treatment to regulate stomach acid which affects the overall pH of the gut allowing the organism to proliferate and cause infection.

Origin definitions for *Clostridioides difficile* infections

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 patient 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.

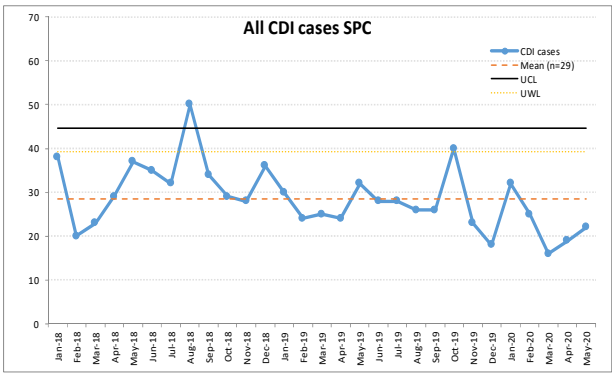
NHSGGC's approach to CDI prevention and reduction

Similar to our SAB and ECB investigation, patient history is gathered including any antibiotics prescribed over the last several months. Discussion with the clinical teams and microbiologists assist in the determination and conclusion of the significance of the organism, as occasionally the isolation of the organism can be an incidental finding and not the cause of infection. Data is shared with the antimicrobial pharmacist and cases are discussed at the Antimicrobial Management Group to identify inappropriate antimicrobial prescribing. Daily case totals for all three HCAI standards are reported to the IPC senior management team to provide a prospective update on the current situation within our Board.

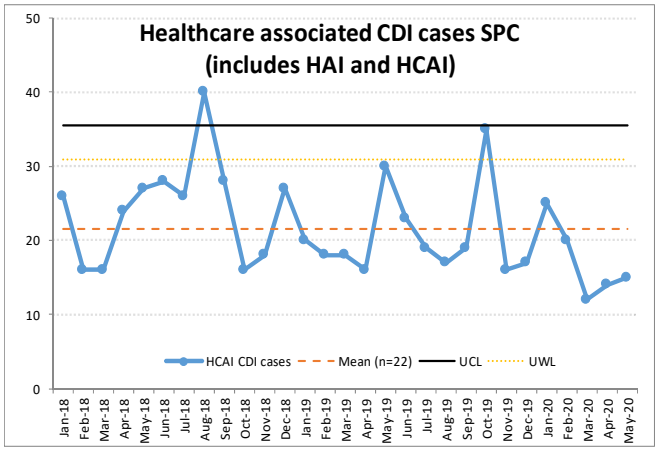
	April 2020	May 2020
Total	**19**	**22**
Hospital	8	1
Healthcare	3	7
Indeterminate	3	7
Community	5	7

RAG Status *- GREEN denotes monthly case numbers are less than the mean monthly CDI totals. AMBER denotes when monthly case numbers are above the monthly mean but less than three standard deviations from the monthly mean. RED denotes monthly case numbers are above two standard deviations from the monthly mean.*

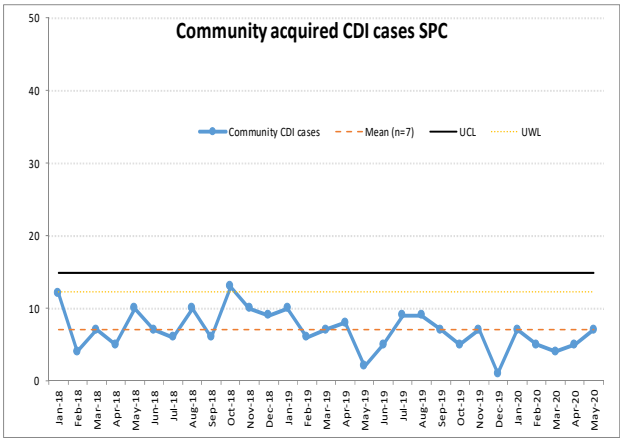
Healthcare associated *Clostridioides difficile* total: June 2019 to date = 232



Comments: Case numbers remain within control limits.



Comments: Case numbers remain within control limits.



Comments: Case numbers remain within control limits.

April Breakdown – hospital acquired cases

Ward	Number of HAI CDI
GRI Ward 15/28	2*
GRI Ward 29	1
GRI Ward 31	1
GRI Ward 33	1
RAH Ward 3	1
RAH Ward 4	1
RAH Ward 7	1
Grand Total	**8**

*HPS Trigger Tool completed. Different Ribotypes.

May Breakdown – hospital acquired cases

Ward	Number of HAI CDI
RAH Ward 20	1
Grand Total	**1**

Action Taken

Cases in hospital:

All patients are reviewed by the IPCT and advice is given regarding antimicrobial prescribing, isolation and transmission based precautions.

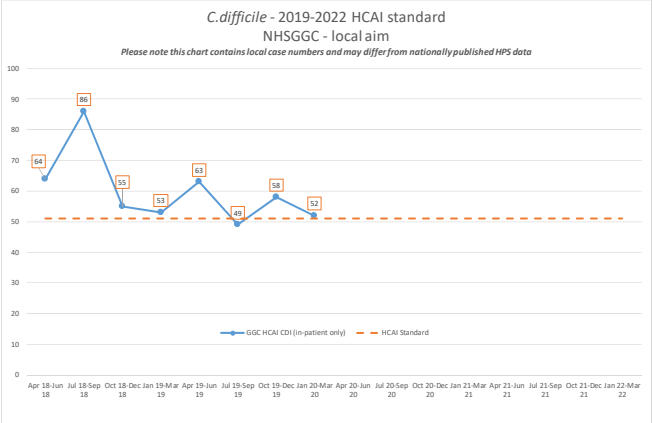
ICNs visit patient and discuss the infection and what this means for them.

Any ward with two cases of HAI in two weeks is automatically visited daily and the SCN is assisted with the completion of the HPS Trigger Tool. This tool was used daily in Ward 15/28. Subsequent typing confirmed them to be different types and therefore not due to cross-infection.

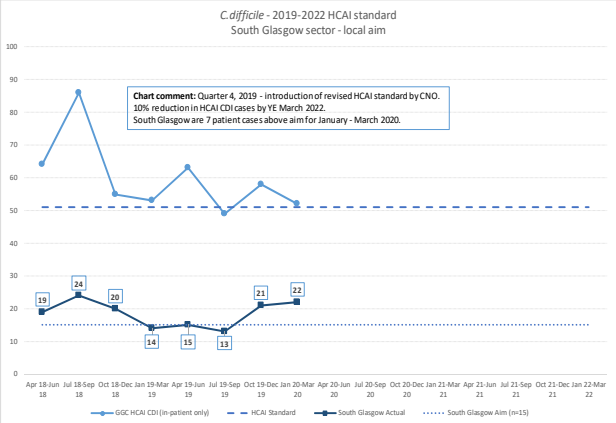
Any clusters (2) are sent to the Reference Lab for testing.

Each ward receives an updated CDI SPC each month.

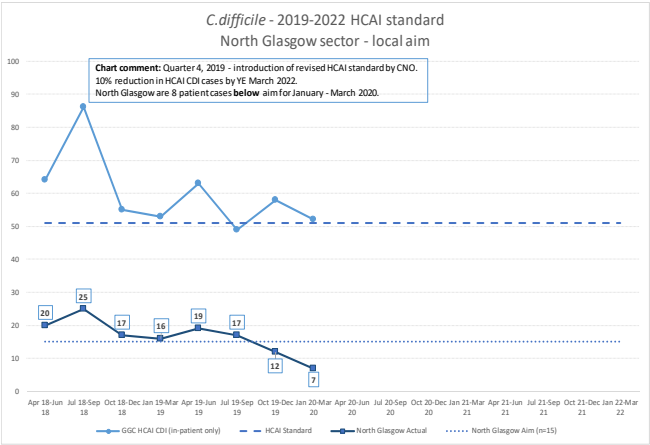
- **Healthcare Associated Infection Standards – local reduction aims** *C. difficile* – reduction of 10% from 2019 to 2022



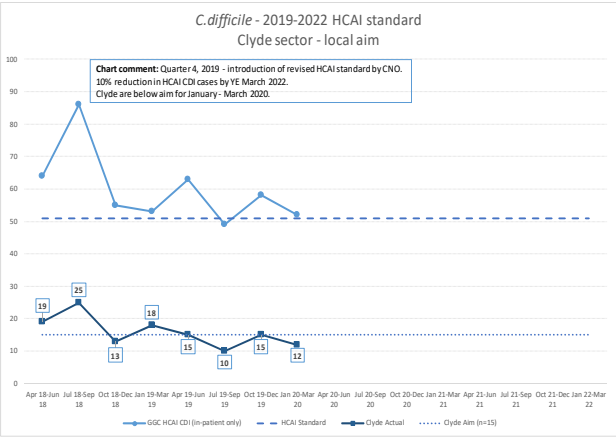
Comment: the chart above excludes HCAI specimen from GPs, Hospices. GGC is one patient case above aim.



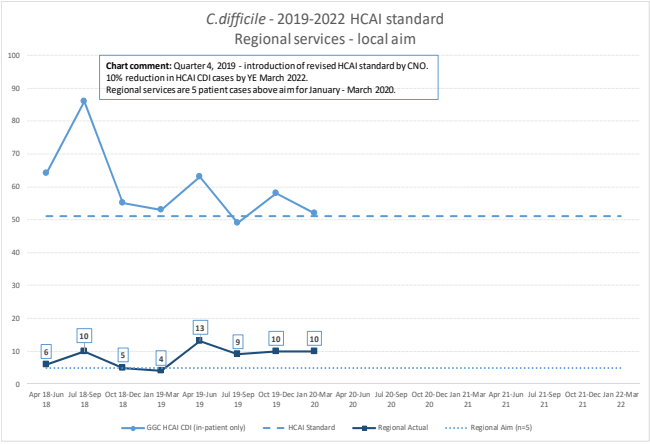
Comment: South Glasgow have been above aim for the past two quarters. Each case has been investigated and there are no common links that would imply these were anything other than isolated occurrences.



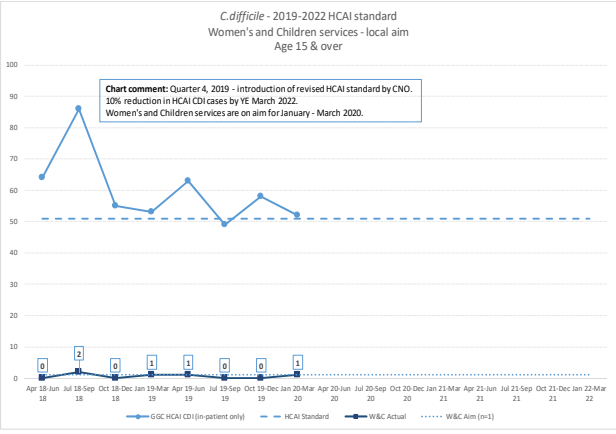
Comment: North Glasgow have been below aim for the past two quarters.



Comment: Clyde are below aim.



Comment: Regional Services are above aim. Each case has been investigated and there are no common links that would imply these were anything other than isolated occurrences.



Comment: On aim for the quarter.

AOP Targets

New HAI AOP targets for 2019-2022

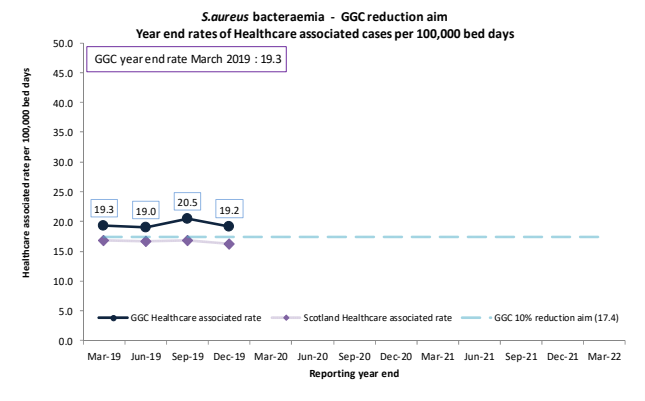
On 10 October 2019 a letter was sent to all Health Board Chief Executives highlighting our new HCAI targets. These targets are based on our (NHSGGC) current rates of infection and a percentage reduction has been set to be achieved by March 2022. This target is different from our previous targets and includes the reduction in hospital acquired and healthcare associated infections and does not include community acquired. Hospital acquired and healthcare associated infections are now grouped together for reporting and classified as **healthcare associated infections** as it is perceived nationally that these are all reducible. For continuity, we will continue to report separately hospital and healthcare infections to maintain our quality and transparency in our data, however, the total number of infections will reflect on what we are reported nationally and in line with our set targets. In addition to SAB and CDI targets, *Escherichia coli* bacteraemia (ECB) is now included in our targets.

Please see table below for our new targets:

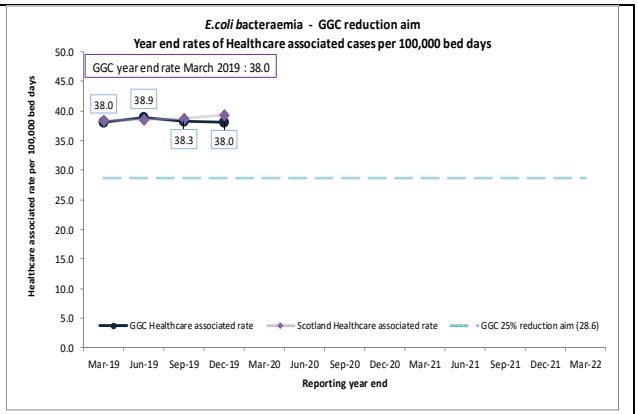
	2018/19 Rate (base line) per 100,000 total bed days	No of HCAI cases (per annum)	Reduction %	Date for reduction	Target HCAI rate per 100,000 total bed days	Target HCAI cases per annum	Target HCAI cases per month
SAB	19.3	324	10	2022	**17.4**	280	23
ECB	38.1	638	25	2022	**28.6**	452	38
CDI	19.0	318	10	2022	**17.1**	204	17

AOP target progress to date- published HPS data

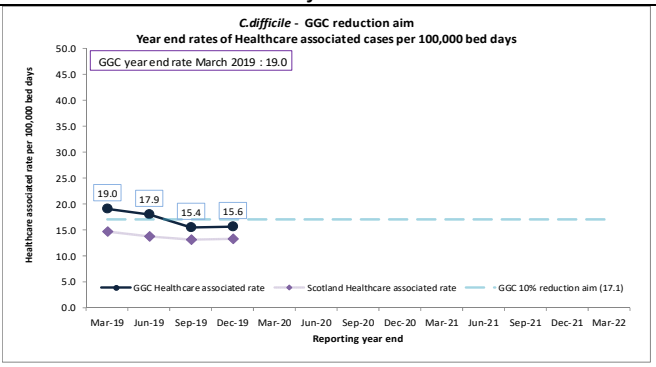
NB: Q1-2020 data will be published in early July



Comments: Reduction is just above aim.



Comments: Reduction is above aim



Comments: Reduction below aim.

Quarter ending December 2019

Target	RAG Status
SAB	↓
ECB	↓
CDI	↑

Comments

CDI rate is below aim. Work is continuing to reduce avoidable harm SABs related to IV access devices. ECB reduction aim of 25% is more challenging as many of these infections are related to urinary or hepatobiliary sources.

Surgical Site Infection Surveillance (SSIS)

Surgical site infection surveillance is the monitoring and detection of infections associated with a surgical procedure. In GGC the procedures include hip arthroplasty, Caesarean-section, major vascular surgery and large bowel surgery. These are all mandatory procedure categories for national reporting. In addition IPCT undertake surveillance on knee arthroplasty, repair of fractured neck of femur and in the Institute of Neurological Sciences (QEUH campus), spinal and cranial surgery. The IPCT monitor patients for 30 days post surgery and for those procedures with implants, up to 90 days post surgery including any microbiological investigations from the ward for potential infections and also hospital re-admissions relating to their surgery. Any mandatory procedure category infection associated with a surgical procedure is reported nationally to enable board to board comparison. GGC infection rates are comparable to national infection rates.

NHSGGC's approach to SSI prevention and reduction

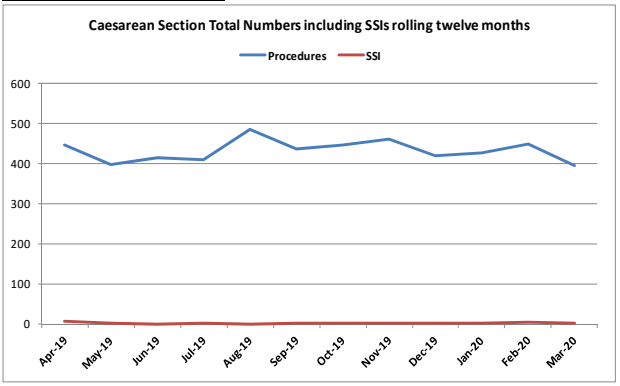
Surgical site infection criteria is determined using the European Centre for Disease Control (ECDC) definitions. Any infection identified is investigated fully and information gathered including the patients' weight, duration of surgery, grade of surgeon, prophylactic antibiotics given, theatre room, elective or emergency, primary theatre dressing etc. can provide additional intelligence in reduction strategies. The IPCT closely monitor infection rates, and any increased incidence of SSIs are reported to management and clinical teams, and IMTs are held.

April /May Breakdown

SSI surveillance is temporarily paused due to COVID-19 response.

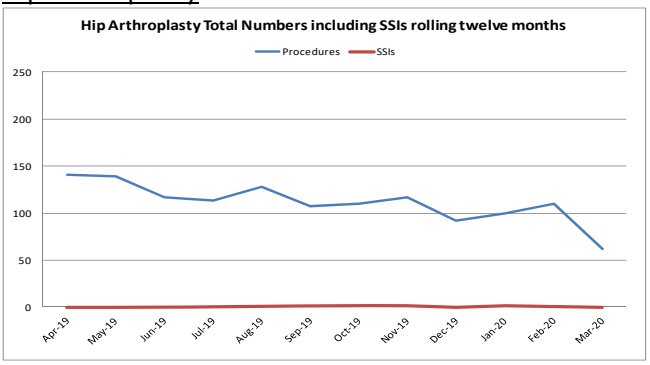
All graphs display data up to March 2020 procedures.

Caesarean-section



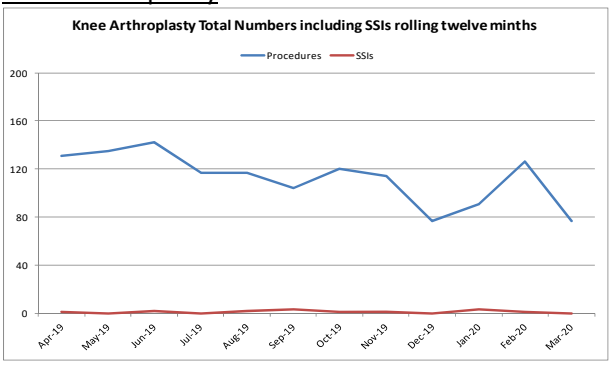
Comments: case numbers remain within control limits.

Hip Arthroplasty



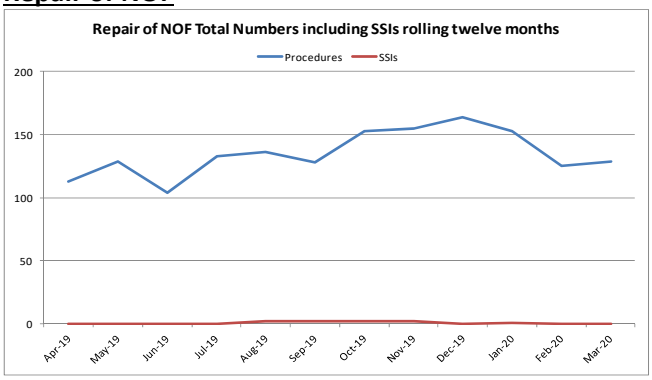
Comments: case numbers remain within control limits.

Knee Arthroplasty



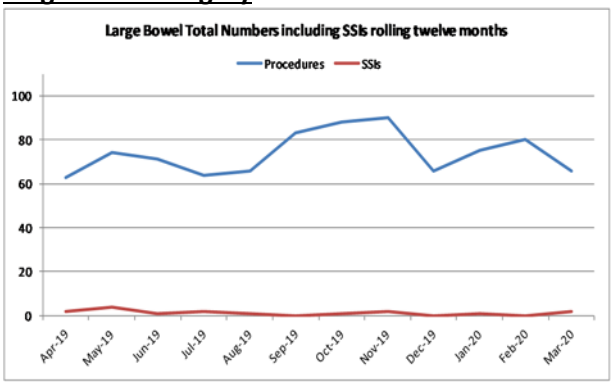
Comments: case numbers remain within control limits.

Repair of NOF



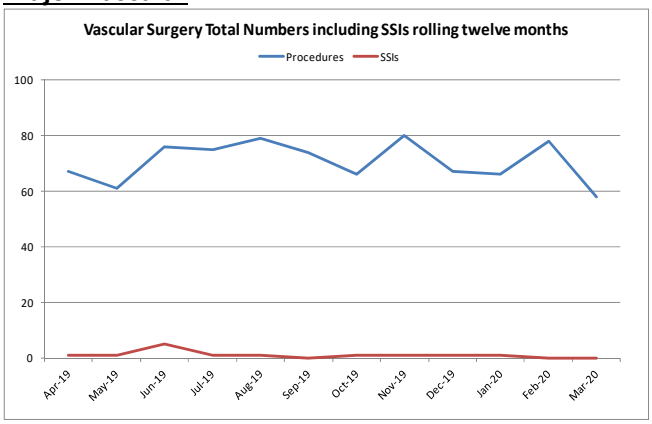
Comments: case numbers remain within control limits.

Large Bowel Surgery



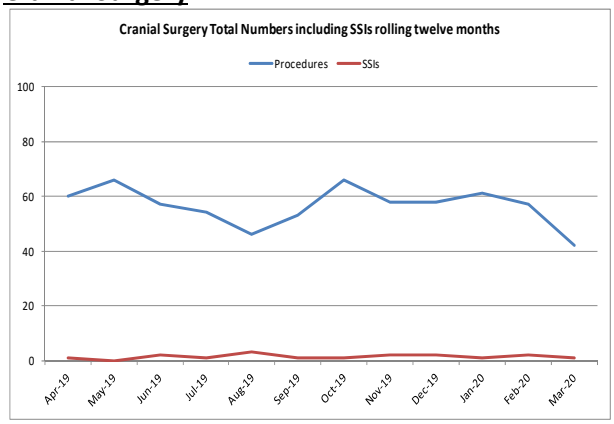
Comments: case numbers remain within control limits.

Major Vascular



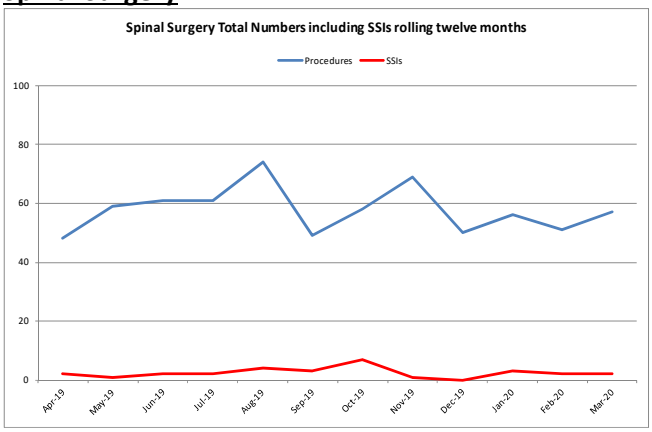
Comments: case numbers remain within control limits.

Cranial Surgery



Comments: case numbers remain within control limits.

Spinal Surgery



Comments: case numbers remain within control limits.

IPCAT – audit programme

The existing IPCAT acute audit was updated in February 2020 therefore no trend data to report.

Results are fed back prospectively via the Synbiotix platform to the chief nurse, senior management and nursing staff. All critical non-compliance are completed within 24 hours by the responsible person for each clinical area.

Due to COVID-19 response, IPCAT activity was paused across our Board but the audit programme recommenced on 1 June 2020. The number of audits normally carried out each month is normally 30-40 and this does not include hand hygiene audits, audits of PVC and CVC bundle compliance in relation to IVAD HAI SAB or enhanced supervision visits.

April/May Breakdown

- Audits were temporarily paused due to COVID-19 response but recommenced on 1 June 2020.

Action Taken
During each audit the IPCT look at the compliance with standard infection control precautions (SICPs). These include Patient Placement, Hand Hygiene, PPE, Managing Patient Care Equipment, Control of the Environment, Safe Management of Linen and Safe Disposal of Waste, Transmission Based Precaution (TBPs), Compliance with PVC, CVC and CAUTI bundles and compliance with requirement re clinical risk assessment for MRSA and CPE screening. Critical non-compliances are required to be rectified within 24 hours. The action plan is electronically returned to the SCN to be completed in one month. Any sections that score RED are followed-up with a joint re-audit with the IPCN and SCN to try and support staff in this process and determine any barriers that make the application of IPC standards difficult to implement. Audit results are included in the monthly activity reports to directorates and sectors but SCN, LN and Chief Nurses all have access to the audit dashboard and can view the results and action plans in real time.

Meticillin resistant *Staphylococcus aureus* (MRSA) & *Clostridioides difficile* recorded deaths

The National Records of Scotland monitor and report on a variety of deaths recorded on the death certificate. Two organisms are monitored and reported, MRSA and *C. difficile*. Please click on the link below for further information:

https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths

There were two deaths where *Clostridioides difficile* was recorded on the death certificate during April, one of which was after the patient was discharged, and one case during May.

Hand Hygiene Monitoring Compliance

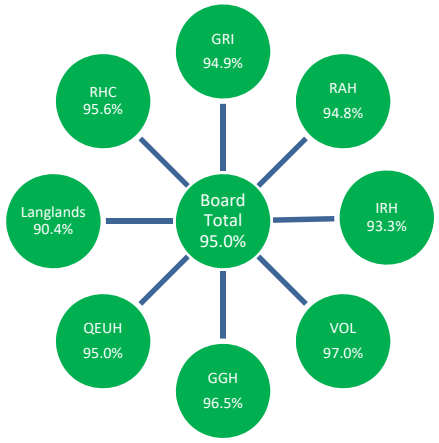
NHS GGC Board

	Jun 2019	Jul 2019	Aug 2019	Sept 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020
Board Total	97	97	97	98	97	96	98	97	97	97	99	99

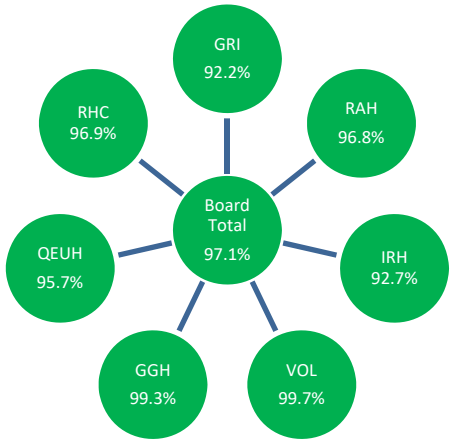
Hospital site	April 2020	May 2020
Glasgow Royal Infirmary/Princess Royal Maternity	98%	99%
Gartnavel General Hospital/Beaton Oncology Centre	100%	99%
Inverclyde Royal Hospital	100%	100%
Queen Elizabeth University Hospital	100%	98%
Royal Alexandra Hospital	94%	98%
Royal Hospital for Children	99%	98%
Vale of Leven Hospital	100%	100%
NHSGGC Total	**99%**	**99%**

Estate and Cleaning Compliance (per hospital)

The data is collected through audit by the Domestic Services Team using the Domestic Monitoring National Tool, and areas chosen within each hospital is randomly selected by the audit tool. Any issues such as inadequate cleaning is scored appropriately and if the score is less than 80% then a re-audit is scheduled. Estates compliance assesses whether the environment can be effectively cleaned; this can be a combination of minor non-compliances such as missing screwcaps, damaged sanitary sealant, scratches to woodwork etc. The results of these findings are shared with Serco/Estates for repair. Similar to the cleaning audit, scores below 80% triggers a re-audit.



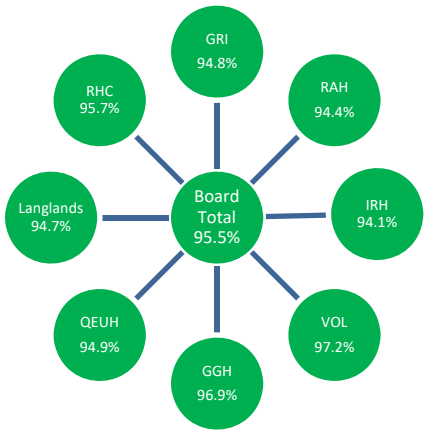
Cleaning Compliance



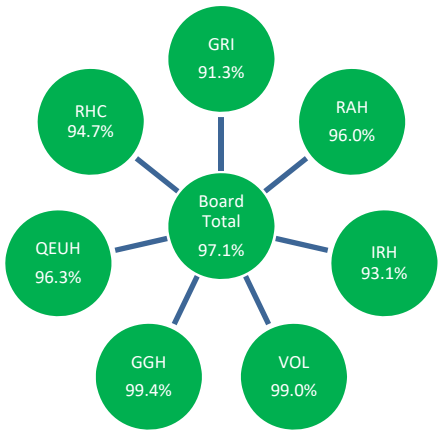
Estates Compliance

	Colour	Description
●	Green	compliance level 90% and above - Compliant
●	Amber	compliance level between 70% and 90% - Partially compliant
●	Red	compliance level below 70% - Non-compliant

The charts above show Estate and cleaning compliance data for April, the chart below shows compliance for May.



Cleaning Compliance



Estates Compliance

	Colour	Description
●	Green	compliance level 90% and above - Compliant
●	Amber	compliance level between 70% and 90% - Partially compliant
●	Red	compliance level below 70% - Non-compliant

COVID-19 update

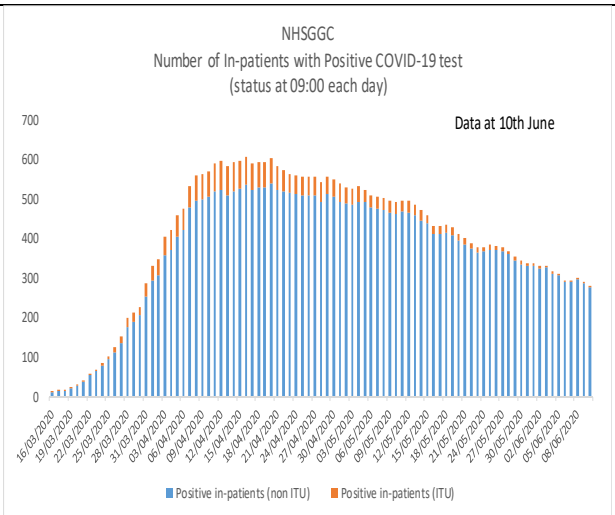
We are now moving from a containment to a recovery phase.

IPCT Business Continuity Plans were invoked at the end of March but many including the IPCTs BCP are being stood down and recovery plans developed.

To date in NHSGGC there have been over 4200 confirmed positive cases however many people do not require admission to our hospitals.

As well as the IPCNs providing advice and expertise to the local clinical teams, the IPCT monitor all COVID-19 positive cases to assist with the provision of overall case numbers, ITU admissions and deaths.

This bar graph displays the number of in-patients across all GGC hospital who are positive for COVID-19. In orange are the number of people in intensive care areas.



NHSGGC in-patients with COVID-19- general ward areas in blue, ITUs in orange.

Ward closures due to COVID-19

There have been 27 ward closures in 11 hospitals.
7 wards that closed in April did not re-open until May. The bed days lost for April include the data for the time the wards were closed in May. There is currently 1 ward closed in NHSGGC (22.06.20).

Month	Mar -20	Apr -20	May-20
Ward Closures	6	16	5
Bed Days Lost	597	1270	184

Incidents/Outbreaks

Incidence and outbreaks across NHSGGC are identified primarily through ICNet, microbiology or from the ward. ICNet is the IPCT data management system that automatically identifies clusters of infections and specific organisms such as MRSA, admission of patients with known infections etc. to enable timely patient management to prevent any possible spread of infection. The identification of outbreaks is determined following discussion with the microbiologist. In the event of a declared outbreak a Problem Assessment Group (PAG) or Incident Management Team (IMT) meeting is held with staff from the area concerned, and actions are implemented to control further infection and transmission.

All outbreaks are notified to HPS and Scottish Government.

Healthcare Infection Incident Assessment Tool (HIIAT)

The HIIAT is a tool used by boards to assess the impact of an incident or outbreak. The tool is a risk assessment and allows boards to rate the incident/outbreak as a RED, AMBER, or GREEN. The tool also directs boards whether to inform HPS/SGHD of the incident (if AMBER or RED), release a media statement etc.

HIIAT GREEN - Two reported for April, four for May
HIIAT AMBER - Three reported for April
HIIAT RED - None reported for April or May

Incidents/Outbreaks (HIIAT assessed as Amber or Red)

Update - Royal Alexandra Hospital: NICU.
In April one patient within the NICU in RAH tested positive for COVID-19. All patients in the unit were screened and one further patient was identified. Twice daily cleaning and visitor restrictions were already in place and staff were reminded to self-isolate at home if they had any symptoms. This message was also reinforced to parents. The use of personal protected equipment and good hand hygiene was also reinforced. The unit was assessed daily until 28/04/20 and no further cases were identified. Both patients were discharged home well. HIIAT assessed as AMBER on 16/04/20 then GREEN on 17/04/20.

Update - QEUH: ITU Enterobacter aerogenes
In April one of the COVID-19 ITU hubs had four cases of HAI *Enterobacter aerogenes* identified over several weeks. An IMT met and an action plan was agreed with clinical staff in the unit. There have been no new cases since 29 April. Two patients had the organism isolated from blood cultures the other two cases were from a line tip and/or sputum. HIIAT assessed as AMBER on 17 April and the 29 April.

Update - Royal Hospital for Children: Ward 6A (QEUH).
Two gram negative bacteraemias were reported in a two-week period at the beginning of April; both patients were discharged home well. One was considered to be hospital acquired the other was healthcare associated. As per agreed triggers, an IMT was convened to review the cases. Two different organisms were identified neither of which are considered to be environmental organisms. A number of actions were put in place and the cases were reported as per Chapter 3 of the National Infection Prevention and Control Manual.

COVID-19
IPCT continue to review all patients with COVID-19, although local and national emerging evidence would suggest that elderly patients do not always meet the current case definition. The role of pre and asymptomatic cases in both patients and HCW is still being debated and additional guidance regarding the screening of staff in acute care is anticipated. Achieving control when we are unaware of these types of cases within both patient and HCW cohorts is extremely challenging. In addition, implementing IC guidance in the context of the cognitively impaired frail elderly population is also a challenge but staff are committed to supporting all patients at all times.

GGC continues to follow the 4 nations and HPS guidance and GGC were one of the first NHS Boards in Scotland to implement universal PPE for all HCWs. Several other control measures out-with national guidance have been adopted across NHSGGC based on local intelligence; for example, screening of all patients in a closed ward regardless of symptoms, was introduced by the Infection Control Doctors in GGC before universal screening of the over 70s was mandated. GGC also restricted movement within contact cohorts as far as possible from the middle of April. Wards are now closed and all patients are screened if a single case occurs, this is also in addition to national guidance.

We now know that there was a significant community outbreak at the beginning of March across the central belt of Scotland before visiting was restricted and before universal PPE was recommended.

HPS are in the process of preparing Board Reports and this will be presented via the Clinical Governance arrangements in due course.

No new incidents for April/May

Multi-drug resistant organism screening

As part of the national mandatory requirements, each board is expected to screen specific patients for resistant organisms. These are Carbapenemase producing Enterobacteriaceae (CPE) and Meticillin resistant *Staphylococcus aureus* (MRSA). Assessment to screen depends on a clinical risk assessment performed on all admissions to indicate whether the patient requires to be screened. On a quarterly basis we assess compliance of completing this risk assessment to provide assurance of effective screening and report this nationally. The national expectation of compliance is 90%. NHSGGC has met both measures.

Last validated quarter (January to March 2020)		NHSGGC **95%** compliance rate for CPE screening	Scotland 85%
		NHSGGC **96%** compliance rate for MRSA screening	Scotland 87%
Current quarter (April to June 2020)		NHSGGC **94%** compliance rate for CPE screening	Scotland tbc
		NHSGGC **93%** compliance rate for MRSA screening	Scotland tbc

HPS Validated Data

Quarter 1 2020 data will be available early July

HPS Validated Data

Quarter 3 Jul-Sept

Validated Health Protection Scotland (HPS) data : Quarter 3 2019 (July-September)

		Healthcare Associated Rate per 100 000 bed days		Community Associated Rate per 100 000 population	
		GGC	National	GGC	National
***S. aureus* bacteraemia**	110 cases	22.3	17.5	5.7	7.4
***C. difficile* in age 15+**	77 cases	14.2	13.5	6.1	5.5
***E.coli* bacteraemia**	304 cases	41.3	40.3	44.6	44.2

Quarter 4 Oct-Dec

Validated Health Protection Scotland (HPS) data : Quarter 4 2019 (October - December)

		Healthcare Associated Rate per 100 000 bed days		Community Associated Rate per 100 000 population	
		GGC	National	GGC	National
***S. aureus* bacteraemia**	91	16.1	15.2	7.4	9.6
***C. difficile* in age 15+**	80	16.1	14.9	3.7	4.7
***E.coli* bacteraemia**	276	35.1	40.8	42.2	41.4

In conclusion the NHS Board is asked to:

- Note the HAIRT report
- Note the performance in respect of the AOP Standards for SAB, ECB and CDI
- Note the detailed activity in support of the prevention and control of Healthcare Associated Infection