

NHS Greater Glasgow & Clyde	Paper No. 20/16
Meeting:	Interim Board
Date of Meeting:	5th May 2020
Purpose of Paper:	For Noting
Classification:	Board Official
Sponsoring Director:	Prof Angela Wallace, Interim Operational Director of Infection Control

Healthcare Associated Infection Reporting Template For Assurance

Executive Sponsor: Prof Angela Wallace, Interim Executive Lead of Infection Prevention & Control

Authors: Mrs Sandra Devine, Interim Infection Control Manager / Professor Angela Wallace, Interim Operational Director of Infection 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 (SABs), *Clostridioides difficile* infections (CDIs), *E.coli* bacteraemias, incidents and outbreaks and all HAI other activities across NHS Greater Glasgow & Clyde.

Recommendation:

The NHS Board is asked to:

- Note the HAIRT report
- Note the performance in respect of the AOP Standards for SABs, CDIs & ECBs
- Note the detailed activity in support of the prevention and control of Healthcare Associated Infection

Key Issues to be considered:

- New AOP targets set for 2019-2022 for SABs, CDIs and E coli bacteraemias (ECB) are now presented in this report.
- SABs remain within normal control limits.
- CDIs remain within normal control limits.
- There were 15 hospital acquired *E.coli* bacteraemias (ECBs) reported in March.
- There was one death where *Clostridioides difficile* was recorded on the death certificate and no deaths for MRSA recorded on the death certificate.
- There were two large bowel, two Spinal and one cranial surgical site infections in March.
- The HAIRT report is currently undergoing a review and consultation process to develop the presentation of HAI performance
- GGC continue to work closely with colleagues in HPS to fully address any issues within PICU. The clinical review group continue to update and take forward the actions agreed by this group with HPS.

Financial Implications

None

Workforce Implications

None

Risk Assessment

Work is ongoing to continually reduce all reducible SABs, ECBs and CDI numbers across NHSGGC.

Relevance to Strategic Priorities

AOP Standards in respect of SABs, ECBs & CDIs

- HAIRT report 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:

- Paper is not relevant to Equality and Diversity

Consultation Process

Infection Prevention and Control Team

Healthcare Associated Infection Summary

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 NHS Greater Glasgow & Clyde (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

- Compliance rates for October to December 2019 for CPE and MRSA screening were 95% and 96% respectively.
- Responding to COVID19 continues to be a priority for the Infection Prevention and Control Team. Continue to support the organisation’s Safe and Effective Care.
- Board’s Cleaning compliance is 95% and estates compliance 97% for this period
- The surgical site infection rate in all categories are stable and in control.
- Two SABs were associated with intravenous vascular devices in March. 30% of all of our patients have an IV device *in situ* at any point in time therefore we suggest that this demonstrates clear improvement in how GGC maintains and manage these devices.
- HAIRT report under review and development
- GGC continues to work with HPS to ensure any issues raised in PICU are fully addressed.

Performance at a glance

	No of Cases	Month RAG status	RAG status toward AOP target (based on trajectory to March 2022)
<i>Staphylococcus aureus</i> bacteraemia (SABs)	31		↓
<i>Clostridioides difficile</i> infection (CDIs)	17		↑
<i>Escherichia coli</i> Bacteraemia (ECB)	66		↓
IV access device associated SABs	2		
Hand Hygiene	97%		
National Cleaning compliance (Board wide)	95%		
National Estates compliance (Board wide)	97%		
Surgical Site Infection Surveillance (SSIS) mandatory procedures	2		

Key infection control challenges (relating to performance)

Staphylococcus aureus bacteraemia

- There were 11 hospital acquired SABs this month. Two were attributed to an IV access device.

E coli bacteraemia

- There were 15 hospital acquired ECBs this month.

Clostridioides difficile infection

- There were 9 hospital acquired CDIs.

All sources of SAB and CDI case numbers remain within control limits this month

Surgical site infection surveillance

- There were two large bowel, two Spinal and one cranial surgical site infections this month.

Key HAI related activities

- There was one *C difficile* recorded on a death certificate this month but no MRSA recorded deaths.
- There were 61 non-compliances reported this month from 13 audits performed.

Glossary of abbreviations

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

HAI - Healthcare Acquired Infection

SAB – *Staphylococcus aureus* bacteraemia

DAB – Device associated *staphylococcus aureus* bacteraemia

CDI – *Clostridioides* 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.

BOARD OFFICIAL

Origin definitions for bacteraemia

<p style="text-align: center;">Healthcare Associated Infection</p>	<p>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.</p> <p>If the patient was a neonate/baby who has never left hospital since being born.</p> <p style="text-align: center;">OR</p> <p>The patient was discharged from hospital in the 48hr prior to the positive blood culture being taken.</p> <p style="text-align: center;">OR</p> <p>A patient who receives regular haemodialysis as an out-patient.</p> <p style="text-align: center;">OR</p> <p>Contaminant if the blood aspirated in hospital.</p> <p style="text-align: center;">OR</p> <p>If infection source/entry point is surgical site infection (SSI). <i>[This will be attributed to hospital of surgical procedure]</i></p>
	<p>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.</p> <p style="text-align: center;">OR</p> <p>Resides in a nursing, long term care facility or residential home.</p> <p style="text-align: center;">OR</p> <p>IV, or intra-articular medication in the 30 days prior to the positive blood culture being taken, but excluding IV illicit drug use.</p> <p style="text-align: center;">OR</p> <p>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).</p> <p style="text-align: center;">OR</p> <p>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.</p> <p style="text-align: center;">OR</p> <p>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.</p>
<p style="text-align: center;">Community Acquired Infection</p>	<p>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.</p>

HCAI Surveillance

NHSGGC has systems in place to monitor key targets and areas for delivery. Our surveillance and HCAI systems and ways of working allow early detection and indication of areas of concern or deteriorating performance. The Infection Prevention & Control Team undertake formal ward audits (IPCAT) in addition to regular weekly ward visits by the Infection Prevention & Control Nurse; infection investigation is also a significant function within the team as part of our 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 bacteraemias (SABs)

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 our current infection rates.

NHS Greater Glasgow and Clyde’s approach to SAB prevention and reduction

All *Staph aureus* bacteraemia are monitored and reported by the IPCT. Investigations into 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 completion etc. is highlighted at this time and where appropriate a DATIX is reported. Once a conclusion has been agreed, the information is discussed with the Infection Control Doctor and outcomes agreed. .

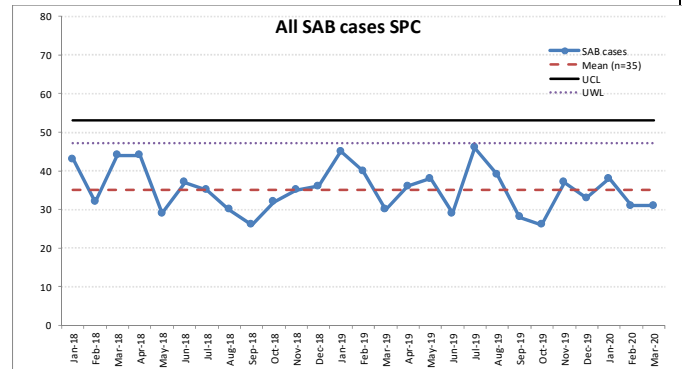
Information on patients with SABs and any follow up actions are reported to the Directorate/Division in two ways; in their monthly summary reports and quarterly in a SAB specific report. A monthly GGC report is also produced and circulated and this is presented as a summary at the Acute Clinical Governance Committee. All SABs associated with a device (DABs) 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. Compliance with PVC and CVC bundles are also reviewed during the Infection Prevention and Control Audit (IPCAT) process. 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 identifying areas requiring further support. The data also influences the direction of the HAI annual work plan.

March 2020

Monthly Total	31
Hospital	11
Healthcare	9
Community	11

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 monthly mean.

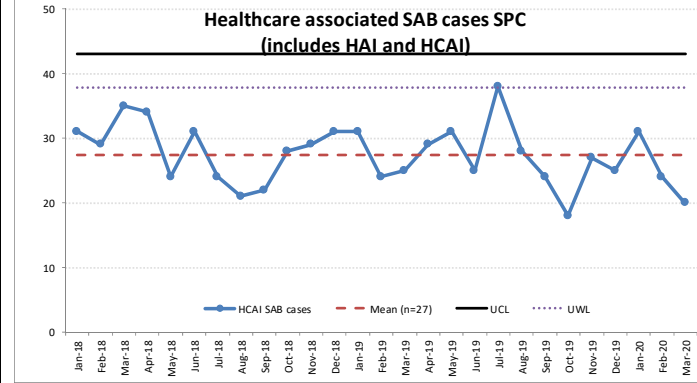
Staph aureus bacteraemia total - April 19 to March 2020 – 412



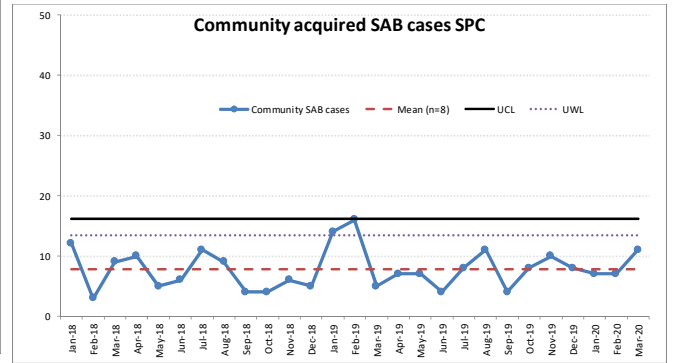
Comment:

BOARD OFFICIAL

Case numbers remain within control limits, no concerns to raise.



Comment: Case numbers remain within control limits, no concerns to raise.



Comment: Case numbers remain within control limits, no concerns to raise.

March Breakdown

Source	No of Cases
Hospital acquired	11
LIGHT SURVEILLANCE*	1
IV access device	2
Pre sacral abscess	1
Respiratory infection	1
Skin e.g. Eczema	1
Source not identified	2
Surgical site infection	2
Urinary tract infection	1
Healthcare associated	9
Cellulitis	1
ERCP	1
LIGHT SURVEILLANCE*	4
Source not identified	1
Ureteric stent	1
Urinary catheter	1
Total	20

There were 5676 blood cultures taken this month, of those there were in total 31 blood cultures that grew *Staph aureus*. This accounts for 0.5% of all blood cultures taken this month. Hospital SABs account for 0.2% of blood cultures taken.

*CNO letter issued 25th March 2020 – response to COVID-19.

Origin of infection and case numbers only for SAB, ECB and CDI.

IV access device (IVAD) associated SABs

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

NHS Greater Glasgow and Clyde’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.

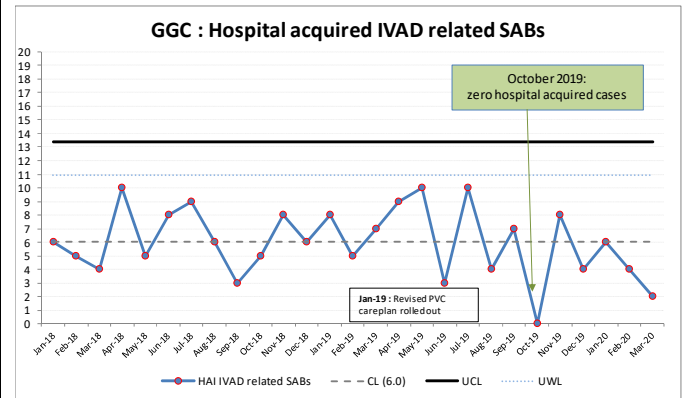
In addition, IPCT assess bundle compliance of three invasive devices (PVCs, urinary catheters, CVCs etc.) as part of their IPCAT audit programme and this is reported in the monthly Directorate Reports. There is also a multidisciplinary GGC SAB group which comprises of clinicians from many areas in order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

March 2020

Monthly Total 2

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.

IV access Device associated HAI SAB total - April 19 to date - 67

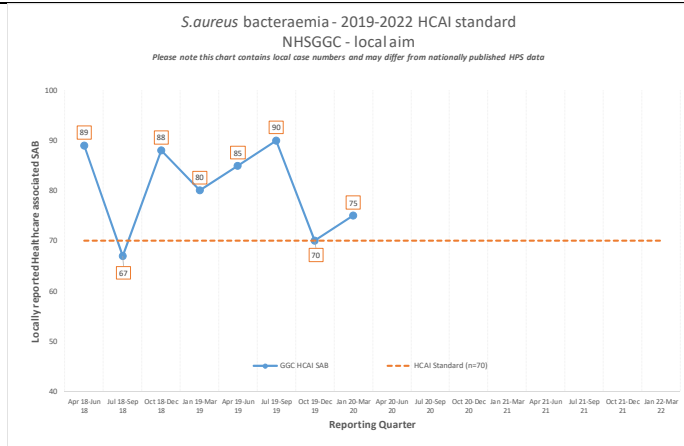


Comment:
Case numbers remain within control limits, no concerns to raise.

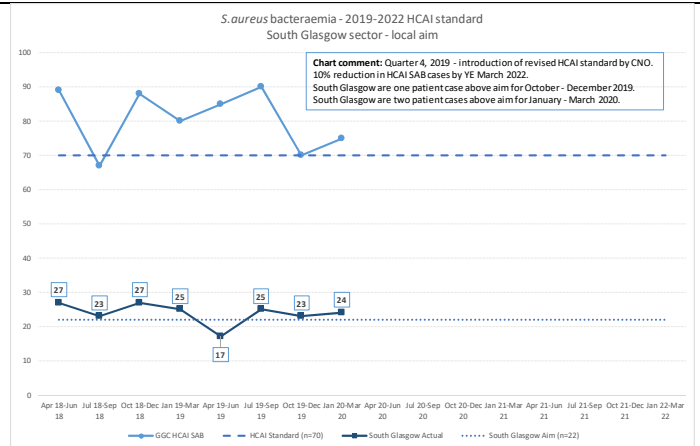
Healthcare Associated Infection Standards – local reduction aims

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

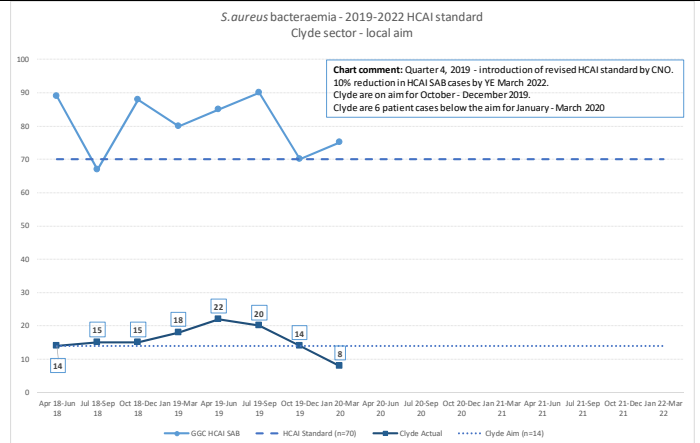
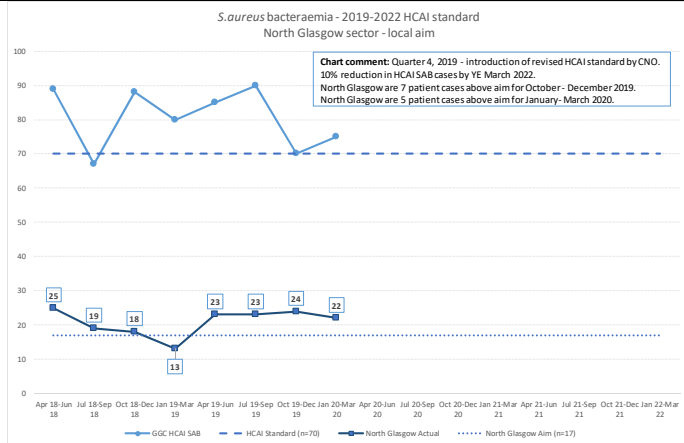
Local reduction aim charts have been produced for GGC as a whole and for the five Acute sectors.



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

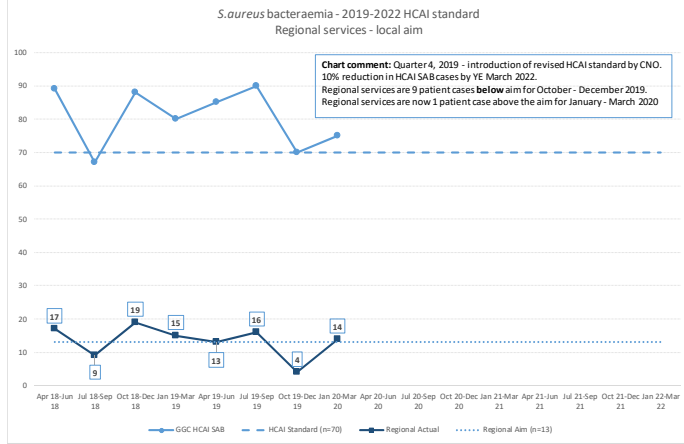


Comment: South Glasgow sector aim is 22 cases or less per quarter. Only two patient case above aim for the last reporting quarter.

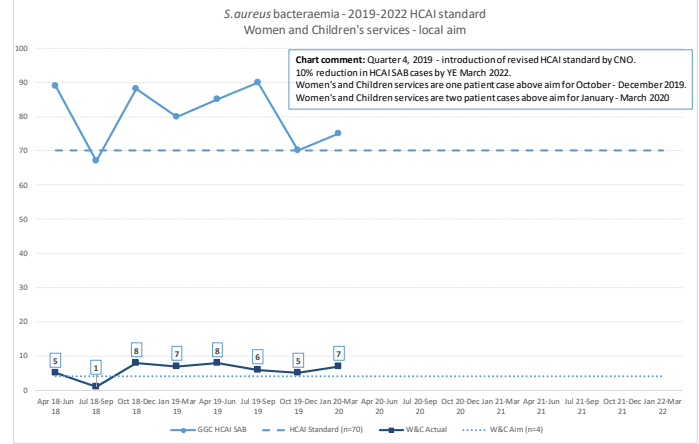


Comment: Clyde sector are below aim for this quarter.

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



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



Comment: Women and Children's are three cases above aim. QI group continues to work on improvements associated with line care and risk factors.

Escherichia coli Bacteraemia (ECB)

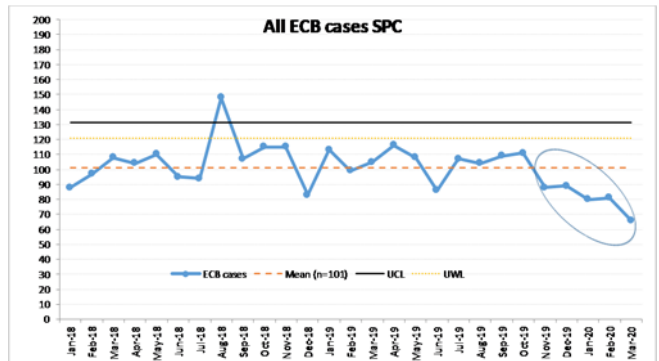
NHS Greater Glasgow and Clyde's approach to ECB prevention and reduction

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 increase 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), hepatobiliary 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 our Board.

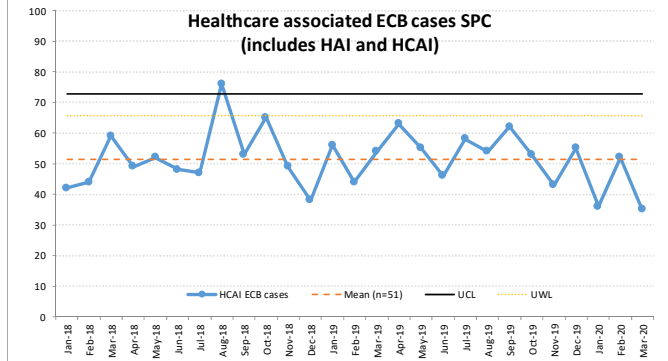
March 2020

Monthly Total	66
Hospital	15
Healthcare	20
Community	31

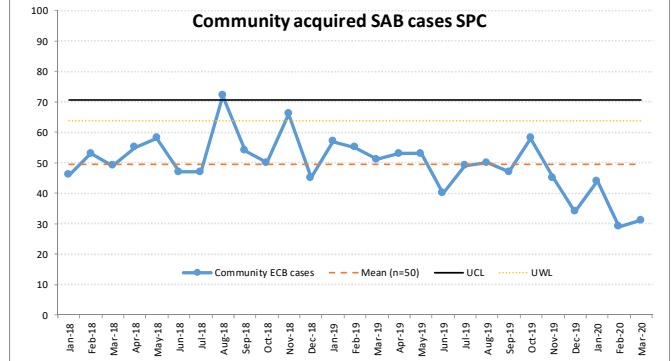
E coli bacteraemia infection total - April 19 to date - 533



Comment: SPC chart for all E.coli bacteraemia shows a downward trend in the last five months.



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



Comment: There has been a decrease in the number of community cases in the last five months.

BOARD OFFICIAL

March Breakdown

Source	No of Cases
Hospital acquired	15
Not known	6
Lower urinary tract infection	4
Urinary Catheter	3
Hepatobiliary	2
Healthcare associated	20
Lower urinary tract infection	8
Urinary Catheter	3
Not known	2
Hepatobiliary	2
Pneumonia	1
CVC non tunnelled	1
Pyelonephritis	1
Chest drain	1
CVC tunnelled	1
Grand Total	35

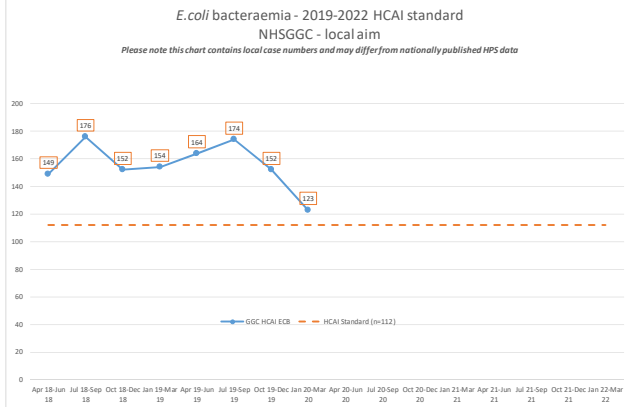
Action Taken

There were 5676 blood cultures taken this month, of those there were in total 66 blood cultures that grew *E. coli*. This accounts for 1.2% of all blood cultures taken this month. Hospital ECBs account for 0.3% of blood cultures taken.

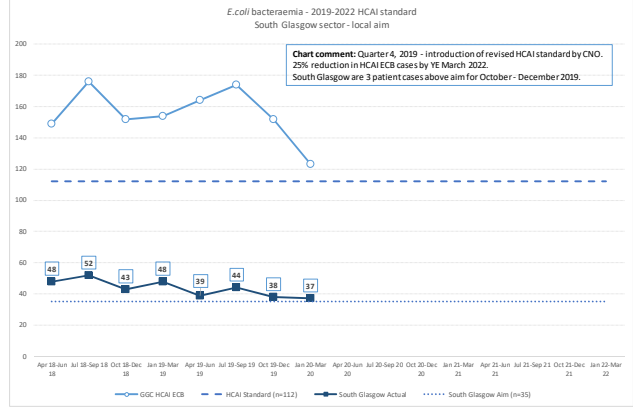
Healthcare Associated Infection Standards – local reduction aims

- *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.

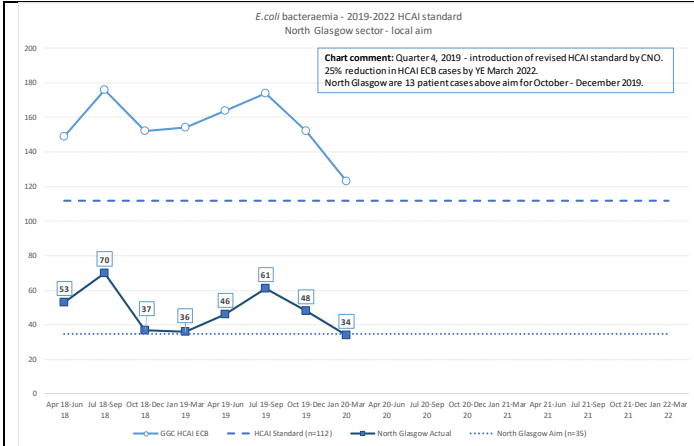


Comment: There has been a reduction in HCAI ECB case in the last two quarters.

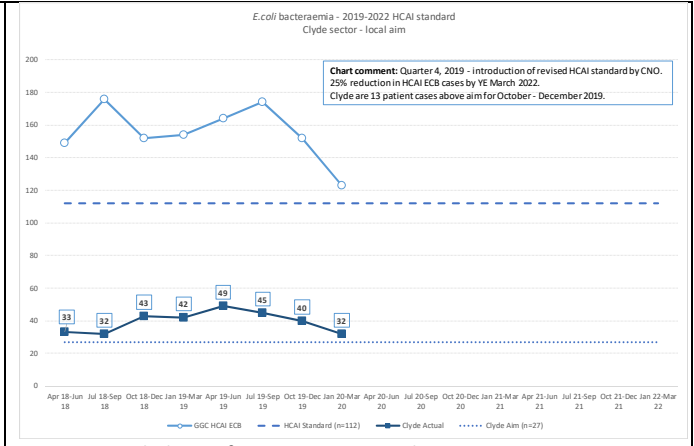


Comment: South Glasgow are two patient cases above aim for the quarter.

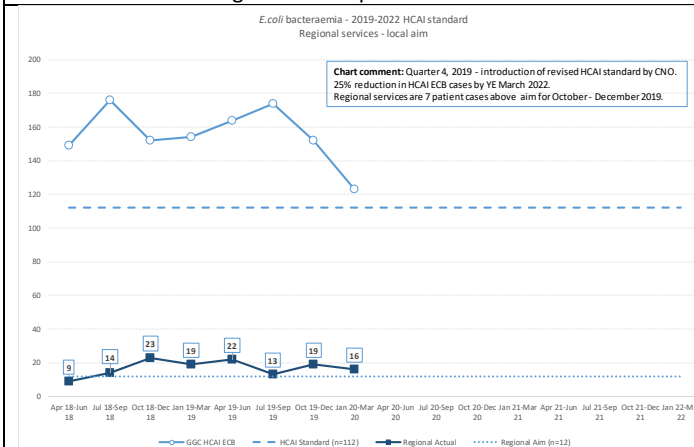
BOARD OFFICIAL



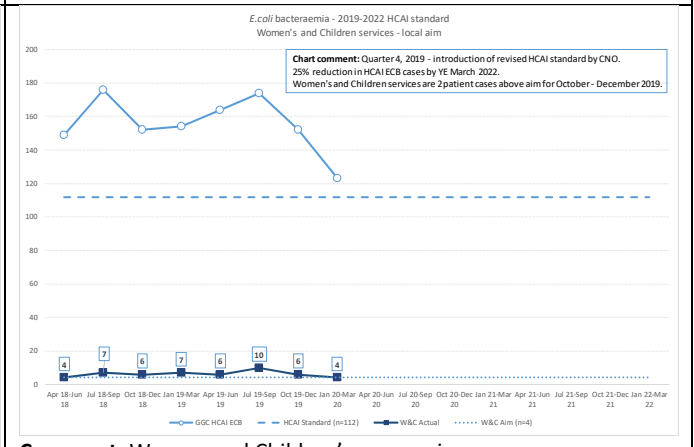
Comment: North Glasgow are one patient case below aim.



Comment: Clyde are five patient cases above aim.



Comment: Regional Services are 4 patient cases above aim.



Comment: Women and Children's are on aim.

Clostridioides difficile infection (CDIs)

Following the Vale of Leven outbreak in 2007, it became mandatory for all health boards to monitor, investigate and report all infections associated with *C. difficile*. NHS GGC 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 (as what happened in the Vale of Leven hospital). Another route of infection is when patient receive 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.

NHS Greater Glasgow and Clyde’s approach to CDI prevention and reduction

Similar to our SABs and ECBs investigation, patient history is gathered including any antibiotics prescribed over the last few months. Discussion with the clinical teams and microbiologists assist in the determination and conclusion of the significance of the organism, as sometimes the organism isolated 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.

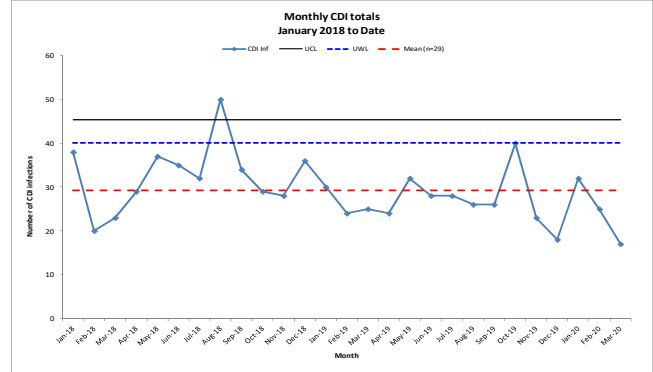
Daily case totals for all three HCAI standards are reported to the IPC senior management team to provide a prospective update on the current situation within our Board.

March 2020

Monthly Total	17
Hospital	9
Healthcare	3
Unknown	1
Community	4

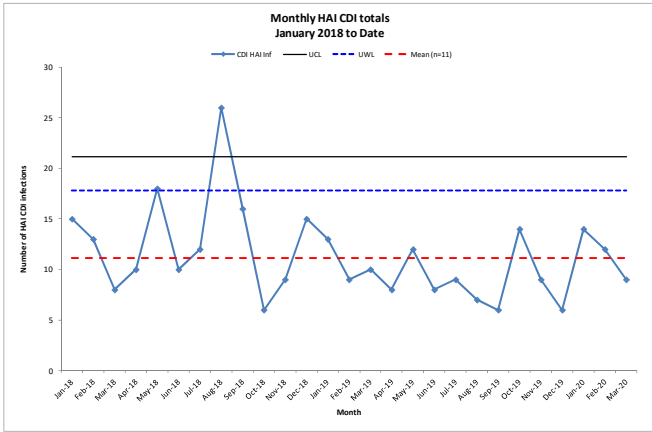
RAG Status - Green denotes monthly case numbers are less than the mean monthly CDI totals. Amber denotes when monthly case numbers are above the monthly mean but less than three standard deviations from the monthly mean. Red denotes monthly case numbers are above two standard deviations from the monthly mean.

Clostridioides difficile infection total - April 19 to date - 319

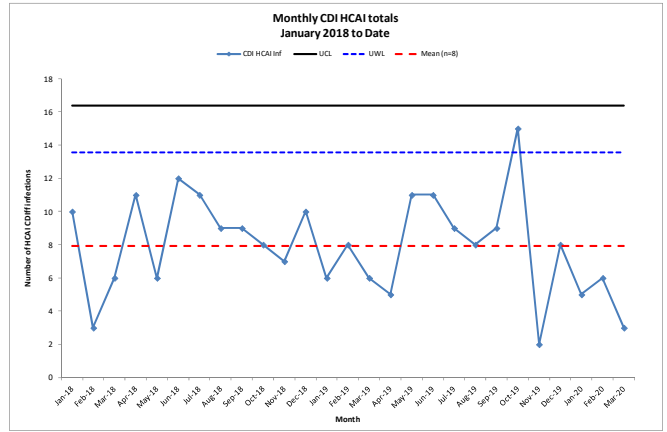


Comments:

Case numbers remain within control limits, no concerns to raise.



Comments:
Case numbers remain within control limits, no concerns to raise.



Comments:
Case numbers remain within control limits, no concerns to raise.

March Breakdown

Source	No of Cases
Hospital	9
BOC Ward B4	1
BOC Ward B6	1
GRI Ward 48	1
LEV Banff Ward	1
NVACH Ward 2	1
QEUH Ward 6C	1
QEUH Ward 8A	1
RAH Ward 28	1
RAH Ward 3	1
Healthcare	3
Grand Total	12

Action Taken

Hospital CDIs

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

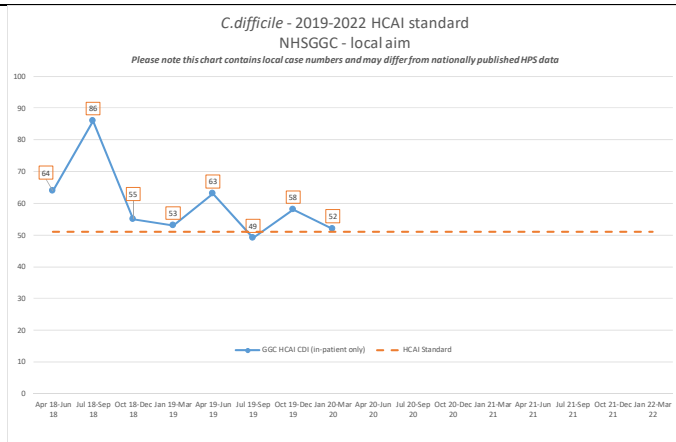
ICNs visit patient and discuss the infection and what this means for them.

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.

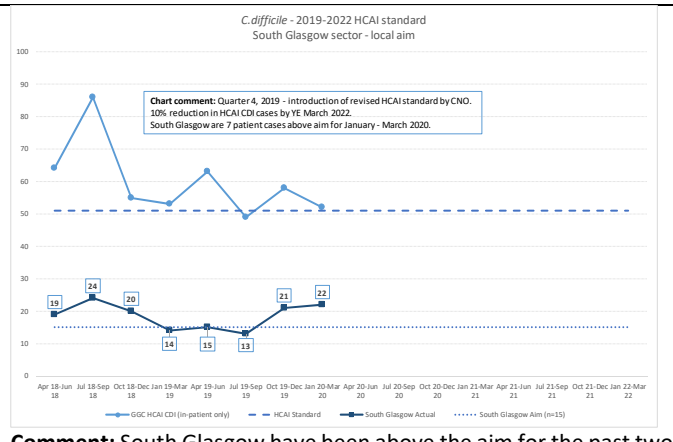
Any clusters (2) are sent to the reference lab for testing.

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**

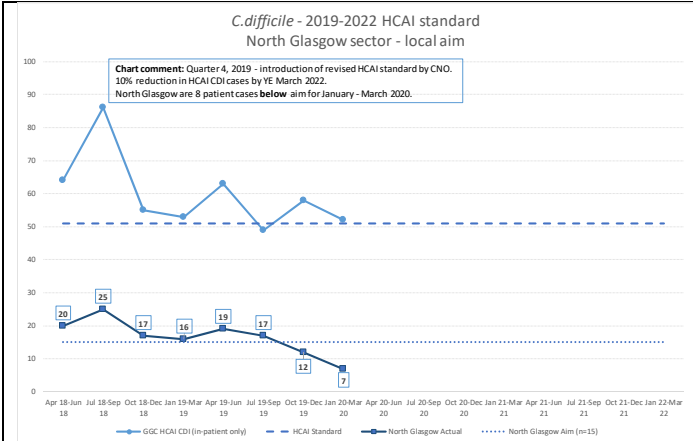


Comment: the chart above excludes HCAI specimen from GPs, Hospices etc. GGC is one patient case above aim.

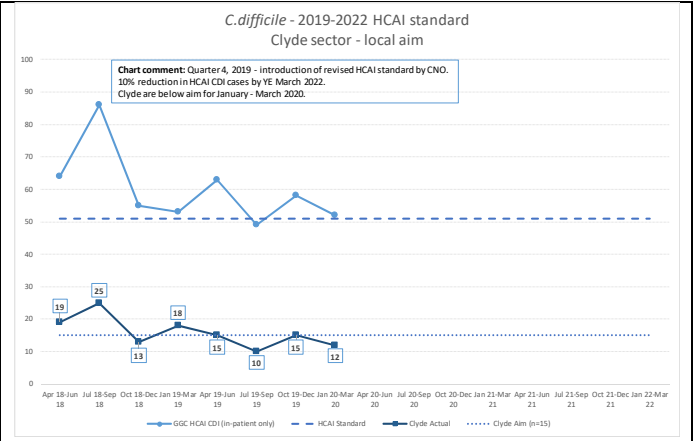


Comment: South Glasgow have been above the aim for the past two quarters. IPCT have identified wards with more than two cases in a month and have delivered education sessions and have carried out hand hygiene audits. This will continue to be closely monitored.

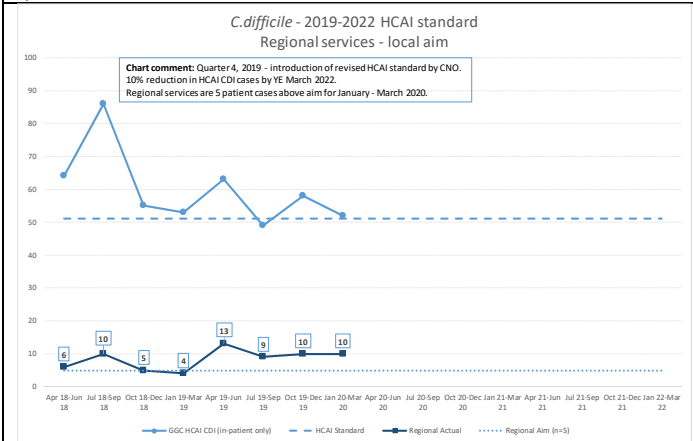
BOARD OFFICIAL



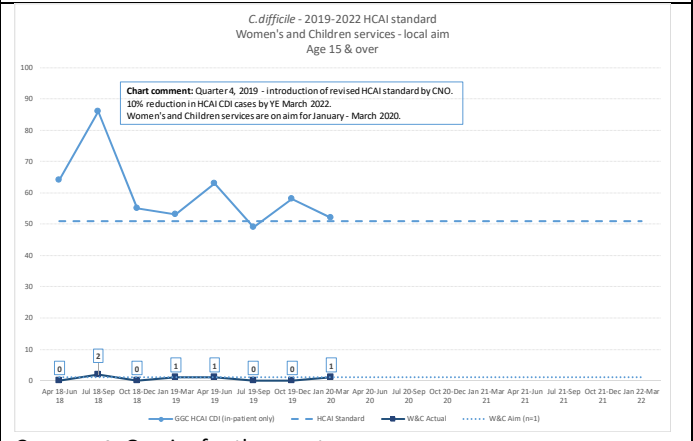
Comment: North Glasgow have been below aim for the past two quarters.



Comment: Clyde are below aim.



Comment: Regional Services are above aim. Educational sessions and hand hygiene audits have been carried out in wards that have had two or more cases in a month.



Comment: On aim for the quarter.

AOP Targets

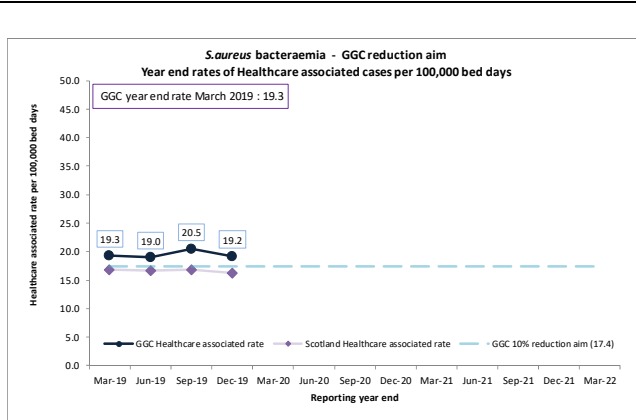
New HAI AOP targets for 2019-2022

On the 10th October 2019, a letter was sent to all Health Board Chief Executives highlighting our new HCAI targets. These targets are based on our (NHSGGG) 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 have reported nationally and in line with our set targets. In addition to SABs and CDIs targets, *Escherichia coli* bacteraemia (ECB) is now included in our targets.

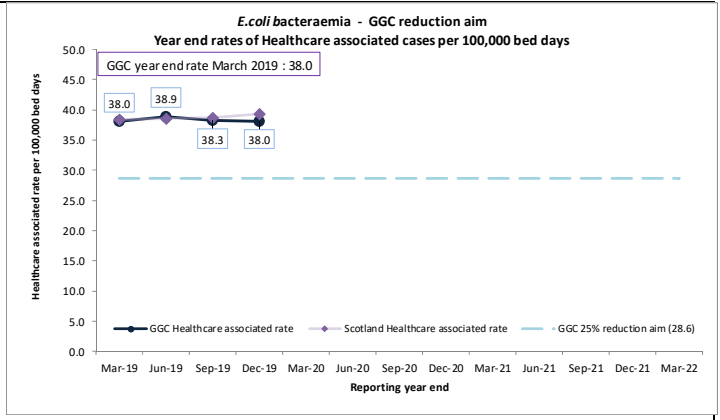
The data is currently being reformatted to address these targets and will be included in future reports. Please see table below for our new targets:

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

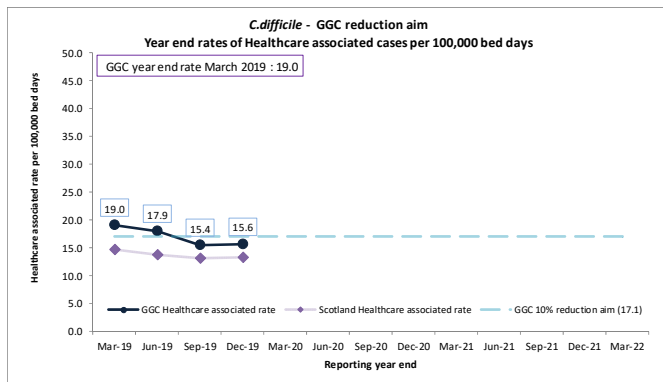
AOP target progress to date- published HPS data



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, large bowel. These are all mandatory procedure categories for national reporting. In addition we undertake surveillance on knee arthroplasty, repair of fractured neck of femur and in the Institute of Neurological Sciences (QEUH campus) spinal and cranial surgery. We 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 readmissions 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.

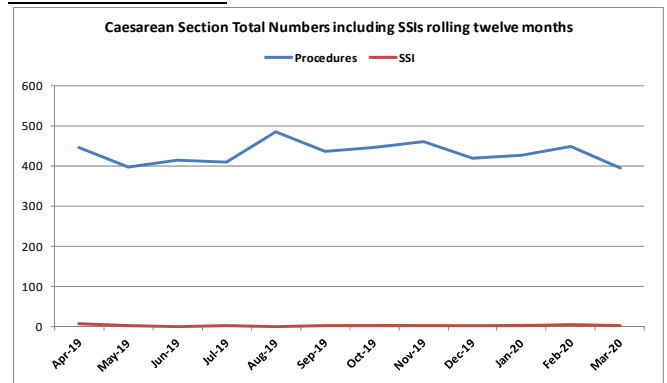
NHS Greater Glasgow and Clyde’s approach to SSI prevention and reduction

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, 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.

March Breakdown

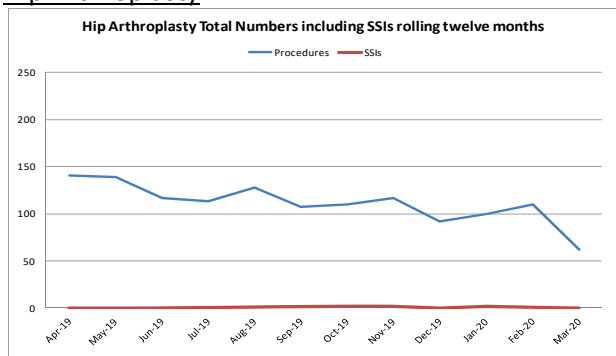
Procedure	Confirmed SSI
Caesarean Section (m)	0
Hip Arthroplasty (m)	0
Knee Arthroplasty (v)	0
Neck of Femur (v)	0
Large Bowel Surgery (m)	2
Major Vascular Surgery (m)	0
Cranial (v)	1
Spinal(v)	2

Caesarean Section



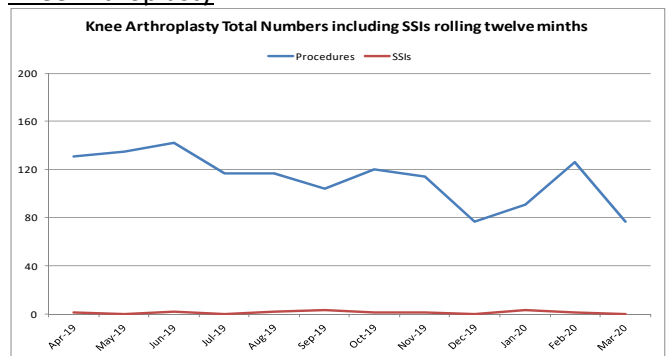
Comments: case numbers remain within control limits, no concerns to raise.

Hip Arthroplasty



Comments: case numbers remain within control limits, no concerns to raise.

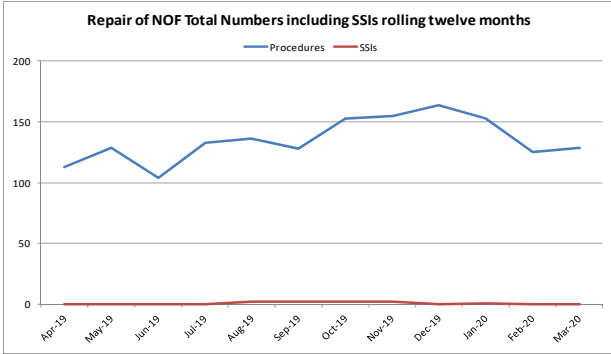
Knee Arthroplasty



Comments: case numbers remain within control limits, no concerns to raise.

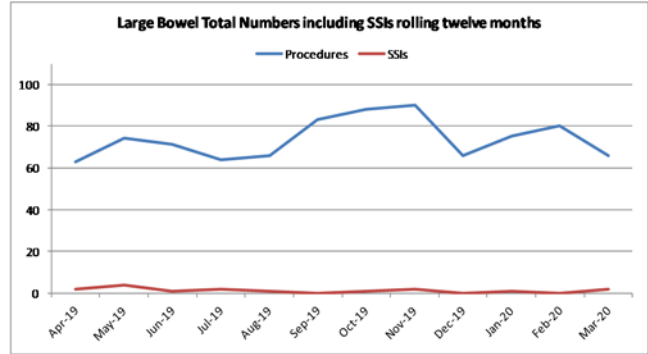
BOARD OFFICIAL

Repair of NOF



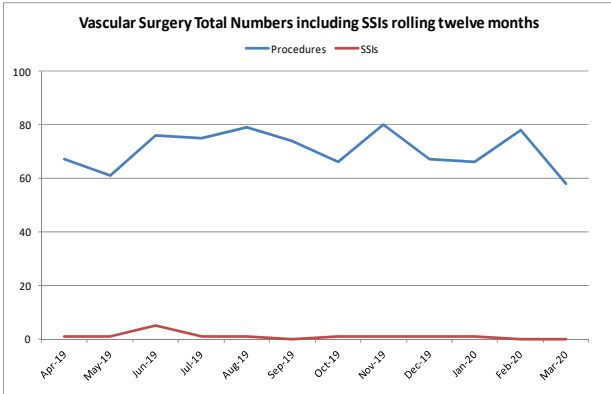
Comments: case numbers remain within control limits, no concerns to raise.

Large Bowel Surgery



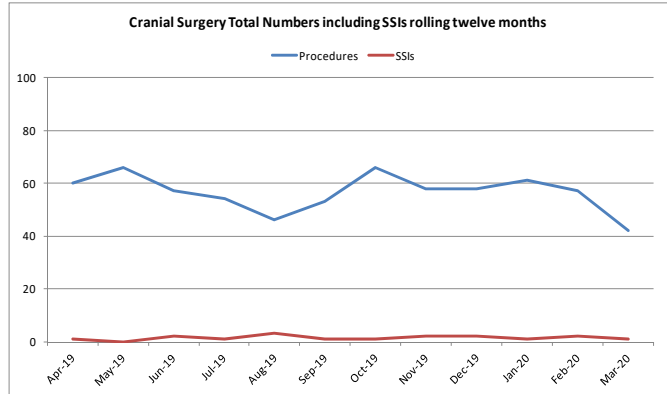
Comments: case numbers remain within control limits, no concerns to raise.

Major Vascular



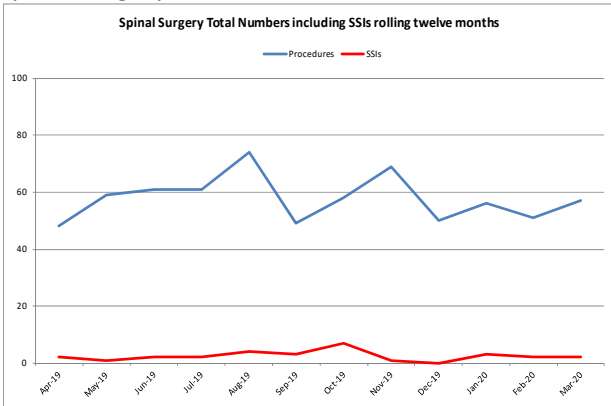
Comments: case numbers remain within control limits, no concerns to raise.

Cranial Surgery



Comments: case numbers remain within control limits, no concerns to raise.

Spinal Surgery



Comments: case numbers remain within control limits, no concerns to raise.

IPCAT – audit programme

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

Nine IPC Acute sector audits were undertaken in March.

Overall scores:

One gold (>90%)

7 green

One amber – this are will be re-audited in six months.

Results are fed back via the Synbiotix platform to the chief nurse, senior management and nursing staff.

All critical non-compliances are completed within 24 hours by the responsible person for each clinical area.

BOARD OFFICIAL

Due to the COVID-19 response, IPCAT activity is currently paused across our Board. 30-40 audits are normally carried out each month and this does not include hand hygiene audits, audits of PVC and CVC bundle compliance in relation to DAB or enhanced supervision visits.

March Breakdown

Sector	Hospital Site	Ward/Dept.	Date of audit	SICP	QA	Overall score	Re-audit period
CLY	RAH	Recovery and storage	10/03/20	89	86	89	12 Months
NG	GRI	43	05/03/20	87	78	86	12 Months
NG	GRI	62	04/03/20	79	50	75	6 Months
SG	GGH	2C	05/03/20	91	100	92	12 Months
SG	Victoria ACH	MIU	10/03/20	91	67	90	12 Months
SG	Victoria ACH	Recovery Stage 1	06/03/20	88	33	85	12 Months
SG	GGH	4A	04/03/20	84	71	83	12 Months
SG	Victoria ACH	Recovery Stage 2	06/03/20	81	67	80	12 Months
SG	QEUH	CCU	04/03/20	85	56	80	12 Months

- This is less than normal due to COVID 19

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 ICN and SCN to try and support staff in this process and determine any barriers that make the application of IPCT 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:

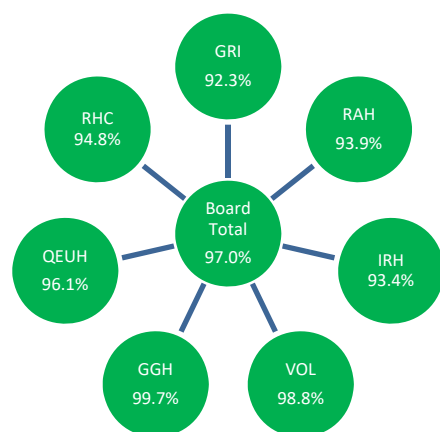
<https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths>

This month, there was one death where *Clostridioides difficile* was recorded on the death certificate.

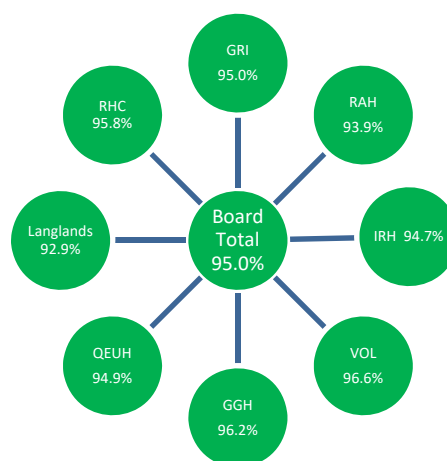
Estate and Cleaning Compliance (per hospital)

The data is collected through audit by the Domestic Services team using the Domestic Monitoring National Tool and areas chosen within each hospital are randomly selected by the audit tool. Any issues such as inadequate cleaning are scored appropriately and if the score is less than 80% then a re-audit is scheduled. Estates compliance is assessed as to 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 Estates for repair. Similar to the cleaning audit, scores below 80% triggers a re-audit.

BOARD OFFICIAL



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

Incidence/Outbreaks

Update

Royal Hospital for Children. Increase incidence of gram negative cultures in patients in the Paediatric Intensive Care Unit (PICU)

Initially the incident included cases of *Serratia marcescens*, *Pseudomonas aeruginosa* and *Acinetobacter* from 1st August 2010. This was extended in December to include all gram negative (GN) organisms. The case definition as of 5 February 2020 is any patient in PICU who has a positive GN isolate from a blood culture or broncho alveolar lavage (BAL) as defined by Scottish Government and Health Protection Scotland.

The Director of Infection Prevention and Control commissioned a review group which included representatives from Health Protection Scotland. This group reviewed hypothesis trend data and new scientific evidence to base actions upon. Statistical process control charts have been developed with Health Protection Scotland with trend data in relation to GN Blood Stream Infections (BSIs), BALs and ventilator associated pneumonias (VAPs) and these are now returned to this group for review monthly or more frequently if any infections occur. All BSIs have a root cause analysis completed by a multidisciplinary team. There have been no gram negative bacteraemias since 23 January 2020, there have been two positive BALs which met the agreed definition, one was healthcare associated the other was hospital acquired. All SPCs indicate that infection and colonisation rates in this group are within expected levels.

New Incidents

Royal Hospital for Children – Ward 6A (QEUH) Paediatric haemato-oncology. Two cases of bacteraemia. HIAT assessed as amber 09/04/2020 then green on 16/04/2020

Two gram negative bacteraemias were reported in a two week period. One was considered to be hospital acquired the other was healthcare associated. As per the agreed triggers an IMT was convened to review the cases. Two

BOARD OFFICIAL

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 to Health Protection Scotland and Scottish Government. Both patients have been discharged home well.

Royal Alexandra Hospital – NICU – 2 patients’ positive for COVID 19. HIIAT assessed as amber on 16/04/2020 then green on the 17/04/2020.

One patient tested became symptomatic on the 14/04/2020 and tested positive for COVID 19 on the same day. Other patients on the unit were assessed for symptoms and two further patients were screened and one patient was also confirmed to be positive. Screening was extended to all patients in the unit and no further cases were identified. Unit was visited daily for 14 days until 30/04/2020 and no further cases were identified. Both patients were discharged home well.

Queen Elizabeth University Hospital – Critical Care Unit (ITU COVID HUB). Four patients with *Enterobacter aerogenes* isolated from clinical specimens in a two week period. Currently HIIAT assessed as amber 29/04/2020.

Two patients’ had *Enterobacter aerogenes* isolated In blood cultures in patients in ITU on the 16 April. HIIAT was assessed as amber and then, when no new cases were identified in the preceding days, it was HIIAT assessed as green on 23 April. On the 28 April two further cases were referred to the IPCT one in sputum and line tip and the other in sputum. These new cases are considered to be colonisation and both remain on the unit. Reference laboratory confirms that the first two patients had the same type. IMT was held on 29 April and the incident was HIIAT assessed as amber once more. HIIORT completed and sent to HPS. The unit will continue to be monitored closely and the next IMT is scheduled for 6 April 2020.

Mental Health Inpatient Areas COVID 19

In the initial stages of the COVID 19 pandemic the area most affected was the inpatient mental health wards. These wards have very vulnerable patients who generally are difficult to isolate either because of cognitive difficulties or due to the psychological effects of isolation. The IPCT worked with clinicians and senior managers in this area to draw up guidance that supported both patients and staff. At the moment this seems to have been effective with the number of closed wards steadily reducing.

COVID-19 update

Within NHSGGC, the Pandemic Flu Plan has been implemented to coordinate our response to Covid-19. A number of sub-committees have been established, including an overarching Acute and specific sectoral groups, a communications sub-group and local HSCP groups. IPCT Business Continuity Plans were invoked at the end of March.

The situation with Covid-19 is fast moving as can be seen with the outbreaks that are being reported in the UK, Europe and beyond.

To date in NHSGGC there have been over 1700 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 IPC team monitor all COVID-19

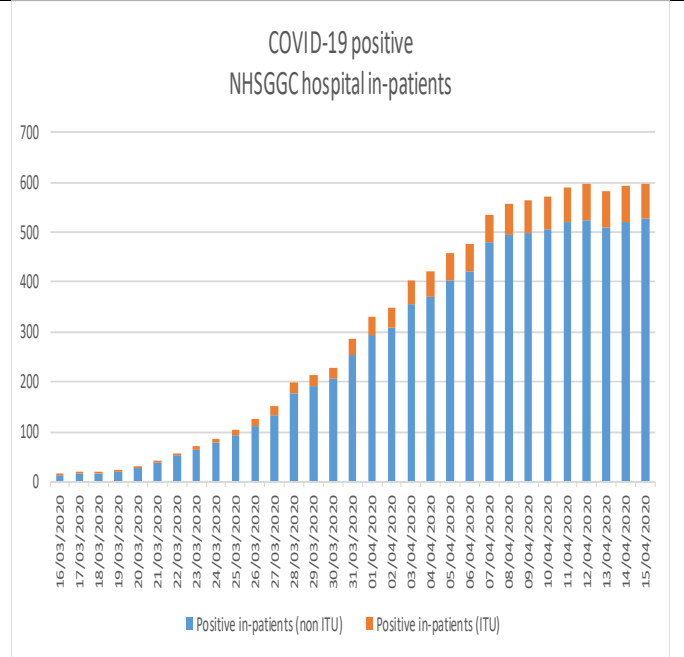


Figure 7. NHSGGC in-patients with COVID-19- general ward areas in blue, ITUs in orange.

BOARD OFFICIAL

positive cases to assist with the provision of overall case numbers, ITU admissions and deaths.

Figure 7. Displays the number of in-patients across GGC hospital who are positive for COVID-19. In orange are the number of people in intensive care areas.

Ward closures due to COVID-19 as of 30/04/2020

There have been 22 ward closures in 11 hospitals.

Month	Mar -20	Apr -20
Ward Closures	6	16
Bed Days Lost	597	1212

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 or Incident Management Team meeting is held with staff from the area concerned and actions are implemented to control further infection and transmission.

All outbreaks are notified to Health Protection Scotland and Scottish Government (see below for further details).

Type of outbreak	Ward	No of patients affected	Summary of outbreak
Norovirus	GRI Ward 29	5	The outbreak started on 29 th February and ran till 6 th March

Healthcare Acquired Infection Incident Template (HAIT)

The HAIT 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 Health Protection Scotland/SGHD of the incident (if amber or red), release a media statement etc.

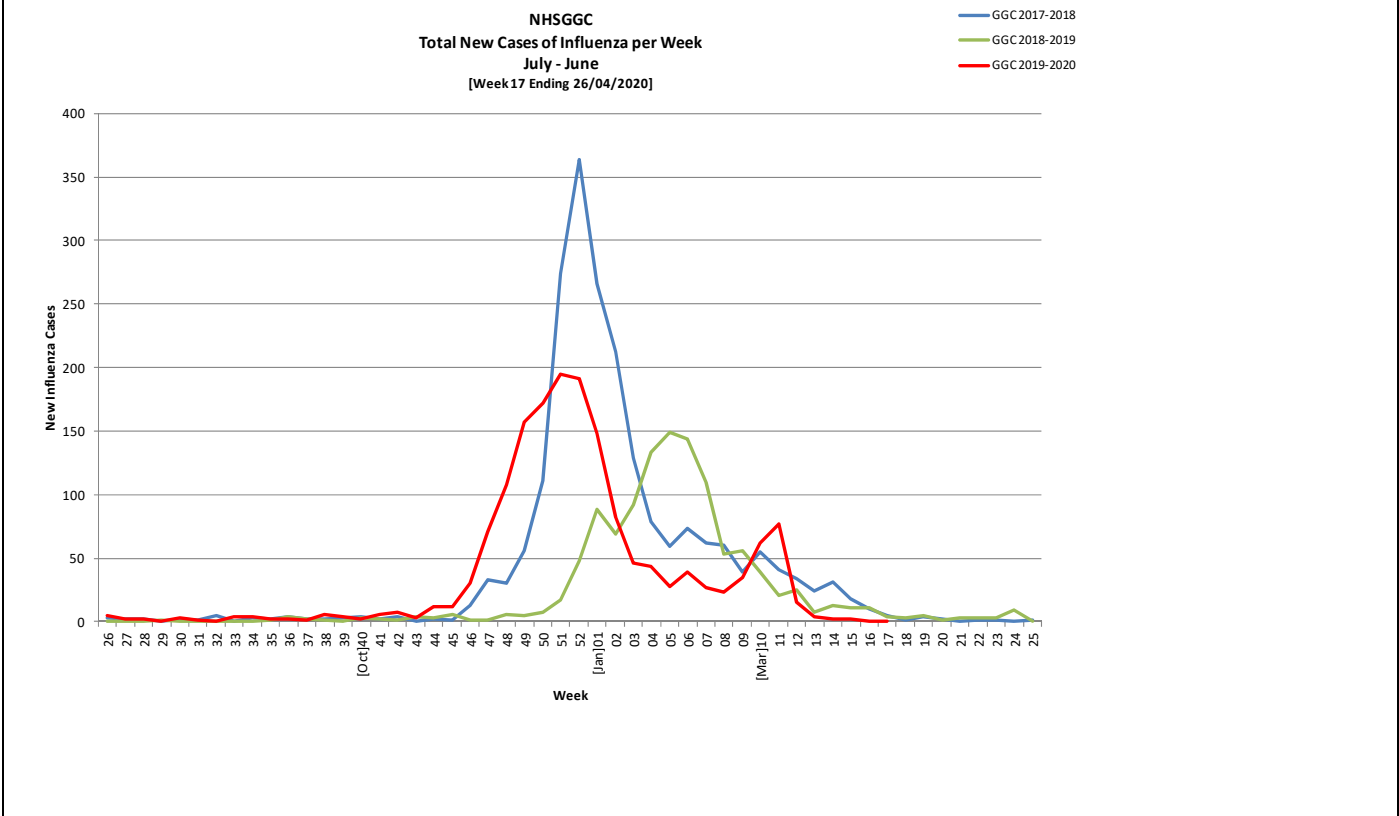
HAIT **Green** – Three reported this month

HAIT **Amber** – Three reported this month

HAIT **Red** – None reported this month

Influenza Season

This month saw an unexpected increase but it soon followed the pattern of the previous years. The season has been busier than last year but quieter than the year before.



Hand Hygiene Monitoring Compliance (%) Board wide

	Apr 2019	May 2019	June 2019	July 2019	Aug 2019	Sept 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020
Board Total	97	97	97	97	97	98	97	96	98	97	97	97

***Glasgow Royal Infirmary**

	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020
Board Total	97	97	95	96	97	98	98	98	97	98	97	96

Royal Alexandria Hospital

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

Inverclyde Royal Hospital

BOARD OFFICIAL

	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020
Board Total	98	98	99	99	98	98	97	99	99	98	100	97

Vale of Leven

	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020
Board Total	100	99	100	99	99	98	98	98	97	98	99	99

Gartnavel General Hospital

	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020
Board Total	95	99	97	97	96	98	98	97	96	98	98	99

Queen Elizabeth University Hospital

	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020
Board Total	96	97	96	96	96	96	96	97	94	97	97	97

Royal Hospital for Children

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

*Apologies breakdown for each of the sites was not available at the time of reporting but will be updated in the next version.

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 Enterobacteraeae (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%.

This last quarter (January to March 2020)	95% compliance rate for CPE screening
	96% compliance rate for MRSA screening.
National comparative rates will be available from Health Protection Scotland in March 2020.	

HPS Validated Data

HPS Validated Data					
Quarter 3 July- 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	National	National

BOARD OFFICIAL

	<i>S. aureus</i> bacteraemia	110 cases	22.3	17.5	5.7	7.4
	<i>C. difficile</i> in age 15+	77 cases	14.2	13.5	6.1	5.5
	<i>E.coli</i> 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
	<i>S. aureus</i> bacteraemia	91	16.1	15.2	7.4	9.6
	<i>C. difficile</i> in age 15+	80	16.1	14.9	3.7	4.7
	<i>E.coli</i> 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 SABs, DABs, CDIs
- Note the detailed activity in support of the prevention and control of Health Associated Infection