

NHS Greater Glasgow and Clyde	Paper No. 23/79
Meeting:	NHS Board
Meeting Date:	31st October 2023
Title:	The Healthcare Associated Infection Reporting Template (HAIRT) for July & August 2023
Sponsoring Director/Manager:	Professor Angela Wallace, Executive Director of Nursing
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1. Purpose

The Healthcare Associated Infection Reporting Template (HAIRT) is a mandatory reporting tool for the Board to have an oversight of the Healthcare Associated targets; *Staphylococcus aureus* bacteraemias (SAB), *Clostridioides difficile* infections (CDI), *E. coli* bacteraemias (ECB), incidents and outbreaks and all other Healthcare Associated Infections' (HCAI) activities across NHS Greater Glasgow & Clyde (NHSGGC) in July & August 2023.

The full HAIRT will now be considered by the Clinical and Care Governance committee on an ongoing basis with a summary being submitted to the NHS Board meeting.

2. Executive Summary

The paper can be summarised as follows:

- Scottish Government Standards on Healthcare Associated Infections Indicators (SGHAI) set for 2019-2024 for SAB, CDI and ECB are presented in this report.

The CNOD issued an update on 28th February 2023 which includes an extension to the standards until 2024. Available at: [https://www.sehd.scot.nhs.uk/dl/DL\(2023\)06.pdf](https://www.sehd.scot.nhs.uk/dl/DL(2023)06.pdf)

- SAB rates remain within expected limits. There were 26 healthcare associated SAB reported for July & 18 in August 2023 with the aim being 23 or less per month. We remain within expected limits and continue to support improvement locally to reduce rates via the Infection Prevention and Control Quality Improvement Network (IPCQIN) and local SAB Groups.
- ECB rates remain within normal control limits. There were 52 healthcare associated ECB in July & 54 in August 2023. Aim is 38 or less per month. We continue to perform well when compared to NHS Scotland although work is ongoing to meet this challenging target.
- There were 26 healthcare associated CDI in July & 19 in August 2023. Aim is 17 or less per month. It is recognised that CDI may have seasonal

variation. This has been closely monitored and no evidence of cross transmission between patients has been identified.

- National SSI surveillance was paused in 2020 and remains paused for the foreseeable future although continues locally.
- Clinical Risk Assessment (CRA) compliance was **92%** for CPE and **90%** for MRSA in the last validated reporting quarter (Q2-2023). In Q2 NHS Scotland reported compliance of 80% and 81% respectively. Unvalidated compliance results for quarter 3 indicate that GGC is above 90% for both assessments (96 & 94% respectively).
- The following link is the ARHAI report for the period April to June 2023. This report includes information on GGC and NHS Scotland's performance for Quarterly epidemiological data on Clostridioides difficile infection, Escherichia coli bacteraemia, Staphylococcus aureus bacteraemia and Surgical Site Infection in Scotland. [Quarterly epidemiological data on Clostridioides difficile infection, Escherichia coli bacteraemia, Staphylococcus aureus bacteraemia and Surgical Site Infection in Scotland. April to June \(Q2\) 2023 | National Services Scotland \(nhs.scot\)](#).
- The Board's cleaning compliance and Estates compliance are $\geq 95\%$ for July & August 2023.
- The sixth issue of the Infection Prevention and Control Quality Improvement Network (IPCQIN) newsletter will be issued in November 2023. This ensures shared learning across the organisation on the improvements implemented thus far by the network.

3. Recommendations

The NHS Board is asked to consider the following recommendations:

- Note the content of the HAIRT report.
- Note the performance in respect of the Scottish Government Standards on Healthcare Associated Infections and Indicators for SAB, CDI and ECB.
- Note the detailed activity in support of the prevention and control of Healthcare Associated Infections.

4. Response Required

This paper is presented for assurance

5. Impact Assessment

The impact of this paper on NHSGGC's corporate aims, approach to equality and diversity and environmental impact are assessed as follows:

- | | |
|------------------------|------------------------|
| ● Better Health | <u>Positive</u> impact |
| ● Better Care | <u>Positive</u> impact |
| ● Better Value | <u>Positive</u> impact |
| ● Better Workplace | <u>Positive</u> impact |
| ● Equality & Diversity | <u>Neutral</u> impact |
| ● Environment | <u>Positive</u> impact |

6. Engagement & Communications

The issues addressed in this paper were subject to discussion with the Infection Prevention and Control (IPC) Team and the IPC Surveillance & Data Team. Comments were also taken into consideration from the below groups when reviewing the content and format following presentation:

- Partnerships Infection Control Support Group (PICSG)
- Acute Infection Control Committee (AICC)
- Board Infection Control Committee (BICC)

7. Governance Route

This paper has been previously considered by the following groups as part of its development:

- The Infection Prevention and Control Team (IPCT)
- Partnerships Infection Control Support Group (PICSG)
- Acute Infection Control Committee (AICC)
- Board Infection Control Committee (BICC)
- Clinical and Care Governance Committee (CCGC)

This paper is then shared with the Board Clinical Governance Forum for information and a summary (this paper) presented at the NHS Board for assurance.

8. Date Prepared & Issued

Date the paper was written: 29/09/2023

Date issued to NHS Board on: 24/10/23

Healthcare Associated Infection Summary – July & August 2023

The HAIRT Report is the national mandatory reporting tool and is presented every two months to the Clinical and Care Governance Committee with a summary report to the NHS Board. This is a Scottish Government requirement and informs NHSGGC of activity and performance against the Scottish Government Standards on Healthcare Associated Infections and Indicators. Other available indicators are included for assurance.

Performance at a glance relates only to the 2 months reported and should be viewed in the context of the overall trend over time in the following pages.

	July 2023	August 2023	Status toward SGHAI (based on trajectory to March 2024)
Healthcare Associated <i>Staphylococcus aureus</i> bacteraemia (SAB)	26	18	Aim is 23 per month
Healthcare Associated <i>Clostridioides difficile</i> infection (CDI)	26	19	Aim is 17 per month
Healthcare Associated <i>Escherichia coli</i> bacteraemia (ECB)	52	54	Aim is 38 per month
Hospital acquired IV access device (IVAD) associated SAB	8	6	
Healthcare associated urinary catheter associated ECB (includes suprapubic catheter)	10	17	
Hand Hygiene	96	96	
National Cleaning compliance (Board wide)	95	95	
National Estates compliance (Board wide)	96	96	

Healthcare Associated Infection (HCAI) Surveillance

NHSGGC has systems in place to monitor key targets and areas for delivery. An electronic HCAI surveillance system and ways of working allow early detection and indication of areas of concern or deteriorating performance.

<i>Staphylococcus aureus</i> bacteraemia (SAB)		
	July 2023	August 2023
Total	31	27
*Healthcare	26	18
Community	5	9

Healthcare associated *S. aureus* bacteraemia total for the rolling year Sept 2022 to August 2023 = 321.

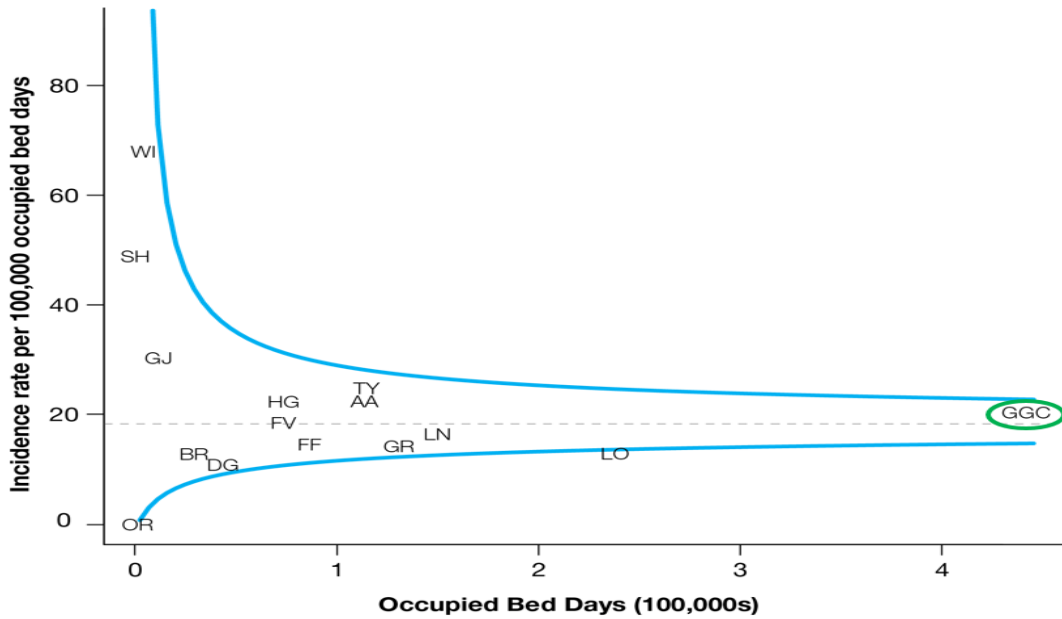
HCAI yearly aim is **280**.

<p>Monthly Aim for Healthcare Associated Infections is 23 patient cases.</p>	<p>*Healthcare associated are the cases which are included in the SG reduction target.</p>
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Comments

- There has been a decrease in the overall SAB cases. 27 cases were reported in August compared to 31 in July and 32 in June. The number of Healthcare Associated SAB cases has been variable but within expected limits since 2020 which indicates a stable system.
- Community cases have shown a reduction since March 2021 and remain in control with minimal variation.
- In addition to the nationally set targets and mandatory surveillance, in GGC infections from an IVAD caused by *S. aureus* or *E.coli* are investigated fully and reported in the monthly directorate reports and in the quarterly SAB & ECB reports. This chart is issued to the Acute Clinical Governance Group to demonstrate infections associated with access devices. Data is used to drive improvement in the local SAB groups.
- Information for all acute hospital cases are available in real time on the MicroStrategy IPC dashboard.

ARHAI Validated Q2 (April – June 23) funnel plot – HCAI SAB cases



Rate: **20.4** per 100,000 OBDs.

NHSGGC rate is within the control limits for this quarter and above the national rate of 18.3.

***E.coli* bacteraemia (ECB)**

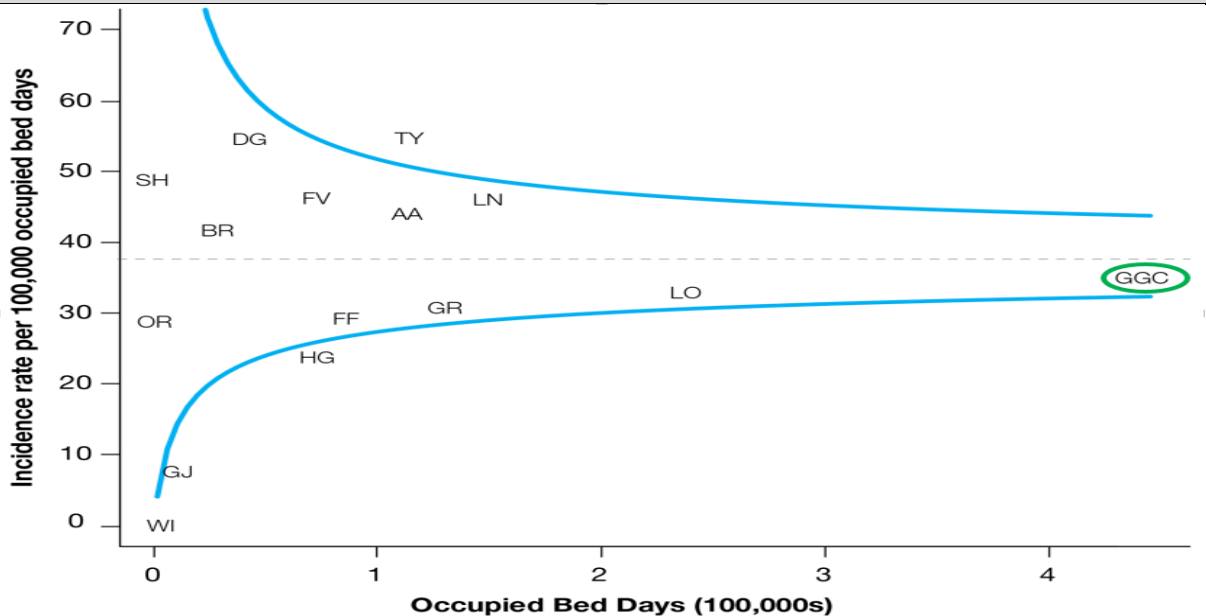
	July 2023	August 2023	<p>Healthcare associated <i>E. coli</i> bacteraemia total for the rolling year September 2022 to August 2023 = 610.</p> <p>HCAI yearly aim is 452.</p>
Total	106	92	
Healthcare*	52	54	

Community	54	38	*Healthcare associated are the cases which are included in the SG reduction target.
<p>Monthly Aim for Healthcare Associated Infections is 38 patient cases.</p>			

Comments:

- There has been an increase in the overall ECB cases over the past few months, however, the numbers have decreased again in August 2023 to 92. Teams across GGC continue to monitor and implement improvements where possible.
- There has been decrease in HCAI cases in the last two months. Enhanced surveillance of ECB continues and is prospectively available to view by clinicians on Microstrategy, however, teams across GGC continue to monitor and implement improvements where possible. It is hypothesised that in the warmer months ECB increased due to dehydration. IPCT continue to promote SG hydration initiatives across GGC.
- There is variability in monthly community onset cases, however cases remain within control limits.
- Ward level data of entry point of bacteraemia is available via MicroStrategy. This provides real time information to clinical staff to assist in the decision to use improvement methodology to test interventions that may lead to a reduction in the number of patients with this infection.
- **The Public Health Scotland** Urinary Catheter Care Passport contains guidelines to help minimise the risk of developing an infection and is available at: [HPS Website - Urinary Catheter Care Passport \(scot.nhs.uk\)](https://www.scot.nhs.uk/hps/urinary-catheter-care-passport/)

ARHAI Validated Q2 (April – June 2023) funnel plot – HCAI ECB cases



Rate: **35** per 100,000 OBDs.

NHSGGC rate is within the control limits for this quarter and below the national rate of 37.6. This also demonstrates good performance when compared to other boards.

Clostridioides difficile infection (CDI)

	July 2023	August 2023
Total	28	31
Healthcare*	26	19
Community	2	12

Healthcare associated *Clostridioides difficile* total for the rolling year September 2022 to August 2023 = 239. HCAI yearly aim is **204**.

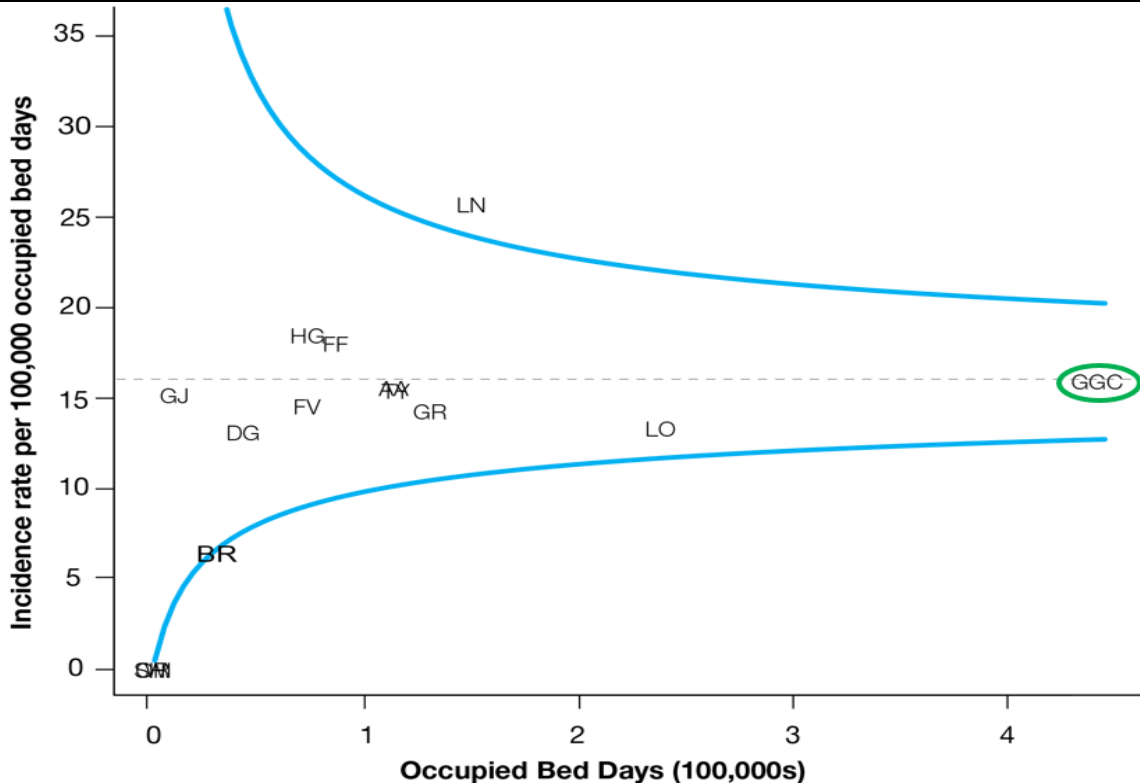
Monthly aim for Healthcare Associated Infection is 17.

*Healthcare associated are the cases which are included in the SG reduction target.

Comments:

- There had been an increase in the overall CDI cases in June 2023 (28) however the numbers have returned to expected levels i.e. 26 in July and 19 in August. The IPCT continue to closely monitor and implement local actions in any areas with higher than expected numbers.
- Community acquired cases have increased in August 2023. This may indicate a general increase in the population with community cases reflecting the position in hospital.
- Information on all Acute hospital cases is available on Micro-Strategy.

ARHAI Validated Q2 (April – June 2023) funnel plot – HCAI CDI cases



Rate: **15.9** per 100,000 OBDs. **HCAI standard aim met.** Below NHS Scotland rate of 16.1

NHSGGC rate is within the control limits for this quarter and demonstrates good performance when compared to other boards.

Methicillin resistant *Staphylococcus aureus* (MRSA) and *Clostridioides difficile* recorded deaths

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

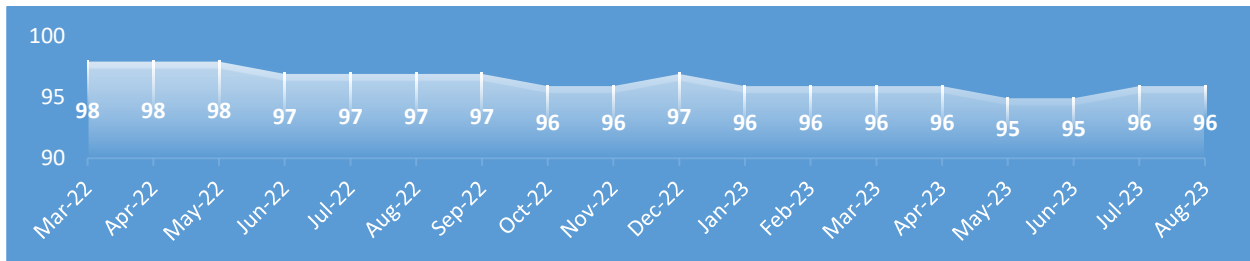
<https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths>

There were 2 deaths in July 2023 and 2 in August 2023, where hospital acquired *Clostridioides difficile* was recorded in on the patient’s death certificate. None of these were due to cross transmission (all were in different wards and did not cross in time or place). Datix incident reports were raised and the clinical teams were asked to complete clinical reviews.

July 2023	GRI	RAH
Hospital acquired CDI recorded on one part of the Death Certificate	1	1
August 2023	QEUH	
Hospital acquired CDI recorded on one part of the Death Certificate	2	

There were no deaths this period where hospital acquired MRSA was recorded on the death certificate.

NHS GGC Hand Hygiene Monitoring Compliance (%)



Estate and Cleaning Compliance (per hospital)

The data is collected through audit by the Domestic Services Team using the Domestic Monitoring National Tool. Areas chosen within each hospital are randomly selected by the audit tool. Any issues such as inadequate cleaning is scored appropriately and if the score is less than 80%, 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% trigger a re-audit.

Infection Prevention and Control Quality Improvement Network (IPCQIN) Update

The IPCQIN aim is to create the organisational conditions to facilitate and support the reduction of preventable infections associated with healthcare delivery. The Steering Group and the Operational Group have been merged into one group and the first meeting for the merged group was held in September 2023. The three main work streams continue to progress.

The sixth issue the network's Newsletter will be published and shared with staff via Core Brief in November 2023.

Outbreaks or Incidents in July & August 2023

Outbreaks / Incidents

Outbreaks and incidents across NHSGGC are identified primarily through ICNet (surveillance software package), microbiology colleagues or from the ward. ICNet automatically identifies clusters of infections of specific organisms based on appendix 13 of the National Infection Prevention & Control Manual (NIPCM) to enable timely patient management to prevent any possible spread of infection. The identification of outbreaks is determined following discussion with the Infection Control Doctor/Microbiologist. In the event of a possible or confirmed outbreak/incident, 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.

The ARHAI Healthcare Infection Incident Assessment Tool (HIIAT) is a tool used by the IMT to assess the impact of the outbreak or incident. The tool is a risk assessment and allows the IMT to rate the outbreak/incident as **RED**, **AMBER**, or **GREEN**.

All incidents that are HIIAT assessed are reported to the Antimicrobial Resistance & Healthcare Associated Infection (ARHAI) group.

HIIAT

The HIIAT is a tool used by boards to assess the impact of an outbreak or incident. The tool is a risk assessment and allows boards to rate the outbreak/incident as **RED**, **AMBER**, or **GREEN**. ARHAI are informed of all incidents who onward report to the Scottish Government Health and Social Care Directorate (SGHSCD).

HIIAT **GREEN** – reported 2 in July and 7 in August 2023.

HIIAT **AMBER** - reported 0 in July and 8 in August 2023.

HIIAT **RED** – reported 3 in July and 4 in August 2023.

(COVID-19 incidents are now included in the above totals but not reported as incident summaries)

Outbreaks/Incidents (HIIAT assessed as AMBER or RED excluding COVID-19)

QEUH, ICU – *Candida auris*

A single patient had *Candida auris* isolated from a clinical specimen in QEUH. The patient was transferred from another healthcare facility out with the UK and acquisition of this pathogen in QEUH was excluded.

This species is known to be resistant to several antifungal agents and is present in many areas across the world but it is unusual to see this type of organism in Scotland. A Problem Assessment Group (PAG) meeting was held and additional control measures were agreed and put in place. This patient had been in isolation from admission. The HIIAT was assessed as **RED** on 07/07/2023 due to severity of illness, then **GREEN** on 21/07/2023. The incident was closed on 07/08/2023 as control measures had been successful in preventing the onward spread of this resistant organism.

RHC, – *Pseudomonas aeruginosa*

Two patients in the Royal Hospital for Children who had a matching VNTR profile of *Pseudomonas aeruginosa*, were reported by the National Reference lab. The first isolates of *P.aeruginosa* in both patients were 5 months apart. IPCT carried out a thorough investigation looking at epidemiological links, potential sources and transmission factors. The incident was HIIAT assessed as **RED** on 12/07/2023 then **GREEN** and closed on 14/07/2023. Parents were made aware of positive *Pseudomonas aeruginosa* isolates at time of reporting of the result.

GRI, Burns Unit, Ward 45 – MRSA

Nine patients have tested positive for MRSA in Glasgow Royal Infirmary, Burns Unit, with the last case confirmed in August. All patients have been discharged from the Burns Unit and none of the patients have given cause for concern as a result of MRSA. The HIIAT was escalated to **RED** on 17/08/2023 due to continued risk of transmission and the impact on services. This was reduced to **AMBER** on 11/09/2023 as there had been no new

cases for a number of weeks and remains as **AMBER** at time of reporting. Outbreak management has focussed on hand hygiene, correct use of PPE and environmental cleaning. The situation continues to be monitored closely.

Greater Glasgow & Clyde COVID-19 Incidents:

During July and August there were **12** outbreaks of COVID 19 which scored either **AMBER** (8) or **RED** (4). As a precautionary principle, during incidents and outbreaks in GGC, if COVID 19 appeared on any part of a patient’s death certificate, the assessment was considered to be automatically **RED**. This was in excess of what is in the HIIAT assessment tool in which states that a major impact on patients should be defined as “Patients require major clinical interventional support as a consequence of the incident and/or severe/life threatening/rare infection and/or there is associated mortality.”

All incidents and outbreak are reported to ARHAI regardless of the assessment.

Sector	RAH	GRI	INV	QEUH
COVID-19 (RED HIIAT)	1	1	1	1

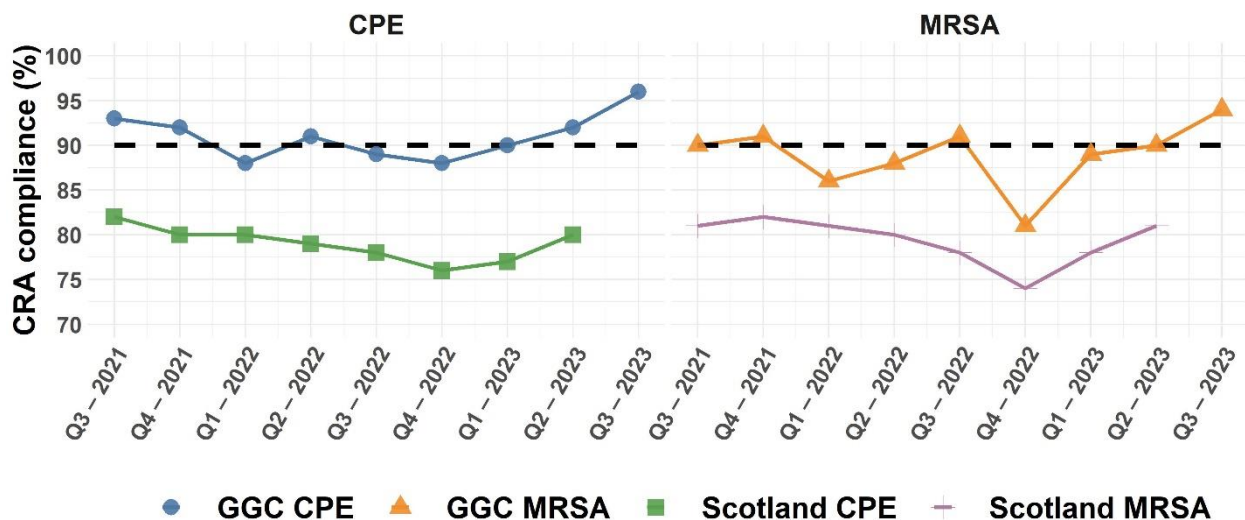
Healthcare Environment Inspectorate (HEI)

No HEI inspections were carried out in July and August 2023. All HEI reports and action plans for previous inspections can be viewed by clicking on the link:

http://www.healthcareimprovementscotland.org/our_work/inspecting_and_regulating_care/nhs_hospitals_and_services/find_nhs_hospitals.aspx

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 MRSA. The decision to screen depends on the outcome of a clinical risk assessment performed on all admissions. On a quarterly basis we assess compliance of completing this risk assessment to provide assurance of effective screening and this is reported nationally. The national expectation of compliance is **90%** (black dashed line). National data for Q2 has been validated and included along with the local data for Q3. The 90% compliance standard has been achieved.



Last validated quarter April - June 2023		NHSGGC 92% compliance rate for CPE screening	Scotland 80%
		NHSGGC 90% compliance rate for MRSA screening	Scotland 81%
Local data July – September 2023		NHSGGC 96% compliance rate for CPE screening	TBC
		NHSGGC 94% compliance rate for MRSA screening	TBC

We continue to support clinical staff to implement this screening programme and work is currently underway with eHealth to incorporate this information electronically into the patient admission eRecord.

APPENDIX - 1**Healthcare Associated Infection Reporting Guidance, Glossary, Definitions and Infection Control Targets****Purpose:**

This paper can be referred to when reading the HAIRT Summary Reports, it covers any Scottish Government guidance and aims relating to Infection Prevention and Control (IPC), list of abbreviations and definitions for some of the medical terms or infection types mentioned in the HAIRT Summary reports. It also includes some systems and processes that have been put in place by IPC to reduce the harm from infections and prevent them from happening.

Glossary of abbreviations

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

AOP	Annual Operational Plan
ARHAI	Antimicrobial Resistance Healthcare Associated Infection
CDI	<i>Clostridioides difficile</i> infection
CNOD	Chief Nursing Officer Directorate
CPE	Carbapenemase producing Enterobacteriaceae
CVC	Central Venous Catheter
Datix	The software used by NHS Greater Glasgow and Clyde for clinical and non-clinical incident reporting (and managing complaints and legal claims) and forms part of the Risk Management Strategy. It is a web-based application that allows any staff member with access to StaffNet to report an incident.
ECDC	European Centre for Disease Control
HAI	Hospital Acquired Infection (not present or incubating on admission to hospital and arising \geq 48 hours after admission). Please note this excludes COVID-19 cases (hospital onset currently thought to be >14 days).
HCAI	Healthcare Associated Infection
HEI	Healthcare Environment Inspectorate
HIIAT	Healthcare Infection Incident Assessment Tool
HPV	Hydrogen Peroxide Vapour
IMT	Incident Management Team
IPCAT	Infection Prevention and Control Audit Tool
IPCN	Infection Prevention and Control Nurse
IPCT	Infection Prevention and Control Team
IVAD	Intravenous/Intravascular Access Device
MRSA	Meticillin Resistant <i>Staphylococcus aureus</i>
NES	NHS Education for Scotland
PAG	Problem Assessment Group
PEG	Percutaneous Endoscopic Gastrostomy
PICC	Peripherally Inserted Central Catheter
PVC	Peripheral Vascular/Venous Catheter
SAB	<i>Staphylococcus aureus</i> bacteraemia
SG	Scottish Government
SGHSCD	Scottish Government Health and Social Care Directorate
SICPs	Standard Infection Control Precautions
SPC	Statistical Process Control: An analytical technique that plots data over time. It helps us understand variation and in so doing, guides us to take the most appropriate action. SPC is a good technique to use when implementing change as it enables us to understand whether changes made have resulted in an improvement.

SSI	Surgical Site Infection
UCC	Urinary Catheter Care
UTI	Urinary Tract Infection

***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 (UTI) etc.), during surgery, or due to invasive devices such as peripheral vascular catheters (PVC), 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 intravenous antibiotics often for a prolonged period, e.g. in cases of *S. aureus* bacteraemia, 14 days of antibiotic therapy is normally required.

Origin Definitions for Bacteraemia Surveillance

<https://www.ARHA1.scot.nhs.uk/web-resources-container/protocol-for-national-enhanced-surveillance-of-bacteraemia>

Healthcare Associated Infection	<p>Hospital Acquired Infection</p> <p>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 style="text-align: center;">If the patient was a neonate / baby who has never left hospital since being born. OR</p> <p style="text-align: center;">The patient was discharged from hospital in the 48 hours prior to the positive blood culture being taken. OR</p> <p style="text-align: center;">A patient who receives regular haemodialysis as an out-patient. OR</p> <p style="text-align: center;">Contaminant if the blood aspirated in hospital. OR</p> <p style="text-align: center;">If infection source / entry point is surgical site infection (SSI). <i>[This will be attributed to hospital of surgical procedure]</i></p>
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BOARD OFFICIAL

	<p>Healthcare Associated Infection</p> <p>Positive blood culture obtained from a patient within 48 hours of admission to hospital and fulfils one or more of the following criteria:</p> <p style="text-align: center;">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.</p>
<p>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>

***Staphylococcus aureus* bacteraemia (SAB), *Escherichia coli* Bacteraemia (ECB) & *Clostridioides difficile* infection (CDI) targets.**

SAB, ECB and CDI targets are described in [DL \(2022\)13.pdf \(scot.nhs.uk\)](#). The target is Board-specific, based on the NHS Boards current infection rates. The target was set to be achieved by 2022, however, this was further extended due to the pandemic and is now to be achieved by 2024.

Information on performance against all three targets is available to the Directorate/Division in three ways; monthly summary reports, SAB and ECB specific quarterly reports and via the micro strategy dashboard. All SABs/ECBs associated with an IVAD 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 reports enable the IPCT to identify trends in particular sources of infections such as central line infections etc. and it also enables the IPCT to identify areas requiring further support. The data collected on all targets influences the IPC Annual Work Plan and the IPCQIN.

<p><i>Escherichia coli</i> bacteraemia (ECB)</p>
<p>NHSGGC's approach to ECB prevention and reduction</p> <p><i>E. coli</i> is one of the most predominant organisms of the gut flora, and for the last several years the incidence of <i>E. coli</i> isolated from blood cultures, i.e. causing sepsis, has increased to the point that it is the most frequently isolated organism in the UK. As a result of this, the HAI Policy Unit has now included <i>E. coli</i> as part of the AOP targets. The most common cause of ECB is from complications arising from UTIs, hepato-biliary infections (gall bladder infections) and infections associated with urinary catheters. It should be acknowledged that there is limited number of possible interventions to target ECB because infections are often spontaneous and not associated with health care or health care interventions.</p>

***Clostridioides difficile* infection (CDI)**

Reporting to ARHAI of *C. difficile* infections has been mandatory for many 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 2019-2024 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 investigations, patient history is gathered including any antibiotics prescribed over the last several months. Discussions 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 an infection. Data is shared with the antimicrobial pharmacists to identify any issues with prescribing and incidence of infections are discussed at the Antimicrobial Utilisation Committee.

Surgical Site Infection (SSI) Surveillance
<p>SSI surveillance is the monitoring and detection of infections associated with a surgical procedure. In GGC the procedures included are hip arthroplasty, caesarean birth, major vascular surgery and large bowel surgery. These are all mandatory procedure categories for national reporting. In addition, the IPCT undertake surveillance on knee arthroplasty and repair of fractured neck of femur.</p> <p>The IPC Surveillance Team monitor patients for 30 days post-surgery.</p> <p>National SSI surveillance remains paused and light surveillance methodology has been utilised since November 2022.</p>
NHSGGC’s Approach to SSI Prevention and Reduction
<p>SSI criteria is determined by using the European Centre for Disease Control (ECDC) definitions. Any infection identified is investigated fully and information is gathered to identify risk factors which in turn inform reduction</p>

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strategies. The types of information collected includes the patients' weight, duration of surgery, grade of surgeon, prophylactic antibiotics given, theatre room, elective or emergency, primary theatre dressing, etc. The IPCT closely monitor infection rates, and any increased incidence of SSIs are promptly reported to management and clinical teams, and if required Incident Management Team (IMT) meetings are held.

SSI rates should be interpreted with due caution, as procedure denominators vary between surgery categories. The impact of COVID-19 pandemic upon NHS services should also be reflected upon when comparing current SSI rates with those prior to 2020.

Please note that surveillance is not yet complete for procedures undertaken in August 2023.

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

The National Records of Scotland monitor and report on a variety of death causes recorded on the death certificate. Two organisms are monitored and reported; MRSA and *C. difficile*. Please click on the link for further information: <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths>