

NHS Greater Glasgow and Clyde	Paper No. 22/73
Meeting:	NHS Board Meeting
Meeting Date:	25 October 2022
Title:	The Healthcare Associated Infection Reporting Template (HAIRT) for July - September (Quarter 3) 2022
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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) over the third quarter of 2022 (July - September).

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:

- Annual Operational Plan (AOP) targets set for 2019-2023 for SAB, CDI and ECB are presented in this report;
 - SAB rates remain within expected limits and continue to support improvement locally to reduce rates via the Infection Prevention and Control Quality Improvement Network (IPCQIN). There were 85 healthcare associated SAB reported locally this quarter. Aim is 69 or less per quarter.
 - ECB rates remain within normal control limits. There were 154 healthcare associated ECB this quarter, the aim is to have less than 114 cases per quarter.

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- Healthcare associated CDI cases have reduced by 18% in 2022 to date, compared to the same period in 2021. There were 50 healthcare associated CDI this quarter, which is under the quarterly aim (51 cases per quarter). There has also been a reduction in community onset cases.
- Surgical Site Infection (SSI) surveillance remains paused nationally. Local surveillance resumed in February 2022.
- MRSA and CPE Clinical Risk Assessment (CRA) compliance for July to September 2022 both achieved 91%. NHS GGC continue to perform well in terms of the overall average for NHS Scotland for both of these measures. This is an improvement from the position reported in the Q2 report.
- Prospective SAB, CDI and ECB data with origin of infection is available to clinical staff via MicroStrategy IPC dashboard. SSI surveillance was incorporated onto the platform in December 2021. This ensures frontline clinical teams have access to real time data to inform decisions and actions to reduce healthcare associated infections. This dashboard will continue to be developed.
- The following link is the ARHAI report for the period April to June 2022. This report includes information on GGC and NHS Scotland's performance for [Clostridioides difficile infection, Escherichia coli bacteraemia, Staphylococcus aureus bacteraemia and Surgical Site Infection in Scotland \(windows.net\)](#). The 2023 targets continue to be challenging but the ARHAI report demonstrates that GGC are not outliers in any category presented. Charts within this report, where appropriate, highlight continuous improvement over time. Reduced variability indicate stable systems.
- The fourth issue of the Infection Prevention and Control Quality Improvement Network (IPCQIN) newsletter will be issued to staff via Core Brief in October 2022. This ensures shared learning across the organisation on the improvements implemented thus far by the network.
- COVID-19 activity continued during this quarter. IPCT are working closely with colleagues to support the implementation of national guidance in practice. ARHAI have updated the publication of COVID-19 data to exclude community onset cases and no longer report on hospital admissions by NHS Board. To date, in NHSGGC, there have been over 495,000 confirmed positive cases reported.
- The Board's cleaning compliance is 95% and Estates compliance is 97% for the Quarter.
- Close communication with ARHAI and other external organisations continues, with contributions from several members of the IPCT to National Groups.

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 Annual Operational Plan (AOP) Standards 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 once considered by CCGC.

8. Date Prepared & Issued

Prepared on 18 October 2022

Issued on 18 October 2022

Healthcare Associated Infection Summary – July - September 2022

The HAIRT Report is the national mandatory reporting tool and is presented quarterly 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 Healthcare Associated Infection Standards and performance measures. This section of the report focuses on NHSGGC Board-wide prevention and control activity and actions.

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

	Jul 2022	Aug 2022	Sep 2022	Status toward AOP target (based on trajectory to Mar 2023)
Healthcare Associated <i>Staphylococcus aureus</i> bacteraemia (SAB)	25	37	23	Aim is 23 per month
Healthcare Associated <i>Clostridioides difficile</i> infection (CDI)	18	19	13	Aim is 17 per month
Healthcare Associated <i>Escherichia coli</i> bacteraemia (ECB)	45	58	51	Aim is 38 per month
Hospital acquired IV access device (IVAD) associated SAB	7	10	6	
Healthcare associated urinary catheter associated ECB	12	12	11	
Hand Hygiene	97	97	97	
National Cleaning compliance (Board wide)	95	95	95	
National Estates compliance (Board wide)	97	97	97	

Key infection control challenges (relating to performance)**Staphylococcus aureus bacteraemia**

- There were 25 healthcare associated SAB in July; 37 in August and 23 in September. Aim is 23 or less per month.

Clostridioides difficile infection

- There were 18 healthcare associated CDI in July; 19 in August and 13 in September. Aim is 17 or less per month. GGC is **below HCAI Standard** aim for the quarter.

Escherichia coli bacteraemia

- There were 45 healthcare associated ECB in July; 58 in August and 51 in September. Aim is 38 or less per month.

SAB, CDI and ECB case numbers remain within SPC chart control limits this period.

Surgical Site Infection Surveillance

- Surveillance was paused nationally (CNO letter 25th March 2020) however, NHSGGC continued to sustain SSI surveillance until December 2021, when it was paused locally due to the surveillance nurses being deployed to support the vaccine rollout programme.
Surveillance recommenced on 1st February 2022.

Healthcare Associated 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.

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

	Jul 2022	Aug 2022	Sep 2022
Total	25	45	25
Hospital *	19	26	18
Healthcare*	6	11	5
Community	6	8	2

HCAI monthly Aim for Hospital and Healthcare is 23 patient cases.

Healthcare associated *S. aureus* bacteraemia total for the rolling year October 2021 to September 2022 = 308.

HCAI yearly aim is **280**.

***Hospital and Healthcare are the cases which are included in the Scottish Government (SG) reduction target.**

Comments:

- There was an increase in the overall SAB cases in August 2022 with 45 cases in total, however this has reduced in September. SAB Cases remain within control limits.
- The number of Healthcare Associated Infection (HCAI) SAB cases have been variable but within expected limits since 2020. September HCAI cases have returned to within expected limits with 23 cases.
- Community cases have shown a reduction since March 2021. Cases remain within control limits with minimal variation which indicates a stable system.
- 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 report.
- There have been 23 SAB cases associated with an IVAD in Q3-2022. There are now local SAB reduction groups in each of the geographical sectors and Regional Services as part of the IPCQIN.
- Information (including source if known) for all acute hospital cases are available in real time on the MicroStrategy IPC dashboard.

<i>E.coli</i> bacteraemia (ECB)			
	Jul 2022	Aug 2022	Sep 2022
Total	89	104	95
Hospital *	22	27	33
Healthcare*	23	31	18
Community	44	46	44

HCAI Aim for Hospital and Healthcare is 38.

Healthcare associated *E. coli* bacteraemia total for the rolling year October 2021 to September 2022 = 535.

HCAI yearly aim is **452**.

***Hospital and Healthcare are the cases included in the SG reduction target.**

Comments:

- There has been an increase in ECB overall cases for this current quarter.
- There was an increase in Healthcare Associated ECB cases in August and a slight reduction in September cases. Enhanced surveillance of ECB continues and is prospectively available to view by clinicians on Microstrategy.
- There has also been a slight increase in monthly community onset cases this quarter, although minimal variability.
- Urinary catheters remain a high risk factor for ECB, and were associated with 23% of all healthcare associated cases this quarter.
- SPC charts for healthcare associated cases related to a urinary catheter are now included in each Acute Sector monthly report.
- Ward level data of entry point of bacteraemia is also available via MicroStrategy. This provides real time information to Senior Charge Nurses 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)
- Local reduction aim charts have been produced for GGC as a whole and for the five Acute sectors. The IPC Work Plan for 2022/2023 includes the development of tools to assist clinical teams to reduce the incidence of *E. coli* bacteraemia.

<i>Clostridioides difficile</i> infection (CDI)	
	<p>Healthcare associated <i>Clostridioides difficile</i> total for the rolling year October 2021 to September 2022 = 193 (Below aim)</p> <p>HCAI yearly aim is 204.</p> <p>* Hospital, Healthcare & Indeterminate are the cases</p>

	Jul 2022	Aug 2022	Sep 2022
Total	25	26	21
Hospital *	12	15	8
Healthcare*	6	2	3
Indeterminate*	-	2	2
Community	7	7	8

which are included in the SG reduction target.

HCAI aim for Hospital and Healthcare and Indeterminate onset is 17.

Comments:

- There has been a reduction in overall CDI cases from October 2021 to date. The IPCT continues to closely monitor and implement local actions in any area with higher than expected numbers.
- There has been a **18% reduction** in healthcare associated CDI cases in 2022 to date (n=143), compared to the same period in 2021 (n=174).
- Community acquired cases increased slightly in 2021, however remained within control limits.

Micro-Strategy and ICNet – prospective tailored data provision on SAB, CDI, ECB and SSI Surveillance

IPC have been working collaboratively with eHealth colleagues to incorporate several measures into the MicroStrategy dashboard. These went live in May 2021.

This has enabled staff to quickly view real time information on SAB, CDI and ECB from point of care to Board level. The software platform has the benefits of providing users with the ability to view all key quality indicators in one screen to get a quick overview of performance in real-time and also easily interpret detailed information with data graphics.

Security access for each specific user will allow tailored access to interactive dossiers for each ward area. The system provides functionality to filter reports seamlessly for the users and the capacity to view trends over time in order to monitor improvement in the reduction of HCAI cases in NHSGGC.

This will allow SCNs in the Acute Sector to access their own ward level data on each of the three measures. Lead Nurses, Clinical Service Managers and General Managers will have access to the wards and hospitals included in their remit.

Acute Directors, the Chief Operating Officer and Chief Executive will also be able to view this information via the suite of reporting tools. Surgical Site Infection (SSI) surveillance information was also incorporated into the platform in December 2021.

This provides information and data on surgical procedures included in the SSI programme to the respective surgical clinicians in real time.

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>

There was one death in July 2022 and four in August 2022 where hospital acquired *Clostridioides difficile* was recorded in one of the parts of the patient's death certificate. These were all considered to be antibiotic associated and not due to cross infection (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.

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

Hand Hygiene Monitoring Compliance

NHSG GC	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022	July 2022	Aug 2022	Sept 2022
Board Total	98	97	98	98	97	98	98	98	97	97	97	97

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 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 continue to meet and the three main work streams are progressing.

Below is the fourth issue of the network's Newsletter which was shared with staff in October 2022.



4th Issue - IPCQIN Network Newsletter

COVID-19

NHS Scotland is now experiencing its most recent wave of COVID-19. At time of reporting, in NHSGGC there have been over **495,000** confirmed positive cases.

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This data is publically available at: [Daily COVID-19 Cases in Scotland - Total Cases By Health Board - Scottish Health and Social Care Open Data \(nhs.scot\)](https://nhs.uk/open-data/daily-covid-19-cases-scotland)

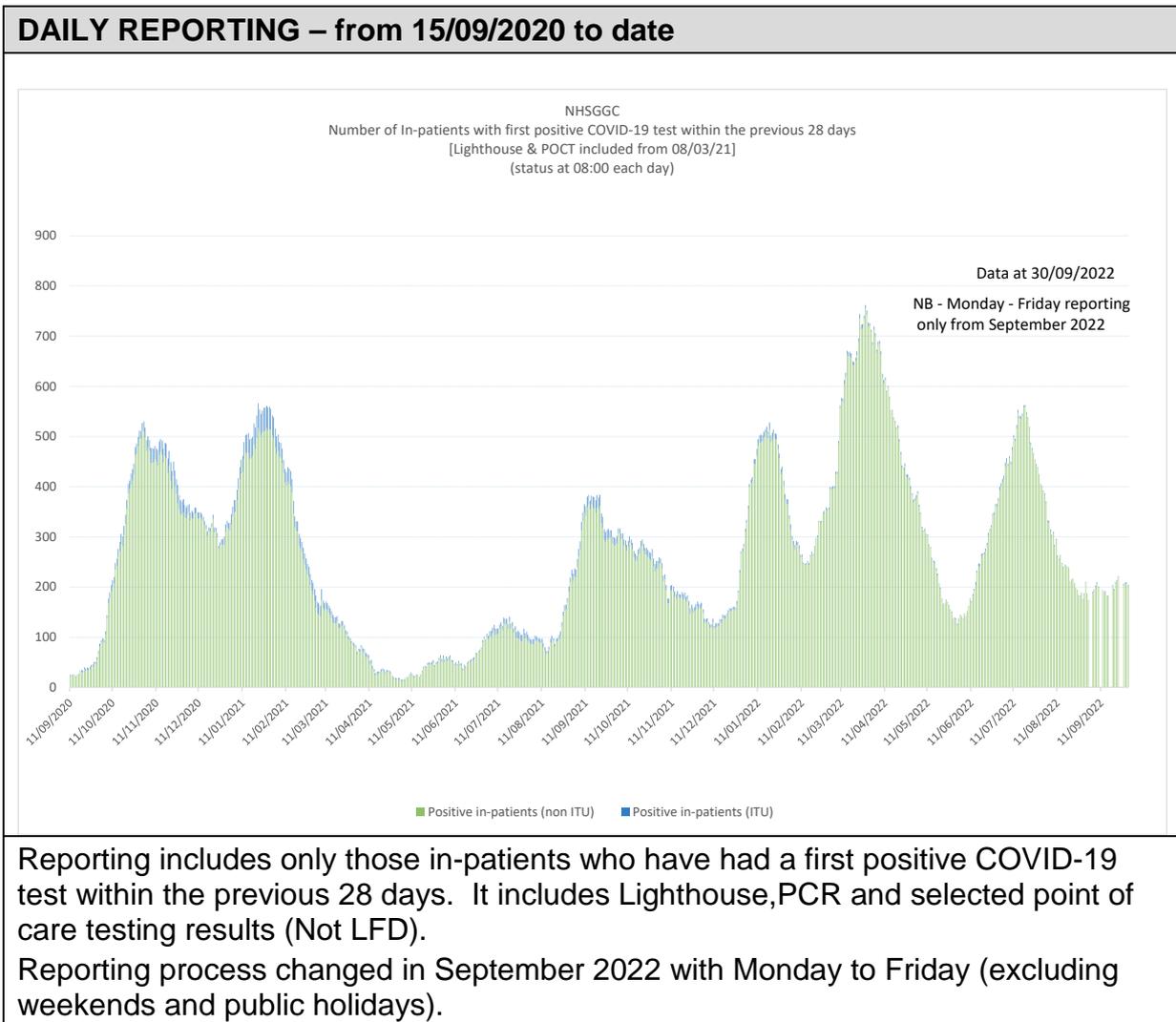
This has continued to be a significant wave in terms of inpatient activity, with an average of 324 in-patients per day over the quarter, however ICU in-patient activity has been very low.

As well as the IPCNs providing advice and expertise to the local clinical teams, the IPCT monitor all COVID-19 positive cases in hospital to assist with both national and local data collection.

The bar graph displays the number of in-patients across all GGC hospitals who tested positive for COVID-19. In blue is the number of people in intensive care areas. Data correct as of 30th September 2022.

Please note there has been significant changes to testing requirements, as per DL(2022)32. Details of these changes be viewed here [www.sehd.scot.nhs.uk/dl/DL\(2022\)32.pdf](https://www.sehd.scot.nhs.uk/dl/DL(2022)32.pdf)

Further information on the revisions to testing and reporting are available at: [Why we are changing our COVID-19 reporting - Our blog - Public Health Scotland](#)



Public Health Scotland now publish weekly reports on the incidence of COVID-19 in Scotland. These are available at: <https://beta.isdscotland.org/find-publications-and-data/population-health/covid-19/covid-19-statistical-report/>

Further information on Coronavirus (COVID-19) data, intelligence and guidance is available at:

<https://www.publichealthscotland.scot/our-areas-of-work/sharing-our-data-and-intelligence/coronavirus-covid-19-data-and-guidance>

Ward closures due to COVID-19												
There were 67 ward closures this quarter for COVID-19.												
Month	Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Apr 2022	May 2022	Jun 2022	July 2022	Aug 2022	Sept 2022
Ward Closures	21	14	28	65	41	84	47	13	36	36	21	10
Bed Days Lost	1892	1305	1699	3262	2087	3576	1582	526	1834	1545	809	620

Outbreaks or Incidents in Quarter 3 2022

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).

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HIIAT GREEN - 18 reported for July, 9 for August and 7 for September 2022
HIIAT AMBER - 15 reported for July, 6 for August and 3 for September 2022
HIIAT RED - 6 reported for reported for July, 5 for August and 4 for September 2022
(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)

Queen Elizabeth University Hospital, Philipshill (Spinal Injury Unit) – *Klebsiella pneumoniae* (CPE)

Three patients were identified as positive for *Klebsiella Pneumoniae* (CPE) (2x HAI). The incident was assessed many times over the period it was under review but in summary it was assessed as AMBER on 29th July 2022 using the Healthcare Infection Incident Assessment Tool (HIIAT), then GREEN on 26th August 2022 and closed on 12th September 2022 as after implementation of agreed control measures there were no further cases. Typing results indicated the isolates were related which suggests possible staff or equipment to patient transmission.

Investigations

- All new admissions were being screened for a period of 4 weeks.
- Environmental screening identified 1 positive result; shower floor of room 8 (this was a room in which a positive patient was cared for).
- ICD has undertaken an antimicrobial ward round; 1 issue identified was use of prophylactic antibiotics for catheter change, advice has been given to the ward regarding current guidance with regards to this practice.
- Patient hand hygiene training has been undertaken.

Control Measures

- Twice daily cleaning of ward was implemented until the screening had been completed.
- Transmission based precautions are in place for positive patients as per NIPCM.
- Increased frequency of domestic audits
- Drain cleaning has been carried out every Wednesday for the past 2 years with a chlorine based solution 10,000 parts per million.
- Education sessions are planned and will be undertaken as soon as possible.
- Signage for CWHB was provided by IPCT to ensure that these sinks are only used for hand hygiene.
- Peer and IPCT SICPs Audits are ongoing.

Information has been shared with patients and family re additional screening being undertaken. Incident was closed on 12/09/2022 as no further cases were identified.

Inverclyde Royal Hospital, Endoscopy Unit – *Exophiala dermatitidis*

Three patients had *Exophiala dermatitidis* isolated from BAL samples within a 2 week period in the Endoscopy Unit. All three patients have been attending as outpatients and there has been no epidemiological link established between them.

E. dermatitidis is a ubiquitous organism and is also known as black yeast, it can be isolated from air, soil, water and other environmental sources. Colonization in patients who are immunocompromised or who have severe underlying diseases can lead to clinical infection. This is unusual situation for this unit and the assessment of the clinical presentation was that it was most probably either colonisation or contamination of the samples. All critical aspects of endoscopy procedures were reviewed. There has been no evidence thus far to suggest contamination had occurred at any stage of the endoscopy process but the limitations of investigation and testing process have to be acknowledged.

The incident was assessed as **AMBER** on 24th August 2022 using the Healthcare Infection Incident Assessment Tool (HIIAT), then **GREEN** on 7th September 2022 as after implementation of agreed control measures, there were no further cases.

Investigations and Control Measures:

- The Lancer cabinets in the Endoscopy unit were sampled and no *Exophiala sp.* was found, however, it was noted that a residue was present in the units. Despite the negative sampling it was agreed that these units would not be used until an engineering assessment has been completed.
- Air sampling was undertaken within the Lancer cabinets due to the presence of this residue. No *Exophiala sp.* was found.
- No lab contamination was suspected, however, processes were reviewed and thorough cleaning of the lab carried out.
- All bronchoscopes used in IRH were sampled to simulate BAL process with saline. Samples were sent to GRI Microbiology Lab for culture. BAL simulation fluid tested – no *Exophiala sp.* found.
- Bath 3B and 2B were not used for decontamination of high risk (invasive) endoscopes until the results of the final rinse water were available. Results were received and were within expected limits and no *Exophiala sp.* found.
- Routine monitoring of the environment and process will continue.

All patients were informed of their results. There have been no further cases. All critical points of endoscopy process were reviewed and no evidence of contamination found. Endoscopy procedures have resumed and the Incident has been closed.

Glasgow Royal Infirmary, ITU and Wards 8, 44, 47 and 64 - Linezolid Resistant VRE (*Enterococcus faecium*)

There has been an observed increase in the number of cases of Linezolid Resistant VRE (*Enterococcus faecium*) in GRI between February and September 2022. An incident management meeting was held on 29th June 2022 to investigate 9 cases and the incident was assessed as **GREEN** using the Healthcare Infection Incident Assessment Tool (HIIAT) and it remained **GREEN** until 25th August when it was closed. The incident was reopened on 1st September 2022 due to 3 new cases but the HIIAT remained **GREEN**. An Incident Management meeting was held on 28th September 2022 where the incident was escalated to **AMBER** due to 3 new possible cases. The incident was then de-escalated to **GREEN** as 2 of the 3 possible cases were excluded as samples were repeated by the lab but the organism was not found in the results. The incident remains open and under review but there will be no more meetings held unless new cases are identified.

Investigations and Control Measures that remain in place:

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- Admissions screening and weekly screening to ICU will continue for a 3 months period from the last positive case on 24/08/22.
- Further environmental sampling in ITU East was completed 27/09/22 – 20 samples obtained, all negative.
- Environmental sampling carried out in ward 44 28/09/22 – 20 samples obtained, all negative.
- Environmental sampling carried out in ward 8 29/09/22 – 20 samples obtained, all negative.
- Second enhanced daily clean of ICU was commenced and continues.
- Senior leadership team for North Sector have re-issued staff communications regarding compliance with hand hygiene and dress code.
- Staff in ITU, 64 and 44 continue to highlight precautions required via safety briefs/handovers.
- HPV cleaning to be carried out when all patients have been discharged.

2 patients remain in hospital in GRI. They are isolated in a single room with TBPs in place. Neither is reported to be giving cause for concern as a direct result of LRVRE, Neither is currently on antimicrobial therapy for LRVRE.

Greater Glasgow & Clyde COVID-19 Incidents:

During this quarter there were 37 outbreaks of COVID 19 which scored either **AMBER** (22) or **RED** (15). 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. National guidance has been implemented for all incidents and outbreaks as per the NIPCM (COVID 19 Appendix 21 – Pandemic Controls for Acute NHS Settings including Scottish Ambulance Service (SAS) Dental Services).

Sector	GRI	QEUH	GGH	RAH	VoL
COVID-19 (RED HIIAT)	3	3	3	5	1

Healthcare Environment Inspectorate (HEI)

There was an unannounced inspection to QUEH in June 2022. It is expected that the report from this visit will be published in November.

All HEI reports and action plans 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. 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

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assessment to provide assurance of effective screening and report this nationally. The national expectation of compliance is **90%**.

Last validated quarter Apr-Jun 2022		NHSGGC 91% compliance rate for CPE screening	Scotland 79%
		NHSGGC 88% compliance rate for MRSA screening	Scotland 80%
Current local quarter Jul-Sep 2022		NHSGGC 91 % compliance rate for CPE screening	Scotland tbc
		NHSGGC 91 % compliance rate for MRSA screening	Scotland tbc

Please note the improved compliance with this KPI.

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
CPE	Carbapenemase producing Enterobacteriaceae
CVC	Central Venous Catheter
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
SSI	Surgical Site Infection
UCC	Urinary Catheter Care
UTI	Urinary Tract Infection
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.

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.

***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>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). <i>[This will be attributed to hospital of surgical procedure]</i></p>
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	<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>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>

Healthcare Associated 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.

***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 extended due to the pandemic and is now to be achieved by 2023.

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 Hickman 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.

Continual monitoring and analysis of local surveillance data, enables the IPCT and local teams to identify and work towards ways to reduce infections associated with IVADs. All SABs/ECBs are reviewed and investigated fully and highlighted to the patients' clinicians, nursing staff and management colleagues. Where appropriate, a DATIX is generated for infections so learning is shared and discussed at local clinical governance meetings.

Healthcare Associated Infection Standards – local reduction aims

- *S. aureus* bacteraemia – reduction of 10% from 2019 to 2023

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

	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	2023	17.4	280	23

Sector/Directorate local reduction aims – July - September cases

	Patient cases	Aim per Quarter	Status
Clyde Sector	16	14	Above aim
North Glasgow Sector	18	17	Above aim
Regional Services	13	13	On aim
South Glasgow Sector	31	22	Above aim
Women's & Children	7	4	Above aim
GGC Total	85	69	Above aim

Sector/Directorate reports are issued for action by IPCT Sector/Directorate teams.

Information (including source if known) for all acute hospital cases are available in real time on the MicroStrategy IPC dashboard.

***Escherichia coli* bacteraemia (ECB)**

NHSGGC's approach to ECB prevention and reduction

E. coli is one of the most predominant organisms 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 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 *E. coli* 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.

Healthcare Associated Infection Standards – local reduction aims

- *E.coli* bacteraemia – initial reduction of 25% by 2021/2023

Local reduction aim charts have been produced for GGC as a whole and for the five Acute sectors. The IPC Work Plan for 2022/2023 includes the development of tools to assist clinical teams to reduce the incidence of *E. coli* bacteraemia.

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	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
ECB	38.1	638	25	2023	28.6	452	38

Sector/Directorate local reduction aims – July – September cases

	Patient cases	Aim per Quarter	Status
Clyde Sector	40	27	Above aim
North Glasgow Sector	47	35	Above aim
Regional Services	10	12	Below aim
South Glasgow Sector	54	35	Above aim
Women’s & Children	3	4	Below aim
GGC Total	154	113	Above aim

Information (including source if known) for all acute hospital cases are available in real time on the MicroStrategy IPC dashboard.

***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 2019-2023 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
<i>Hospital acquired CDI</i> is defined as when a CDI patient has had onset of symptoms at least 48 hours following admission to a hospital.
<i>Healthcare associated CDI</i> is defined as when a CDI patient has had onset of symptoms up to four weeks after discharge from a hospital.
<i>Indeterminate cases of CDI</i> is defined as a CDI patient who was discharged from a hospital 4-12 weeks before the onset of symptoms.
<i>Community associated CDI</i> 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. 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.

Healthcare Associated Infection Standards – local reduction aims *C. difficile* – reduction of 10% from 2019 to 2023

	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
CDI	19.0	318	10	2023	17.1	204	17

Sector/Directorate local reduction aims – July - September cases

	Patient cases	Aim per Quarter	Status
Clyde Sector	7	15	Below aim
North Glasgow Sector	16	15	Above aim
Regional Services	10	5	Above aim
South Glasgow Sector	13	15	Below aim
Women’s & Children (age ≥ 15 yr)	0	1	Below aim
GP specimens	4	-	n/a
GGC Total	50	51	Below aim

Information on all Acute hospital cases are available on Micro-Strategy.

Surgical Site Infection (SSI) Surveillance

SSI surveillance is the monitoring and detection of infections associated with a surgical procedure. In GGC the procedures included are hip arthroplasty, caesarean-section, 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.

SSIS in spinal and cranial surgery in the Institute of Neurological Sciences (QEUEH campus) is currently paused, however the service is in the process of recruiting a dedicated surveillance nurse to re-establish the INS surveillance programme.

The IPC surveillance team 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.

National SSIS remains paused.

NHSGGC’s Approach to SSI Prevention and Reduction

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 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 September 2022.

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>

COVID-19

Public Health Scotland now publish weekly reports on the incidence of COVID-19 in Scotland. These are available at: <https://beta.isdscotland.org/find-publications-and-data/population-health/covid-19/covid-19-statistical-report/>

Further information on Coronavirus (COVID-19) data, intelligence and guidance is available at: <https://www.publichealthscotland.scot/our-areas-of-work/sharing-our-data-and-intelligence/coronavirus-covid-19-data-and-guidance>