

NHS Ayrshire & Arran



Meeting:	Ayrshire and Arran NHS Board
Meeting date:	Monday 4 December 2023
Title:	Healthcare Associated Infection Report
Responsible Director:	Jennifer Wilson, Nurse Director
Report Author:	Claire Pugh, Senior Infection Prevention and Control Nurse Alison Chandler, Business Manager, Infection Prevention and Control Team

1. Purpose

This is presented to the Board for:

- Discussion

This paper relates to:

- Annual Operational Plan

This aligns to the following NHSScotland quality ambition(s):

- Safe

2. Report summary

2.1 Situation

This paper provides Board members with the current position against the National Healthcare Associated Infection (HCAI) Standards and reflects national HAI performance data for Quarter 1 2023-24 for discussion and assurance.

2.2 Background

On 28 February 2023, the DL (2023) 06 *Further Update on Standards on HCA Infections and Indicators on Antibiotic Use and Changes to Hospital Onset COVID-19 Reporting*, was released. This further extended the previous targets by another year. It also established that the previous 50% reduction of ECBs was unrealistic and adopted a 25% reduction target based on an assessment of what can reasonably be achieved.

The following quarterly data covers the time-period April to June 2023. The annual data for 2022-23 is also presented.

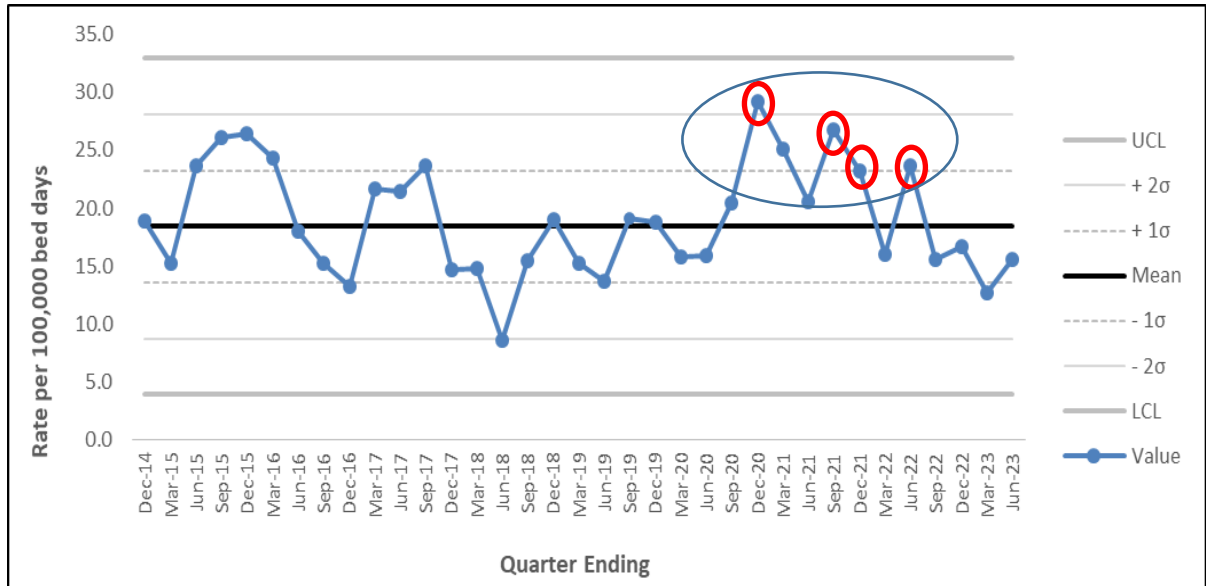
2.3 Assessment

***Clostridioides difficile* Infection (CDI) Standard**

The CDI target is a reduction of 10% in the national rate of HCA CDI for the year ending March 2024, with 2018-19 used as the baseline.

Infection	Baseline Rate 2018-19 (per 100,000 Total Occupied Bed Days (TOBDs))	2023-24 Target (per 100,000 TOBDs)	Annual Rate Year Ending March 2023 (per 100,000 TOBDs)	Quarterly Rate April-June 2023 (per 100,000 TOBDs)
<i>Clostridioides difficile</i> Infection	14.5	13.0	17.1	15.6 (18 cases) Increase from 12.7 (15 cases) previous quarter

The Board's verified HCA CDI rate for April – June 2023 (**Figure 1**).



● Exception reports

Figure 1 – Quarterly HCA CDI Rate (ARHAI data)

Figure 2 provides the Board's position in comparison to the rest of Scotland. NHS Ayrshire & Arran's (NHSAA) rate of 15.6 is well within the 95% confidence interval upper limit, and below the Scottish mean rate 16.1.

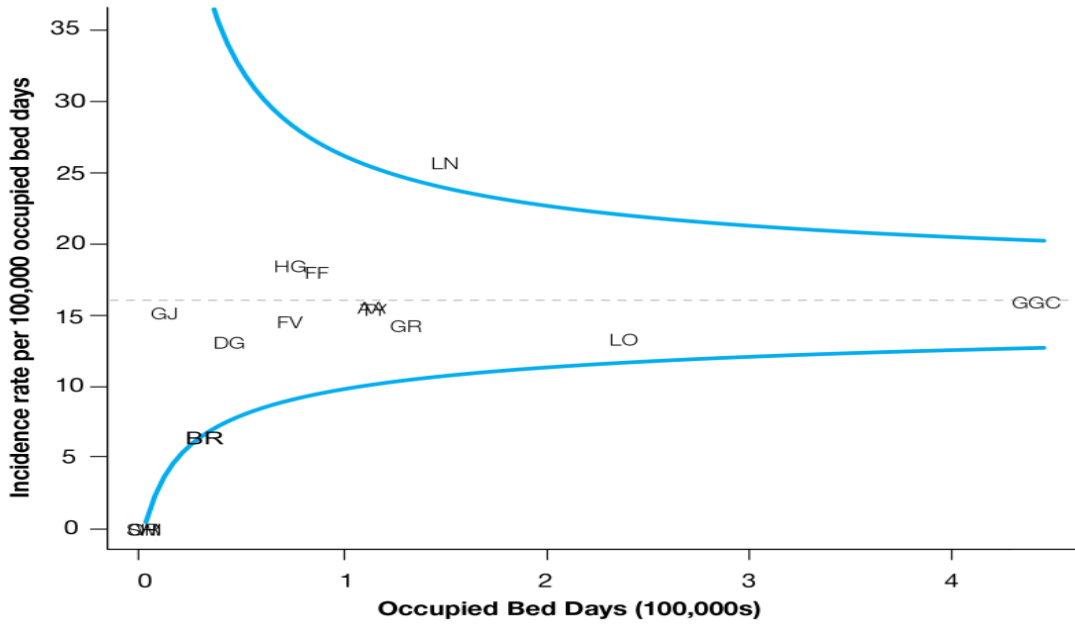


Figure 2 – Funnel plot of CDI incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS Boards in Scotland April – June 2023

The verified rolling annual rate for year ending June 2023 was 15.1. This compares with a year ending rate of 22.3 for June 2022 (**Figure 3**).



Figure 3 – Rolling Annual HCA CDI Rate vs National Standard

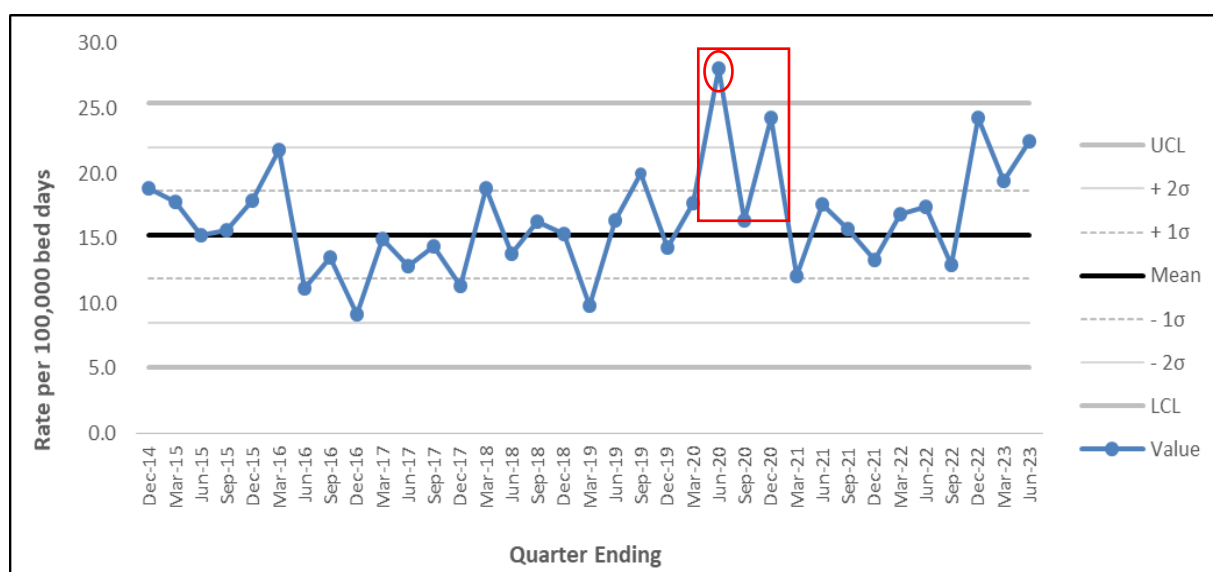
Staphylococcus aureus bacteraemia (SAB) Standard

The SAB standard is a reduction of 10% in the national rate of HCA SABs by year end March 2024, with 2018-19 used as the baseline.

Infection	Baseline Rate 2018-19 (per 100,000 Total Occupied Bed Days (TOBDs))	2023-24 Target (per 100,000 TOBDs)	Annual Rate Year Ending March 2023 (per 100,000 TOBDs)	Quarterly Rate April-June 2023 (per 100,000 TOBDs)
Staphylococcus aureus bacteraemia	13.8	12.4	18.6	22.5 (26* cases) Increase from 19.4 (23 cases in previous quarter)

*Note that the Infection Prevention and Control Team (IPCT) have requested further detail from ARHAI Scotland as locally we have 28 HCA cases recorded (16 Hospital acquired and 12 healthcare associated).

The Board's verified rate for the April- June 2023 quarter was 22.5 (**Figure 4**).



● Exception reports

Figure 4 – SABs Quarterly HCA Rate

Figure 5 provides the Board's position in comparison to the rest of Scotland. NHS AA rate of 22.5 is within the 95% confidence interval upper limit, however, is above the Scottish mean rate 18.3.

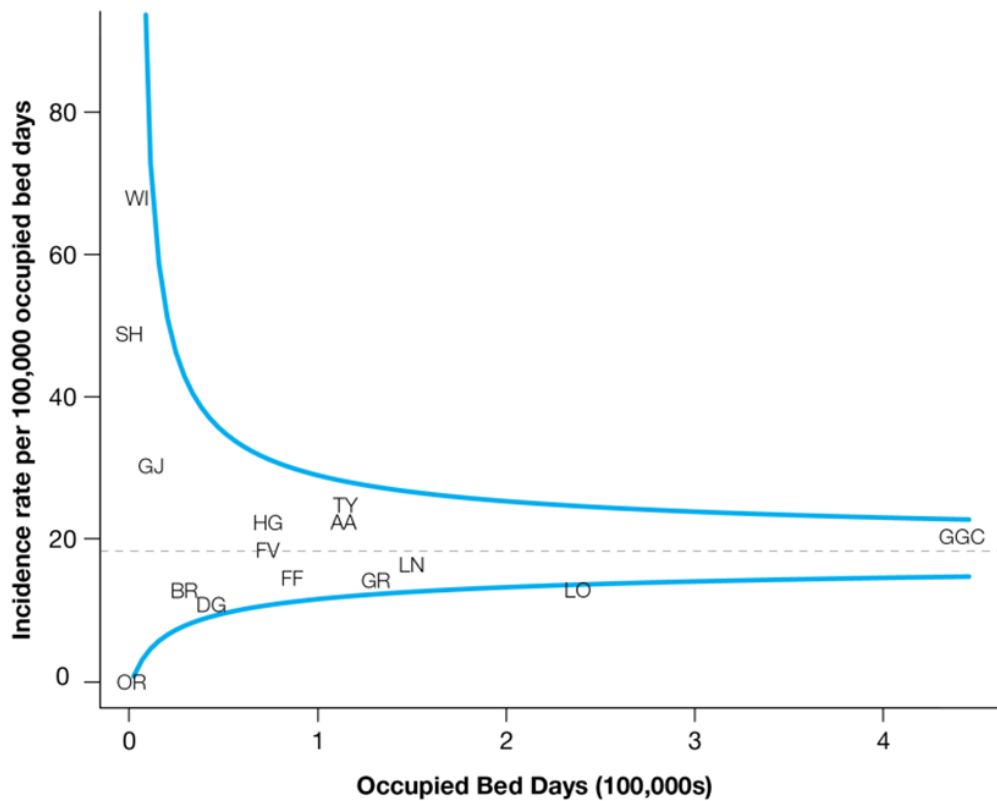


Figure 5 – Funnel plot of SAB incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS Boards in Scotland in April – June 2023

The Board’s verified rolling annual rate was 19.8 for year ending June 2023. This compares to a year ending rate of 15.9 June 2022 (**Figure 6**).

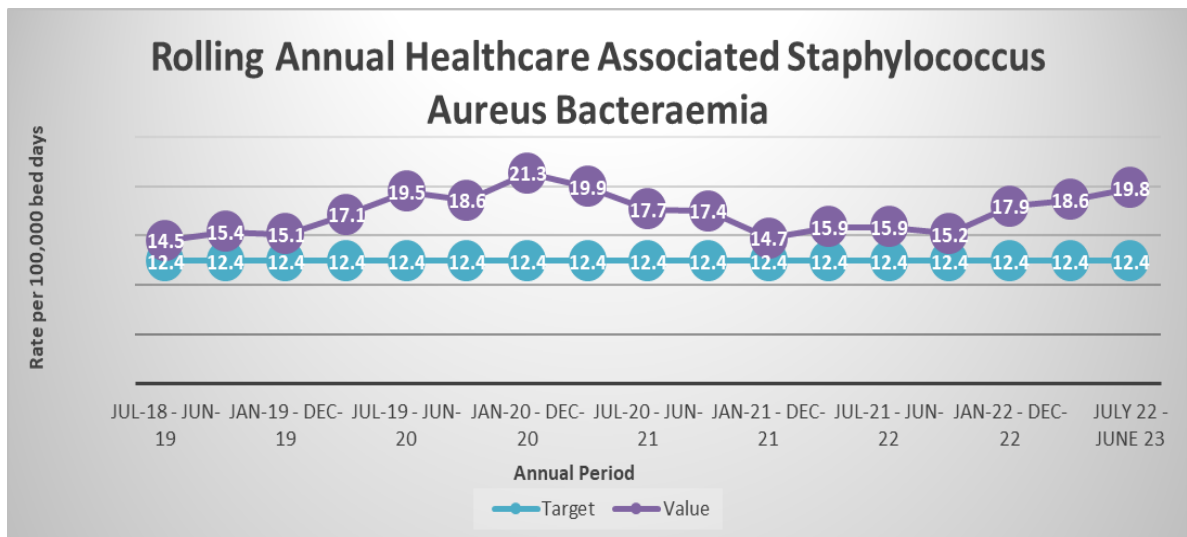


Figure 6 - Rolling Annual HCA SAB rate vs National Standard

There are 28 HCA SAB cases this quarter. Of the 28 HCA cases there were;

- 16 (57%) Hospital Acquired
- 12 (43%) Healthcare Associated

Identification of the probable source can support the IPCT identify areas of intervention in particular those associated with invasive devices. A DATIX is completed by the IPCT for all those associated with an invasive device.

The IPCT will continue to carry out enhanced surveillance as per the national enhanced surveillance protocol. Twice monthly meetings are scheduled for the IPCT to discuss findings with a Microbiology Consultant.

There has been an increase in device related SAB within the renal units recently. The IPCT have undertaken observations of practice within the renal areas and found areas for improvement, for example not leaving the skin preparation on for the recommended 3 minutes. A review meeting is being held with the renal team and IPCT to ensure a thorough review of all SAB cases is undertaken.

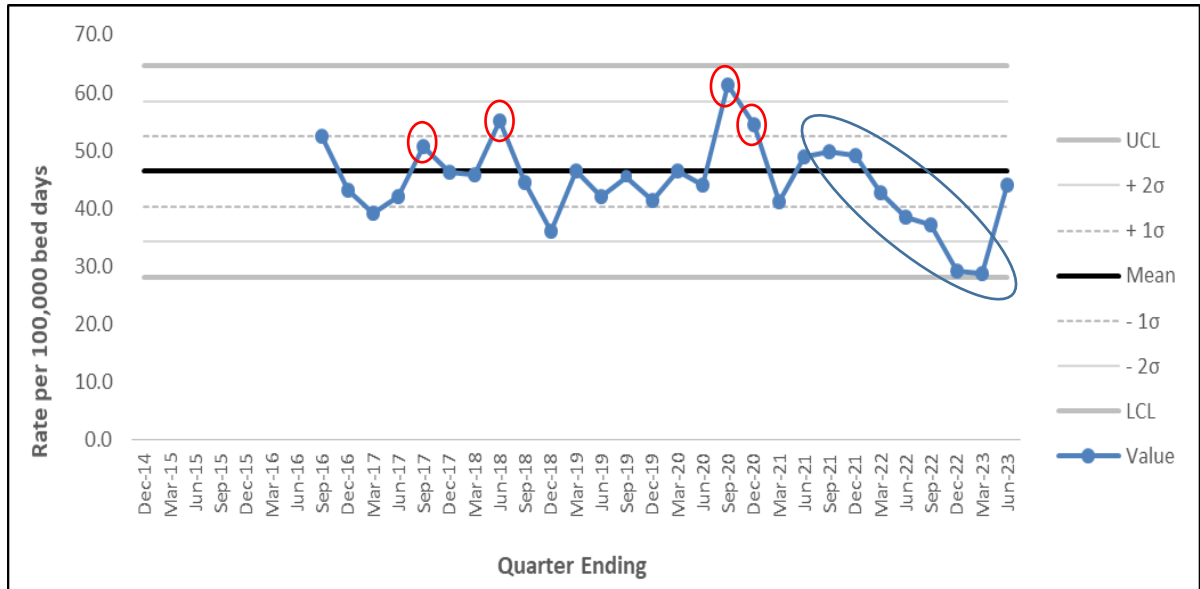
E coli bacteraemia (ECB) Standard

The ECB standard is a reduction of 25% in the national rate of HCA ECBs by year end March 2024, with 2018-19 used as the baseline.

Infection	Baseline Rate 2018-19 (per 100,000 Total Occupied Bed Days (TOBDs))	2023-24 Target (per 100,000 TOBDs)	Annual Rate Year Ending March 2023 (per 100,000 TOBDs)	Quarterly Rate April-June 2023 (per 100,000 TOBDs)
E coli bacteraemia	45.7	34.3	36.4	44.1 (51 cases)* Increase from 28.7 (34 cases) the previous quarter*

*As previously reported some community data was incorrectly assigned impacting the data for quarter 4 2022-23 and quarter 1 2023-24. This has been reported to ARHAI, and this revised data appears to show reversion to the mean, following data correction.

Yearly trends (comparing year-ending June 2022 with year-ending June 2023) show that there was a decrease in both community associated and healthcare associated cases NHS Ayrshire & Arran.



● Exception reports

Figure 7 – Quarterly Healthcare Associated ECB Rate

Figure 8 provides the Board’s position in comparison to the rest of Scotland. NHS AA’s rate of 44.1 is within the 95% confidence interval upper limit and the data correction has reverted the Board rate to just below the Scottish mean rate.

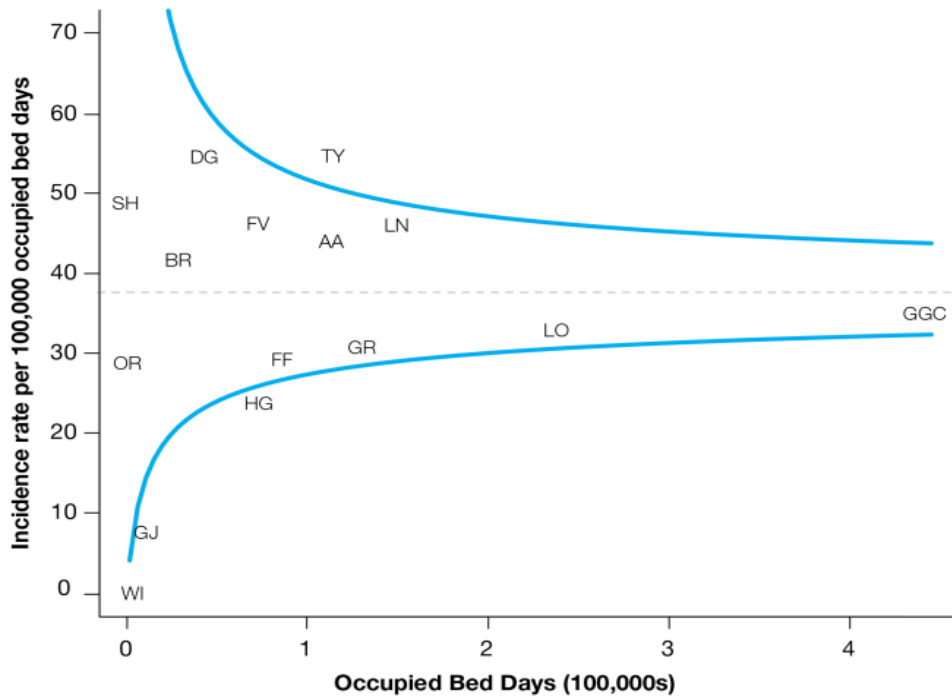


Figure 8 – Funnel plot of ECB incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS Boards in Scotland in April - June 2023

The Board’s verified **annual** HCA rate for the year ending March 2023 was 36.4.

Comparing year ending June 2022 to year ending June 2023, the largest reductions has been in cases of pneumonia and pyelonephritis. Further work is required to better understand this reduction to ensure these are maintained.

The Urinary Catheter Improvement Group continue to meet to establish improvement measures around insertion and maintenance of urinary catheters. This will contribute to a further reduction in cases within 2023-24.

Community Acquired ECB Rate

There are currently no targets for community associated ECB.

The Board was previously briefed about the incorrect assignment of HCAI ECB from Q4 2022-23, which have been incorrectly assigned as CAI ECB. The data has now been amended by ARHAI.

Quarter	Apr – Jun 22	Jul – Sept 22	Oct – Dec 22	Jan – Mar 23	Apr – Jun 23
No of ECB	54	43	51	46	48

Figure 9 – Number of ECBs per quarter for 2022/23 and 2023/24

Previously ARHAI provided further analysis of community ECB for the Board to explore and it was identified that areas of deprivation had a higher number of cases.

Figure 10 provides the Board’s position in comparison to the rest of Scotland. NHSAA’s rate of 52.2 is within the 95% confidence interval upper limit and is above the Scottish mean rate 37.8.

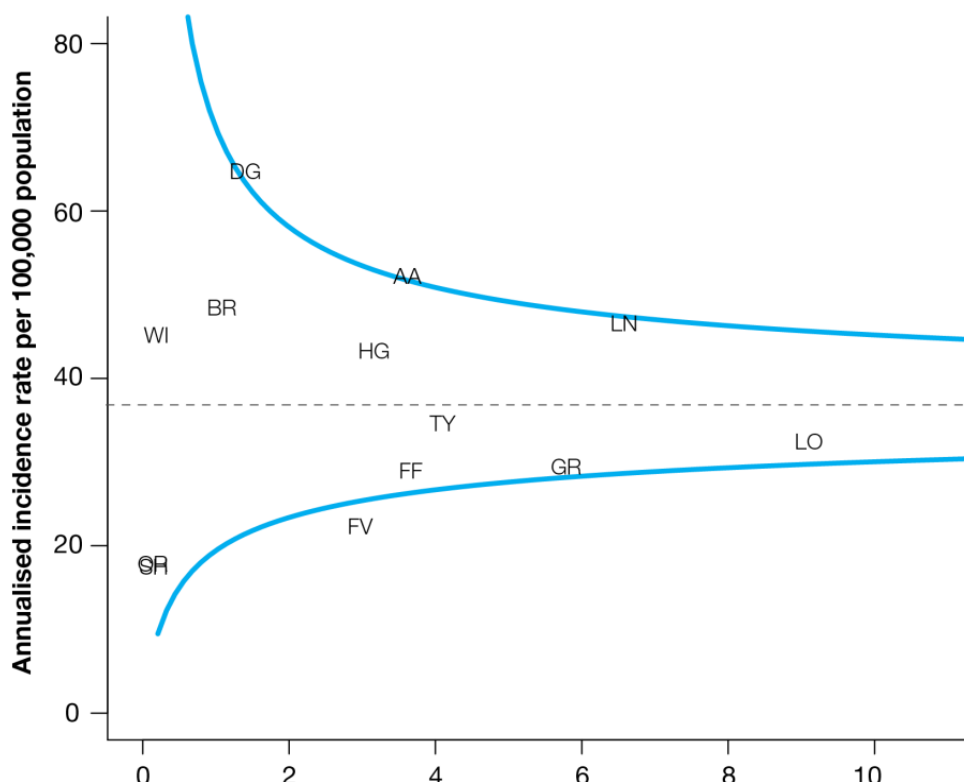


Figure 10 – Funnel plot of ECB incidence rates (per 100,000 population) in community associated infection cases for all NHS Boards in Scotland in April - June 2023

A range of actions are in place as part of the annual work plan to drive down the number and rates of these infections. Progress with these actions is reviewed by the Prevention and Control of Infection Committee (PCOIC).

Hand Hygiene 2022-23

The Infection Control Environmental Audit and Standard Infection Control Precautions (SICPs) Monitoring Framework continues, and findings are presented to the Prevention and Control of Infection Committee as well as being fed back to clinical areas.

Compliance ranged from 70-94% across the different staff groups (**Figure 11**) with an overall compliance of 90%, in comparison to the national standard compliance of 95%.

Month	Apr – Jun 2022	Jul – Sep 2022	Oct – Dec 2022	Jan – Mar 2023	Apr – Jun 2023
IPCT Independent Monitoring Compliance Score	91%	95%	95%	86%	90%
Ward Routine Monitoring Compliance Score	98%	98%	97%	96%	97%

Figure 11 – SICPs Monitoring Framework

Estates and Cleaning Compliance

Figure 12 presents data on compliance with the requirements set out in the NHS Scotland National Cleaning Services Specification (NCSS). The NCSS set out the requirements for the minimum frequency and methods of cleaning carried out by Domestic staff. It sets out the same requirements for Estates staff when cleaning the Estates fabric. All healthcare facilities and component parts e.g. wards, treatment rooms, corridors, etc. are expected to be at least 90% compliant with the requirements set out in the NCSS. The Health Board met the national standard for both Domestic Service and Estates.

	NHS Ayrshire & Arran	Scotland
Domestic Services	95.33%	95.3%
Estates Services	96.96%	96.4%

Figure 12 – Estates and Cleaning Compliance April - June 2023

A robust audit programme structured in line with national requirements is in place: 574 domestic audits were carried out during the period April to June 2023. (**Figure 13**)

At the end of an audit, if the area falls below 90%, a re-audit is carried out. This is undertaken within 21 days if the score is between 70-90% and within 7 days if the score is below 70%.

Sector	Audits Undertaken	Re-audits	Non-scheduled audits	Any below 70%	Domestic	Estates
East	250	5	2	0	95.59%	97.40%
North	70	3	1	0	94.62%	97.71%
South	146	3	0	0	95.26%	95.90%
Total	574	11	3	0	95.33%	96.96%

Figure 13 – Domestic Audits April – June 2023

COVID-19

National reporting requirements changed in March 2023 resulting in Health Boards no longer requiring to validate hospital onset data in relation to COVID-19, and in May 2023 the World Health Organisation declared the global health emergency over.

ARHAI Scotland will continue to monitor epidemiological trends on hospital onset COVID-19 using unvalidated data and will notify Scottish Government and Ministers of any emerging changes to the epidemiology. Health Boards will continue to report COVID-19 clusters as per chapter 3 of the National Infection Prevention and Control Manual.

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

The definition of a COVID-19 positive inpatient has changed in line with Scottish Government guidance from Tuesday 9th May 2023, the definition can be provided upon request.

Figure 14 displays the number of patients across all NHSAA in-patient sites who have tested positive for COVID-19. This data is correct as of 21 October 2023.

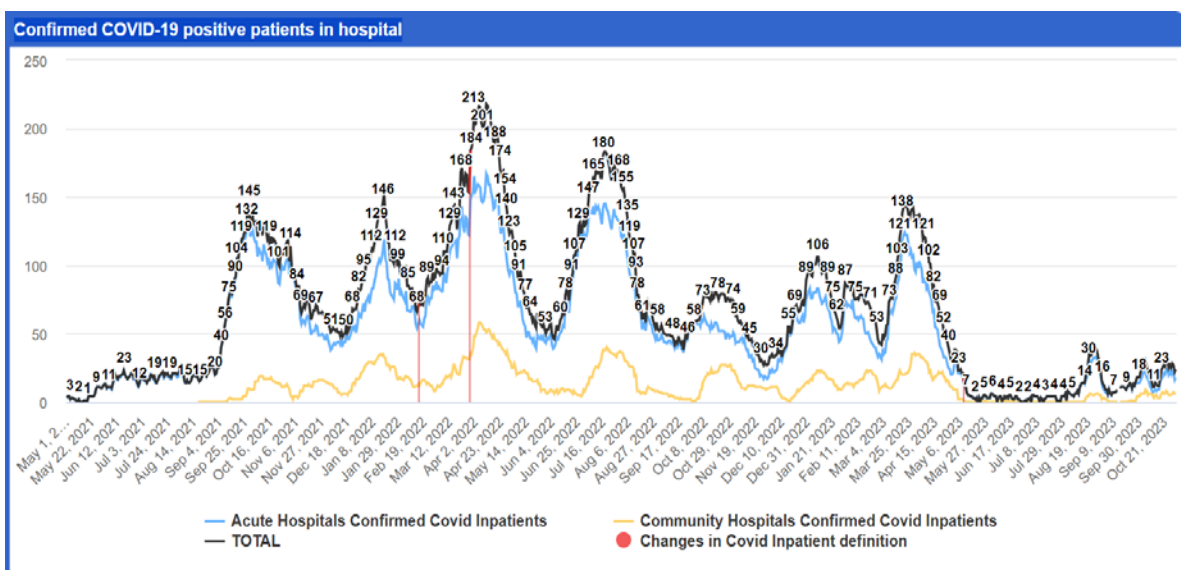


Figure 14 – Confirmed COVID-19 inpatients in hospital sites

Outbreaks

Respiratory outbreak management has continued to have significant impact on the organisation including IPCT resource, though the number of outbreaks has reduced significantly in quarter 1 2023-24.

Month	Apr – Jun 22	Jul – Sept 22	Oct – Dec 22	Jan – Mar 23	April – June 23
COVID	46	38	37	52	17
Influenza	0	0	5	2	0
RSV	0	0	2	1	0
Mixed	0	0	7	0	0
Other	0	0	0	0	1

Figure 15 – Respiratory Outbreak Activity April 22 – June 23

Healthcare Infection Incident Assessment Tool (HIIAT)

The ARHAI Healthcare Infection Incident Assessment Tool (HIIAT) is a tool used by NHS Boards to assess the impact of an outbreak or incident. The tool is a risk assessment allowing Boards to rate each outbreak/incident as **RED**, **AMBER** or **GREEN**. In the event of an outbreak or incident, a Problem Assessment Group (PAG) or Incident Management Team (IMT) meeting is convened and chaired by the Infection Control Doctor with staff from the area concerned, and actions are implemented to control further transmission of infection.

All outbreaks/incidents are reported to ARHAI who onward report to the Scottish Government Health and Social Care Directorate (SGHSCD).

Number of incidents reported to ARHAI (includes COVID) from April - June 2023:

HIIAT **Green** 11
HIIAT **Amber** 6
HIIAT **Red** 1

The Red HIIAT assessment related to a COVID-19 outbreak which has subsequently been closed.

2.3.1 Quality/patient care

Attainment of the national HCAI standards will result in fewer infections in patients and improve patient outcome.

2.3.2 Workforce

Reductions in HCAI will reduce exposure risk to staff from harmful infections.

2.3.3 Financial

Reductions in HCAI will lead to reduced inpatient lengths of stay and associated treatment costs.

2.3.4 Risk assessment/management

The Infection Prevention and Control Team provide clinical teams and managers with risk assessed advice and guidance based on national policy and best practice.

2.3.5 Equality and diversity, including health inequalities

An impact assessment has not been completed as this is an update report to Board members.

2.3.6 Other impacts

No other impacts to note.

2.3.7 Communication, involvement, engagement and consultation

This is a standing report to the Board.

2.3.8 Route to the meeting

This has been previously considered by the following groups as part of its development. The groups have either supported the content, or their feedback has informed the development of the content presented in this report.

- Prevention and Control of Infection Committee, 12 October 2023
- Healthcare Governance Committee, 6 November 2023

2.4 Recommendation

For discussion. Board members are asked to:

1. Scrutinise the current Board position in relation to national HCAI Standards, and note the work in progress to further reduce infections.
2. Confirm the report provides suitable assurance in relation to the HCAI Standards, or request further assurance if necessary.