

# NHS Ayrshire & Arran



<b>Meeting:</b>	<b>Ayrshire and Arran NHS Board</b>
<b>Meeting date:</b>	<b>Tuesday 28 March 2023</b>
<b>Title:</b>	<b>Healthcare Associated Infection Report</b>
<b>Responsible Director:</b>	<b>Jennifer Wilson, Nurse Director</b>
<b>Report Author:</b>	<b>Sharon Leitch, Interim Associate Nurse Director Infection Prevention and Control</b> <b>Alison Chandler, Business Manager, Infection Prevention and Control</b>

## 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 update on an incident that occurred between July and September 2022 and the subsequent management.

### 2.2 Background

The Scottish Government has established national healthcare associated (HCA) infection standards. These are:

- *Clostridioides difficile* infection (CDI) - a reduction of 10% in the national rate of HCA CDI for the year ending March 2023, with 2018-19 used as the baseline.
- *Staphylococcus aureus* bacteraemias (SABs) - a reduction of 10% in the national rate of HCA CDI for the year ending March 2023, with 2018-19 used as the baseline.

- *Escherichia coli* bacteraemias (ECBs) - a 50% reduction in HCA ECBs by 2023-24, with an initial reduction of 25% by March 23. The baseline is the 2018-19 rate.

The Healthcare Associated Infection Reporting Template (HAIRT) is a mandatory reporting tool for the Board to have oversight of the Healthcare Associated targets, as detailed above, in addition to incidents and outbreaks and all other Healthcare Associated Infections' (HCAI) activity across NHS Ayrshire & Arran (NHSAA). The following data covers the time period July to September 2022.

### 2.3 Assessment

The Board's current verified position against each HCAI standard for the year ending September 2022 is:

Infection	NHS A&A Annual Rate Year Ending September 2022 (number of cases per 100,000 Total Occupied Bed Days (TOBDs))	2022-23 Target (cases per 100,000 TOBDs)	2023-24 Target (cases per 100,000 TOBDs)
<i>Clostridium difficile</i> Infection	19.6	13.0	
<i>Staphylococcus aureus</i> Bacteraemia	15.2	12.4	
<i>Escherichia coli</i> Bacteraemia	41.7	34.3	22.8

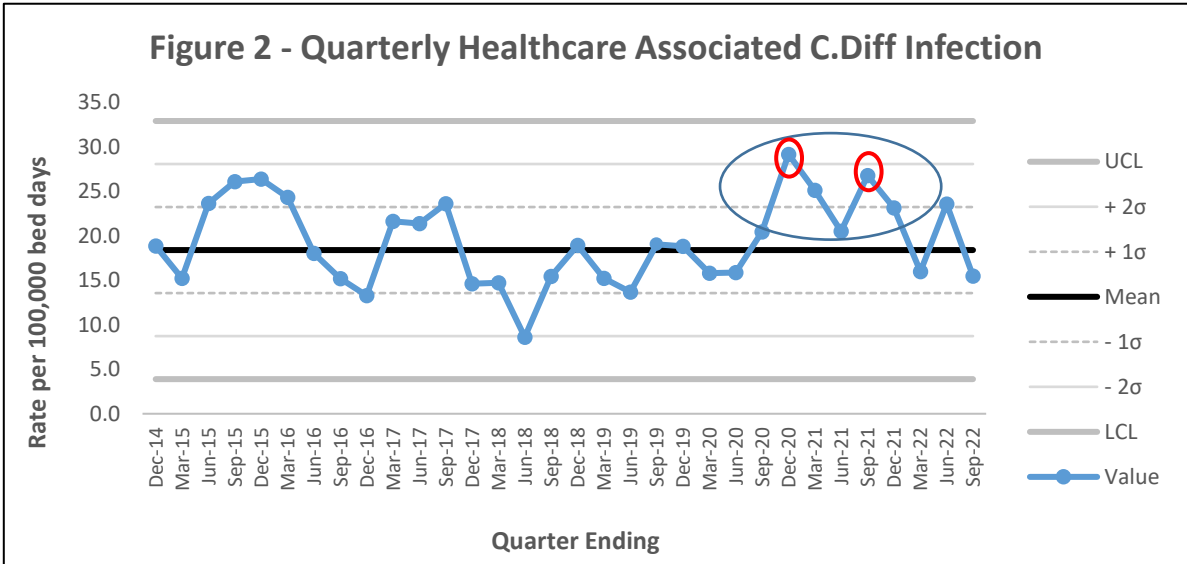
**Figure 1 – NHS Ayrshire & Arran's verified position**

#### CDI Standard

The CDI target is a reduction of 10% in the national rate of HCA CDI for the year ending March 2023, with 2018-19 used as the baseline.

NHSAA's HCA rate for 2018-19 was 14.5 cases per 100,000 Total Occupied Bed Days (TOBD), therefore in order to deliver our contribution to the national standard we must achieve a rate of no more than 13.0 by the year ending March 2023.

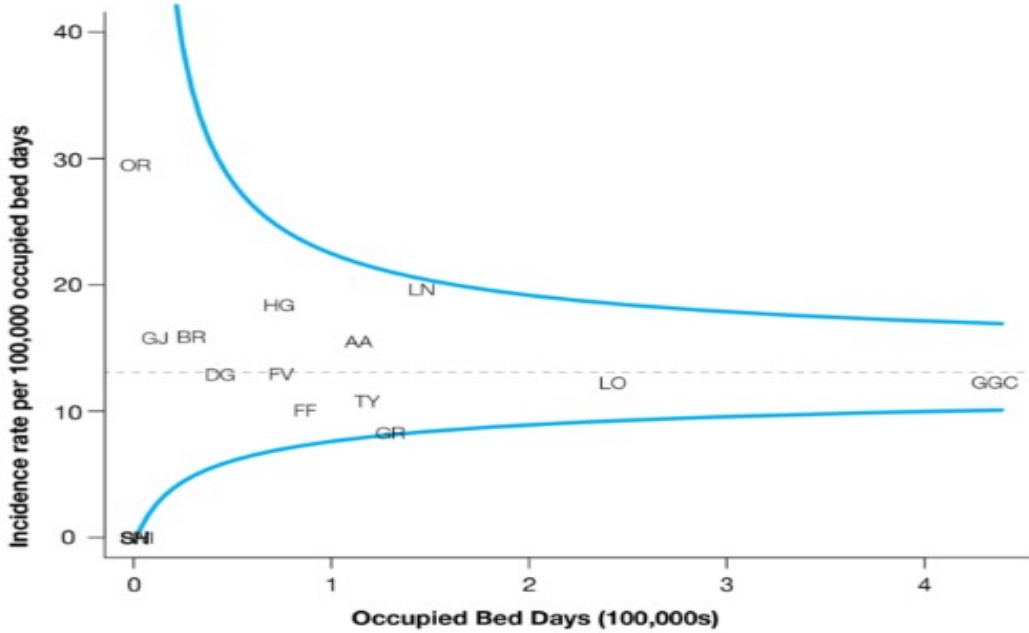
The Board's verified HCA CDI rate for July - September 2022 is 15.5 (18 cases) (**Figure 2**). This is a decrease from 23.6 (27 cases) the previous quarter. The recent work by the Antimicrobial Management Team (AMT), which included changes to empirical guidance, is thought to have had a positive impact on this quarter's rate.



○ Exception reports

**Figure 2 – Quarterly HCA CDI Rate (ARHAI data)**

**Figure 3** provides the Board’s position in comparison to the rest of Scotland. NHS Ayrshire & Arran’s rate of 15.5 is well within the 95% confidence interval upper limit, however, is above the Scottish rate 13.1.



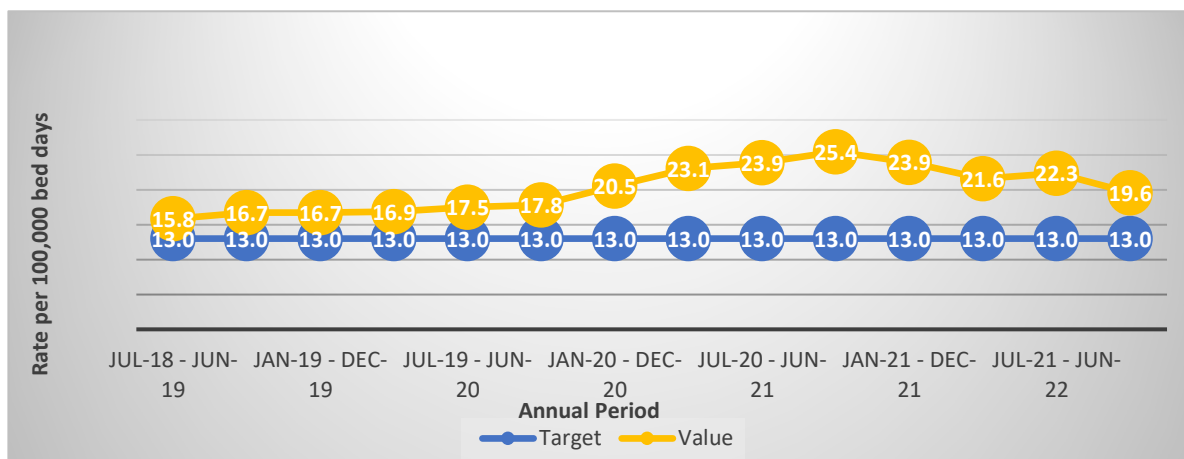
**Figure 3 – Funnel plot of CDI incidence rates (per 100,000 TOCB) in healthcare associated infection cases for all NHS boards in Scotland July – September 2022**

Of the 18 HCA cases identified locally, during the July - September 2022 quarter:

- 8 (44%) had their first positive specimen taken on or after day 3 of a hospital inpatient stay and were classed as Hospital Acquired (HAI).
- 7 (39%) were not HAI but had been discharged from a healthcare facility within the previous 4 weeks. These cases are counted as Healthcare Associated (HCAI).
- 3 (17%) had their first positive specimen taken within 2 or less days of hospital admission and had been discharged from a hospital between 4 and 12 weeks before the positive specimen. These cases are counted as Unknown, which is included under the wider definition of healthcare associated CDI.

The 8 hospital acquired episodes were across 7 wards. There were no outbreaks of CDI identified in NHS Ayrshire & Arran during this quarter. Ward 2D had 2 episodes. These were not related to time and place.

The verified rolling annual rate for year ending September 2022 was 19.6 CDI infections per 100,000 bed days. This compares with a year ending rate of 25.4 CDI infections per 100,000 bed days for September 2021. (**Figure 4**).



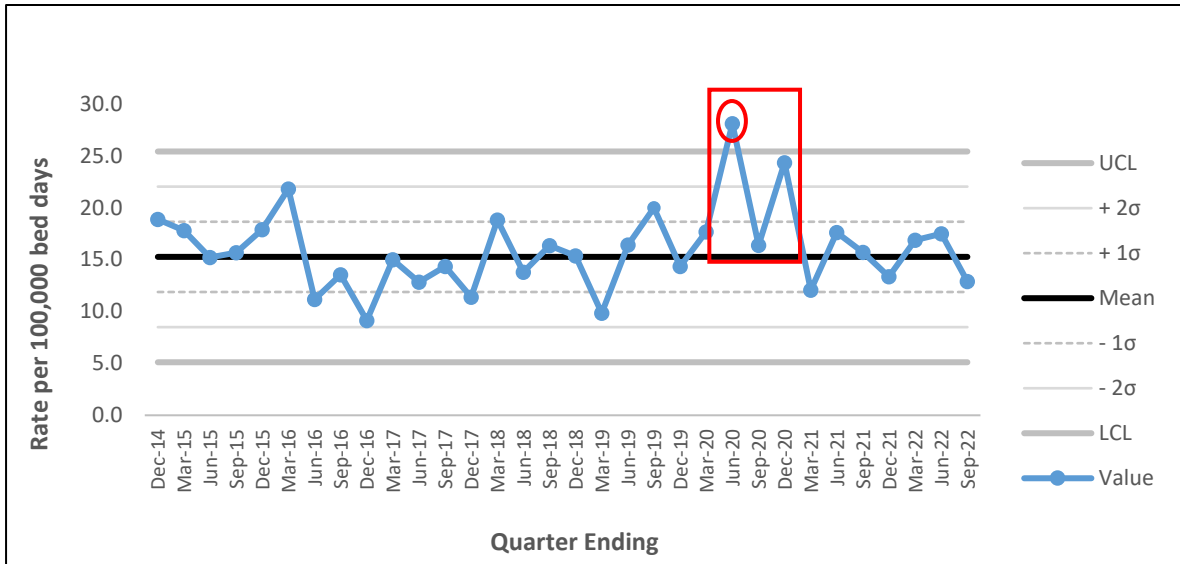
**Figure 4 – Rolling Annual HCA Rate vs National Standard**

### SAB Standard

The SAB standard is 10% reduction of the national rate of HCA SABs by year end March 2023, with 2018-19 used as the baseline.

NHSAA’s HCA rate of SAB for 2018-19 was 13.8 cases per 100,000 TOBDs. To deliver our contribution to the national standard we must achieve a rate of no more than 12.4 cases per 100,000 bed days by March 2023.

The Board’s verified rate for the July – September 2022 quarter was 12.9 cases (per 100,000 bed days) down from 17.5 cases per 100,000 bed days the previous quarter (**Figure 5**). The number of individual cases decreased from 20 to 15 (12 Hospital acquired and 3 healthcare associated).

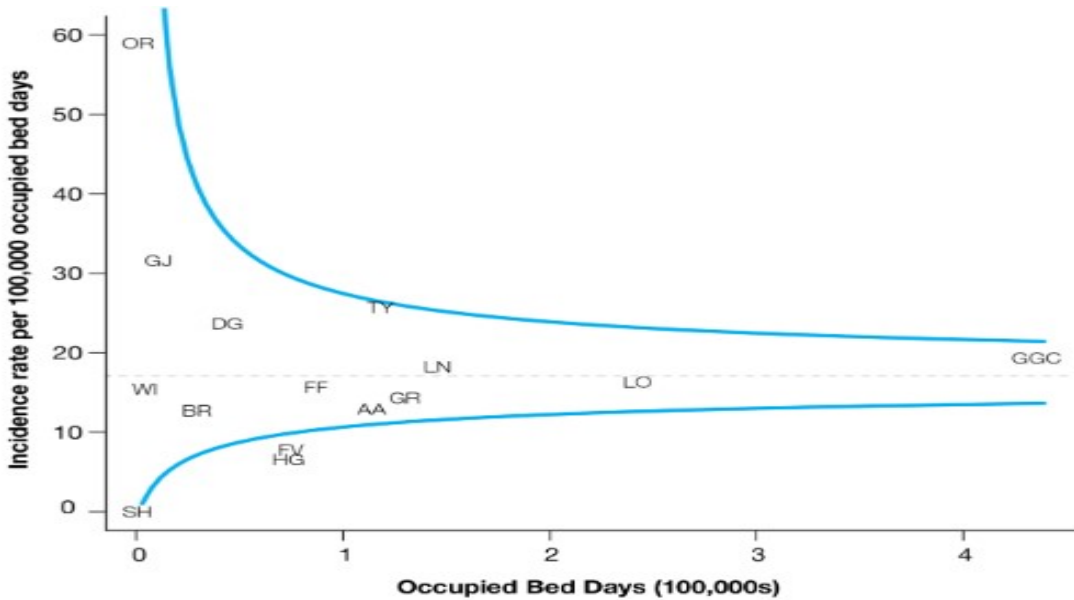


○ Exception report

**Figure 5 – SABs Quarterly HCA Rate**

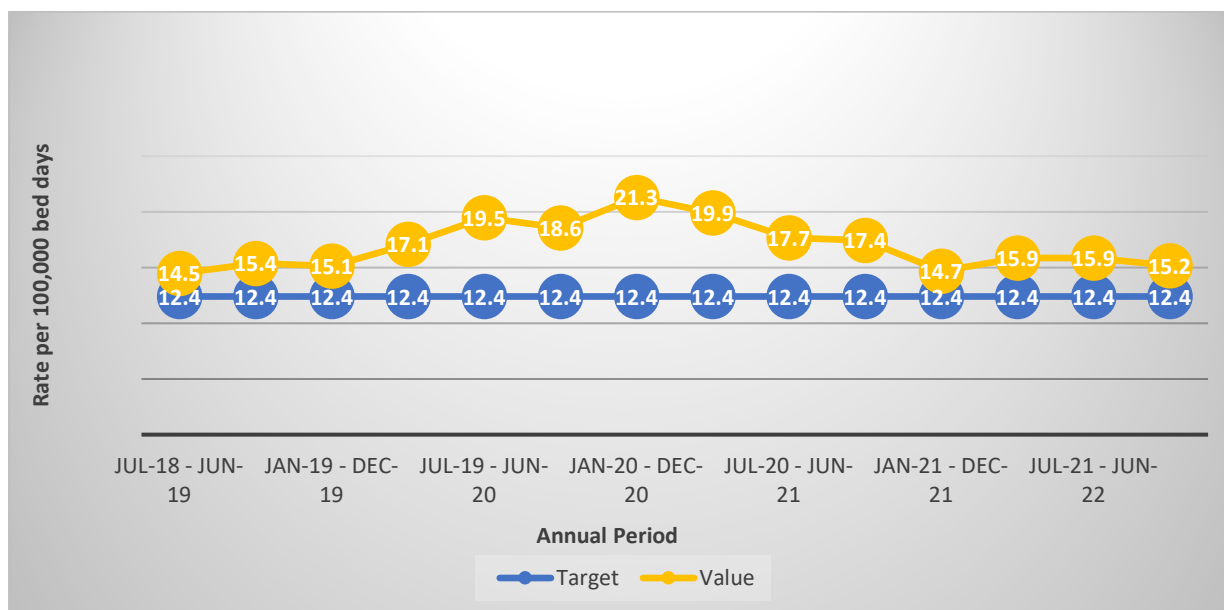
In June 2020 there was an exception report from ARHAI due to a special cause in variation. A further special cause in variation can be seen between June 2020 and December 2020. This was between the first and second wave of the COVID-19 pandemic.

**Figure 6** provides the Board’s position in comparison to the rest of Scotland. NHSAA’s rate of 12.9 is well within the 95% confidence interval upper limit and is below the Scottish national average of 17.1.



**Figure 6 – Funnel plot of SAB incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS boards in Scotland in July – September 2022**

The Board’s verified rolling annual rate of SAB has decreased from 17.4 year ending September 2021 to 15.2 for the year ending September 2022 (**Figure 7**).



**Figure 7 - Rolling Annual HCA SAB rate vs National Standard**

### Hospital Acquired SABs

There were a total of 15 healthcare associated cases of SAB consisting of 12 hospital acquired infections and 3 healthcare associated infections from July to September 2022 (**Figure 8**).

Point of Entry	July – September 2022
Contaminant	
CVC tunnelled	1
CVC non-tunnelled	
Fistula	1
PVC	1
Urinary Catheter	1
Device Other	1
Not known	4
Skin	2
SSI	
Respiratory tract	
UTI	1
ENT	
<b>Grand Total</b>	<b>12</b>

**Figure 8 Hospital Acquired SABs Point of Entry  
July – September 2022**

The Infection Prevention and Control Team (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.

## ECB Standard

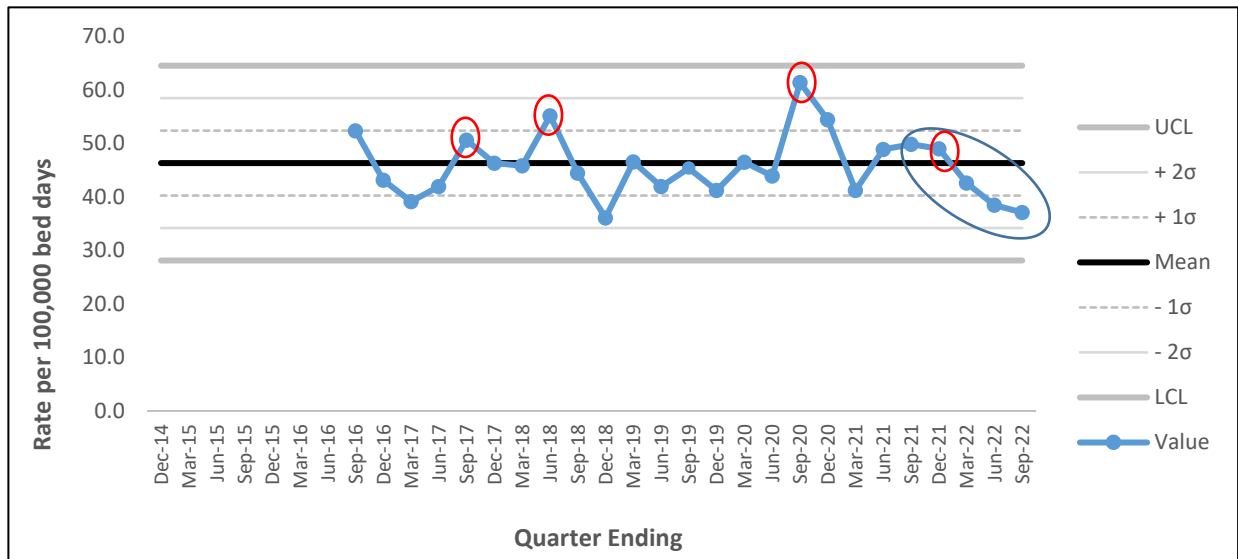
The ECB target is a 50% reduction in HCA ECBs by 2023-24, with an initial reduction of 25% by March 2023, with 2018-19 used as the baseline.

NHSAA's HCA rate for 2018-19 was 45.7 cases per 100,000 TOBDs therefore in order to deliver our contribution to the national standard we must achieve a rate of no more than 34.3 cases per 100,000 TOBDs for the year 2022-23, and a rate of no more than 22.8 cases per 100,000 TOBDs by 2023-24 (**Figure 9**).

Year	Percentage Reduction	Target rate	Target Case Numbers
Baseline	-	45.7	205
2022-23	10%	34.3	154
2023-24 (Final target)	50%	22.8	102

**Figure 9 –Targets for HCA ECBs**

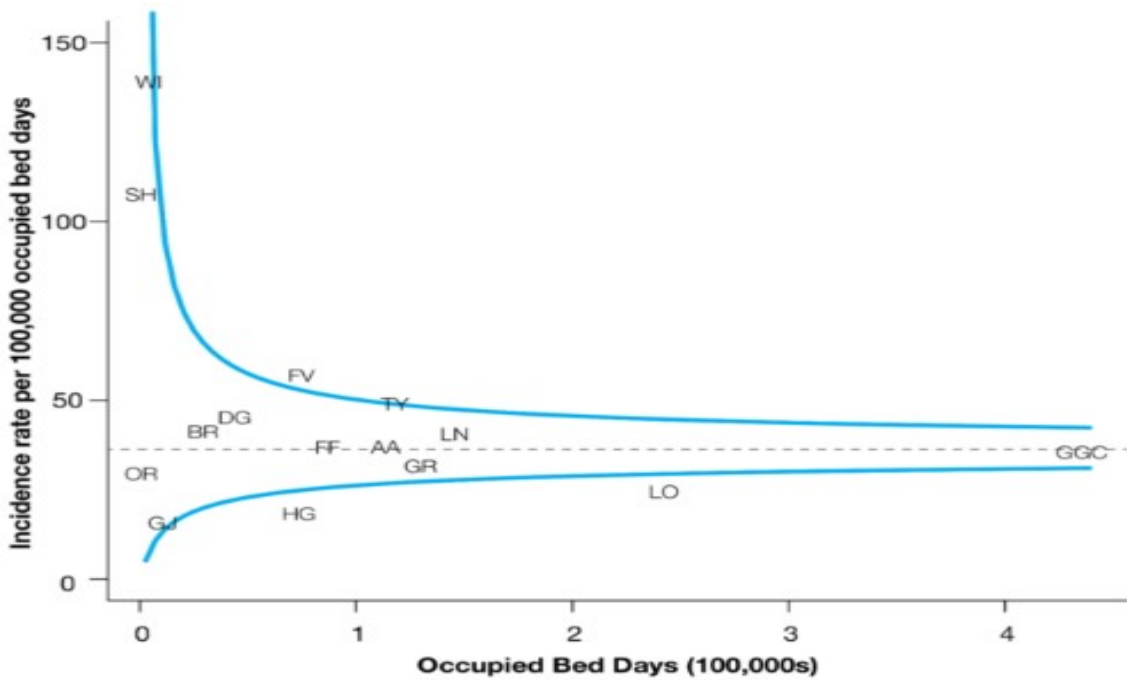
The Board's verified **quarterly** rate for the July - September 2022 quarter was 37.1 down from 38.5 (**Figure 10**). Since September 2021 there has been a downward trend. It is unknown what has contributed to the decline in number of cases.



○ Exception reports

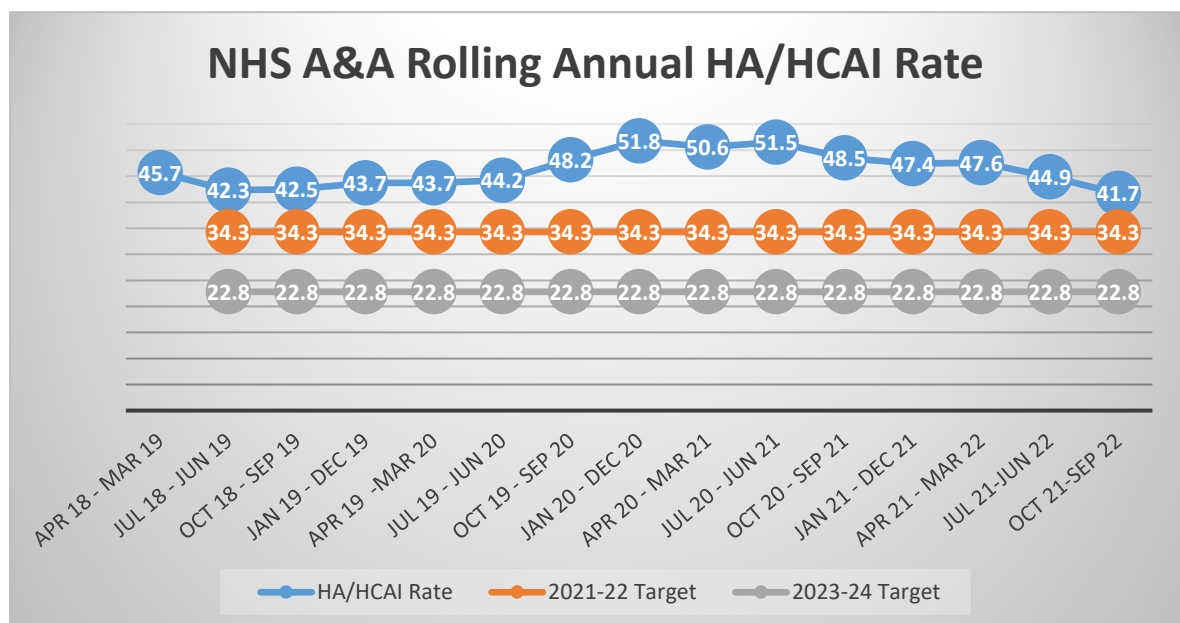
**Figure 10 – Quarterly Healthcare Associated ECB Rate**

**Figure 11** provides the Board's position in comparison to the rest of Scotland. NHSAA's rate of 37.1 is well within the 95% confidence interval upper limit and is just above the national average of 36.2.



**Figure 11 – Funnel plot of ECB incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS boards in Scotland in July – September 2022**

The Board's verified **annual** HCA rate for the year ending September 2022 was 41.7 down from 48.7 the previous year. This remains well above the year 3 reduction target of 34.3 (**Figure 12**).



**Figure 12 - Rolling Annual HCA ECB rate vs National Standard**



The local ECB surveillance data is entered directly onto the national surveillance database with the results accessed via the Discovery platform.

Reducing urinary catheter related infections remains the Board's primary strategy for lowering the overall bacteraemia rate. A short life working group was convened in 2019 to progress this however work was compromised by the COVID 19 pandemic. The group has now been re-established and quality improvement work is being explored and established.

### Community Acquired ECB Rate

There have been no exception reports received this quarter.

### Hand Hygiene

The Infection Control Environmental Audit and Standard Infection Control Precautions (SICPs) Monitoring Framework continues and findings are presented to the Prevention Control of Infection Committee.

Month	Jan – Mar 22	Apr – Jun 22	Jul – Sept 22	Oct – Dec 22
<b>IPCT Independent Monitoring</b>	91%	91%	95%	95%
<b>Ward Routine Monitoring</b>	98%	98%	98%	97%

**Figure 13 – SCIPs Monitoring Framework**

There are currently 140 areas activated on the Quality Improvement Portal to carry out hand hygiene audits, of which 90 areas have reported compliance.

### Estates and Cleaning Compliance

**Figure 14** 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.

	<b>NHS Ayrshire and Arran</b>	<b>Scotland</b>
<b>Domestic Services</b>	<b>95.5%</b>	<b>95.3%</b>
<b>Estates Services</b>	<b>97.3%</b>	<b>96.4%</b>

**Figure 14 – Estates and Cleaning Compliance June to September 2022**

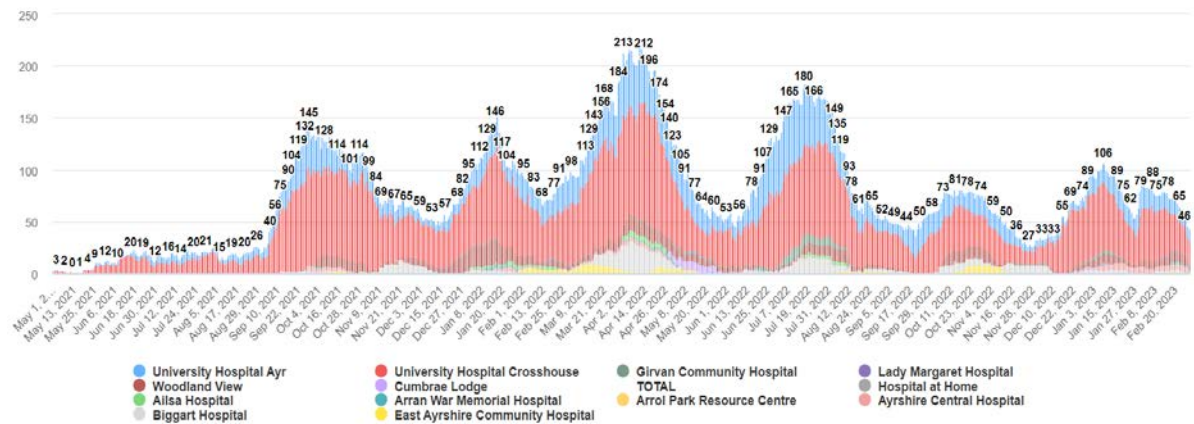
## COVID-19

NHSAA experienced a wave during quarter 2 (June to September 2022). At time of reporting, in NHSAA there have been over **152,000** confirmed positive cases since the beginning of the pandemic.

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.

**Figure 15** displays the number of in-patients across all NHSAA hospitals who tested positive for COVID-19. This data is correct as of 28 February 2023.

C19 - Confirmed C19 Inpatients in Hospital at Midnight (2nd Wave)



**Figure 15 – Confirmed COVID-19 inpatients in hospital sites**

## Outbreaks

Respiratory outbreak management continues to impact on IPCT resource.

Month	Jan – Mar 22	Apr – Jun 22	Jul – Sept 22	Oct – Dec 22
COVID	53	46	38	37
Flu	0	0	0	5
RSV	0	0	0	2
Mixed	0	0	0	7

**Figure 16 – Respiratory Outbreak activity January – December 2022**

## 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 October to December 2022:

HIIAT **Green** 12

HIIAT **Amber** 14

HIIAT **Red** 12

### Non-respiratory outbreaks/Incidents HIIAT assessed as AMBER

#### Buchanan Ward, Biggart Hospital – Extended Spectrum Beta Lactamase (ESBL) Outbreak

An outbreak of ESBL within Buchanan Ward, Biggart Hospital was identified in November 2022 involving 6 patients. A PAG was convened and control measures implemented. The incident was reported to Antimicrobial Resistant Healthcare Associated Infection (ARHAI) Scotland and is now 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 (IPCT) 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, 20 January 2023
- Healthcare Governance Committee, 27 February 2023

### **2.4 Recommendation**

This paper is for discussion and provides Board members with the Board's current position against the national HCAI standards.

### **3. List of appendices (where required)**

Nil