NHS Ayrshire & Arran

Meeting: **Ayrshire and Arran NHS Board**

Meeting date: **Tuesday 7 April 2026**

Title: **Healthcare Associated Infection Report**

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Report Author: **Jincy Jerry, Director Infection Prevention and Control**

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

This supports the following Corporate Objectives:
- **Better Health** – Supporting you to live a healthier life
  Improving health and supporting our communities in most need
  Increasing our focus on prevention
- **Better Workplace** – Creating a great place for us to work
  Creating an environment and culture of continuous learning
- **Better Care** – Improving your experience of care
  Improving your experience and outcomes through the delivery of safe quality care

2. Report summary

2.1 Situation

This paper provides Board members with:
- The current position against the national Healthcare Associated Infection (HCAI) Standards for infection reductions in *Clostridioides difficile* infection (CDI), *Staphylococcus aureus* bacteraemia (SAB), and *Escherichia coli* bacteraemia (ECB).
- A summary of outbreaks and the key learning and improvement actions being taken in response to improving care for our patients.

2.2 Background

In line with the Healthcare Improvement Scotland (HIS) *Infection Prevention and Control Standards for Health and Adult Social Care Settings 2022*, the Healthcare Governance Committee (HGC) has a priority in 2025-26 to focus on receiving evidence of organisational learning and demonstrable improvement, and to ensure national improvement priorities and programmes are delivered locally. The detail in this paper supports assurance in relation to HCAI and infection prevention learning and improvement across the Health Board.

The Scottish Government has issued updated national healthcare associated (HCA) infection standards in DL (2025) 05. The agreed standard states there should be no increase in the incidence (number of cases) of *Clostridioides difficile* infection (CDI), *Escherichia coli* bacteraemia (ECB), and *Staphylococcus aureus* bacteraemia (SAB) in the period between April 2025 and March 2026, from the 2023/2024 case numbers baseline.

To meet this standard, by March 2026, NHSAA should have no more than:

- 70 cases of HCA *Clostridioides difficile* infection (CDI)
- 209 cases of HCA *Escherichia coli* bacteraemia (ECBs)
- 87 cases of HCA *Staphylococcus aureus* bacteraemia

2.3 Assessment

This paper examines the current rates of healthcare-associated and community-acquired infections within NHS Ayrshire & Arran (NHSAA), focusing on *Clostridioides difficile* infection, *Escherichia coli* bacteraemia, and *Staphylococcus aureus* bacteraemia. It compares local data against national benchmarks and aligns with **National IPC Standards (2022), Standard 4: Assurance and Monitoring Systems**, highlighting key approaches to infection monitoring, reporting, and management across care settings

CDI Standard

Healthcare-associated Clostridioides Difficile Infection

The 2025-26 performance target for NHSAA is to limit healthcare-associated Clostridioides difficile Infection (CDI) cases to no more than 70, using the 2023–24 incidence as the baseline.

In Quarter 1 of 2025–26, 25 cases of CDI were reported, with an incidence rate of 21.7 per 100,000 TOBDs while in Quarter 2, 27 cases have been recorded. This totals to 52 cases, constituting to approximately 74% of the newly set annual target of 70. In comparison, Scotland recorded 246 cases during the same period, with a rate of 16.1 per 100,000 TOBDs **(Table1)**.

Infection	2025-2026 Target	NHSAA Incidence Quarter 1 (April – June 25) incidence	NHSAA Incidence Quarter 2 (July-Sept 25) incidence	Change from Previous Quarter	Recorded Cases vs Annual Target	Scottish incidence Quarter 2 (July – Sept 2025)
Clostridioides difficile Infection	≤ 70 cases	25 cases (Rate of 21.7 per 100,000 TOBDs)	27 cases (rate of 23.7 per 100,000 TOBDs)	Increase of 2 cases, from 25 to 27 (7%)	52/70 cases (74% of the total)	246 Cases (Rate of 16.1 per 100,000 TOBDs)

Table 1: Healthcare-associated CDI Standard, Case Numbers and Rates

Figure 1 illustrates the quarterly trend of healthcare-associated CDI cases from June 2020 to September 2025. The current data for July to September 2025 shows an increase in CDI cases compared to previous quarters, with the rate rising above the long-term average, but remaining below statistical warning and control limits, indicating a notable but not yet concerning increase.

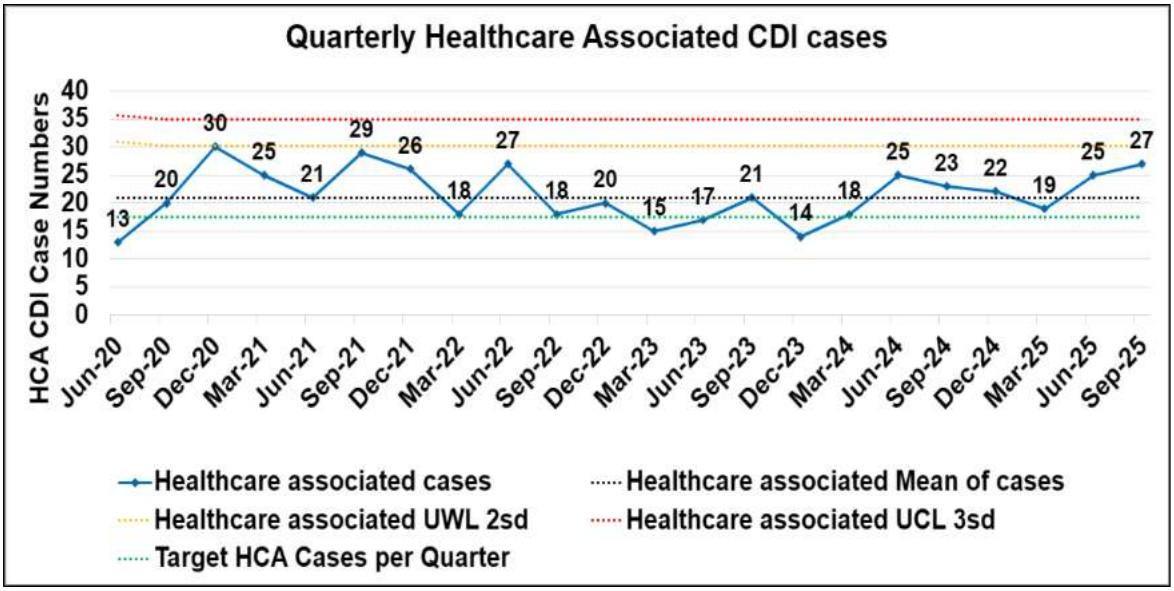

Figure 1: Quarterly HCA CDI cases

Figure 2 provides the Board's position in comparison to the rest of Scotland. NHSAA's rate of 23.7 (27 cases) is within the 95% confidence interval upper limit and is above the Scottish rate of 16.1 (246 cases) (per 100,000 TOBDs).

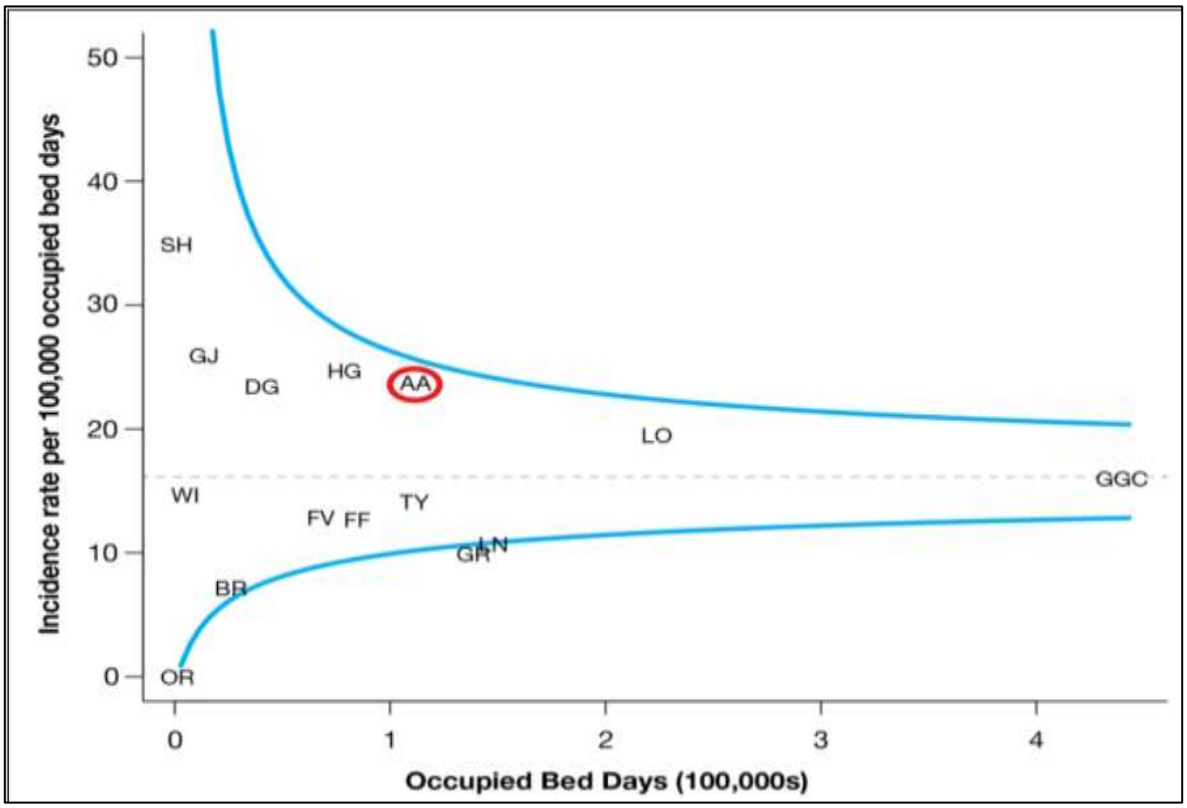

Figure 2: Funnel plot of HCA CDI incidence rates (per 100,000 TOBD) for all NHS boards in Scotland in Q2 2025

27 healthcare-associated CDI cases identified locally during Q2 (July-Sep 2025). Of these, 52% were hospital-acquired, 41% healthcare-associated, and 7% unknown. The hospital-acquired cases spanned twelve wards, with two wards showing increased incidence. Investigations were conducted, and typing confirmed no outbreaks occurred during the quarter.

Community Associated Clostridioides Difficile Infection (CA-CDI)

During Q2 2025, 7 CDI cases were reported as community associated. This corresponds to an incidence rate of 7.6 cases per 100,000 population (Table 2). While there is no national target for community CDI, the Scottish incidence for the same period was notably lower, with 84 cases and a rate of 6.0 per 100,000 population.

Infection	2025-26 Target	NHSAA Incidence Quarter 2 (Jul - Sept 25) incidence	Change from Previous Quarter	Scottish incidence Quarter 2 (July - Sept 2025)
Community Associated CDI	No national target	7 cases (Rate of 7.6 per 100,000 population)	Decrease of 2 cases, from 9 to 7 (-22%)	84 Cases (Rate of 6.0 cases per 100,000 population)

Table 2: Community Associated CDI Standard, Case Numbers and Rates

Figure 3 shows quarterly trends from September 2020 to September 2025, which remain broadly stable over the reporting period and all quarterly figures remain well below the upper control limit.

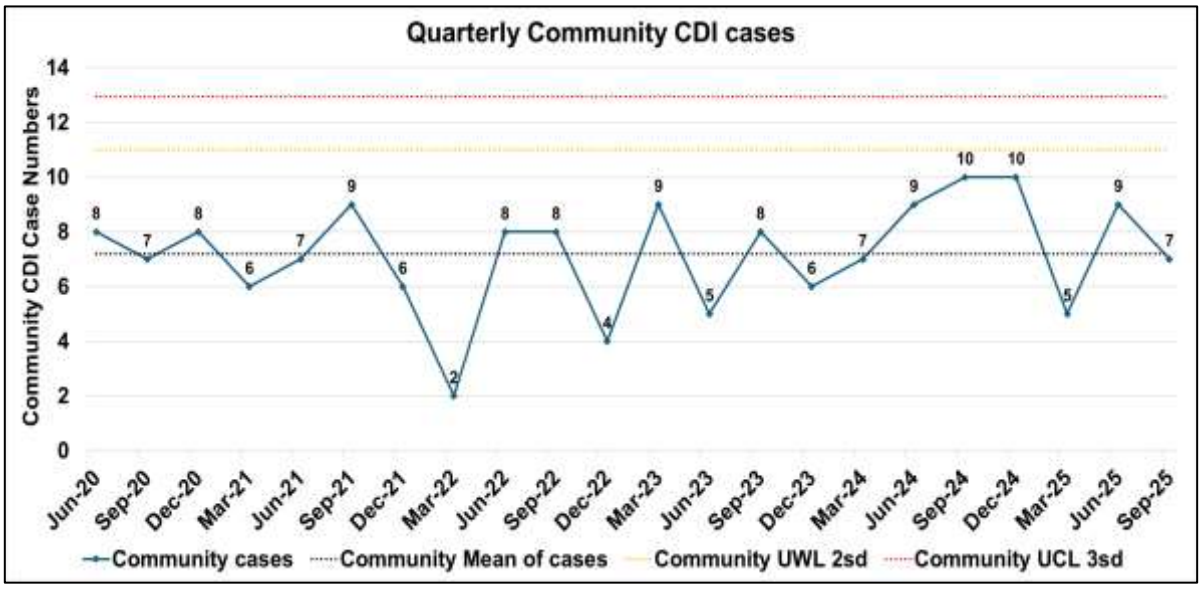

Figure 3: Quarterly Community CDI cases

Figure 4 provides the Board's position in comparison to the rest of Scotland for Community Associated CDI. NHSAA rate of 7.6 (7 cases) is within the 95% confidence interval upper limit and is above the Scottish rate of 6.0 (84 cases) (per 100,000 TOBDs).

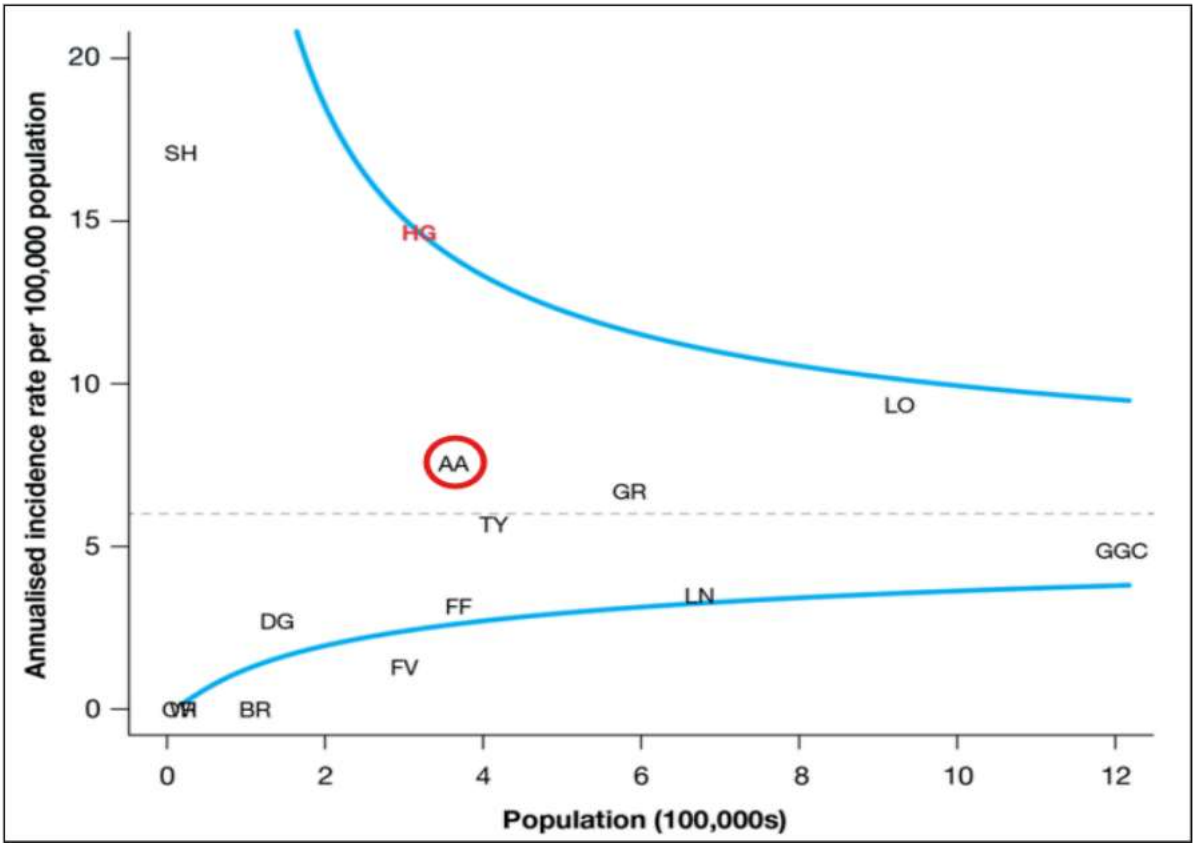

Figure 4: Funnel plot of community associated CDI incidence rates (per 100,000 population) for all NHS boards in Scotland in Q2 2025.

ECB Standard

Healthcare-associated E. coli bacteraemia (ECB)

The ECB standard for NHSAA for the year ending March 2026 sets a target of no more than 209 healthcare-associated E. coli bacteraemia (ECB) cases, aligning with the incidence recorded in 2023–24. In Quarter 2 (July–September 2025), NHSAA reported 56 cases, equating to a rate of 49.2 per 100,000 TOBDs. This marks an increase from the previous quarter, with an increase of nine cases (from 47 to 56).

Currently, 103 cases have been recorded against the newly set annual target of 209, which constitutes approximately 49.2% of the total. In comparison, the Scottish Quarter 2 incidence was lower, with 658 cases and a rate of 43.2 per 100,000 TOBDs.

Infection	2025-26 Target	NHSAA Incidence Quarter 1 (April – June 25) incidence	NHSAA Incidence Quarter 2 (July-Sept 25) incidence	Change from Previous Quarter	Recorded Cases vs Annual Target	Scottish incidence Quarter 2 (July - Sept 2025)
E coli bacteraemia	≤ 209 cases	47 cases (Rate of 40.7 per 100,000 TOBDs)	56 cases (Rate of 49.2 per 100,000 TOBDs)	Increase of 9 cases, from 47 to 56 (+ 16%)	103/209 (49.2% of the total)	658 Cases (Rate of 43.2 cases per 100,000 population)

Table 3: Healthcare-associated ECB Standard, Case Numbers and Rates

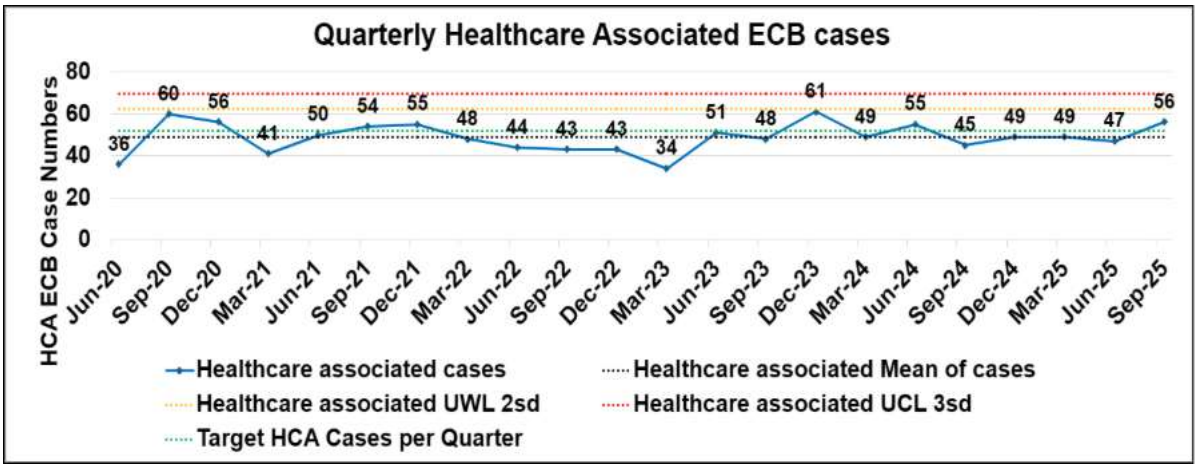

Figure 5: Quarterly Healthcare Associated ECB Cases

Figure 5 shows quarterly trends in Healthcare Associated ECB cases from June 2020 to September 2025. Case numbers remained stable, averaging around 50 per quarter and consistently stayed below established warning and control thresholds, indicating no significant deviations or outbreaks during the reporting period. This indicates sustained performance within expected limits, with no evidence of significant outbreaks during the reporting period. The most recent quarter (July-Sept-25) shows an increase to 56 cases, nearing the upper range seen historically, and will be monitored closely.

Figure 6 provides the Board's position in comparison to the rest of Scotland. NHSAA rate of 49.2 (56 Cases) is within the 95% confidence interval upper limit and above the Scottish national average rate of 43.2 (658 Cases) per 100,000 TOBDs**.**

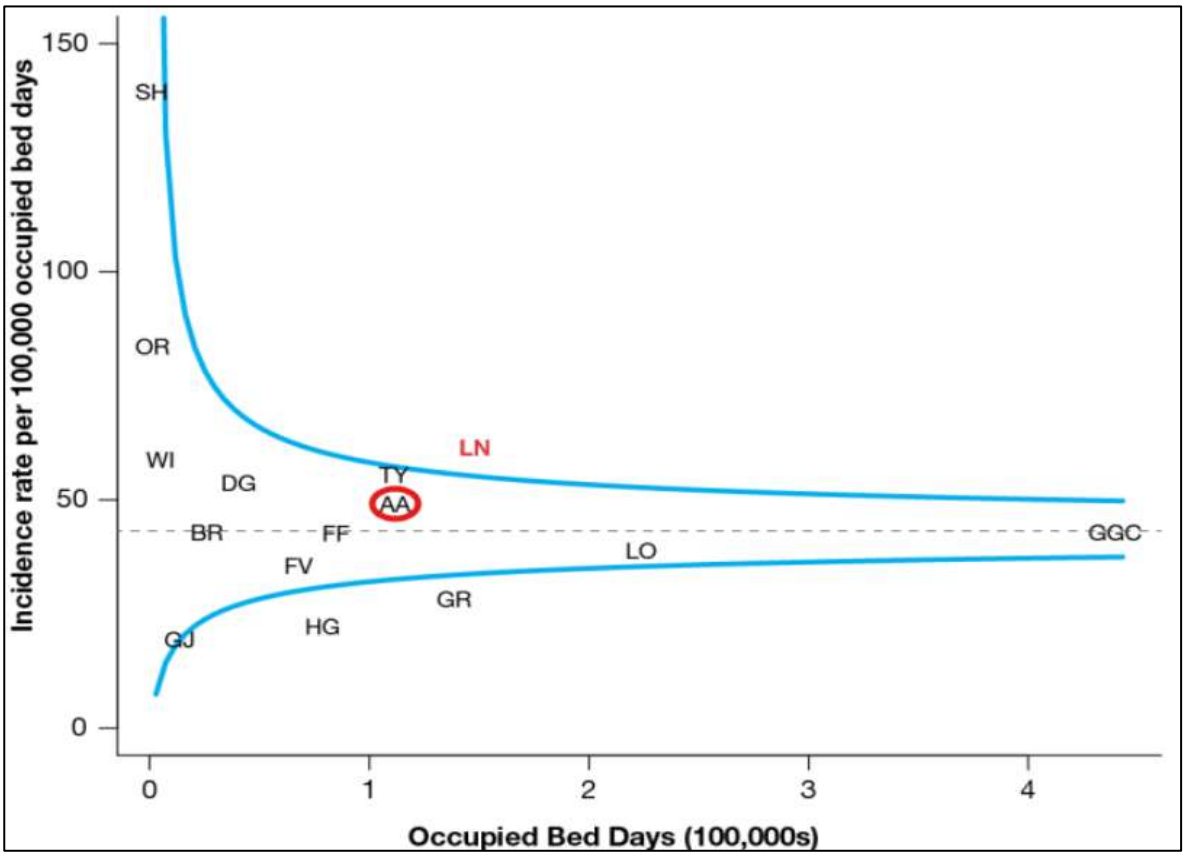

Figure 6: Funnel plot of HCA ECB incidence rates (per 100,000 TOBD) for all NHS Boards in Scotland in July - September 2025.

<u>Community Associated E. coli bacteraemia (ECB)</u>

During Q2 2025, 65 ECB cases were reported as community associated. This corresponds to an incidence rate of 70.1 cases per 100,000 population (**Table 4**). While there is no national target for community ECB, the Scottish incidence for the same period was notably lower, with 575 cases and a rate of 41.1 per 100,000 population.

Infection	2025-26 Target	NHSAA Incidence Quarter 2 (July - Sept 2025) incidence	Change from Previous Quarter	Scottish incidence Quarter 2 (July - Sept 2025)
Community Associated ECB	No national target	65 cases (Rate of 70.1 per 100,000 population)	Increase of 9 cases, from 56 to 65 (+16%)	575 Cases (Rate of 41.1 cases per 100,000 population)

Table 4: Community Associated ECB cases and Rates

Figure 7 shows quarterly trends from June 2020 to September 2025, with control limits indicating a marginal recent upward shift in case numbers.

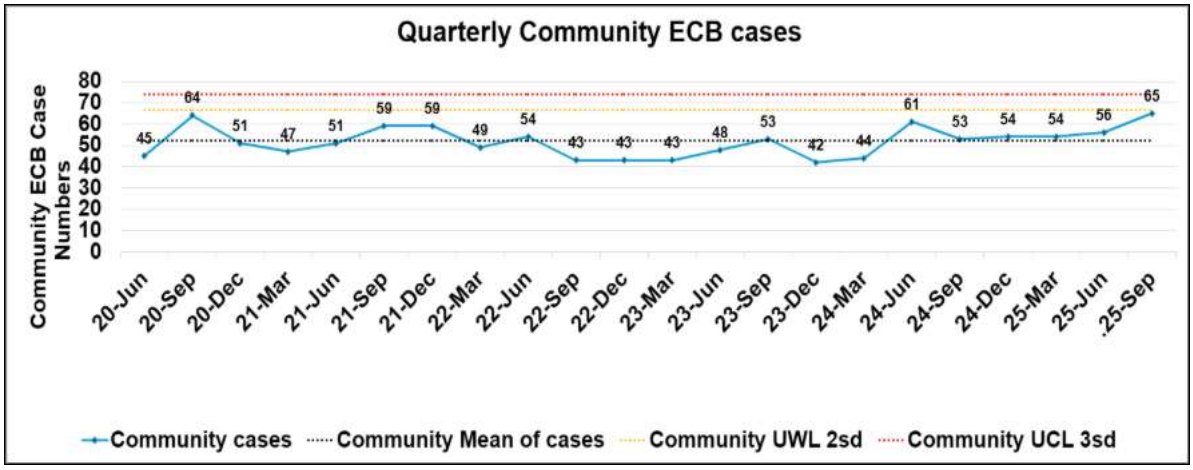

Figure 7: Quarterly Community Associated ECB Cases

Figure 8 provides the Board's position in comparison to the rest of Scotland. NHSAA rate of 70.1 (65 Cases) is above the 95% confidence interval upper limit and the Scottish rate of 41.1 (575 Cases).

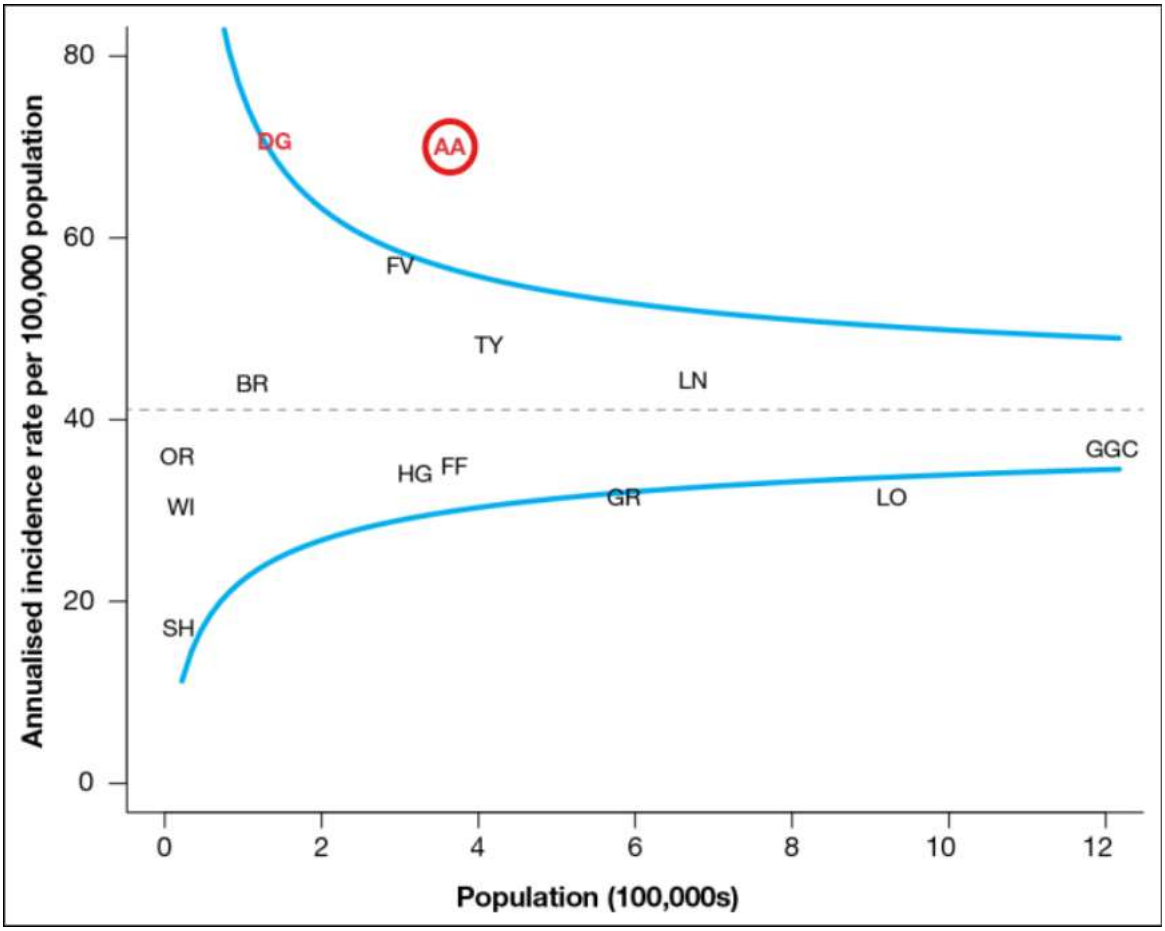

Figure 8: Funnel plot of community associated ECB incidence rates (per 100,000 TOBD) for all NHS boards in Scotland in July - September 2025.

NHSAA continues to report a significantly high rate of community-associated ECB compared to other NHS Boards in Scotland. Although the overall number of ECB cases has remained stable, reductions in Community Associate ECB rates across

larger NHS Boards have resulted in NHSAA rate appearing disproportionately elevated.

In 2025 Q2 (July –September), NHSAA has been highlighted as an exception in the quarterly funnel plot analysis by ARHAI Scotland. This marks the sixth consecutive exception for community-associated ECB, following similar findings in 2024 Q1, Q2, Q3, Q4 and Q1 of 2025.

Following the third consecutive exception, the Chief Nursing Officer (CNO) evoked the national support framework. NHSAA responded proactively by engaging ARHAI Scotland for support.

NHSAA established a multi-disciplinary and multi-agency Community ECB Improvement Short-Life Working Group to address this challenge. The Short Life Task and Finish Group has incorporated these findings into its strategic planning. The group continues to engage stakeholders across Public Health, Community Nursing, and Pharmacy, and has developed the Community Acquired Infection (CAI) Learning Review Tool to support deeper case-level analysis and learning.

SAB Standard

Healthcare-associated *Staphylococcus aureus bacteraemia*

NHSAA performance objective for 2025–26 is to limit healthcare-associated Staphylococcus aureus bacteraemia (SAB) cases to no more than 87, using the 2023–24 incidence as the baseline **(Table 5)**.

In Quarter 2 (July - September 2025), NHSAA reported 24 SAB cases. This equates to a rate of 21.1 per 100,000 total occupied bed days (TOBDs), reflecting a reduction from 28 cases in the previous quarter**.**

Currently, 52 cases have been recorded against the newly set annual target of 87, which constitutes approximately 59% of the total. In comparison, the Scottish Quarter 2 incidence was lower, with 296 cases and a rate of 19.4 per 100,000 TOBDs.

Infection	2025-26 Target	NHSAA Incidence Quarter 1 (Apr – Jun 2025) incidence	NHSAA Incidence Quarter 2 (July - Sept 2025) Incidence	Change from Previous Quarter	Recorded Cases vs Annual Target	Scottish Quarter 2 incidence (July - Sept 2025)
Staphylococcus aureus bacteraemia	≤ 87 cases	28 cases (Rate of 24.3 per 100,000 TOBDs)	24 cases (Rate of 21.1 per 100,000 TOBDs)	Reduction of 4 cases, from 28 to 24 (−14%)	52/87 cases (59% of the total)	296 cases (Rate of 19.4 per 100,000 TOBDs)

Table 5: Healthcare-associated SAB Standard, Case Numbers and Rates

Figure 9 presents quarterly healthcare-associated SAB cases from June 2020 to September 2025. The latest data point (Q2 2025) indicates a reduction in cases compared to the previous quarter, continuing a downward trend from the Q2 2024 peak.

Although the current rate exceeds the Scottish average of 19.4 per 100,000 TOBDs, it remains within control limits, suggesting no special cause variation. This statistically significant reduction reflects the impact of sustained quality improvement efforts and enhanced patient safety.

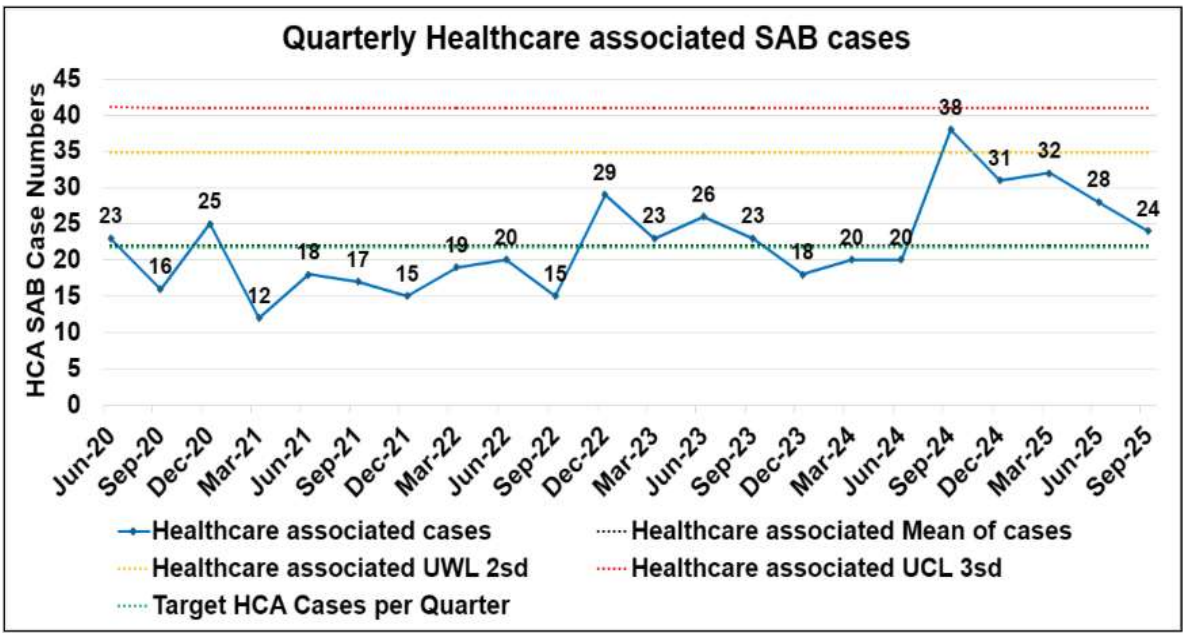

Figure 9: Quarterly HCA SAB Cases

Figure 10 provides the Board's position in comparison to the rest of Scotland. NHSAA rate of 21.1 (24 Cases) (per 100,000 TOBDs) was within the 95% confidence interval upper limit and above the Scottish rate of 19.4 (296 Cases) (per 100,000 TOBDs)**.**

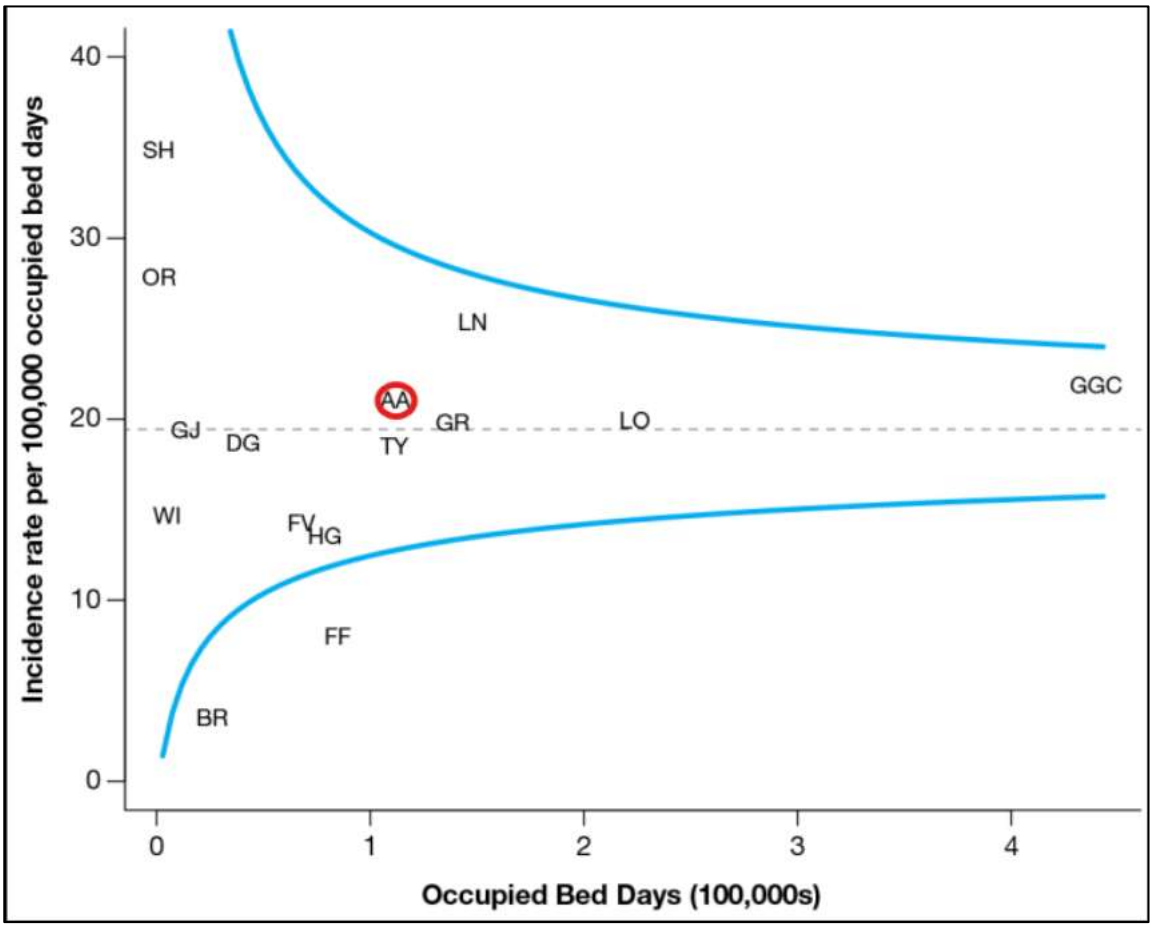

Figure 10: Funnel plot of HCA SAB incidence rates (per 100,000 TOBD) for all NHS boards in Scotland in July - September 2025

Community Associated Staphylococcus aureus bacteraemia

Infection	2025-26 Target	NHSAA Incidence Quarter 2 (July - September 25) incidence	Change from Previous Quarter	Scottish incidence Quarter 2 (July - September 2025)
Community Associated SAB	No national target	14 cases (Rate of 15.1 per 100,000 population)	Increase of 6 cases, from 8 to 14 (+75%)	126 Cases (Rate of 9.0 cases per 100,000 population)

Table 6: Number of Community Associated SAB per quarter for the year 2025-26

Figure 11 illustrates the quarterly trend in community associated SAB cases from June 2020 to September 2025. While the Scottish Government has not issued specific targets for community associated infections, the data shows a notable reduction in NHSAA annual community SAB rate; from 13.9 per 100,000 population in the year ending September 2024 to 11.1 in the year ending September 2025.

The graph presents quarterly fluctuations in case numbers. Despite variability, the overall trend suggests a positive shift in reducing community SAB incidence.

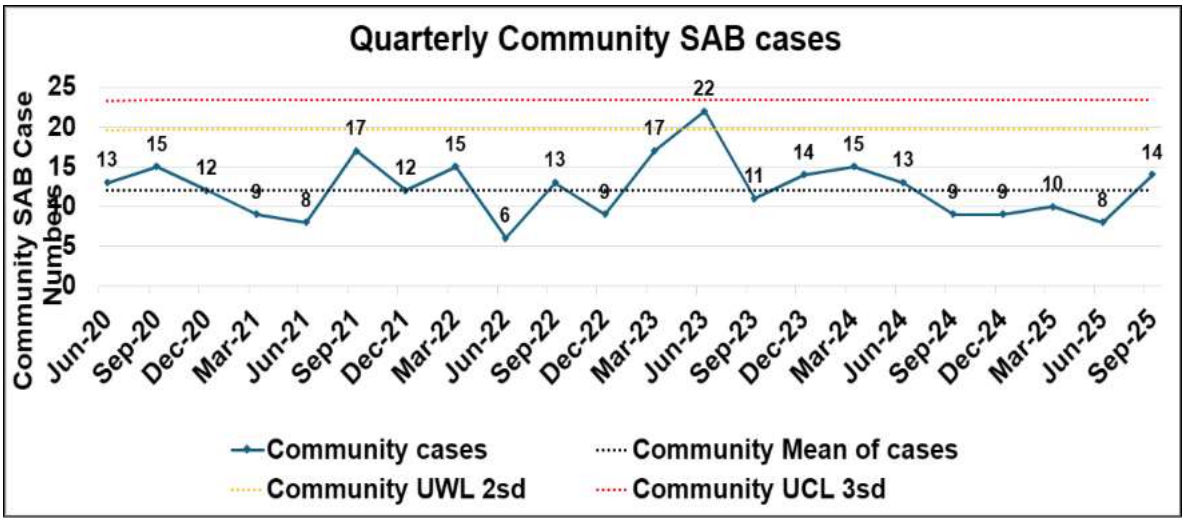

Figure 11: Quarterly Community acquired SAB Cases

Figure 12 provides the Board's position in comparison to the rest of Scotland for Community Associated SAB. NHSAA rate of 15.1 (14 cases) is within the 95% confidence interval upper limit and is above the Scottish rate of 9.0 (126 cases) (per 100,000 TOBDs).

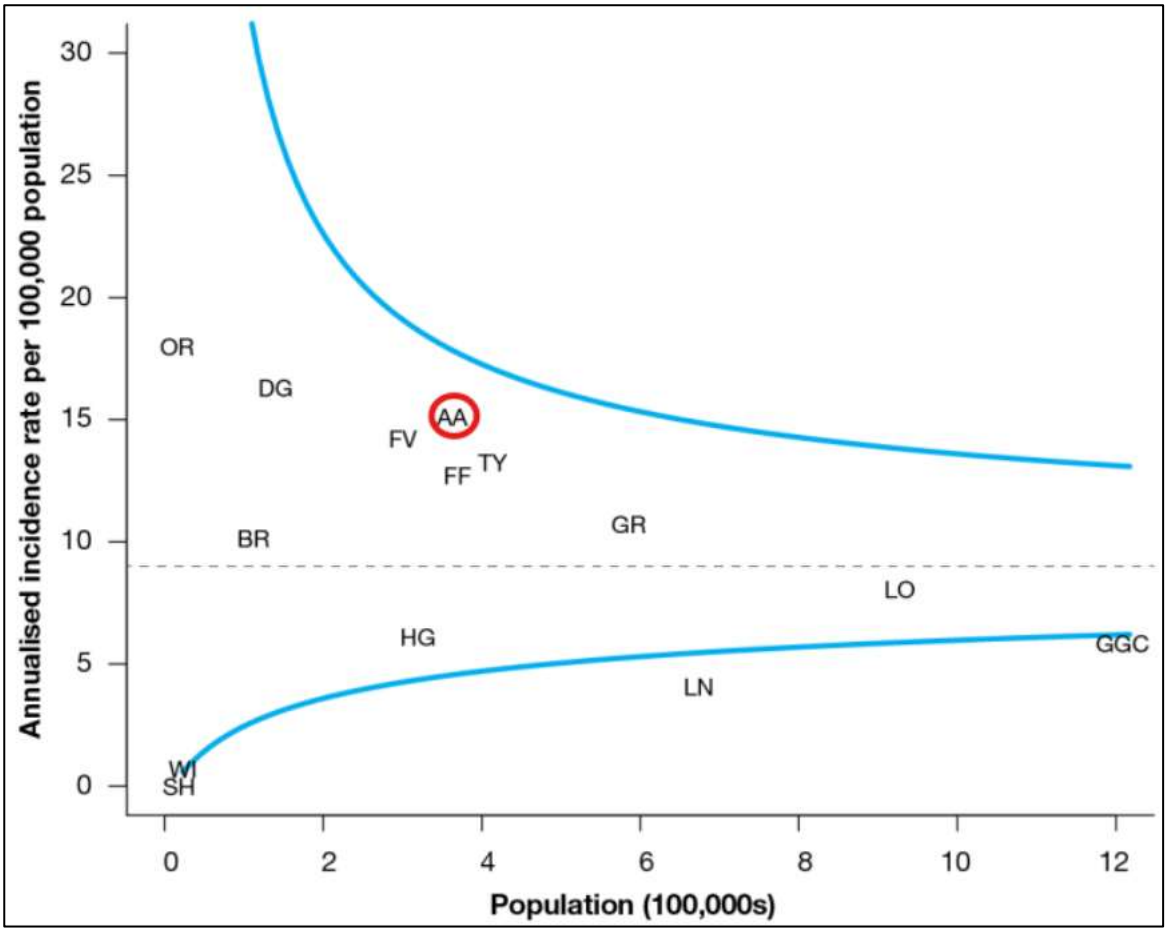

Figure 12: Funnel plot of community associated SAB incidence rates (per 100,000 TOBD) for all NHS boards in Scotland in July - September 2025

Infection Outbreaks and Incidents

Aligns to National IPC Standards (2022)	
Standard 2	Education and training
Standard 4	Assurance and monitoring systems
Standard 6	Infection prevention and control policies, procedures, and guidance
Standard 7	Clean and safe care equipment

Table 7: National IPC Standards (2022)

Outbreaks of infection, and infection-related incidents, occur in all healthcare settings. When outbreaks or incidents are detected the Infection Prevention & Control Team (IPCT) provide advice, and work in collaboration with clinical and management teams to support work to reduce the risk of further infection transmission, identify areas for improvement, and put in place actions to reduce risks to patients, staff and visitors.

Outbreaks of COVID continue to occur across Scotland, and within NHSAA. Each has been dealt with in line with guidance and reported as required to ARHAI via the national outbreak reporting tool. **Table 8** provides information on the number of COVID and other respiratory outbreaks from July 2024 to December 2025. (Note:

some outbreaks were due to multiple respiratory viruses, and were reported to ARHAI as a multi-cause, mixed organism, outbreak).

Organism	July – Sept 2024	October – December 2024	January – March 2025	April – June 2025	July – September 2025	October – December 2025
COVID	19	16	7	8	21	9
Influenza	0	9	7	1	0	13
RSV	0	6	3	0	0	6
Mixed	0	1	1	0	0	0
Total	19	32	18	9	21	28

Table 8: Viral Respiratory Outbreak Activity July 2024 – December 2025

Influenza A was the most common cause of respiratory outbreaks in Q3. The predominant strain which was circulating across Scotland in Q3 was influenza A (H3N2). This strain is associated with higher morbidity and mortality compared to H1N1, with older adults being particularly vulnerable.

Outbreak/Incident	Summary	Key Learning & Actions
Ward 3A, University Hospital Crosshouse Aspergillus – (ongoing)	A small cluster of aspergillus-related findings was identified in Ward 3A over an 18-month period from early 2024. No cases have occurred in the past nine months, reflecting the impact of targeted control measures. A planned decant of Ward 3A will proceed once Ward 4A becomes available to enable full environmental investigation and remedial works.	Routine air-sampling is ongoing alongside enhanced sporicidal cleaning. Ventilation systems have been reviewed with maintenance actions scheduled, and portable HEPA filtration units have been deployed across the ward.
Ward 3A, University Hospital Crosshouse Stenotrophomonas Maltophillia – (ongoing)	An environmental incident involving S. maltophilia has been identified in Ward 3A, with minimal patient impact. The organism was initially found in several outlets, but all treated sites are now negative except one, and remedial actions continue Point-of-use filters have been installed on all outlets, and regular ward-wide water sampling is underway to provide ongoing assurance and identify any further issues promptly.	Following the earlier S. maltophilia incident, showers in Ward 3A had been fixed to prevent contact with drainage outlets. The IPCT continues daily oversight to ensure mitigation measures remain effective.

Outbreak/Incident	Summary	Key Learning & Actions
NHSAA Board Wide increased incidence of respiratory virus (closed January 2026)	An increased incidence of patients presenting to hospital with respiratory virus due to an earlier than normal flu season.	Enhanced cleaning was introduced across all wards and departments. Staff, patients, and visitors were advised to consider sessional use of fluid resistant surgical facemasks. Antiviral treatment was advised for all suspected cases of influenza and all hospital contacts as per CMO letter DL The emergency departments and Combined assessment units implemented point of care lateral flow testing for FLU, COVID, and RSV.
Decontamination Incident Ayrshire central hospital dental surgery Closed	No update since presented to HGC in January 2026	No changes to the lessons learned presented to HGC in January 2026

Table 9: A summary of non-respiratory outbreaks and incidents managed by the IPCT, during Quarter 3 2025-26

At the time of reporting there were a total of 23 non-respiratory outbreaks and incidents reported throughout NHS Scotland.

All outbreaks have been managed via Problem Assessment Groups (PAGs) and Incident Management Teams (IMTs) in line with national requirements.

Attendees have included clinical and management teams, and a range of other internal stakeholders, as well as external experts when required, such as the Authorising Engineer (Water) and experts from ARHAI, to provide external support, advice, and scrutiny.

All meetings have action trackers in place in addition to meeting notes, with action updates regularly requested, and actions tracked to completion.

Healthcare Infection Incident Assessment Tool (HIIAT)

The ARHAI Healthcare Infection Incident Assessment Tool (HIIAT) supports the assessment of the impact an outbreak or incident has on patients, services, and public health. The HIIAT is a risk assessment supporting Boards to rate each outbreak/incident as **RED**, **AMBER,** or **GREEN.**

The highest HIIAT for all outbreaks within NHSAA in Q3 is available in **Table 10.**

Highest assessed HIIAT		
HIIAT RED	**HIIAT AMBER**	**HIIAT GREEN**
5	4	19

Table 10: Number of incidents reported to ARHAI (including COVID19) (October – December 2025)

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 Director of Infection Prevention and Control (DIPC) 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) as required.

2.3.1 Quality/patient care

Effective management of outbreaks and incidents is essential to maintaining patient safety and care quality. Prompt initiation of antiviral therapy for influenza and COVID-19 cases, alongside prophylaxis for eligible contacts, reduces complications and hospital admissions. Actions taken during non-respiratory incidents, such as enhanced decontamination processes and environmental controls, help prevent cross-infection and protect vulnerable patients. Conversely, delays in remedial works (e.g., Ward 3A ventilation issues) present ongoing risks, requiring continued monitoring and mitigation.

2.3.2 Workforce

Outbreak management places additional demands on staff, including increased workload during incident investigations and implementation of control measures. Education and reinforcement of SOPs for decontamination staff across all sites have been prioritized to prevent recurrence of incidents. While these measures strengthen staff competence and confidence, they also require resource allocation and time investment, which can impact routine service delivery.

2.3.3 Financial

Outbreaks and incidents can lead to unplanned expenditure, including costs for enhanced cleaning, environmental audits, and remedial works (e.g., ventilation upgrades in Ward 3A). Additional staffing and procurement of HEPA filters further contribute to financial pressures. However, early intervention and robust preventive measures help avoid larger costs associated with prolonged outbreaks, litigation, and reputational damage.

2.3.4 Risk assessment/management

Risk assessment is embedded in outbreak response using the Healthcare Infection Incident Assessment Tool (HIIAT), which categorises incidents as RED, AMBER, or GREEN. This structured approach ensures timely escalation and targeted interventions. Ongoing monitoring of high-risk areas and implementation of enhanced environmental controls mitigate risks. Lessons learned from incidents, such as the dental decontamination failure, are applied Board-wide to strengthen resilience

2.3.5 Equality and diversity, including health inequalities

Outbreak management and preventive actions are applied consistently across all care settings, ensuring equitable protection for patients and staff. Vulnerable groups, including older adults and immunocompromised patients, receive prioritized interventions such as early antiviral therapy and enhanced environmental controls. These measures support the Public Sector Equality Duty by reducing health inequalities linked to infection risk.

2.3.6 Best value

This paper support Best Value across the following themes.

- Effective Partnerships - Collaboration with Health Protection Scotland and estates teams strengthens system-wide responses.
- Governance and accountability - Transparent reporting to ARHAI and Scottish Government ensures compliance with national standards.
- Performance management - Continuous monitoring and feedback loops drive improvement and assurance.

2.3.7 Other Impacts

- Actions align with NHS Scotland's ambitions for safe, effective, and person-centred care.

2.3.8 Communication, involvement, engagement, and consultation

Communication during outbreaks is multi-layered:

Convening PAG or IMT meetings ensures rapid decision-making.

- Collaboration with Health Protection Team, estates, and clinical leads supports coordinated responses.
- Affected patients are informed promptly, with support offered through Health Protection services.
- Key actions and lessons learned are shared across all relevant areas to prevent recurrence.

2.3.9 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, 3 February 2026
- Healthcare Governance Committee, 2 March 2026.

2.4 Recommendation

For discussion

Members are asked to:

- Note the Board's current performance against national HCAI standards and the key risks highlighted in Quarter 2.
- Note the ongoing outlier position for Community-associated E. coli bacteraemia.
- Note the infection incidents and outbreaks managed during the reporting period and the associated improvement actions.
- Note the anticipated increase in influenza activity over winter and the importance of timely antiviral treatment.
- Note the outstanding remedial works in Ward 3A at University Hospital Crosshouse.