

NHS Ayrshire & Arran



Meeting:	Ayrshire and Arran NHS Board
Meeting date:	Monday 17 August 2020
Title:	Healthcare Associated Infection Report
Responsible Director:	Hazel Borland, Nurse Director
Report Author:	Bob Wilson, Infection Control Manager

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:

- 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 the national meticillin resistant *Staphylococcus aureus* (MRSA) admission clinical risk assessment (CRA) key performance indicator (KPI).

Any significant infection incidents and outbreaks are included in the report.

Appendix 1 contains analysis of performance against the national HAI standards for *Clostridium difficile* Infection (CDI), *Escherichia coli* bacteraemias (ECBs) *Staphylococcus aureus* bacteraemias (SABs)

Appendix 2 Contains the Healthcare Associated Infection Reporting Template (HAIRT) that is included in each alternate Board paper.

2.2 Background

The Scottish Government has established national HCAI Standards for:

- *Clostridium difficile* infection (CDI) - a reduction of 10% in the national rate of healthcare associated (HCA) CDI for the year ending March 2022, with 2018-19 used as the baseline.

- *Staphylococcus aureus* bacteraemias (SABs) - a reduction of 10% in the national rate of HCA SAB by year end March 2022, 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 2021-22. The baseline is the 2018-19 rate.

Each Board is required to contribute its own proportionate reduction to achieve the national standard

The national KPI for MRSA admission CRA is 90%.

2.3 Assessment

The Board's current verified position against each HCAI standard for the year ending March 2020 is:

Infection	NHS A&A Annual Rate Year Ending March 2020	2021-22 Target	2023-24 Target
<i>Clostridium difficile</i> Infection	16.8	13.0	
<i>Staphylococcus aureus</i> Bacteraemia	17.1	12.4	
<i>Escherichia coli</i> Bacteraemia	43.7	34.4	22.8

Analysis of the year end position for all 3 organisms is contained in Appendix 1.

The Board's compliance with the MRSA admission CRA KPI for the January – March 2020 quarter was 70% down from 97% the previous quarter. This is likely to be as a result of a focus on assessing for the risk of COVID-19 on admission.

2.3.1 Quality/patient care

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

Compliance with the national MRSA KPI will minimise the risk of transmission of MRSA from unidentified sources.

2.3.2 Workforce

Reductions in HCAI will reduce the 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 Control Team (IPCT) provide clinical teams and managers with risk assessed advice and guidance based on national policy and best practice.

The COVID-19 pandemic has impacted on the capacity of the IPCT to undertake detailed investigation of alert organisms and provide support for improvement programmes.

2.3.5 Equality and diversity, including health inequalities

An impact assessment has not been completed because this is an update report to Committee members.

2.3.6 Other impacts

Nil to Note

2.3.7 Communication, involvement, engagement and consultation

These topics are discussed regularly at the Prevention and Control of Infection Committee which has public representatives as members.

2.3.8 Route to the meeting

This report is a standing report to the Board as required by the national Healthcare Associated Infections Standards 2015. These topics are standing agenda items at the Prevention and Control of Infection Committee. Thereafter there is a standing report submitted at each Healthcare Governance Committee.

A version of the paper was presented to the Healthcare Governance Committee on 3 August 2020.

2.4 Recommendation

For discussion. This paper provides an update for Board members on the Board's current performance against the national HCAI standards.

3. List of appendices

The following appendices are included with this report:

Appendix 1 – National HAI standards Report

Appendix 2 - HAIRT

National Healthcare Associated Infection Standards NHS Ayrshire and Arran Year End Position March 2020

The Scottish Government has established national healthcare associated (HCA) infection standards (Appendix 1). These are:

- CDI - a reduction of 10% in the national rate of HCA CDI for the year ending March 2022, with 2018-19 used as the baseline.
- SABs - a reduction of 10% in the national rate of HCA CDI for the year ending March 2022, with 2018-19 used as the baseline.
- ECBs - a 50% reduction in HCA ECBs by 2023-24, with an initial reduction of 25% by 2021-22. The baseline is the 2018-19 rate.

CDI Standard

The CDI target is a reduction of 10% in the national rate of HCA CDI for the year ending March 2022, with 2018-19 used as the baseline.

NHS Ayrshire and Arran’s HCA rate for 2018-19 was 14.5 cases per 100,000 TOBDs therefore in order to deliver our contribution to the national standard we must have achieved a rate of no more than 13.0 for the year 2021-22.

The Board’s verified HCA CDI rate for the January – March quarter is 15.8 (Chart 1).

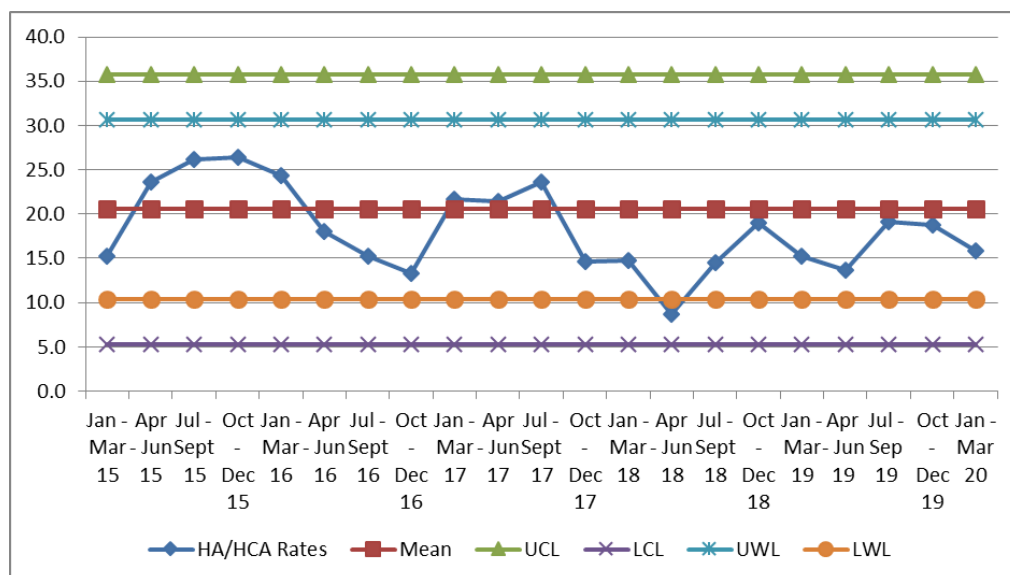


Chart 1 – Quarterly HCA CDI Rate

The verified rolling annual rate for the year ending March 2020 was 16.8 (Chart 2) an increase of 16% on the previous year.

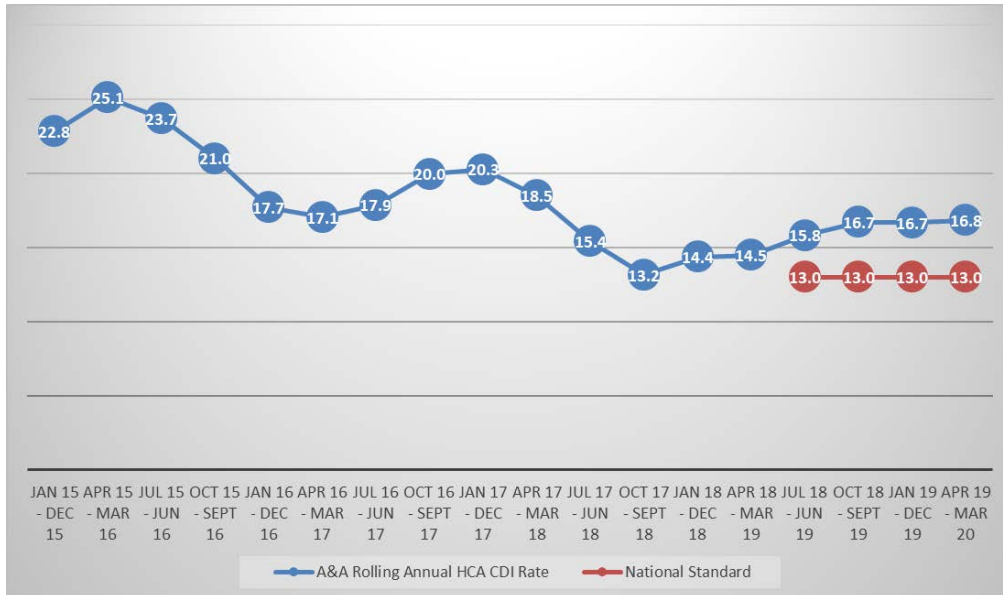


Chart 2 – Rolling Annual HCA Rate vs National Standard

In the first quarter of 2020-21 there have been 12 cases of CDI assessed as being under the collective healthcare associated grouping (Chart 3). This includes those that are hospital acquired, healthcare associated and of unknown origin.

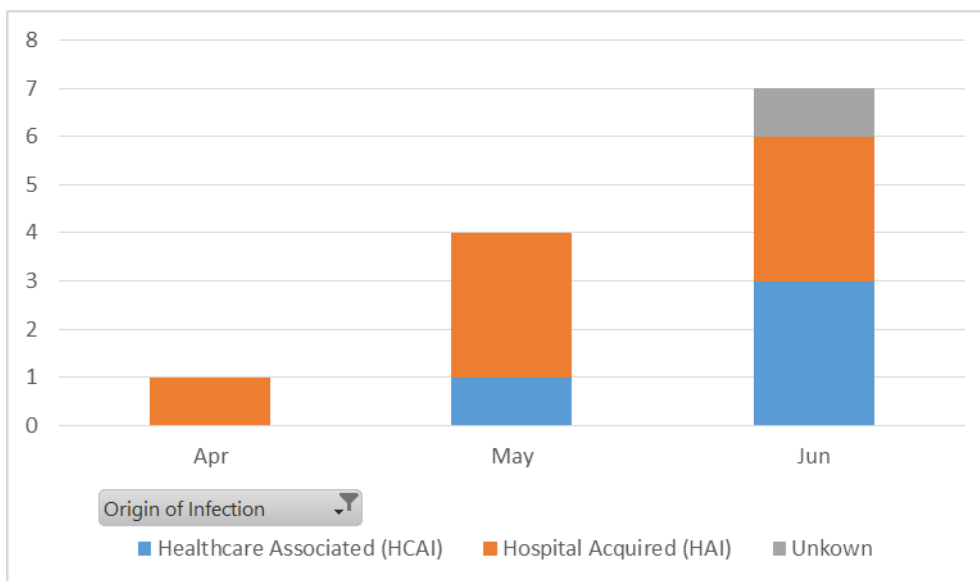


Chart 3 – Healthcare Associated CDI Monthly April – June 2020

There were no outbreaks of CDI during the quarter. The 8 hospital acquired cases were acquired in different wards.

SAB Standard

The SAB standard is a reduction of 10% in the national rate of HCA SABs by year end March 2022, with 2018-19 used as the baseline.

NHS Ayrshire and Arran’s HCA rate for 2018-19 was 13.8 cases per 100,000 TOBDs therefore in order to deliver our contribution to the national standard we must have achieve a rate of no more than 12.4 for the year 2021-22.

The Board’s verified rate for the January – March 2020 quarter was 17.7 (Chart 4).

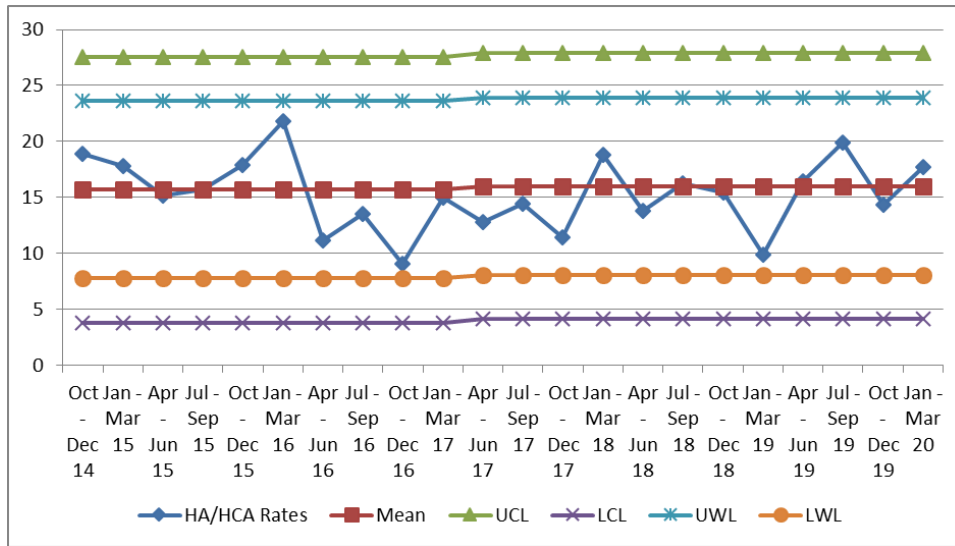


Chart 4 – SABS Quarterly HCA Rate

The Board’s verified rolling annual rate for the year ending March 2020 was 17.1, a 24% increase on the previous year (Chart 5).

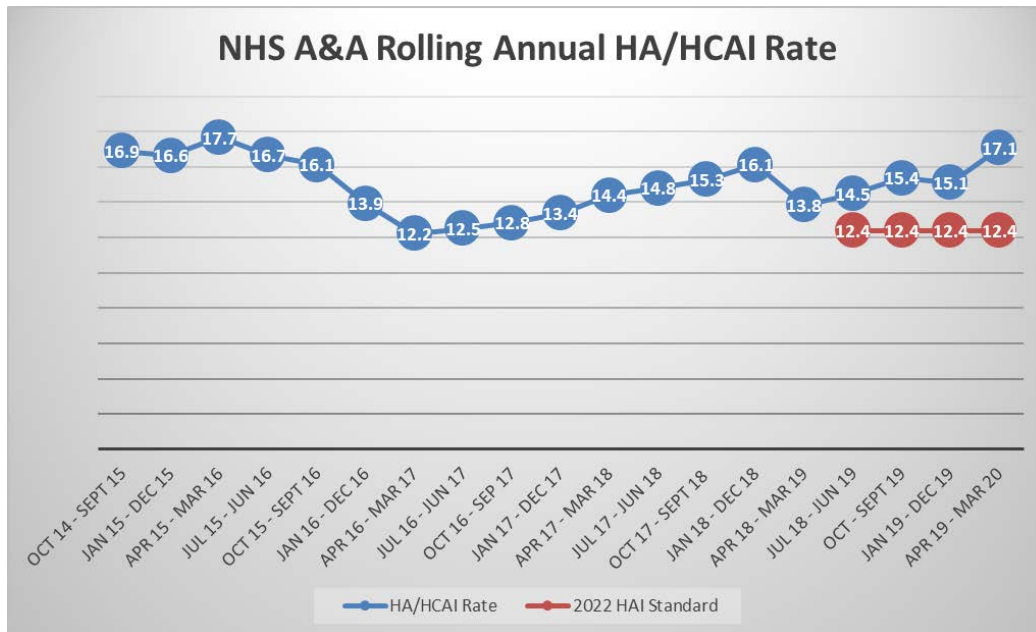


Chart 5 - Rolling Annual HCA SAB rate vs National Standard

There has been 34 SABS recorded in the first quarter of 2020-21. Twelve were community acquired, 11 were hospital acquired and 11 were healthcare associated. The point of entry was “Not Known” for 44% of SABS (Table 1).

Entry Point	Community	Healthcare Associated (HCAI)	Hospital Acquired (HAI)	Total
Contaminant			1	1
Device (F) PICC / Midline		1		1
Device (G) PVC			2	2

Device (J) Urinary catheter		3		3
Device (N) Other, please specify		1		1
Not known	6	3	6	15
People who inject drugs	4	1		5
Respiratory tract infection		1	1	2
Skin (D) Skin break	1		1	2
Skin (G) Ulcer	1	1		2
Grand Total	12	11	11	34

Table 1 – SAB Points of Entry and Origin of Infection April – June 2020

There were 4 hospital acquired SABs in the Intensive Care Unit in University Hospital Crosshouse (UHC). Two had unknown point of entry, 1 was related to a respiratory tract infection and 1 was deemed to be a contaminant. There are thought to have been a number of contributory factors including changes in the use of PPE related to COVID-19; increase in ICU capacity including utilising different areas of the hospital and an increase in staff working within ICU from areas out with the unit. In response adjustments were made to the use of PPE and invasive device management within the unit.

ECB Standard

The ECB target is a 50% reduction in HCA ECBs by 2023-24, with an initial reduction of 25% by 2021-22. The baseline is the 2018-19 rate.

NHS Ayrshire and Arran's HCA rate for 2018-19 was 45.7 cases per 100,000 TOBDs therefore in order to deliver our contribution the national standard we must have achieved a rate of no more than 34.4 cases per 100,00 TOBDs for the year 2021-22 and rate of no more than 22.8 cases per 100,000 TOBDs by 2023-24.

Given the magnitude of the reductions required combined with the need to develop long term sustained interventions quick attainment of the targets is very unlikely. Therefore it has been agreed that there should be annual graduated reduction targets against which we should measure progress towards the national target. Given that year 1 had already commenced when the target was announced and a number of interventions in relation to urinary catheters are still to be fully developed and implemented it was agreed that we should aim for a 5% reduction in year one followed by 10% reductions in years 2, 3 & 4 with a 15% reduction in year 5 (Table 2).

Year	Percentage Reduction	Target rate	Target Case Numbers
Baseline	-	45.7	205
2019-20	5%	43.4	195
2020-21	10%	38.5	174
2021-22 (Interim Target)	10%	34.5	153
2022-23	10%	29.9	132
2023-24 (Final target)	15%	22.8	102

Table 3 –Graduated Reduction Targets for HCA ECBs

The Board's verified **quarterly** rate for the January – March 20 quarter is 46.5 (Chart 6).

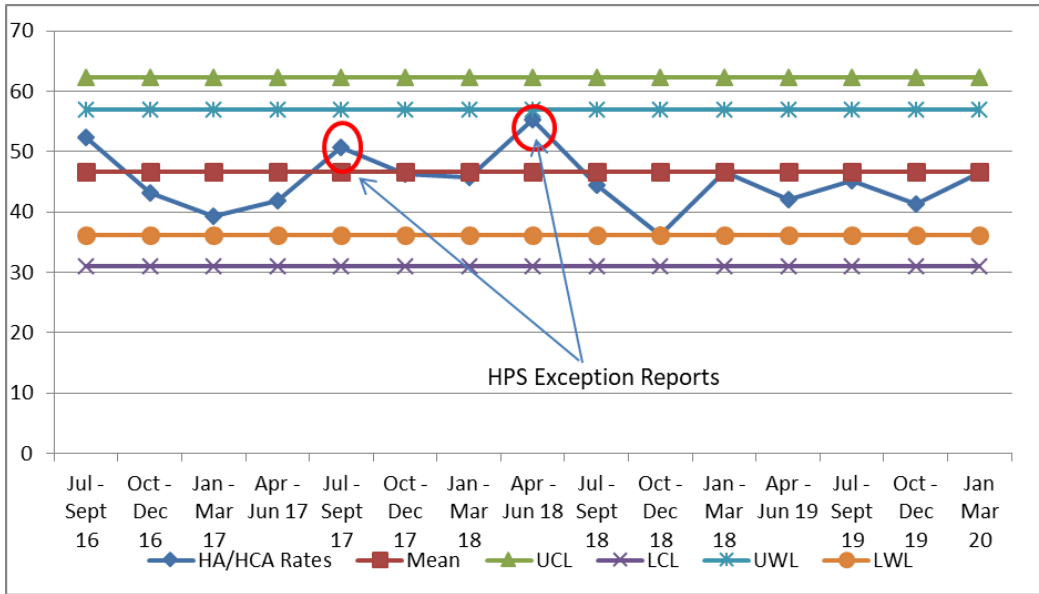


Chart 6 – Quarterly Healthcare Associated ECB Rate

The Board’s verified **annual** HCA rate for the year ending March 2020 was 43.7. This is slightly above the proposed year 1 reduction target of 43.4 (Chart 7).

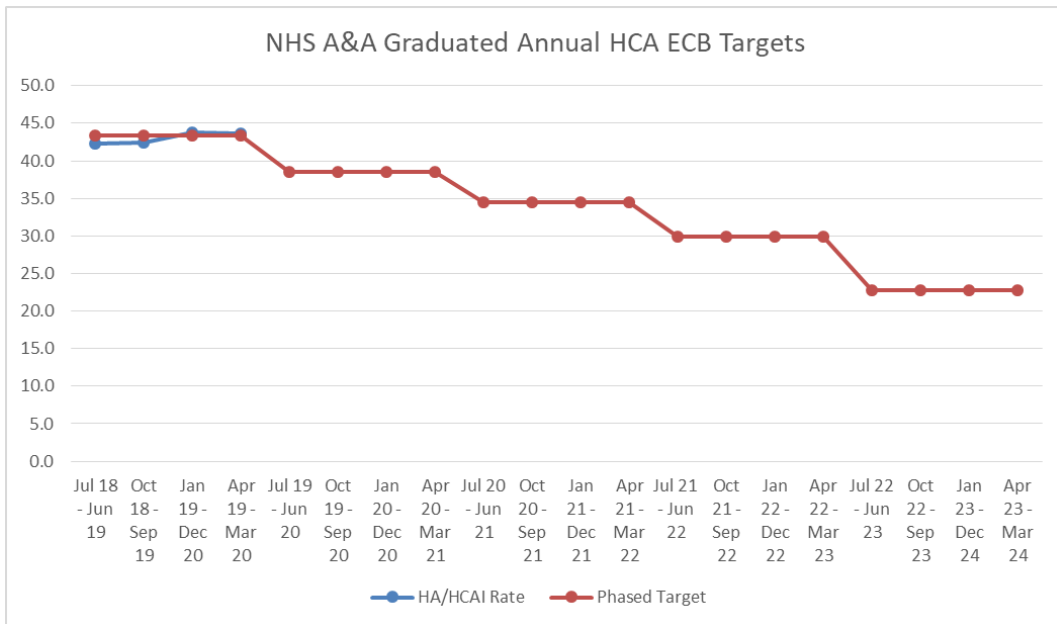


Chart 7 – NHS A&A Graduated Rolling Annual HCA Target Trajectory

There were 194 HCA ECBs in 2019-20 compared with 203 the previous year. Sixty percent were healthcare associated whilst 40% were classed as hospital acquired infections (Chart 8).

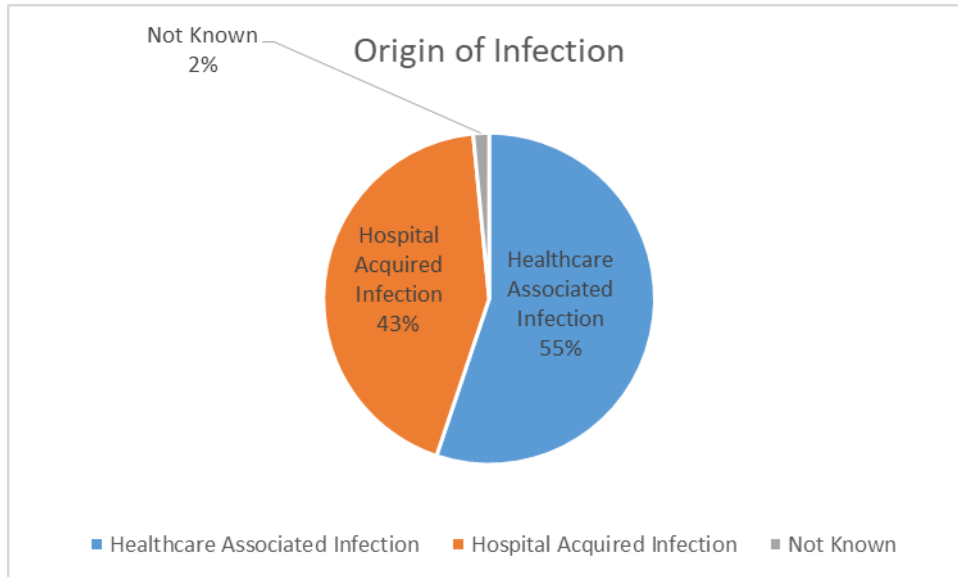


Chart 8 – Hospital Acquired/Healthcare Associated ECBs 2019-20

In 2019-20 urinary catheters were the most common source of infection accounting for 26% (Table 3). Other urinary tract sources were responsible for a further 23% of infections. Fifteen percent of cases were associated with the hepatobiliary system (liver & gall bladder) whilst no source could be identified in 22% of infections.

Source of Infection	2019-20	2018-19	Change
Urinary Catheter	51	50	↑
Not Known	42	26	↑
Hepatobiliary	30	28	↑
Pyelonephritis	22	15	↑
Lower Urinary Tract Infection	21	28	↓
Other	11	21	↓
Device – Other	6	5	↑
Osteomyelitis	3	1	↑
Contaminant	1	0	↑
Suprapubic catheter	1	0	↑
Septic Arthritis	1	0	↑
Skin	1	1	
Surgical site Infection	0	5	↓
Pneumonia	0	18	↓
Nephrostomy	0	1	↓
Suprapubic Catheter	0	1	↓
CAPD	0	1	↓
Total	194	203	

Table 3 – Source of HCA ECBs 2018 and 2019

Unfortunately due to the COVID-19 pandemic the work of the Urinary Catheter Improvement Group has been paused. This will require to be restarted to ensure a focus on reducing urinary catheter related bacteraemias.

NHS AYRSHIRE & ARRAN REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
MRSA	0	1	0	0	1	0	2	1	1	0	0	0
MSSA	7	13	8	10	9	5	8	7	14	13	9	12
Total SABS	7	14	8	10	10	5	10	8	15	13	9	12

Clostridium difficile infection monthly case numbers

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Ages 15-64	4	0	3	5	1	0	1	1	0	0	0	7
Ages 65 plus	8	9	8	11	4	6	8	11	5	4	6	5
Ages 15 plus	12	9	11	16	5	6	9	12	5	4	6	12

Hand Hygiene Monitoring Compliance (%)

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
AHP	96	97	98	96	100	97	98	100	98	100	98	90
Ancillary	93	93	98	91	91	98	93	100	97	100	97	87
Medical	95	94	100	96	94	90	91	90	95	97	88	91
Nurse	98	96	98	98	95	99	97	96	95	99	94	79
Board Total	97	96	98	97	97	97	97	96	96	99	95	92

Cleaning Compliance (%)

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Board Total	93	94	95	94	96	94	93	95	95	96	95	96

Estates Monitoring Compliance (%)

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Board Total	97	97	97	97	97	96	97	97	97	98	97	97

UNIVERSITY HOSPITAL AYR REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
MRSA	0	0	0	0	0	0	0	1	0	0	0	0
MSSA	2	3	0	0	1	0	0	0	4	1	0	1
Total SABS	2	3	0	0	1	0	0	1	4	4	0	1

Clostridium difficile infection monthly case numbers

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Ages 15-64	0	0	0	1	0	0	0	0	0	0	0	0
Ages 65 plus	1	1	3	1	2	2	0	2	0	0	2	1
Ages 15 plus	1	1	3	2	2	2	0	2	0	0	2	1

1

Cleaning Compliance (%)

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Ayr	94	94	95	94	96	94	94	94	95	95	95	95

Estates Monitoring Compliance (%)

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Ayr	96	96	96	95	96	95	94	95	96	96	96	96

UNIVERSITY HOSPITAL CROSSHOUSE REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
MRSA	0	4	0	0	1	0	1	0	1	0	0	0
MSSA	1	0	1	4	3	1	2	0	2	3	2	4
Total SABS	1	4	1	4	4	1	3	0	3	3	2	4

Clostridium difficile infection monthly case numbers

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Ages 15-64	1	0	1	0	1	0	0	0	0	0	0	1
Ages 65 plus	0	1	1	3	0	0	1	0	0	0	1	0
Ages 15 plus	1	1	2	3	1	0	1	0	0	0	1	1

Cleaning Compliance (%)

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Crosshouse	96	96	95	95	95	95	95	95	95	96	95	96

Estates Monitoring Compliance (%)

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Crosshouse	98	98	98	97	97	96	97	97	97	97	97	97

AYRSHIRE CENTRAL HOSPITAL REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
MRSA	0	0	0	0	0	0	0	0	0	0	0	0
MSSA	0	0	0	0	0	0	0	0	0	0	0	0
Total SABS	0	0	0	0	0	0	0	0	0	0	0	0

Clostridium difficile infection monthly case numbers

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Ages 15-64	0	0	0	0	0	0	0	0	0	0	0	1
Ages 65 plus	0	0	0	0	0	0	0	0	0	0	0	0
Ages 15 plus	0	0	0	0	0	0	0	0	0	0	0	1

Cleaning Compliance (%)

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
ACH	85	91	95	95	98	93	89	96	95	97	92	96

Estates Monitoring Compliance (%)

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
ACH	98	96	98	98	98	96	98	98	99	99	97	98

BIGGART HOSPITAL REPORT CARD

Staphylococcus aureus bacteraemia monthly case numbers

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
MRSA	0	0	0	0	0	0	0	0	0	0	0	0
MSSA	1	0	0	0	0	0	0	0	0	0	0	0
Total SABS	1	0	0	0	0	0	0	0	0	0	0	0

Clostridium difficile infection monthly case numbers

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Ages 15-64	0	0	0	0	0	0	0	0	0	0	0	0
Ages 65 plus	0	0	0	0	0	0	2	2	0	1	0	0
Ages 15 plus	0	0	0	0	0	0	2	2	2	1	0	0

Cleaning Compliance (%)

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Biggart	97	-	96	91	96	95	96	-	96	-	96	98

Estates Monitoring Compliance (%)

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Biggart	98	-	97	97	96	98	96	-	97	-	97	98

NHS COMMUNITY HOSPITALS REPORT CARD

- Ailsa Hospital,
- Arran War Memorial Hospital
- Arrol Park Resource Centre
- East Ayrshire Community Hospital
- Girvan Community Hospital
- Lady Margaret
- Woodland View

***Staphylococcus aureus* bacteraemia monthly case numbers**

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
MRSA	0	0	0	0	0	0	0	0	0	0	0	0
MSSA	0	1	0	0	0	0	0	0	0	0	0	0
Total SABS	0	1	0	0	0	0	0	0	0	0	0	0

***Clostridium difficile* infection monthly case numbers**

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Ages 15-64	0	0	0	0	0	0	0	0	0	0	0	0
Ages 65 plus	0	0	0	0	0	0	0	0	0	0	0	1
Ages 15 plus	0	0	0	0	0	0	0	0	0	0	0	0

NHS OUT OF HOSPITAL REPORT CARD

***Staphylococcus aureus* bacteraemia monthly case numbers**

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
MRSA	0	1	0	0	0	0	1	0	0	0	0	0
MSSA	4	5	5	6	5	4	6	7	8	9	7	7
Total SABS	4	6	5	6	5	4	7	7	8	9	7	7

***Clostridium difficile* infection monthly case numbers**

	Jul 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 20	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20
Ages 15-64	3	0	2	4	0	0	1	1	0	0	0	5
Ages 65 plus	7	6	4	7	2	4	5	1	5	3	3	3
Ages 15 plus	10	6	6	11	2	4	6	2	5	3	3	8