

# NHS Ayrshire & Arran



<b>Meeting:</b>	<b>Ayrshire and Arran NHS Board</b>
<b>Meeting date:</b>	<b>Monday 30 November 2020</b>
<b>Title:</b>	<b>Healthcare Associated Infection Report</b>
<b>Responsible Director:</b>	<b>Professor Hazel Borland, Nurse Director</b>
<b>Report Author:</b>	<b>Bob Wilson, Infection Control Manager</b>

## 1. Purpose

This is presented to the Committee 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 available position against the national Healthcare Associated Infection (HCAI) Standards together with an analysis of the *Escherichia coli* bacteraemias (ECBs) with an unknown point of entry (included at Appendix 1).

### 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

## 2.3 Assessment

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

<b>Infection</b>	<b>NHS A&amp;A Annual Rate Year Ending June 2020</b>	<b>2021-22 Target</b>	<b>2023-24 Target</b>
<i>Clostridium difficile</i> Infection	17.5	13.0	
<i>Staphylococcus aureus</i> Bacteraemia	19.4	12.4	
<i>Escherichia coli</i> Bacteraemia	44.2	34.4	22.8

Due to the impact of COVID -19 on total occupied bed days it is not possible to give a projection as the year end rates for September 2020. These will be published in January 2021.

### 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 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 IPCT provide clinical teams and managers with risk assessed advice and guidance based on national policy and best practice.

Current activity required in order to respond to COVID-19 has significantly impacted on the capacity of the IPCT to continue with routine IPC activity.

### 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. This paper was presented to Healthcare Governance Committee on 2<sup>nd</sup> November for discussion.

The data contained in Appendix 1 was discussed at the Prevention and Control of Infection Committee held on the 17<sup>th</sup> September 2020.

## **2.4 Recommendation**

This paper is for discussion and provides an update for Board members on the Board's current performance against the national HCAI standards with a specific focus on E. coli bacteraemias.

## **3. List of appendices**

The following appendices are included with this report:

Appendix 1 – Review of 2019-20 'unknown source' E. coli bacteraemias

**Subject:** Review of 2019-20 ‘unknown source’ E. coli bacteraemias

**Author(s):** Chloe Keane – Infection Control Doctor

**1.0 SITUATION**

All E. coli bacteraemias (ECBs) undergo enhanced surveillance. This involves the completion of a form (see Appendix 1), the results of which are then shared with Public Health Scotland (PHS). The Consultant Microbiologists are responsible for completing these forms when they phone out E. coli bacteraemias. The Infection Control Doctor has overall responsibility for ensuring that all forms are completed and submitted in time for quarterly returns to PHS.

The source/cause of ECBs are of great interest to Boards and PHS, as this data helps identify measures which could be taken in an attempt to reduce these infections. ECBs carry a considerable risk of mortality (at least 10%), and there are various causes, some of which are potentially preventable. As a driver, the Scottish Government has additionally set a target of a 50% reduction in all healthcare associated (HCA) ECBs by 2023-24, with an initial reduction of 25% by 2021-22. For clarity, HCA infections include all healthcare associated and all hospital acquired infections.












Compared to the previous financial year, in 2019-20 the number of HCA ‘unknown source’ ECBs increased from 26 to 42 (162% of the previous year). When the source of an ECB is recorded as unknown, this prevents any useful learning and impacts on attempts to reduce these infections. As such, a review was undertaken to better understand this increase.

**2.0 BACKGROUND**

2019-20 situation

In 2019-20, urinary catheters were the most common source of infection accounting for 26% (see table below). Other urinary tract sources were responsible for a further 23% of infections. 15% 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	
<b>Total</b>	<b>194</b>	<b>203</b>	

**Table 1 - Source of HCA ECBs in 2018 and 2019**

Of the 194 HCA ECBs in 2019-20, 55% were healthcare associated, 43% were hospital acquired, and 2% were unknown.

#### Previous audit findings in 2018

A similar audit had previously been undertaken in 2018, following a rise in ‘unknown source’ ECBs. A total of 24 cases between April and September 2018 had been recorded as source ‘not known’. 9/24 were community-acquired, 10/24 were healthcare associated, and 5/24 were hospital acquired. All of these cases were reviewed, including those that were community-acquired.

The following were identified as common factors in these ‘unknown source’ cases:

- 9/24 (38%) had long lines in situ
- 9/24 (38%) cases had malignancy
- 6/24 (25%) had neutropenic sepsis

One case had died prior to the blood culture going positive.

On retrospective review:

- 4/24 (17%) cases had a known source
- 13/24 (54%) cases had multiple possible sources
- 7/24 (29%) cases had a genuinely unknown source

The four cases with a known source on retrospective review were attributed the following sources:

- Contaminant
- Pyelonephritis
- Osteomyelitis
- Hepatobiliary

A similar retrospective audit was conducted for HCA ‘unknown source’ ECBs in 2019-20. This involved a review of culture results and notepads on Winpath (laboratory system), radiology reports on PMS, and Immediate Discharge Letters on HEPMA.

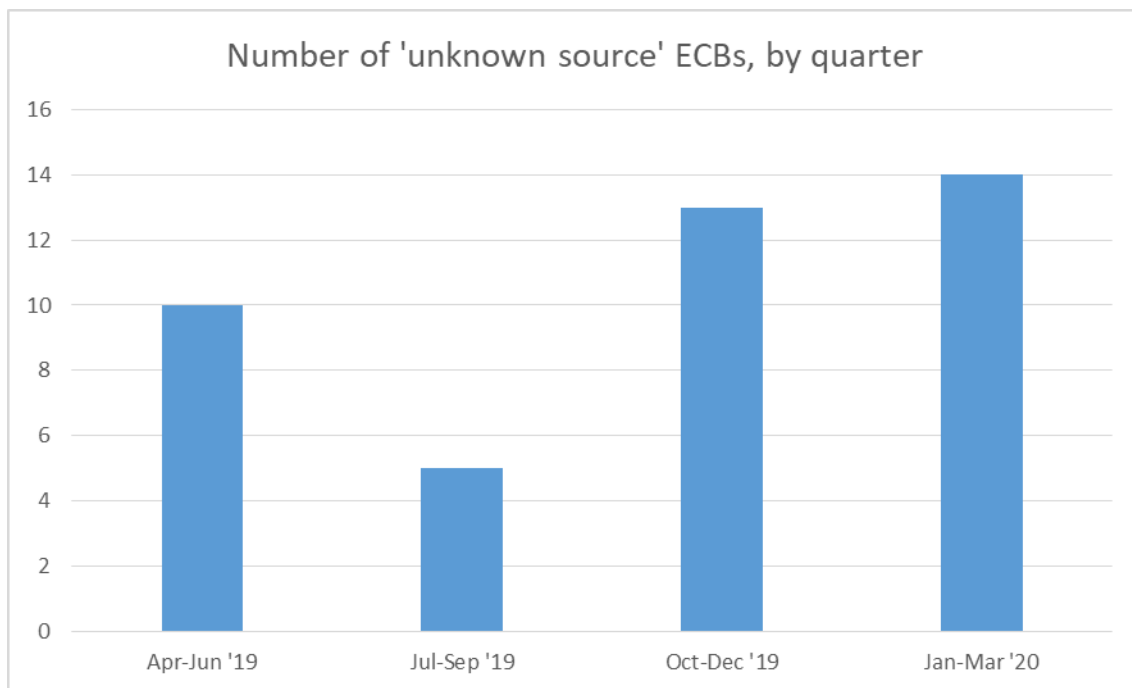
### 3.0 ASSESSMENT

#### 2019-20 audit findings

A total of 42 HCA cases recorded as source 'not known' were reviewed between April 2019 and March 2020. Only healthcare associated and hospital acquired cases were reviewed. 'Unknown source' community cases, of which there were 22, were not reviewed.

Of the 42 'unknown source' HCA cases, 20/42 (48%) were healthcare associated, 21/42 (50%) were hospital acquired, and 1/42 (2%) was unknown.

Despite the increased workload in relation to COVID-19, there wasn't a significantly raised number of 'unknown source' ECBs in the first quarter of 2020 (see graph below).



**Graph 1 – Number of 'unknown source' ECBs, by quarter**

No particularly common factors were identified.

4/42 cases (10%) had died prior to the blood culture going positive.

On retrospective review:

- 5/42 (12%) cases had a known source
- 17/42 (40%) cases had multiple possible sources
- 20/42 (48%) cases had a genuinely unknown source

### 4.0 RECOMMENDATION

The five cases with a known source on retrospective review will be changed in discussion with PHS.

As part of the surveillance additional data will now be recorded for all 'unknown source' ECBs; differentiating them into 'genuine unknowns' or 'multiple possible sources'. This is currently done for our *Staphylococcus aureus* bacteraemias.