

Agenda Item 10

Hospital Acquired Infection Performance Report



Falkirk IJB Clinical and Care Governance Committee

27 November 2020

Hospital Acquired Infection Performance Report

For Noting

1. Executive Summary

- 1.1 The purpose of this report to provide an over sight of all Hospital Acquired Infection (HAI) related activity across Falkirk Community Hospital and Bo'ness Community Hospitals from July 2020 – September 2020. Included in the report are details of all *Staph aureus* bacteraemias (SABs), *Clostridioides difficile* Infections (CDIs), *Escherichia coli* Bacteraemia (ECBs) and Device Associated Bacteraemias (DABs) for these areas with a brief summary of the investigations that have been carried out. The report also provides details of COVID-19 work. The report contains more graphs to enable the reader to have a more comprehensive and clearer understanding of the data.

2. Recommendations

The Clinical and Care Governance Committee is asked to:

- 2.1 note the report.

3. Background

- 3.1 NHS Forth Valley recognises importance of the prevention and control of infections. The Board supports the principle that infections should be prevented wherever possible or, where this is not possible, minimised to an irreducible level and that effective systematic arrangements for the surveillance, prevention and control of infection are provided within the Board.
- 3.2 The Board has in place a programme for prevention, surveillance, active investigation, and control of infection in patients, staff and visitors to the Board. This programme is the responsibility of all staff, not just the central Infection Prevention & Control Team (IPCT), and the delegation to and acceptance of this responsibility by clinical divisional and corporate teams has increased and is key to success. The infection control programme aims to continuously review and build on existing activity, driven by local needs, while incorporating and complying with the latest relevant strategy and regulations as laid out by Health Protection Scotland (HPS).

4. Hospital Acquired Infection Performance Report

- 4.1 The HAI related activity across Falkirk Community Hospital and Bo'ness Community Hospital for the reporting period is attached at Appendix 1. This includes details of all HAI activities across both sites including brief summaries of the investigations carried out where appropriate. The CCGC will note from the appendix that there are no concerns and that appropriate actions continue to be taken.

5. Conclusions

- 5.1 COVID-19 has presented many challenges during this pandemic, and national and local restrictions continue due to clusters of COVID-19 outbreaks and increasing numbers of community transmissions. In addition to this risk, as winter approaches, influenza and norovirus infections will increase in frequency and will present additional challenges to Forth Valley this year.
- 5.2 This report to CCGC is part of the monthly and quarterly reporting through NHS FV governance structures.

Resource Implications

There is no resource implication arising from the report.

Impact on IJB Outcomes and Priorities

There is no direct impact resulting from the recommendations of this report.

Legal & Risk Implications

There are no legal or risk implications arising from the report and data presented.

Consultation

No consultation was required to develop the report although the author recognises and thanks members of the oversight group for their contribution to the report.

Equalities Assessment

There are no equalities impacts arising from the report.

6. Report Author

Jonathon Horwood, Area Infection Control Manager

7. List of Background Papers

n/a

8. Appendices

Appendix 1: HAI Performance Report July – September 2020

Hospital Acquired Infection Performance Report

Reporting Period
July - September



Content

1. Key challenges this quarter	3
1.1. Covid-19 Pandemic	3
1.2. Hospital Onset Covid-19	3
1.3. IPCT Support to Care Homes.....	4
2. Annual Operating Plan Target.....	5
2.1. Hospital Acquired Infection Annual Operating Plan targets for 2019-2022	5
2.2. AOP Target Progress to date.....	5
3. Staph Aureus Bacteraemias (SABs).....	7
3.1. NHS Forth Valley's approach to SAB prevention and reduction	7
4. Device Associated Bacteraemias (DABs)	8
4.1. NHS Forth Valley's approach to DAB prevention and reduction	8
5. Escherichia coli Bacteraemia (ECB).....	9
5.1. NHS Forth Valley's approach to ECB prevention and reduction	9
5.2. Healthcare ECBs	10
6. Clostridioides difficile Infections (CDIs)	10
6.1. NHS Forth Valley's approach to CDI prevention and reduction	10
7. Estate and Cleaning Compliance (per hospital).....	11
7.1. Falkirk Community & Bo'ness Hospital Estate Scores.....	12
8. Incidence/Outbreaks.....	13
8.1. Healthcare Acquired Infection Incident Reporting Template (HAIIRT).....	13
8.2. Preparations for HEI Inspections	13

1. Key challenges this quarter

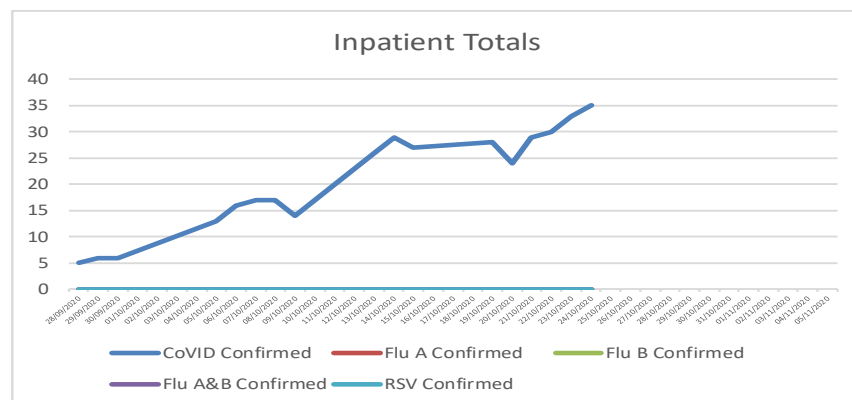
1.1. Covid-19 Pandemic

The IPCT had been closely following the COVID-19 outbreak in China since January 2020 and kept key stakeholders updated on developments before the pandemic became a global concern. As infections emerged in the UK, the IPCT developed, implemented and led a community testing service for symptomatic travellers returning from Asia and Europe. Based at Lochview Hospital, this was implemented within 6 days. Testing continues following the formal hand-over in March to Public Health to continue the testing service across Forth Valley.

At the early stages of the pandemic, national infection control guidance changed continually which caused numerous challenges across Forth Valley as knowledge and understanding of the virus improved.

The IPCT has been monitoring and reporting on a daily basis current inpatient numbers of confirmed and those investigated for CoVID-19. At its peak in April, NHSFV had over 60 inpatients, following this, inpatients numbers decreased over the month to less than 5 inpatients by the end of June. Unfortunately, COVID-19 cases have increased during September.

Graph of inpatients with confirmed and those investigated for CoVID-19 (end of September to October)



1.2. Hospital Onset Covid-19

On a weekly basis Health Protection Scotland publish infection figures based on electronic data submitted to them on the rate of COVID-19 infection that has been acquired during the patients hospital stay. This is calculated solely based on the time the patient was admitted to the hospital and the incubation period of COVID-19 (14 days). For example, if a patient stay has exceeded 14 days and became COVID-19 positive after day 14 then it is determined to be hospital acquired. Based on purely on admission times does not necessary mean hospital acquired, however, these are the limitations of the data and the report.

The table below is an extract from the report detailing COVID-19 infections and where they were acquired. NHSFV current hospital infection is 1.8% compared to the national percentage infections of 3.7%.

Table 1: Number of COVID-19 cases, by onset status and NHS board: specimen dates up to 27 September 2020.^{1,2,3}

NHS board	Total COVID-19 cases (n)	Non-hospital onset (n)	Indeterminate hospital onset cases (n)	Probable hospital onset cases (n)	Definite hospital onset cases (n)	Non-hospital onset (%)	Indeterminate hospital onset cases (%)	Probable hospital onset cases (%)	Definite hospital onset cases (%)
Ayrshire & Arran	1,658	238	20	20	46	14.4%	1.2%	1.2%	2.8%
Borders	501	63	5	7	30	12.6%	1.0%	1.4%	6.0%
Dumfries & Galloway	393	74	6	1	0	18.8%	1.5%	0.3%	0.0%
Fife	1,288	147	12	8	119	11.4%	0.9%	0.6%	9.2%
Forth Valley	1,418	166	12	9	25	11.7%	0.8%	0.6%	1.8%
Golden Jubilee	9	3	2	2	2	-	-	-	-
Grampian	2,278	198	20	23	80	8.7%	0.9%	1.0%	3.5%
Greater Glasgow & Clyde	9,002	1,329	110	95	433	14.8%	1.2%	1.1%	4.8%
Highland	599	74	9	5	23	12.4%	1.5%	0.8%	3.8%
Lanarkshire	4,169	535	55	40	123	12.8%	1.3%	1.0%	3.0%
Lothian	4,648	510	45	56	141	11.0%	1.0%	1.2%	3.0%
Orkney	22	4	0	0	0	18.2%	0.0%	0.0%	0.0%
Shetland	59	6	0	0	0	10.2%	0.0%	0.0%	0.0%
Tayside	2,492	260	17	14	47	10.4%	0.7%	0.6%	1.9%
Western Isles	28	5	0	0	0	17.9%	0.0%	0.0%	0.0%
Scotland	28,564	3,612	313	280	1,069	12.6%	1.1%	1.0%	3.7%

1. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) data and Rapid Admission Preliminary Inpatient Data (RAPID) data or local admission data.

2. NHS Golden Jubilee has been excluded from the proportions data since data for this board will not be comparable with others due to no "community onset" cases assigned to that board.

3. The data used has not been adjusted for different patient groups and size of NHS board.

1.3. IPCT Support to Care Homes

Scottish Government informed health boards across Scotland of enhanced professional clinical and care oversight of care homes and instructs each board to provide expert clinical support to care in particular focusing on infection prevention and control. As a result of this, the IPCT are working closely with public health, HSCP and Care Inspectorate staff to provide such guidance and support to care homes.

2. Annual Operating Plan Target

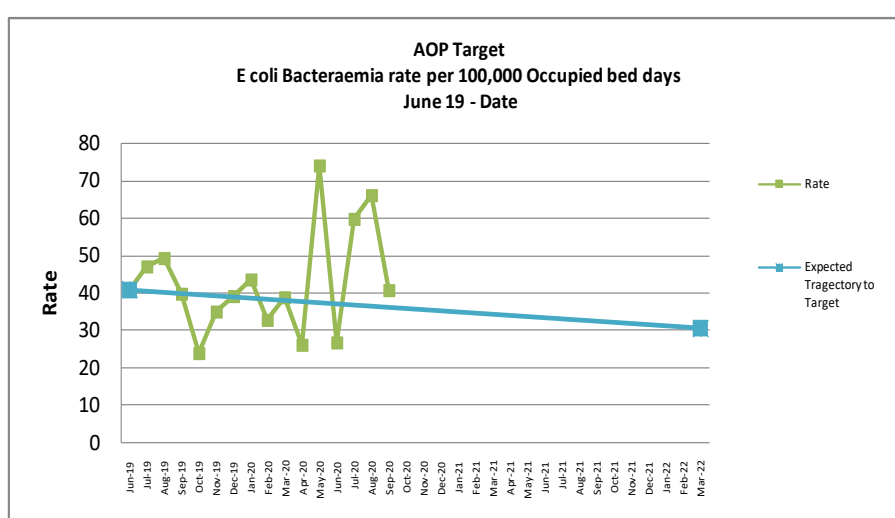
2.1. Hospital Acquired Infection Annual Operating Plan targets for 2019-2022

On the 10th October 2019, a letter was sent to all Health Board Chief Executives highlighting our new HAI targets. These targets are based on our (Forth Valley) current rates of infection and a percentage reduction has been set to be achieved by March 2022. This target is different from our previous targets and includes the reduction in hospital and healthcare acquired infections and does not include community acquired. Hospital and healthcare acquired infections are now classified as healthcare infections as it is perceived nationally that all hospital and healthcare infections are all reducible. For continuity, we will continue to report separately hospital and healthcare infections to maintain our quality and transparency in our data, however, the total number of infections will reflect on what we are reported nationally and in line with our set targets. In addition to Staph aureus bacteraemia, (SABs) and Clostridioides difficile infection (CDI) targets, Escherichia coli bacteraemia (ECB) is now included in our targets.

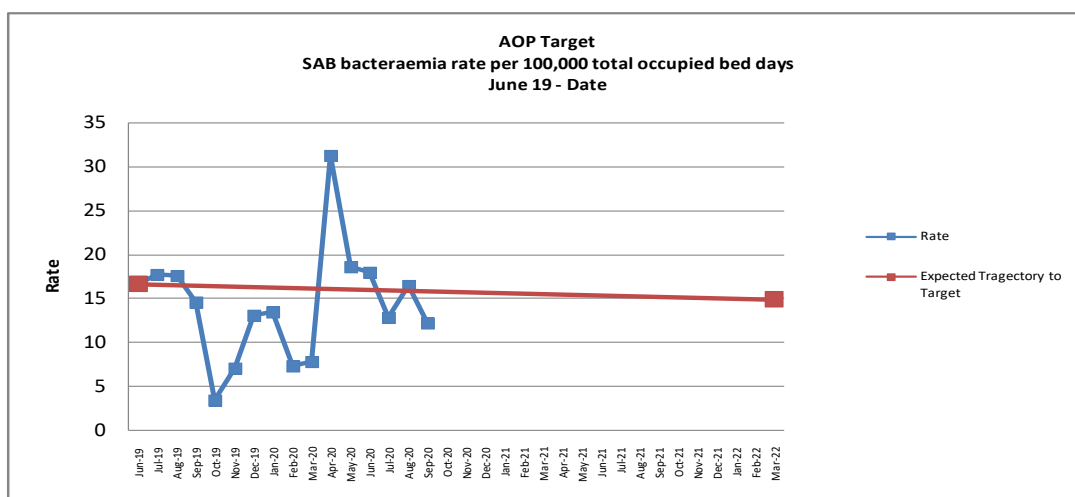
The data is currently being reformatted to address these targets and will be included in future reports. Please see table below for our new targets:

	2018/19 Rate (base line) per 100,000 total bed days	No of cases (per annum)	Reduction %	Date for reduction	Target rate per 100,000 total bed days	Target cases per annum
ECB	40.8	135	25	2022	30.6	101
SAB	16.6	55	10	2022	14.9	50
CDI	11.4	38	10	2022	10.3	34

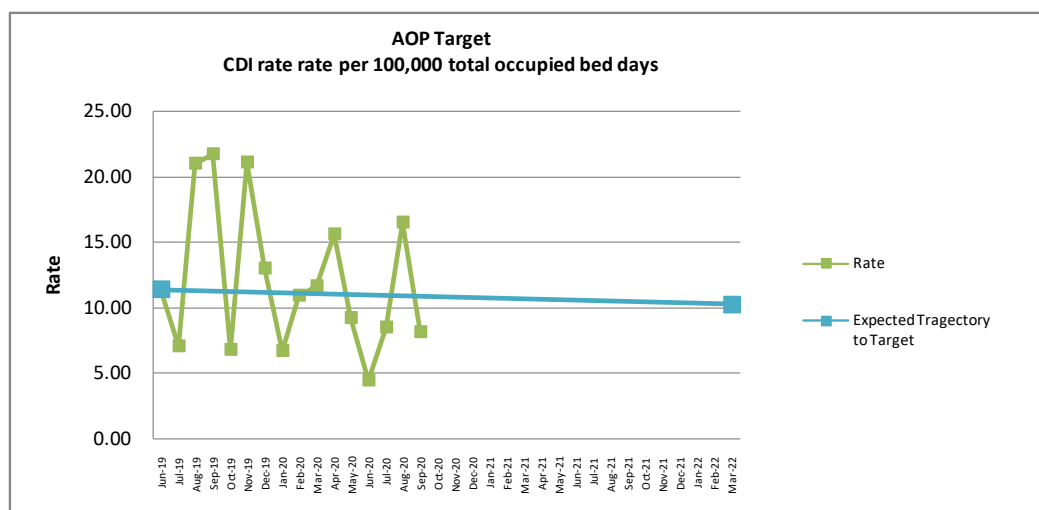
2.2. AOP Target Progress to date



Comments: Reduction is above trajectory. Please see narrative below



Comments: Reduction is on trajectory. No concerns to raise



Comments: Reduction is above trajectory. No concerns to raise

July - September 2020

Target	Status
ECB	↑
SAB	↑
CDI	↔

Comments: In July and August there were peaks in ECBs both July and August. Hospital acquired ECBs remain within control limits, however, healthcare sourced ECBs increased in July and August. September case numbers have decreased and it is hoped that case numbers return to expected norms over the coming months.

3. Staph Aureus Bacteraemias (SABs)

All blood cultures that grow bacteria are reported nationally and it was found that *Staph aureus* became the most common bacteria isolated from blood culture. As *Staph aureus* is an organism that is found commonly on skin it was assumed (nationally) the bacteraemias occurred via a device such as a peripheral vascular catheter (PVC) and as such a national reduction strategy was initiated and became part of the then HEAT targets in 2006. The target was a national reduction rather than a board specific reduction, however the latest target set for 2019-2022 are Board specific, based on our current infection rates.

3.1. NHS Forth Valley's approach to SAB prevention and reduction

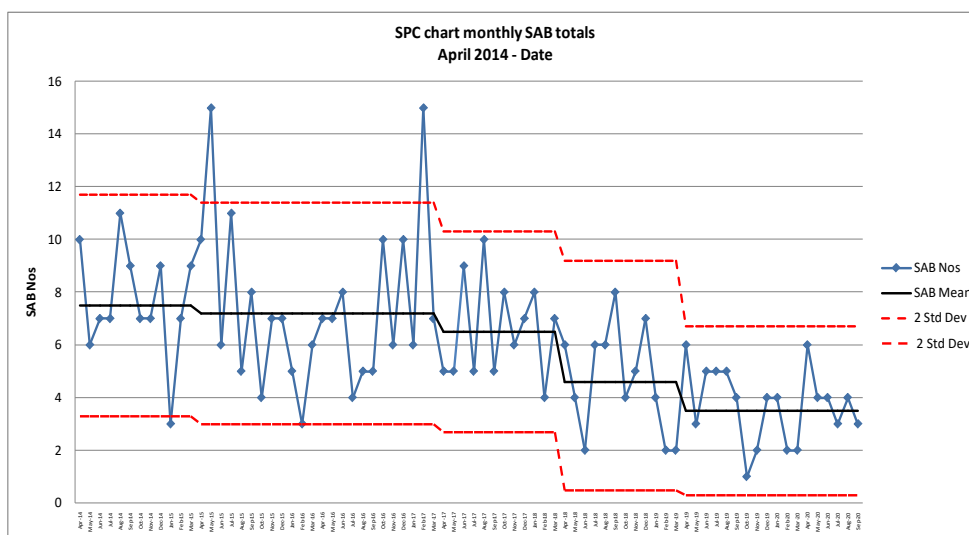
All *Staph aureus* bacteraemia are monitored and reported by the IPCT. Investigations to the cause of infection consist of examining the patients notes, microbiology, biochemistry and haematology reports to identify potential causes of the infection; from this, in most cases, a provisional cause is identified, however this is discussed further with the clinical team responsible for the management of the patient to assist further with the investigation. Any issues identified during the investigations, such as incomplete bundle completion etc is highlighted at this time and where appropriate an IR1 is reported. Once a conclusion has been agreed, the investigations are presented to the Infection Control Doctor/Microbiologist for approval. The investigation is concluded with the IPCT reporting their findings to the clinical team and management.

This data is entered into the IPCT database collated, analysed and reported on a monthly basis. The analysis of the data enables the IPCT to identify trends in particular sources of infections, such as Hickman line infections etc and identifying areas requiring further support. The data also influences the direction of the HAI annual workplan.

Staph aureus bacteraemia total - April 20 to date = 36

	April - June	July - Sept
Hospital	2	6
Healthcare	11	17
Nursing Home	0	0
Quarterly Total	13	23

Hospital	No of SABs
Falkirk Community Hospital	0
Bo'ness Community Hospital	0



Comments: Case numbers remain within control limits, no concerns to raise.

4. Device Associated Bacteraemias (DABs)

In addition to the nationally set targets, infections from an invasive device caused by *Staph aureus* would be investigated fully and reported, any other organism causing the same infection was not mandated to report nationally or to be investigated. As a result of this, in 2014, the IPCT started reporting all bacteraemias attributed to an invasive device regardless of the bacterium causing the infection. Due to the importance and significance of this surveillance, it is now part of our local AOP

4.1. NHS Forth Valley's approach to DAB prevention and reduction

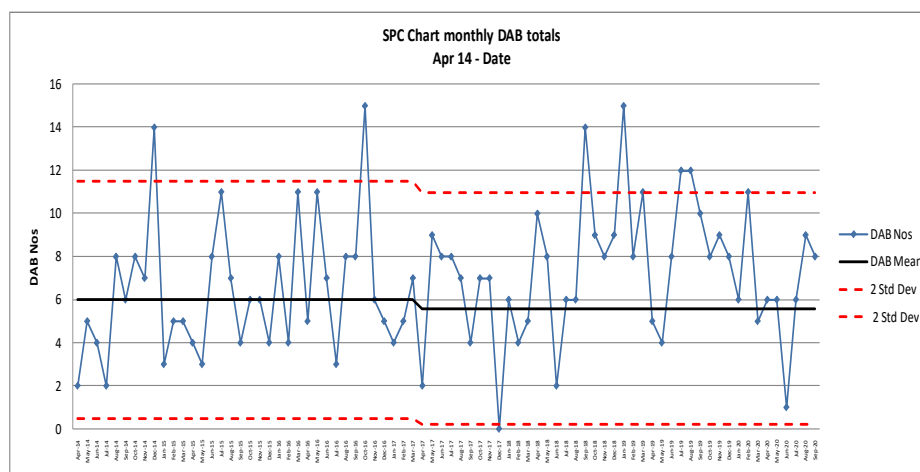
Continual monitoring and analysis of local surveillance data enables the IPCT and managers to identify and work towards ways to reduce infections associated with devices. All DABs are reviewed and investigated fully and highlighted to the patients' clinicians, nursing staff and management. Where appropriate an IR1 is generated to enable infections that require learning is shared and discussed at local clinical governance meetings.

In addition, on a weekly basis the IPCT assess bundle compliance of three invasive devices peripheral vascular catheters (PVCs), urinary catheters, central venous catheters (CVCs) etc) as part of their ward visit programme and this is reported in the monthly Directorate Reports.

Device associated bacteraemia total - April 20 to date =36

	April - June	July - Sept
Hospital	2	6
Healthcare	11	17
Nursing Home	0	0
Quarterly Total	13	23

Hospital	No of DABs
Falkirk Community Hospital	0
Bo'ness Community Hospital	0



Comments: Case numbers remain within control limits, no concerns to raise.

5. Escherichia coli Bacteraemia (ECB)

5.1. NHS Forth Valley's approach to ECB prevention and reduction

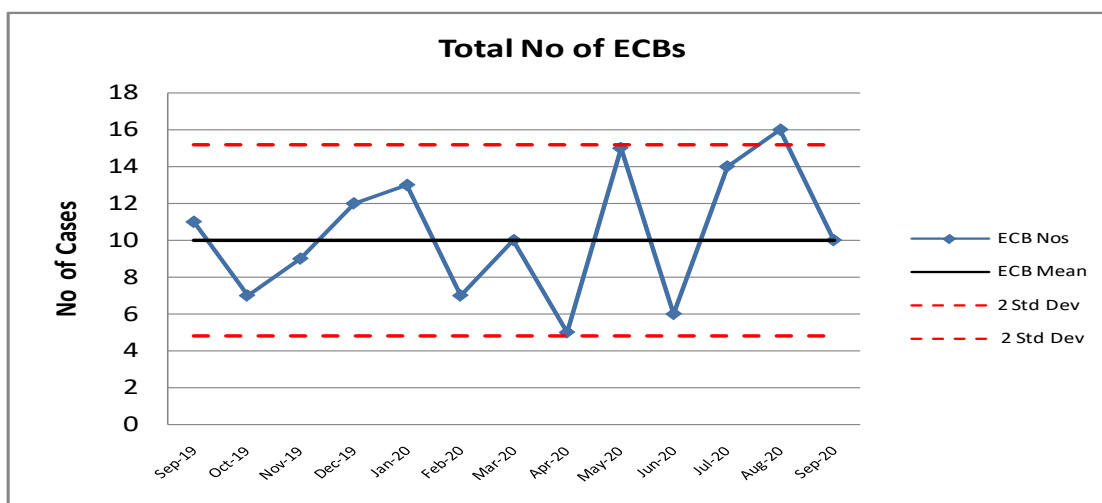
Escherichia coli (E coli) is one of the most predominant organism of the gut flora and for the last several years the incidence of E coli isolated from blood cultures i.e. causing sepsis, has increased so much that it is the most frequently isolated organism in the UK. As a result of this, the Healthcare Acquired Infection (HAI) Policy Unit has now included E coli as part of the AOP targets. The most common cause of E coli bacteraemia (ECB) is from complications arising from urinary tract infections (UTIs), hepato-biliary infections (gall bladder infections) and urinary catheters infections.

In NHS Forth Valley, device associated bacteraemias (DABs) surveillance has been ongoing since 2014 and have seen a reduction in urinary catheter bacteraemias over the years including E. coli associated infections and will hope to continue to reduce so to achieve our target for 2022.

E coli bacteraemia infection total – April 20 to date = 67

	April - June	July -Sept
Hospital	4	9
Healthcare	22	31
Nursing Home	1	0
Quarterly Total	27	40

Hospital	No of ECBs
Falkirk Community Hospital	0
Bo'ness Community Hospital	0



Comments: Case numbers exceeded control limits in May. Please refer to narrative below.

5.2. Healthcare ECBs

Similar to last quarter, healthcare ECBs had exceeded control limits in August. Urinary and urinary catheter sourced predominate this quarter infections. Investigations of the urinary catheters associated infections highlighted regular visits by district nursing for the care of the catheter; causes of infection varied and included recent catheter changes, traumatic removal and no identified causes. Infection rates returned to normal expected values in September. As these infections developed in the community it could be speculated that given the current Covid-19 pandemic, patient apprehensions to seek early medical attention might have been the reason for this increase. Anecdotally, boards across Scotland have also seen increases in ECB bacteraemias.

6. Clostridioides difficile Infections (CDIs)

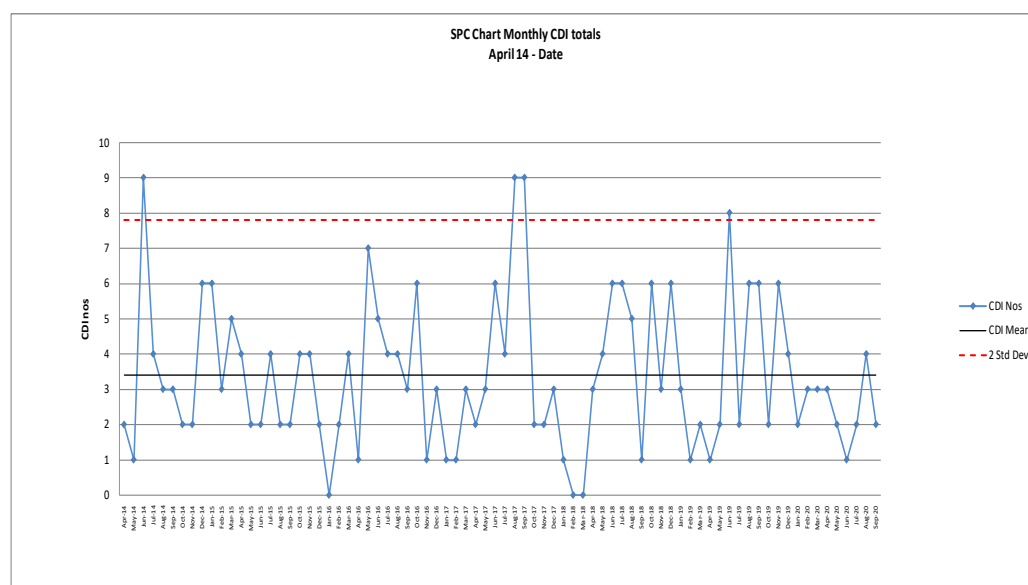
6.1. NHS Forth Valley's approach to CDI prevention and reduction

Similar to our SABs and DABs investigation, patient history is gathered including any antibiotics prescribed over the last few months. Discussion with the clinical teams and microbiologists assist in the determination and conclusion of the significance of the organism, as sometimes the organism isolated can be an incidental finding and not the cause of infection. Data is shared with the antimicrobial pharmacist and cases are discussed at the Antimicrobial Management Group to identify inappropriate antimicrobial prescribing.

Clostridioides difficile infection total - April 20 to date = 14

	April - June	July - Sept
Hospital	1	0
Healthcare	5	8
Nursing Home	0	0
Quarterly Total	6	8

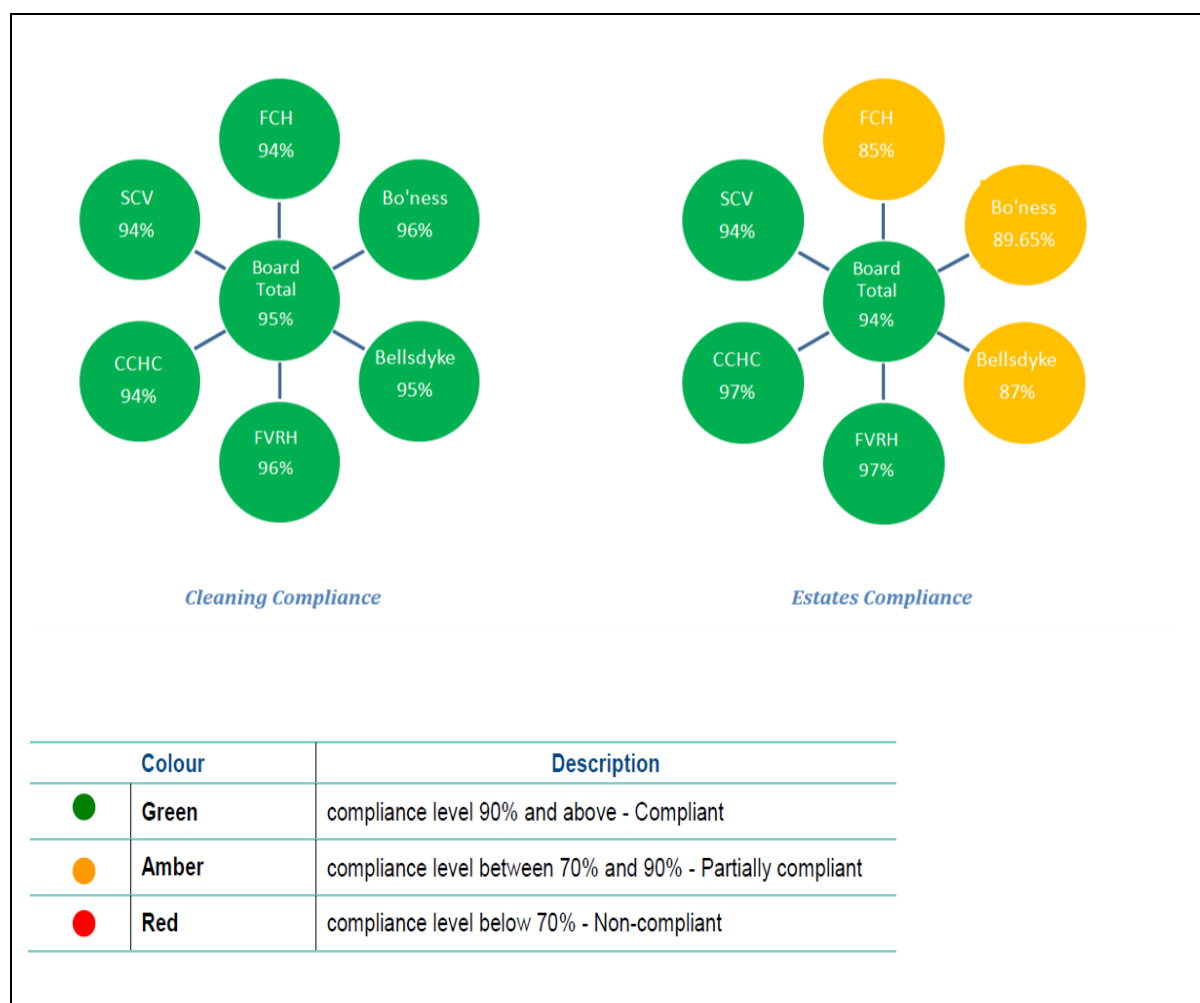
Hospital	No of CDIs
Falkirk Community Hospital	0
Bo'ness Community Hospital	0



Comments: Case numbers remain within control limits, no concerns to raise.

7. Estate and Cleaning Compliance (per hospital)

The data is collected through audit by the Domestic Services team using the Domestic Monitoring National Tool and areas chosen within each hospital is randomly selected by the audit tool. Any issues such as inadequate cleaning is scored appropriately and if the score is less than 80% then a re-audit is scheduled. Estates compliance is assessed whether the environment can be effectively cleaned; this can be a combination of minor non-compliances such as missing screwcaps, damaged sanitary sealant, scratches to woodwork etc. The results of these findings are shared with Serco/Estates for repair. Similar to the cleaning audit, scores below 80% triggers a re-audit.



7.1. Falkirk Community & Bo'ness Hospital Estate Scores

This quarter the estate score from Falkirk Community Hospitals were 85%, compared to the previous quarter of 87%. Bo'ness has fallen very slightly under 90% changing from green to amber this quarter. Please note. It must be recognised that this reporting quarter was at the height of COVID-19 and the number of audits were significantly restricted and reduced so the overall scores may reflect this.

8. Incidence/Outbreaks

Incidence and outbreaks across NHSFV are identified primarily through ICNet, microbiology or from the ward. ICNet is the IPCT data management system that automatically identifies clusters of infections and specific organisms such as MRSA, admission of patients with known infections etc to enable timely patient management to prevent any possible spread of infection. The identification of outbreaks is determined following discussion with the Microbiologist. In the event of a declared outbreak a Problem Assessment Group or Incident Management Team meeting is held with staff from the area concerned and actions are implemented to control further infection and transmission.

All outbreaks are notified to Health Protection Scotland and Scottish Government (see below for further details).

Month	Type of outbreak	Ward	No of patients affected	Summary of outbreak
There were no outbreaks/incidents this quarter				

8.1. Healthcare Acquired Infection Incident Reporting Template (HAIIRT)

The HAIIT is a tool used by boards to assess the impact of an incident or outbreak. The tool is a risk assessment and allows boards to rate the incident/outbreak as a red, amber, or green. The tool also directs boards whether to inform Health Protection Scotland/SGHD of the incident (if amber or red), release a media statement etc.

- HAIIT **Green** – None reported this quarter
- HAIIT **Amber** – None reported this quarter
- HAIIT **Red** – None reported this quarter

8.2. Preparations for HEI Inspections

As a result of the COVID-19 pandemic, in April, the HEI Inspectorate decided to suspend all unannounced inspections across Scotland. As case numbers decline and Scotland is now in phase 3, the Inspectorate unannounced have resumed inspections focusing on both acute and community Hospitals. Stakeholders are aware and assurance checks are being performed in all areas to ensure all sites are HEI inspection ready.