

Agenda Item 11

Hospital Acquired Infection Performance Report



Falkirk IJB Clinical and Care Governance Committee

20 May 2022

Hospital Acquired Infection Performance Report

For Consideration and Comment

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 January 2022 to March 2022. 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.
- 1.2 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 consider and comment on the report.

3. Background

- 3.1 NHS Forth Valley recognises the 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 ARHAI Scotland.

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 January – March 2022 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.
- 4.2 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 continues to present many challenges across the hospital sites and inpatient cases have fluctuated this quarter.
- 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 January 2022 – March 2022

Healthcare Acquired Infection Performance Report

Reporting Period
January 2022 – March 2022



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)..... | 10 |
| 5.1. NHS Forth Valley's approach to ECB prevention and reduction | 10 |
| 6. Clostridioides difficile Infections (CDIs) | 11 |
| 6.1. NHS Forth Valley's approach to CDI prevention and reduction | 11 |
| 7. Estate and Cleaning Compliance (per hospital) | 12 |
| 7.1. Falkirk Community & Bo'ness Hospital Estate and Cleaning Scores | 12 |
| 8. Incidence/Outbreaks..... | 13 |
| 8.1. Healthcare Acquired Infection Incident Template (HAIT)..... | 13 |

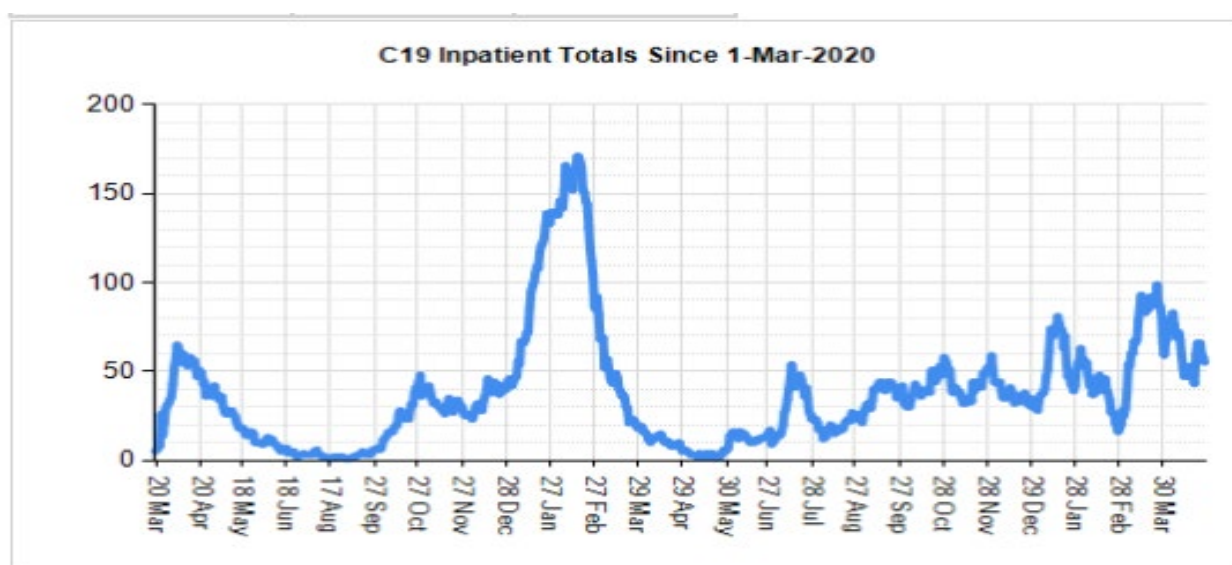
1. Key challenges this quarter

1.1. Covid-19 Pandemic

This quarter COVID-19 hospital case numbers peaked twice. The first peak was due to the Omicron variant with a following peak of the OB2 sub variant towards the end of the quarter. These peaks did have an impact on reported outbreaks across the hospital sites (8 outbreaks in total) especially in January and March. Observations of positive cases suggested a milder infection and ICU admissions specifically associated with COVID-19 had reduced.

There were 8 COVID-19 related outbreaks reported for this quarter across NHSFV. There was one reported outbreak in Bo'ness hospital.

Graph of inpatients with confirmed Covid -19



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 purely on admission times does not necessarily 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. NHS Forth Valley's rate for hospital onset COVID is currently 0.3% compared to the national rate of 0.4%.

Table 1: Number of COVID-19 cases, by onset status and NHS board: specimen dates up to 03 April 2022.^{1,2,3,4}

| 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 | 129,997 | 1,791 | 259 | 417 | 851 | 1.4% | 0.2% | 0.3% | 0.7% |
| Borders | 29,866 | 194 | 52 | 56 | 137 | 0.6% | 0.2% | 0.2% | 0.5% |
| Dumfries & Galloway | 41,141 | 575 | 54 | 24 | 89 | 1.4% | 0.1% | 0.1% | 0.2% |
| Fife | 119,023 | 1,102 | 121 | 93 | 461 | 0.9% | 0.1% | 0.1% | 0.4% |
| Forth Valley | 107,004 | 1,360 | 151 | 127 | 361 | 1.3% | 0.1% | 0.1% | 0.3% |
| Golden Jubilee | 61 | 34 | 13 | 6 | 8 | - | - | - | - |
| Grampian | 166,348 | 1,188 | 138 | 142 | 452 | 0.7% | 0.1% | 0.1% | 0.3% |
| Greater Glasgow & Clyde | 434,816 | 4,791 | 979 | 1,034 | 2,497 | 1.1% | 0.2% | 0.2% | 0.6% |
| Highland | 85,311 | 578 | 54 | 41 | 182 | 0.7% | 0.1% | 0.0% | 0.2% |
| Lanarkshire | 256,200 | 1,753 | 492 | 480 | 958 | 0.7% | 0.2% | 0.2% | 0.4% |
| Lothian | 301,905 | 2,724 | 433 | 528 | 1,203 | 0.9% | 0.1% | 0.2% | 0.4% |
| Orkney | 4,781 | 25 | 1 | 1 | 5 | 0.5% | 0.0% | 0.0% | 0.1% |
| Shetland | 5,700 | 29 | 1 | 1 | 0 | 0.5% | 0.0% | 0.0% | 0.0% |
| Tayside | 128,524 | 1,744 | 217 | 259 | 581 | 1.4% | 0.2% | 0.2% | 0.5% |
| Western Isles | 6,625 | 40 | 3 | 5 | 13 | 0.6% | 0.0% | 0.1% | 0.2% |
| Scotland | 1,817,302 | 17,928 | 2,968 | 3,214 | 7,798 | 1.0% | 0.2% | 0.2% | 0.4% |

De-escalation of COVID-19 Guidance

Next quarter, it is expected that current COVID-19 guidance will change as part of de-escalation of the pandemic restrictions enabling Boards to follow the National Infection Prevention and Control Manual and Transmission Based Precautions (TBPs) rather than specific COVID-19 guidance such as the Winter Respiratory Pathway. Stakeholders will be consulted prior to any proposed changes following this step down to ensure patients and staff remain safe.

1.3. IPCT Support to Care Homes

The Care Assurance Team is responsible for care homes in providing support, education and oversight. The Care Assurance Team assess nursing care to residents at care homes and provides advice and guidance to staff in minimising the risk of transmission of COVID-19. Two members of the IPCT now provide specialist expertise to the team and to care homes.

Over this last quarter formal outbreaks have fallen giving rise to the Care Assurance Team to provide a proactive supportive function in relation to general nursing care and infection prevention and control. The IPC Gold standard tool, a supportive document to enable care homes to main IPC standards is currently being rolled out across care homes.

New National IPC Standards

Following the consultation period of the new IPC Standards, the publication of the standards is expected in May 2022. The Care Inspectorate is anticipated to manage this rollout, however, the current IPC support within the Care Assurance Team will also provide advice and guidance to care homes going forward.

2. Annual Operating Plan Target

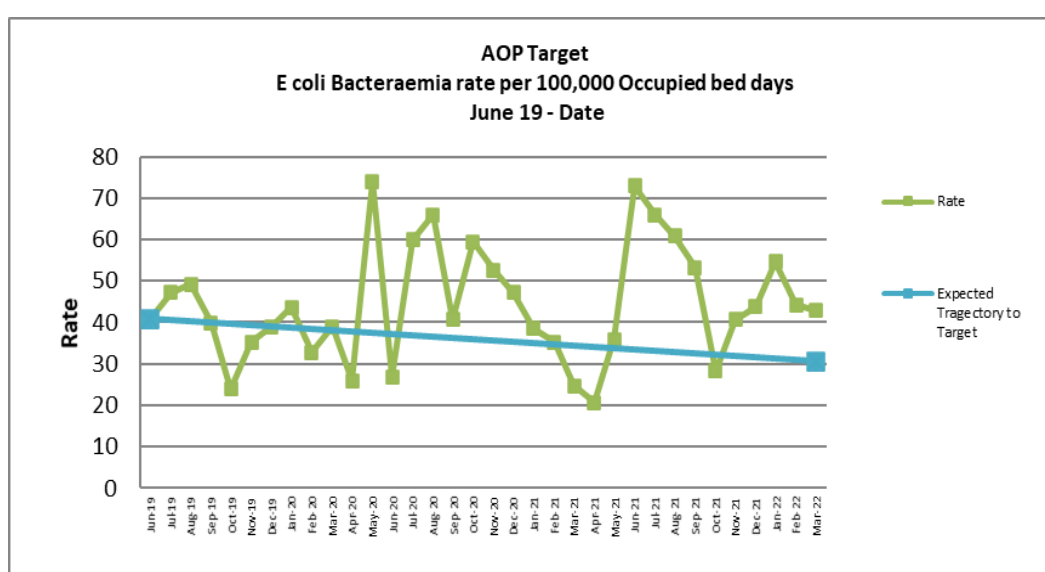
2.1. Hospital Acquired Infection Annual Operating Plan targets for 2019-2022

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.

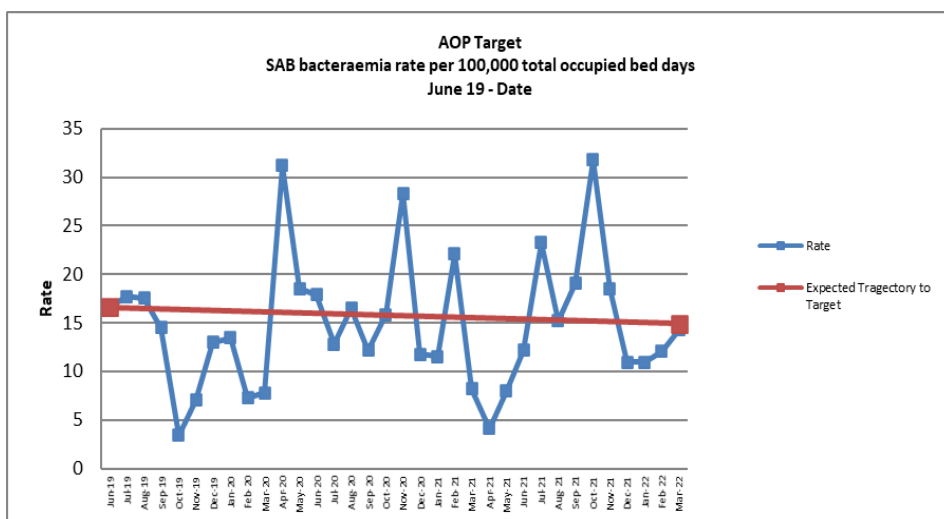
The data is currently being reformatted to address these targets and will be included in future reports. Please see table below for our new targets:

| | 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 |

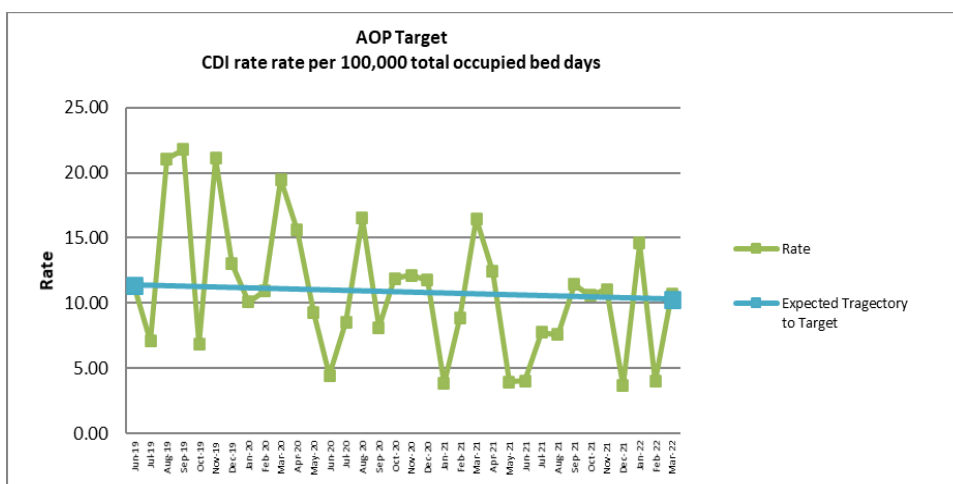
2.2. AOP Target Progress to date



Comments: Infection rate has remained consistent this quarter.



Comments: Infection rate has remained consistent this quarter.



Comments: Infection rate has remained consistent this quarter.

The table below shows the current rate and the target rate to date.

| Target Organism | Target Rate (per 100,000 total bed days) | Current Rate April 21 - date (per 100,000 total bed days) | Status |
|-----------------|--|---|--------------------------|
| ECB | 30.6 | 47.1 | Target not met |
| SAB | 14.9 | 15.0 | Likely to achieve target |
| CDI | 10.3 | 8.5 | Target achieved |

Potential extension to AOP targets to March 2023

The CNO is currently considering the potential extension of the AOP targets to March 2023 due to the additional pressures of the pandemic over the last two years.

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

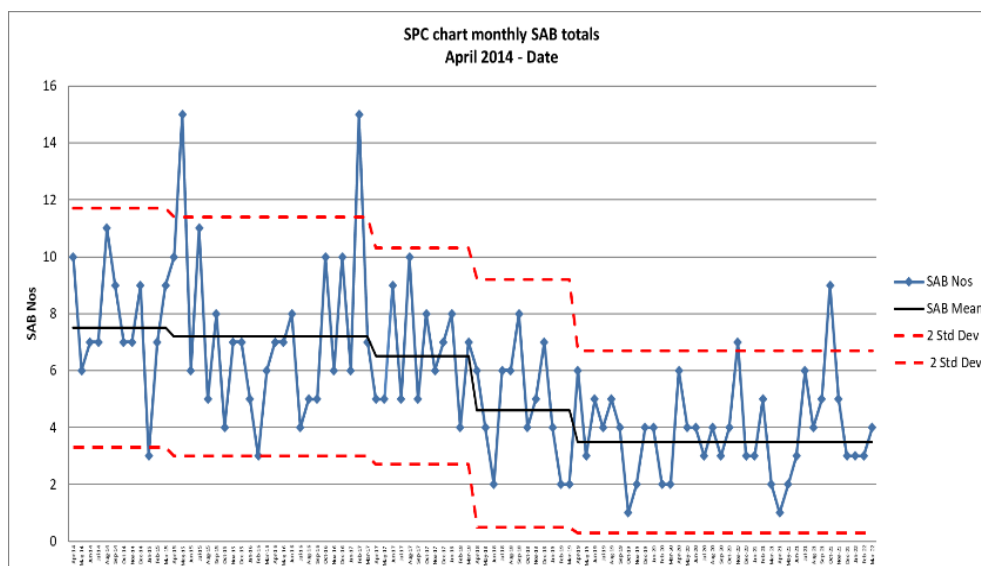
All *Staph aureus* bacteraemia are monitored and reported by the IPCT. Investigations to the cause of infection consist of examining the patients notes, microbiology, biochemistry and haematology reports to identify potential causes of the infection; from this, in most cases, a provisional cause is identified, 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.

January - March 2022

| | Oct – Dec 2021 | Jan- Mar 2022 |
|------------------------|----------------|---------------|
| Hospital | 4 | 5 |
| Healthcare | 12 | 5 |
| Nursing Home | 1 | 0 |
| Quarterly Total | 17 | 10 |

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



Comments: This quarter has seen a decrease in SABs compared to the last quarter and case numbers remained within control limits.

There were no reported cases in Falkirk or Bo'ness hospitals this quarter.

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

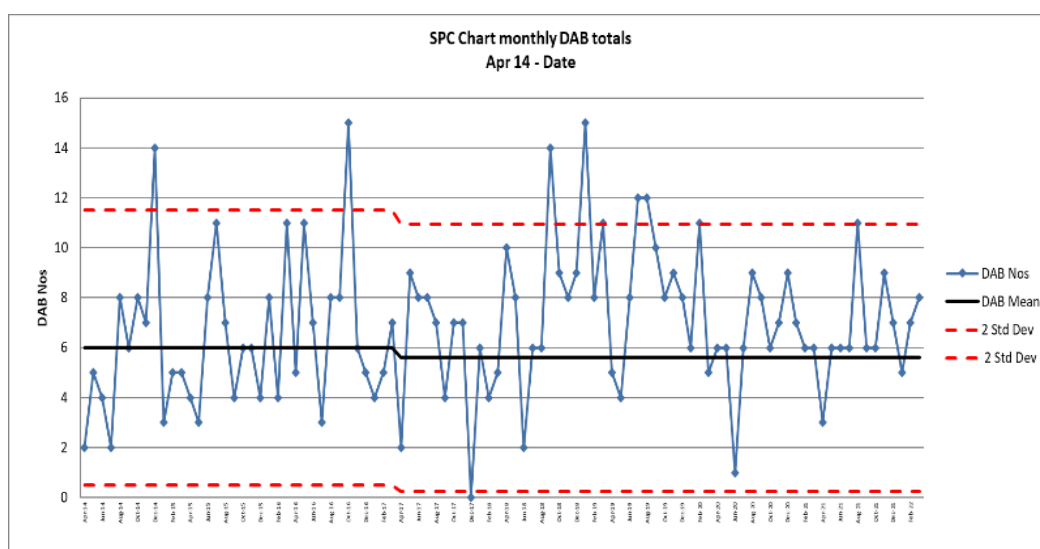
Continual monitoring and analysis of local surveillance data enables the IPCT and managers to identify and work towards ways to reduce infections associated with devices. All DABs are reviewed and investigated fully and highlighted to the patients' clinicians, nursing staff and management. Where appropriate 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.

January – March 2022

| | Oct – Dec 2021 | Jan – Mar 2022 |
|-----------------|----------------|----------------|
| Hospital | 10 | 6 |
| Healthcare | 11 | 12 |
| Nursing Home | 1 | 2 |
| Quarterly Total | 22 | 20 |

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



Comments: This quarter has remained stable in reported cases compared to the previous quarter; Case numbers remained within control limits.

There were no reported DABs for Falkirk or Bo'ness hospitals this quarter.

5. Escherichia coli Bacteraemia (ECB)

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

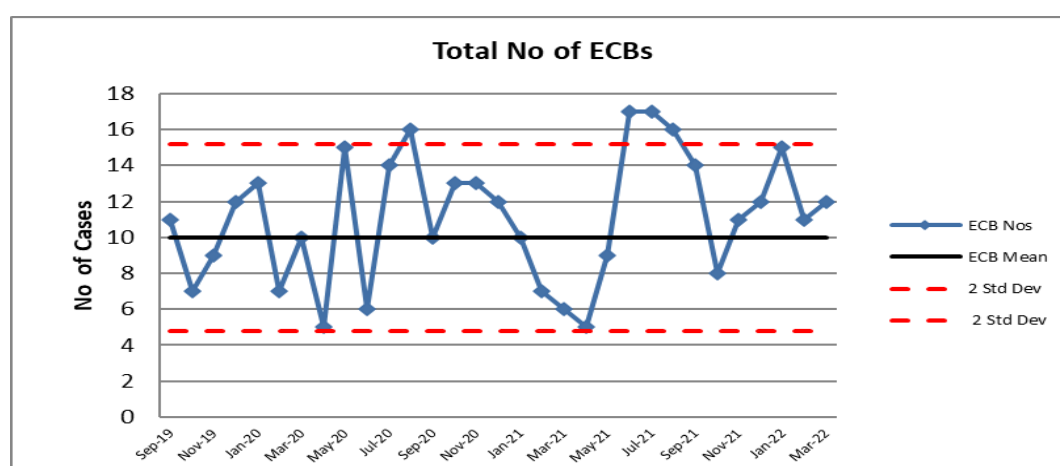
Escherichia coli (E coli) is one of the most predominant organism of the gut flora and for the last several years the incidence of E coli isolated from blood cultures i.e. causing sepsis, has increased so much that it is the most frequently isolated organism in the UK. As a result of this, the Healthcare 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.

January – March 2022

| | Oct – Dec 2021 | Jan – Mar 2022 |
|------------------------|----------------|----------------|
| Hospital | 16 | 10 |
| Healthcare | 17 | 23 |
| Nursing Home | 3 | 5 |
| Quarterly Total | 36 | 38 |

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



Comments: This quarter has seen a slight increase in total reported cases, hospital sourced infections have decrease but increases were seen in healthcare and nursing home sources. Total case numbers have remained within control limits this quarter.

There were no reported ECBs from Falkirk or Bo'ness hospitals this quarter.

6. Clostridioides difficile Infections (CDIs)

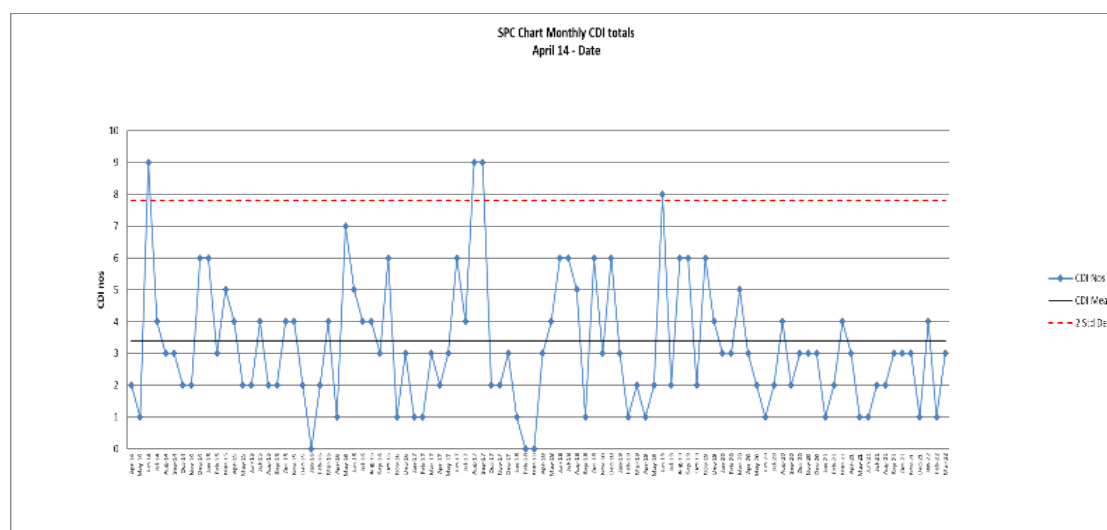
6.1. NHS Forth Valley's approach to CDI prevention and reduction

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.

January – March 2022

| | Oct – Dec 2021 | Jan – Mar 2022 |
|------------------------|----------------|----------------|
| Hospital | 4 | 5 |
| Healthcare | 3 | 3 |
| Nursing Home | 0 | 0 |
| Quarterly Total | 7 | 8 |

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



Comments: Reported CDI case numbers have remained stable compared to the last quarter and remained within control limits this quarter.

No reported cases were identified in either Bo'ness or Falkirk community hospitals this quarter.

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.

Board wide totals




| | Apr - June 2021 | July – Sept 2021 | Oct- Dec 2021 | Jan – Mar 2022 |
|----------|--------------------|---------------------|------------------|-------------------|
| Cleaning | 95 | 95 | 95 | 95 |
| Estates | 95 | 94 | 95 | 95 |

Falkirk Community Hospital

| | Apr - June 2021 | July – Sept 2021 | Oct- Dec 2021 | Jan – Mar 2022 |
|----------|--------------------|---------------------|------------------|-------------------|
| Cleaning | 93 | 93 | 95 | 94 |
| Estates | 89 | 89 | 89 | 86 |

Bo'ness Hospital

| | Apr - June 2021 | July – Sept 2021 | Oct- Dec 2021 | Jan – Mar 2022 |
|----------|--------------------|---------------------|------------------|-------------------|
| Cleaning | 97 | 94 | 96 | 95 |
| Estates | 90 | 90 | 97 | 94 |

| | Colour | Description |
|---|--------|--|
|  | Green | compliance level 90% and above - Compliant |
|  | Amber | compliance level between 70% and 90% - Partially compliant |
|  | Red | compliance level below 70% - Non-compliant |

7.1. Falkirk Community & Bo'ness Hospital Estate and Cleaning Scores

Both cleaning and estate scores remained consistent over the last quarter, however there was a slight reduction in the estate score for Falkirk Community Hospital. Results from the monthly audits which provide the above scores are discussed at the Estates Compliance Group to look at ways to improve the scores.

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 ARHAI Scotland and Scottish Government (see below for further details).

8.1. Healthcare Acquired Infection Incident Template (HAIT)

The HAIT 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 ARHAI Scotland/SG of the incident (if amber or red), release a media statement etc.

- HAIT **Green** – None reported this quarter
- HAIT **Amber** – One was reported this quarter
- HAIT **Red** – None reported this quarter

All outbreaks are notified to Health Protection Scotland and Scottish Government.

There was one reported COVID-19 outbreak for this quarter in Bo'ness Hospital:

| Month of outbreak | Outbreak | Ward | No of patients affected |
|-------------------|----------|----------------|-------------------------|
| January | COVID-19 | Bo'ness Ward 2 | 10 patients confirmed |