

# **Agenda Item**

**9**



**Subject:** Healthcare Associated Infection Quarterly Report, April - June 2019

**Meeting:** Clinical & Care Governance Committee

**Date:** 22 August 2019

**Submitted By:** Area Infection Control Manager

**Action:** For Noting

## **1. Introduction**

The Healthcare Associated Infection (HAI) Quarterly Report is a reporting tool which allows the Committee to have oversight of the national Healthcare Associated Infections (HAI) targets in regard to - *Staph aureus* bacteraemias (SABs), *Clostridioides difficile* infections (CDIs), device associated bacteraemias (DABs), incidents and outbreaks and all HAI other activities across NHS Forth Valley.

## **2. Recommendation**

- 2.1 The Clinical & Care Governance Committee is asked to note the assurance provided.

## **3. Background**

- 3.1. Healthcare Associated Infection is NHS Forth Valley's priority to minimise the risk of acquiring an infection during the patients healthcare journey. The Infection Prevention & Control of Infection Team (IPCT) provide advice and guidance to staff, patients and their relatives on all matters relating to infection prevention. Effective and appropriate infection and environmental surveillance is critical to ensure infections are kept to a minimum; details of which are included within this report.

## **4. Main Body of the Report**

- Staphylococcus aureus (SABs) remain within normal control limits.
- Device associated bacteraemias (DABs) remain within normal control limits.
- Clostridioides difficile infection (CDIs) slightly exceeded control limits.
- There have been no deaths with MRSA or C.difficile reported on the death certificate this quarter.
- There were 4 surgical site infections this quarter (two C-section, one large bowel and one breast infection)
- There were no outbreaks reported this quarter.



## **5. Implications**

### **Resource Implications**

5.1 None

### **Impact on IJB Outcomes and Priorities**

5.2 To minimise the risk of infection acquisition in relation to all healthcare interventions across NHS Forth Valley.

### **Risk Implications**

5.3 Failure to adhere to standard infection control precautions resulting in infection.

### **Consultation**

5.4 Infection Prevention and Control Team

### **Equalities Assessment**

5.5 Due regard has been given to the Equality Act 2010 and compliance with the three aims of the Equality Duty as part of the decision making process.

Further to an evaluation it is noted that this paper is not relevant to Equality and Diversity

Submitted by Jonathan Horwood  
Area Infection Control Manager

**Author – Jonathan Horwood**

**Date:** 12/08/2019

**List of Background Papers:** The papers that may be referred to within the report or previous papers on the same or related subjects.

# *HAI Quarterly Report*

*April - June 2019*

**NHS Forth Valley**



**Infection Prevention  
& Control Team**

## *Forward*

*The purpose of this report to provide Executives and other senior managers within the organisation an over sight of all HAI related activity across Forth Valley. Included in the report are details of all SABs, CDIs, and DABs with a brief summary of the investigations that have been carried out. The report contains more graphs to enable the reader to have a more comprehensive and clearer understanding of the data.*

**Jonathan Horwood**

**Area Infection Control Manager**

## Glossary of abbreviations

Following feedback from stakeholders below is a list of abbreviations used within this report:

HAI - Healthcare Acquired Infection  
SAB – *Staphylococcus aureus* bacteraemia  
DAB – Device Associated Bacteraemia  
CDI – *Clostridioides* Infection  
LDP – Local Development Plan  
NES – National Education for Scotland  
IPCT – Infection Prevention & Control Team  
HEI – Healthcare Environment Inspectorate  
SSI – Surgical Site Infection  
SICPs – Standard Infection Control Precautions

### **Definitions used for *Staph aureus* and device associated bacteraemia and *Clostridioides* infection**

#### ***Staph aureus* and device associated bacteraemia**

##### **Hospital acquired**

- Hospital acquired is defined when a positive blood culture is taken >48 hours after admission ie the sepsis is not associated with the cause of admission. An example would a patient with sepsis associated from an infected peripheral vascular catheter.

##### **Healthcare acquired**

- Healthcare acquired is defined when a positive blood culture is taken <48 hours after admission but has in the last three month had healthcare intervention such as previous hospital admission, attending Clinics, GP, dentist etc. Note this does not necessarily mean that the sepsis is associated with the previous healthcare intervention.

##### **Community acquired**

- Community acquired is defined when a positive blood culture is taken <48 hours after admission but has had no healthcare intervention in the last three months.

##### **Nursing home acquired**

- Nursing home acquired is defined when a positive blood is taken <48 hours after admission and when symptoms associated with sepsis developed at the nursing home

#### ***Clostridioides* infection**

##### **Hospital acquired**

- Hospital acquired is defined when symptoms develop and confirmed by the laboratory >48 hours after admission which were not associated with the initial cause of admission.

##### **Healthcare acquired**

- Healthcare acquired is defined as having symptoms that develop and confirmed by the laboratory prior to or within 48 hours of admission and has in the last three months had healthcare interventions such as previous hospital admission, attending Clinics, GP, dentist etc

##### **Community acquired**

- Community acquired is defined as having symptoms that develop and confirmed by the laboratory prior to or within 48 hours of admission but has had no healthcare intervention in the last three months.

##### **Nursing home acquired**

- Nursing home acquired is defined as having symptoms that develop and confirmed by the laboratory that developed at the nursing home prior to admission

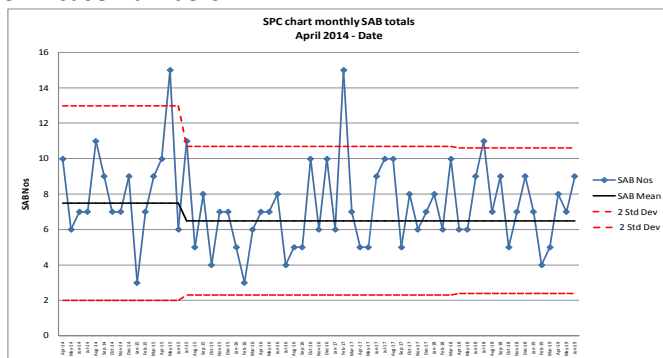
## LDP TARGETS

### Staphylococcus aureus Bacteraemia (SABs)

<b>Quarterly Total</b>	<b>24</b>
Hospital	5
Healthcare	9
Community	10
Nursing Home	0

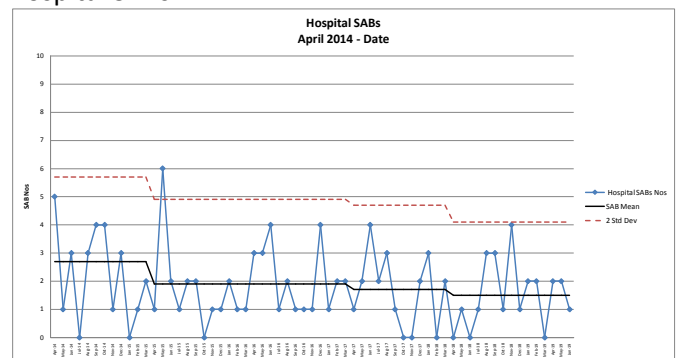
This quarter has seen an increase of SAB infections compared to the previous quarter where 16 cases were identified. Increases were across all source categories; community acquired SABs increased from 8 cases to 10 cases, healthcare increased from 4 cases to 9 cases and hospital from 4 cases to 5 cases. Case numbers for this quarter remain within two standard deviations suggesting the increase is statistical variation. See graphs below.

#### SAB case numbers



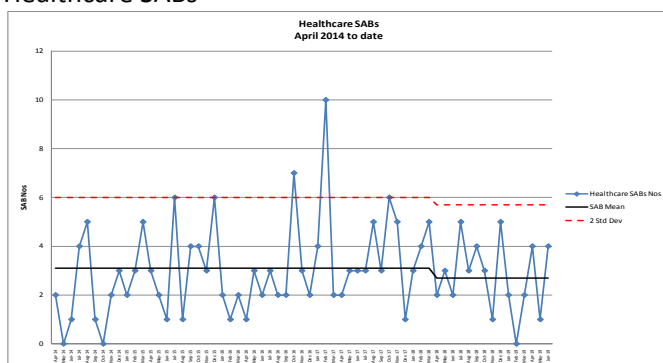
**Comments:** case numbers remain within control limits, no concerns to raise.

#### Hospital SABs



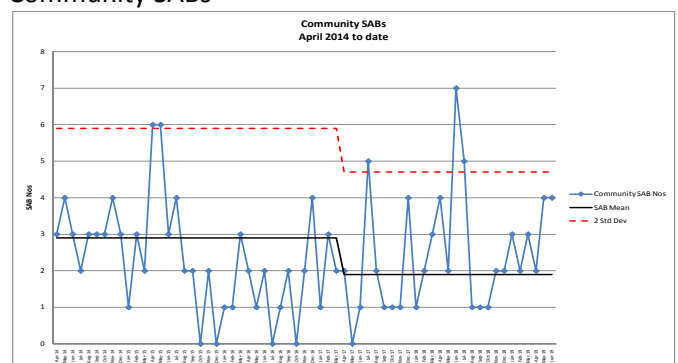
**Comments:** case numbers remain within control limits, no concerns to raise.

#### Healthcare SABs



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

#### Community SABs



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

### SAB breakdown for this quarter

Source	No of Cases	All SABs irrespective of their source are fully investigated and details of these investigations are fed back to all appropriate stakeholders including the Executive Team.
<b>Community</b>	<b>10</b>	
Infected psoriasis	1	
Unknown	2	
Wound	2	
PWID	2	
Respiratory tract	1	
Endocarditis	1	
Discitis	1	
<b>Healthcare</b>	<b>9</b>	
Osteomyelitis	1	
Post procedural	1	
Unknown	1	
Wound	3	
Respiratory tract	1	
Ulcer	1	
Porta-catheter	1	
<b>Hospital</b>	<b>5</b>	
Post procedural		
B23	1	
Urinary Catheter long term		
B31	1	
Cellulitis		
No attributed ward	1	
Respiratory tract		
Cardiology	1	
PICC line		
B32	1	
<b>Grand Total</b>	<b>24</b>	

Ward specific graphs can be accessed using the following link:

<http://staffnet.fv.scot.nhs.uk/index.php/a-z/infection-control/monthly-ward-reports/>

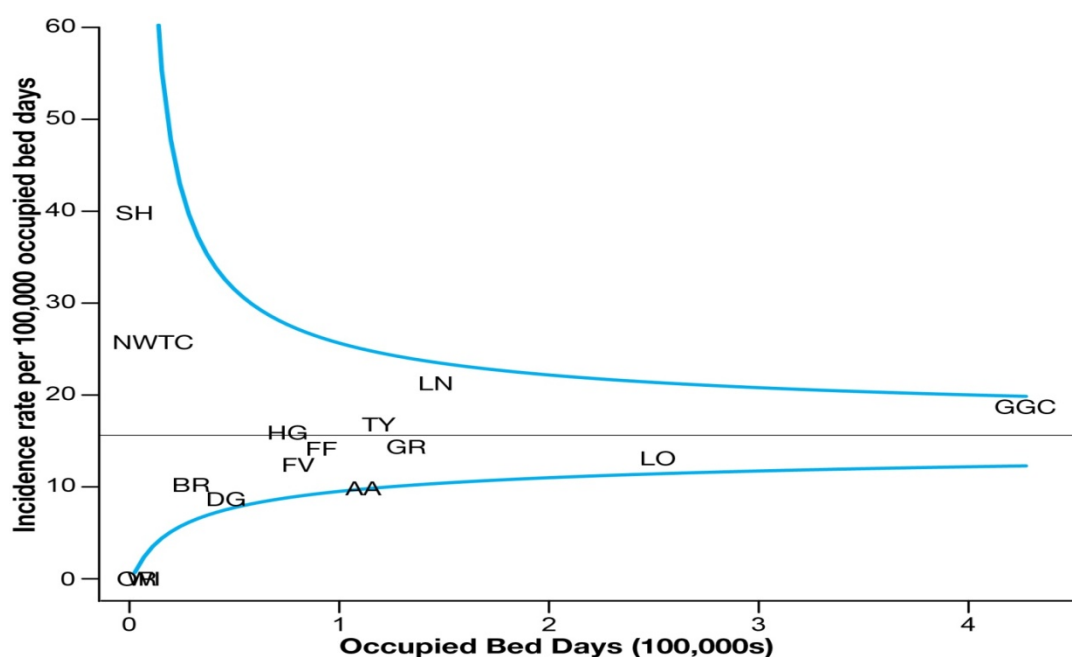


### LDP Target

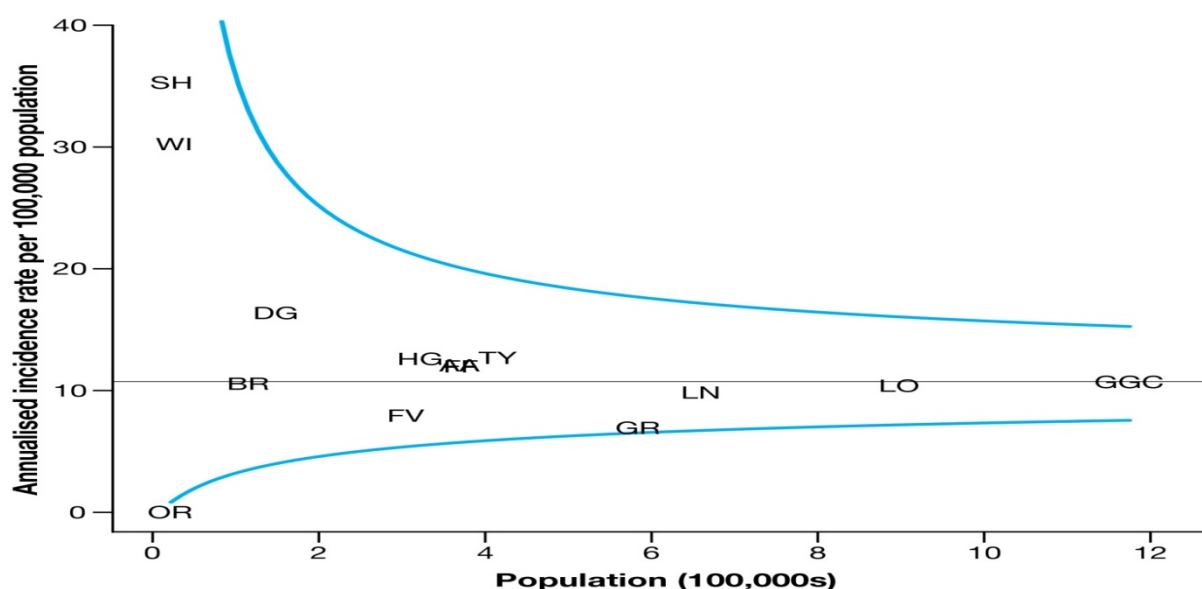
The last LDP target was set for all boards to achieve a SAB rate of 0.24 infections per 1000 acute occupied bed days (ACBDs), however reports from Health Protection Scotland (HPS) changed their reporting from total SABs to healthcare (which includes both hospital and healthcare SABs) and community SABs. Dominators have also changed to total occupied bed days for healthcare SABs and per 100,000 population for community SABs. As a result of this, work is underway nationally to review this target. This change of national reporting also affects the position compared to other boards across Scotland and Forth Valley now reside close to the national mean. This is now reflected in the Balanced Scorecard

Below are funnel plots from the national HPS quarterly report for the period January – March 2019.

**Funnel plot of SAB incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS boards in Scotland (January – March 2019). (graph taken from HPS HAI Quarterly Report)**



**Funnel plot of SAB incidence rates (per 100,000 population) in community associated infection cases for all NHS boards in Scotland (January – March 2019). (graph taken from HPS HAI Quarterly Report)**



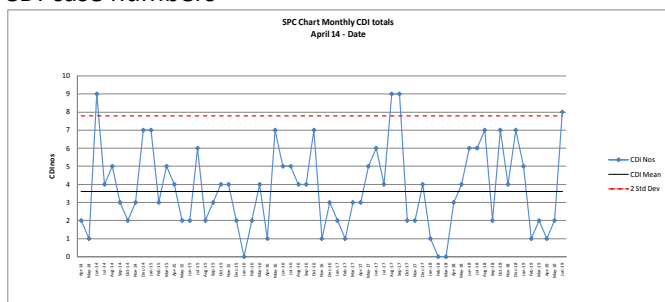
## **Clostridioides difficile Infections (CDIs)**

<b>Quarterly Total</b>	<b>11</b>
Hospital	4
Healthcare	7
Community	0
Nursing Home	0

This quarter, there was an increase of CDIs identified compared to the previous quarter where 8 cases were identified. Increases were from Hospital acquired (from two cases to 4 cases) and healthcare acquired (from 3 cases to 7 cases). CDI numbers remained within control limits with the exception of June 2019 where healthcare CDIs exceeded control limits.

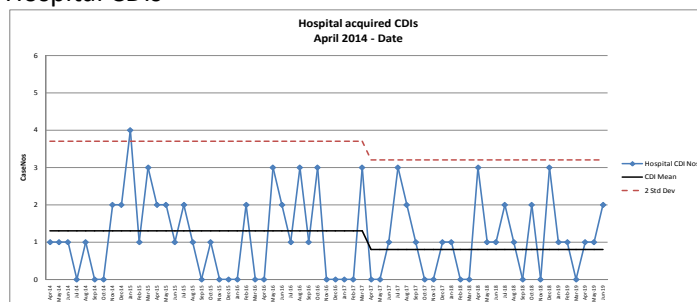
All CDIs this quarter were attributed to antimicrobial therapy and following investigations, all patients were appropriately prescribed.

### **CDI case numbers**



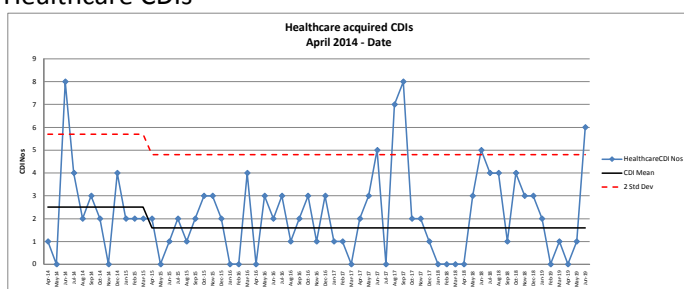
**Comments:** case number totals for this month are slightly outwith control limits, see healthcare narrative below.

### **Hospital CDIs**



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

### **Healthcare CDIs**



**Comments:** case numbers are outwith control limits. All cases this month were from various locations with varying comorbidities which contributed to the infection.

### **CDI Breakdown for this month**

Source	No of Cases
<b>Hospital</b>	<b>4</b>
B32	1
No attributed ward	2
Wallace Suite SCV	1
<b>Healthcare</b>	<b>7</b>
<b>Grand Total</b>	<b>11</b>

Ward specific graphs can be accessed using the following link:

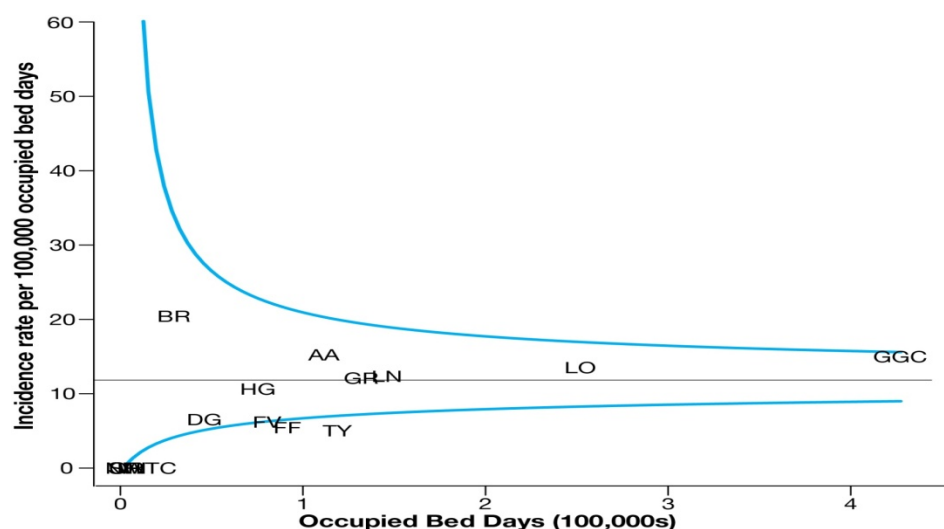
<http://staffnet.fv.scot.nhs.uk/index.php/a-z/infection-control/monthly-ward-reports/>

### LDP Targets

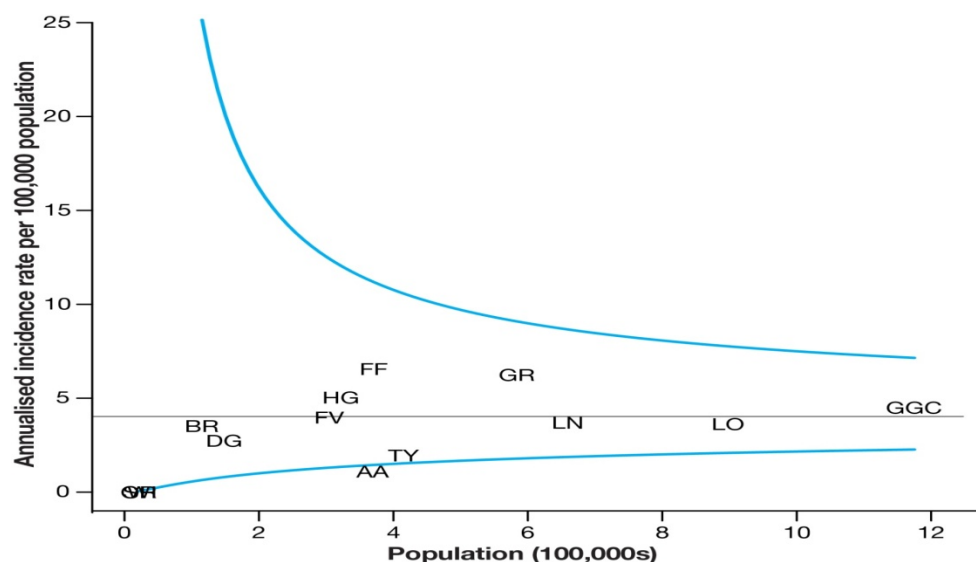
The last LDP target was set for all boards to achieve a CDI rate of 0.26 infections per 1000 acute occupied bed days (ACBDs), however, similar to CDIs, the reports from Health Protection Scotland (HPS) changed their reporting from total CDIs to healthcare (which includes both hospital and healthcare CDIs) and community CDIs. Dominators have also changed to total occupied bed days for healthcare CDIs and per 100,000 population for community CDIs. As a result of this, work is underway nationally to review this target. This is now reflected in the Balanced Score Card.

Below are funnel plots from the national HPS annual report for the period January – March 2019.

**Funnel plot of CDI incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS boards in Scotland for the period January – March 2019.**



**Funnel plot of CDI incidence rates (per 100,000 population) in community associated infection cases for all NHS boards in Scotland for the period January – March 2019.**



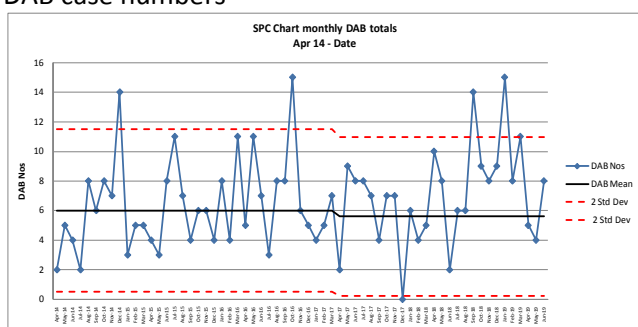
## Device associated Bacteraemia (DABs)

All organisms attributed to a device associated bacteraemia are included in the following data. This surveillance is separate and distinct from our SAB surveillance; however it must be noted that this data will also include *Staph aureus* when associated with a device.

<b>Monthly Total</b>	<b>17</b>
Hospital	5
Healthcare	12
Nursing Home	0

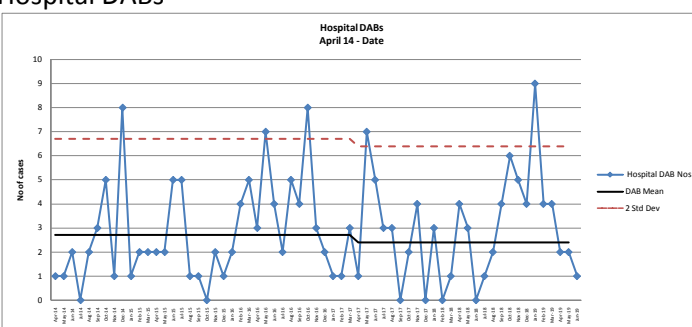
This quarter has seen a decrease in DABs compared to the previous quarter where 34 cases were identified. Decreases were seen in both hospital and healthcare compared to last quarter case numbers of 17 and 16 cases respectively. Last quarter there was also one case attributed to a nursing home.

### DAB case numbers



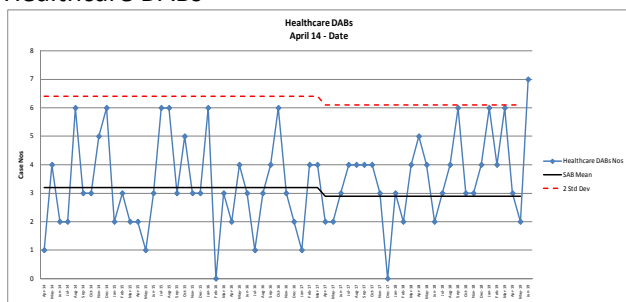
**Comments:** case numbers remain within control limits, no concerns to raise.

### Hospital DABs



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

### Healthcare DABs



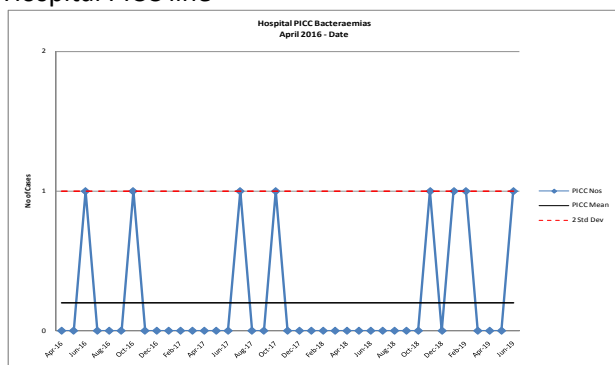
**Comments:** case numbers exceeded control limits this month arising due to Hickman lines exceeding control limits.

### DAB Breakdown for this month

Source	No of Cases
<b>Healthcare</b>	<b>12</b>
Hickman	5
Urinary Catheter long term	6
Porta-catheter	1
<b>Hospital</b>	<b>5</b>
Urinary Catheter long term	
B31	1
No attributed ward	1
Urinary Catheter short term	
No attributed ward	2
PICC line	
B32	1
<b>Grand Total</b>	<b>17</b>

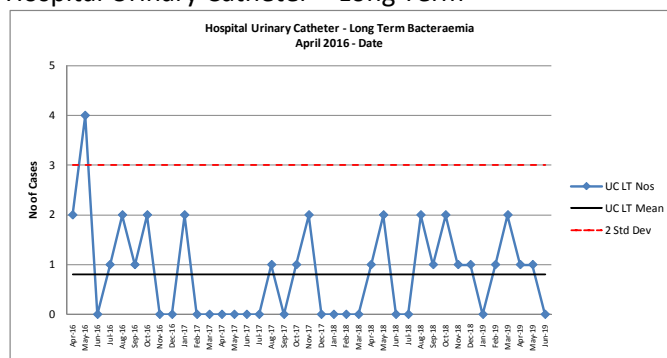
The graphs above provide an overview of the number of device associated bacteraemias, however, it doesn't provide sufficient detail of the individual device and whether the number of infections have exceeded control limits. Below are graphs relevant to the identified devices for this month.

### Hospital PICC line



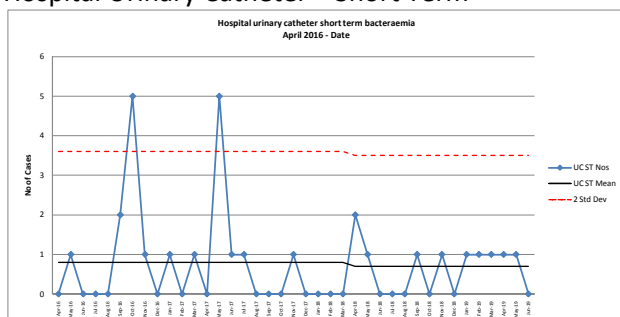
**Comments:** case numbers remain within control limits, no concerns to raise.

### Hospital Urinary Catheter - Long Term



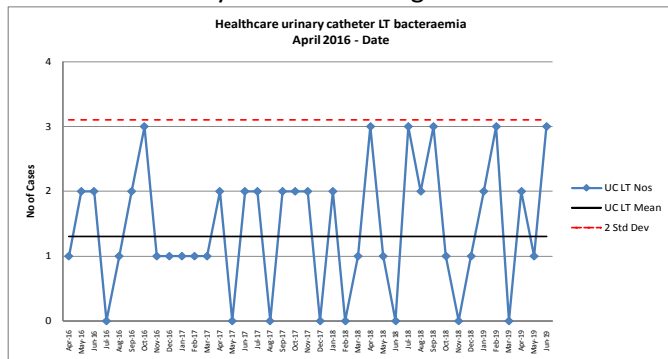
**Comments:** case numbers remain within control limits, no concerns to raise.

### Hospital Urinary Catheter – Short Term



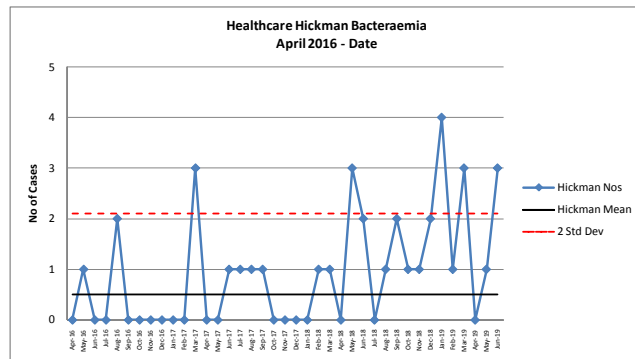
**Comments:** case numbers remain within control limits, no concerns to raise.

### Healthcare Urinary Catheter – Long Term



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

### Healthcare – Hickman



**Comments:** case numbers exceed control limits this month, see narrative below.

### Hickman Line Infection Reduction Short Life Working Group

Following the increase in line infections in January 2019, a short life working group was convened to review the pathway of patients with Hickman Lines looking at advice given to patients at insertion of the device, educational resources and review of the current organisational policy for line management. Reduction from healthcare sourced infections ie infections developing at home, are particularly challenging as there are limited controls how these lines are managed and are predominantly reliant on the patient themselves. However, details of all healthcare Hickman line infections are shared with Community Nursing to identify any possible causes of the infection.

On a weekly basis the IPCT assess bundle compliance of three invasive devices (PVCs, urinary catheters, CVCs) as part of their ward visit programme and this is reported in the monthly Directorate Reports.

#### Urinary Catheter infection reduction

Similar to the sharing information of healthcare Hickman line infections, the IPCT are now sharing urinary catheter infections to potentially identify causes of catheter related line sepsis.

Ward specific graphs can be accessed using the following link:

<http://staffnet.fv.scot.nhs.uk/index.php/a-z/infection-control/monthly-ward-reports/>

#### **Meticillin resistant staphylococcus aureus (MRSA) & *Clostridioides* recorded deaths**

The National Records of Scotland monitor and report on a variety of deaths recorded on the death certificate. Two organisms are monitored and reported, MRSA and *C. difficile*. Please click on the link below for further information:

<https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths>

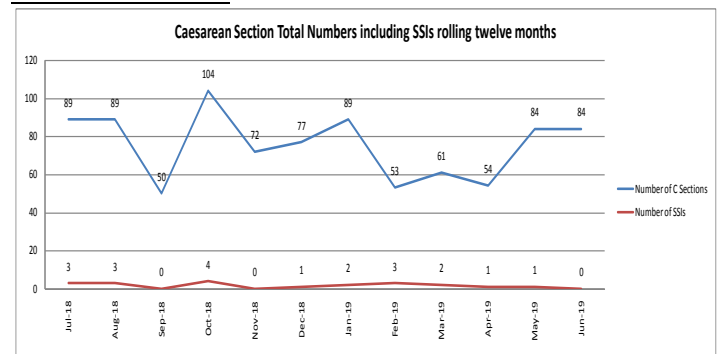
This quarter, there were no deaths where *Clostridioides* or MRSA was recorded on the death certificate.

## Surgical Site Infection Surveillance

### SSI Summary

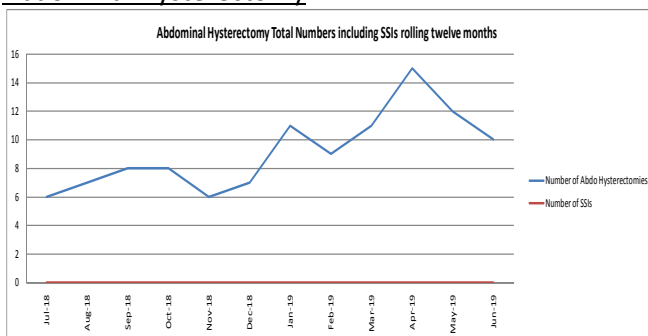
Procedure	Confirmed SSI (quarterly)
Abdominal Hysterectomy (v)	0
Breast Surgery (v)	1
Caesarean Section (m)	2
Knee Arthroplasty (v)	0
Hip Arthroplasty (m)	0
Major Vascular Surgery (m)	0
Large Bowel Surgery (m)	1

### Caesarean Section



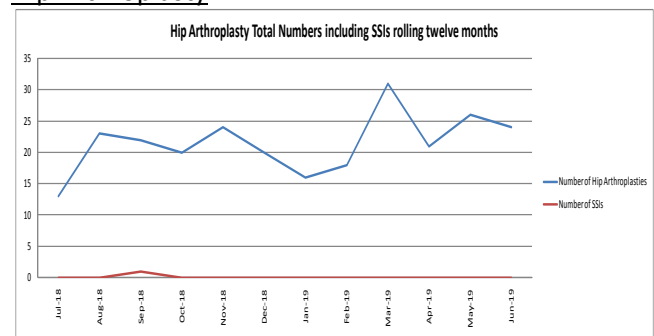
**Comments:** case numbers remain within control limits, no concerns to raise.

### Abdominal Hysterectomy



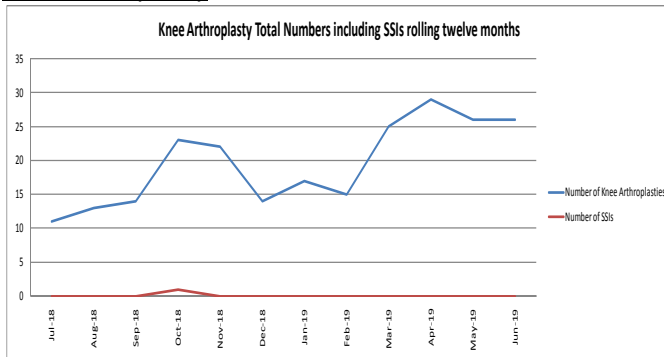
**Comments:** case numbers remain within control limits, no concerns to raise.

### Hip Arthroplasty



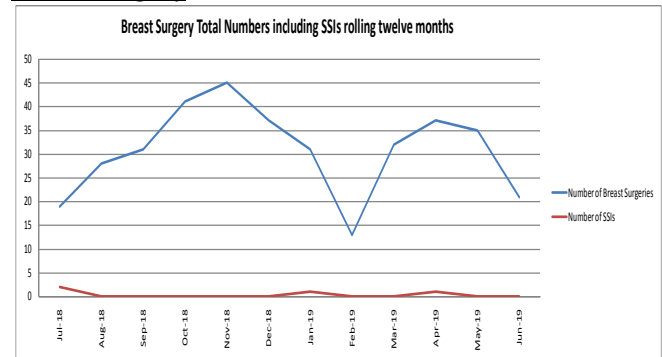
**Comments:** case numbers remain within control limits, no concerns to raise.

### Knee Arthroplasty



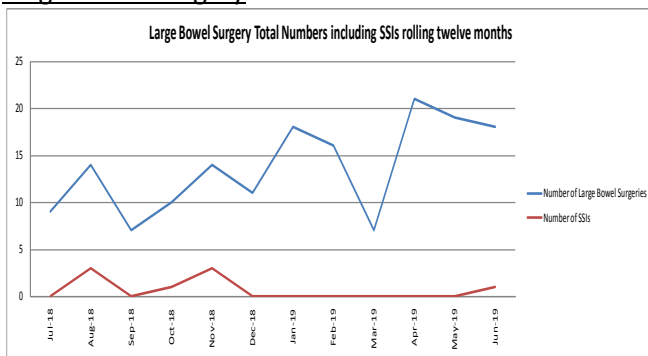
**Comments:** case numbers remain within control limits, no concerns to raise.

### Breast Surgery



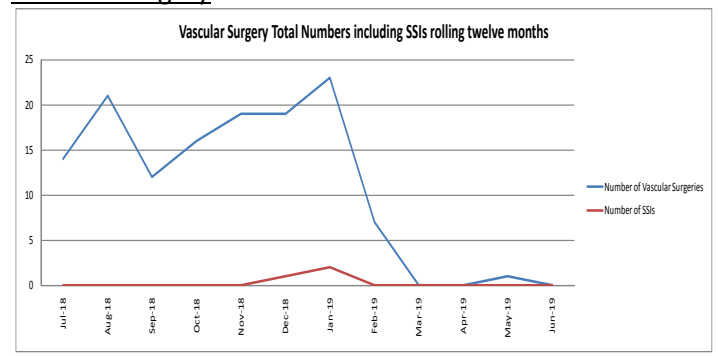
**Comments:** case numbers remain within control limits, no concerns to raise.

### Large Bowel Surgery



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

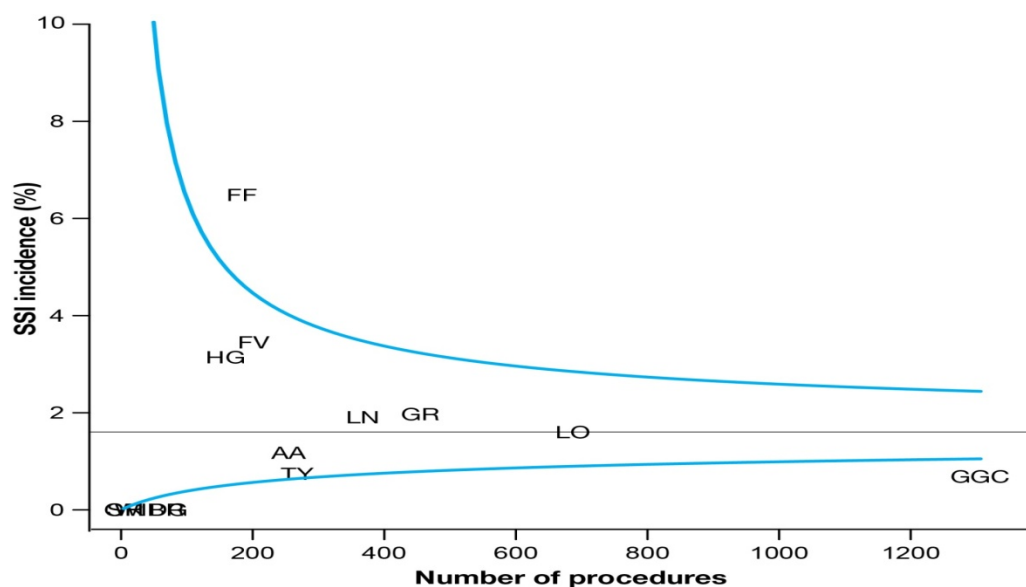
### Vascular Surgery



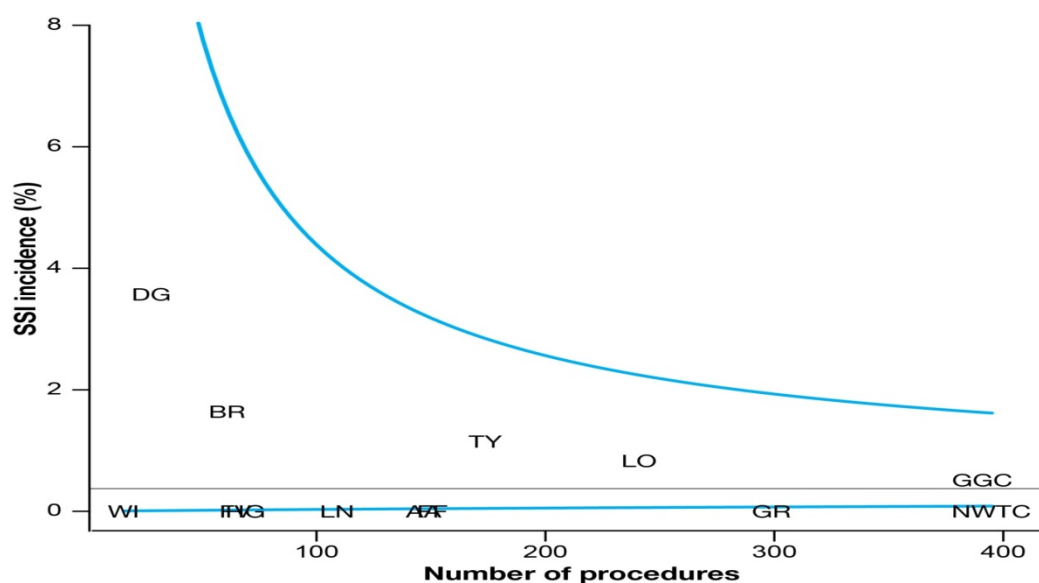
**Comments:** case numbers remain within control limits, no concerns to raise.

Following the publication of the HPS HAI Quarterly Report (January – March 2019) below are funnel plot graphs of the two mandatory reported surgical site infections for C-sections and hip arthroplasty.

**Funnel plot of Caesarean section SSI (per 100 procedures) in inpatients and post discharge surveillance to day 10 for all NHS boards in Scotland for the period January – March 2019.**



**Funnel plot of hip arthroplasty SSI incidence (per 100 procedures) in inpatients and on readmission to day 30 for all NHS boards in Scotland for the period January – March 2018.**





## 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.

### Forth Valley Royal Hospital

	July - Sept 18	Oct-Dec 2018	Jan-Mar 2019	Apr-Jun 2019
Cleaning	96	97	96	97
Estates	98	98	97	98

### Clackmannanshire Community Healthcare Centre

	July - Sept 18	Oct-Dec 2018	Jan-Mar 2019	Apr-Jun 2019
Cleaning	92	94	94	94
Estates	90	94	94	97

### Stirling Care Village

	July - Sept 18	Oct-Dec 2018	Jan-Mar 2019	Apr-Jun 2019
Cleaning	94	95	95	94
Estates	91	92	95	96

### Falkirk Community Hospital

	July - Sept 18	Oct-Dec 2018	Jan-Mar 2019	Apr-Jun 2019
Cleaning	94	95	94	93
Estates	87	87	87	87

### Bo'ness Hospital

	July - Sept 18	Oct-Dec 2018	Jan-Mar 2019	Apr-Jun 2019
Cleaning	93	94	92	95
Estates	89	84	91	92

### Bellsdyke Hospital

	July - Sept 18	Oct-Dec 2018	Jan-Mar 2019	Apr-Jun 2019
Cleaning	95	94	94	95
Estates	84	86	82	84

< 70%	70% - 90%	> 90%
Non-Compliant	Partial Compliance	Compliant

## Incidence/Outbreaks

### Healthcare Acquired Infection Incident Reporting Template (HAIIT)

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.

Earlier this year, boards across Scotland received a letter from the CNO reminding boards to use this template in light of the recent adverse media coverage relating to outbreaks. As a result of this, all HAIIT reports completed will be listed in this section of the report.

HAIIT **Green** – None reported this quarter

HAIIT **Amber** – None reported this quarter

HAIIT **Red** – None reported this quarter

## Hand Hygiene

### SPSP Hand Hygiene Monitoring Compliance (%) Board wide

*Data taken from TCAB (self reported by ward staff)*

	July 2018	August 2018	Sept 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	June 2019
<b>Board Total</b>	99	98	98	97	97	97	97	98	97	98	98	98

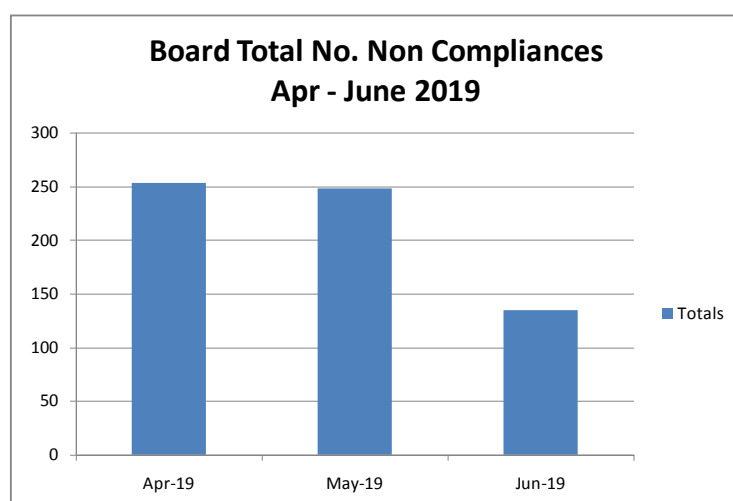
## HEI Unannounced Inspection to Falkirk Community Hospital

On June 19<sup>th</sup>, Falkirk Community Hospital had an unannounced HEI Inspection. The Inspection team visited Units 1 – 4 over a two day period. Feedback received was favourable following inspection and the draft report will be sent for factual accuracy on 31<sup>st</sup> July and will be formally published on Wednesday 28<sup>th</sup> August.

## Ward Visit Programme

Below are tables and graphs detailing the non-compliances identified during the ward visits.

### Board Totals



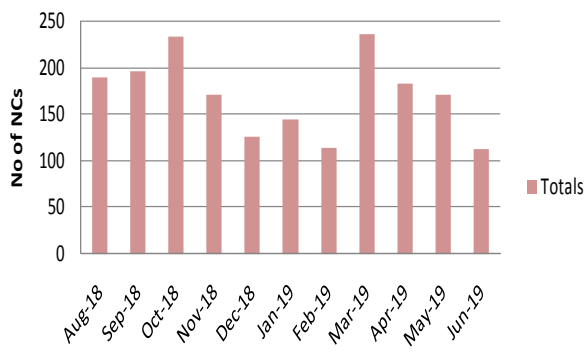
Medical Directorate	Patient Placement	Hand Hygiene	Personal Protective Equipment	Managing Patient Care Equipment	Control of the Environment	Safe Management of Linen	Safe Disposal of Waste	Totals
Apr19	8	0	14	68	56	4	1	151
May19	2	1	19	75	37	2	1	137
June19	0	0	10	36	30	4	6	86
Grand Totals	10	1	43	179	123	10	8	374

Surgical Directorate	Patient Placement	Hand Hygiene	Personal Protective Equipment	Managing Patient Care Equipment	Control of the Environment	Safe Management of Linen	Safe Disposal of Waste	Totals
Apr19	0	3	8	9	9	1	2	32
May19	0	1	6	19	5	0	2	33
June19	0	0	2	9	2	0	0	13
Grand Totals	0	4	16	37	16	1	4	78

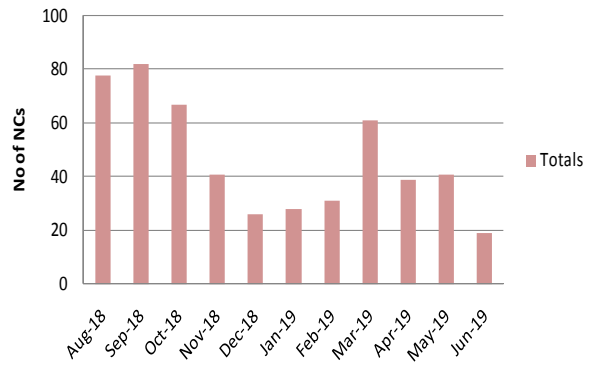
CSD Directorate	Patient Placement	Hand Hygiene	Personal Protective Equipment	Managing Patient Care Equipment	Control of the Environment	Safe Management of Linen	Safe Disposal of Waste	Totals
Apr19	0	1	0	7	16	0	0	24
May19	0	0	0	9	8	1	0	18
June19	0	0	0	0	2	0	1	3
Grand Totals	0	1	0	16	26	1	1	45

WC&SH Directorate	Patient Placement	Hand Hygiene	Personal Protective Equipment	Managing Patient Care Equipment	Control of the Environment	Safe Management of Linen	Safe Disposal of Waste	Totals
Apr19	0	0	0	1	5	0	0	6
May19	0	0	0	6	4	1	1	12
June19	0	0	0	0	0	0	0	0
Grand Totals	0	0	0	7	9	1	1	18

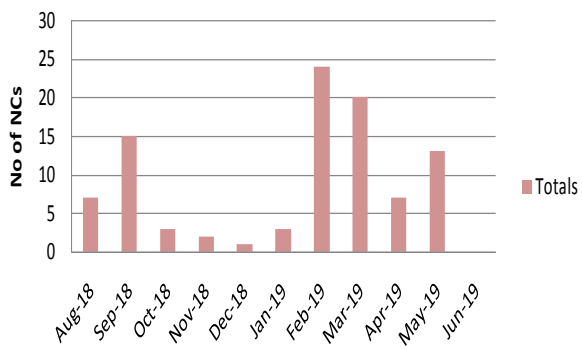
**Medical Directorate Total Non-Compliances**



**Surgical Directorate Total Non-Compliances**



**WC&SH Total Non-Compliances**



**CSD Total Non-Compliances**

