

## Healthcare Associated Infection (HAI) Bimonthly Report – May 2019

### Executive Summary

The following HAIRT report contains NHS Grampian's surveillance data and associated infection rates as reported in Health Protection Scotland's (HPS) Quarterly Epidemiological Data for Quarter 4 (October to December 2018) published on 2<sup>nd</sup> April 2019.

The following information has been reported as:

### Quarter 4

Please note: NHSG is not an outlier in any category for Q4

#### Above National Average:

- *Clostridioides* (formerly *Clostridium*) *difficile* infection rates - for community
- *Staphylococcus aureus* bacteraemias (SABs) - for healthcare
- *Staphylococcus aureus* bacteraemias (SABs) - for community
- Caesarean Section Surgical Site Infection
- Hip Arthroplasty Surgical Site Infection

#### Below National Average:

- *Clostridioides* (formerly *Clostridium*) *difficile* infection rates - for healthcare
- *E.coli* bacteraemias - for healthcare
- *E.coli* bacteraemias - for community

### Year Ending December 2018

#### Above National Average:

- *Clostridioides* (formerly *Clostridium*) *difficile* infection rates - for healthcare
- *Clostridioides* (formerly *Clostridium*) *difficile* infection rates - for community
- *Staphylococcus aureus* bacteraemias (SABs) - for healthcare
- Hip Arthroplasty Surgical Site Infection

#### Below or Equal to National Average:

- *E.coli* bacteraemias - for healthcare
- *E.coli* bacteraemias - for community
- *Staphylococcus aureus* bacteraemias (SABs) - for community
- Caesarean Section Surgical Site Infection

### **Meticillin-Resistant *Staphylococcus Aureus* (MRSA) Screening**

MRSA (CRA) screening compliance for Quarter 4 (January – March 2019) was 87% which is below the compliance target of 90% but above the national average (83%).

### **Carbapenemase Producing Enterobacteriaceae (CPE) Screening**

CPE (CRA) screening compliance for Quarter 4 (January – March 2019) was 97% which is above both the compliance target (90%) and the national average (81%).

### **Norovirus**

For the period January – March 2019 there were no wards closed (either completely or partially) in NHS Grampian due to enteric illness (confirmed or suspected Norovirus).

### **Health Facilities Scotland (HFS)**

The cleaning compliance for January – March 2019 was 93% and the estates monitoring compliance was 94%; both these scores are above the national targets of 90%.

### **Hand Hygiene**

Hand hygiene compliance for all staff groups for January – March 2019 was 97% and therefore above the national target (90%).

## 1. Actions Recommended

The Board is requested to note the content of this summary bimonthly HAI Report, as directed by the HAI Policy Unit, Scottish Government Health Directorates.

## 2. Strategic Context

- National Hospital Antimicrobial Prescribing Quality Indicators for 2017-18
- Local Delivery Plan Standards for 2016/17
  - *Clostridioides* (formerly *Clostridium*) *difficile* infections (CDI) in patients aged 15 and over is 32 cases or less per 100,000 total occupied bed days (TOBD)
  - *Staphylococcus aureus* bacteraemia (SAB) cases are 0.24 or less per 1,000 acute occupied bed days (AOBD)
- National Key Performance Indicators for MRSA screening
- National Key Performance Indicators for CPE screening
- National Health Facilities Scotland (HFS) Environmental Cleaning Target
- National Health Facilities Scotland (HFS) Estates Monitoring Target
- National Hand Hygiene Compliance Target

### 3. Key matters relevant to recommendation

Issue	Group	Target	Period & source	NHS Scot	NHS G	RAG
CDIs	Healthcare Associated Infection	Local Delivery Plan Standards 32 cases per 100,000 TOBD	Oct – Dec 2018, HPS	13.8	7.6	Green
	Community Associated Infection			7.0	8.8	Amber
<i>E coli</i> Bacteraemia	Healthcare Associated Infection	No target (rate per 100,000 bed days)	Oct – Dec 2018, HPS	38.3	37.2	Green
	Community Associated Infection	No target (annualised rate per 100,000 population)		44.1	34.5	Green
SABs	Healthcare & Community Associated Infection	Local Delivery Plan Standards 0.24 or less cases per 1,000 AOB	Oct – Dec 2018, HPS	0.32	0.37	Amber
Surgical Site Infections (SSIs)	Caesarean Section		Oct – Dec 2018, HPS	1.4	1.5	Amber
	Hip Arthroplasty		Oct – Dec 2018, HPS	0.6	1.0	Amber
MRSA (CRA) screening		HPS 90%	Jan – Mar 2019, HPS	83	87	Amber
CPE (CRA) screening		HPS 90%	Jan – Mar 2019, HPS	81	97	Green
Cleaning	All clinical areas	HFS 90%	Jan – Mar 2019, NHSG	N/A	93	Green
Estates		HFS 90%	Jan – Mar 2019, NHSG	N/A	94	Green
Hand Hygiene		SGHD 90%	Jan – Mar 2019, NHSG	N/A	97	Green

#### RAG Status Ready Reckoner

Above upper control limit  
 Below upper control limit but above National average  
 Below National average  
 Below lower control limit

Red  
 Amber  
 Green  
 Green

*The information on this page has been provided by the Antimicrobial Pharmacy Team*

### **National Quality Indicators for Antimicrobial Prescribing**

The national indicators have been agreed by the Scottish Antimicrobial Prescribing Group (SAPG) but have not yet been finalised by the Scottish Government. We anticipate the new indicators to be as detailed below.

**1. Use of WHO Access antibiotics (NHSE list)  $\geq$ 60% of total antibiotic use in Acute hospitals by 2021**

*Local report not yet available.*

**2. Use of intravenous antibiotics in secondary care defined as DDD/1000population/day will be no higher in 2021 than it was in 2018**

Recent figures produced by SAPG show NHS Grampian has seen only a small increase in IV antibiotic use in the last 2 years so with ongoing work around improving IV antibiotic review, it is hoped that NHS Grampian will meet this target over the next 3 years.

**3. A 10% reduction of antibiotic use in Primary Care (excluding dental) by 2021, using 2015/16 data as a baseline (items/1000/day)**

Work continues in primary care to reduce overall antibiotic use and overall usage continues to decrease. A specific report on this indicator should be available later in the year.

We anticipate data on the above indicators to be available via NSS Discovery in late summer 2019.

The audit data previously collected for the national prescribing indicators is no longer a requirement from SAPG. Henceforth the audit tool will be used for small tests of change e.g. weekly data collection in wards identified by the AMT where antibiotic review and/or duration requires improvement.

#### 4. Risk Mitigation

By noting the contents of this report, the Board will fulfil its requirement to seek assurance that appropriate surveillance of healthcare associated infection is taking place and that this surveillance is having a positive impact on reducing the risk of avoidable harm to the patients of NHS Grampian.

#### 5. Responsible Executive Director and contact for further information

If you require any further information in advance of the Board meeting please contact:

**Responsible Executive Director**

Caroline Hiscox  
Acting Director of Nursing, Midwifery and  
Allied Health Professions (NMAHP)  
[carolinehiscox@nhs.net](mailto:carolinehiscox@nhs.net)

**Contact for further information**

Grace McKerron  
Infection Prevention and Control Manager  
[grace.mckerron@nhs.net](mailto:grace.mckerron@nhs.net)

## ***Clostridioides (formerly Clostridium) difficile* Infection (CDI) Surveillance**

CDI is the most common cause of intestinal infections (and diarrhoea) associated with antimicrobial therapy. Clinical disease comprises a range of toxin mediated symptoms from mild diarrhoea, which can resolve without treatment, to severe cases such as pseudomembranous colitis, toxic megacolon and peritonitis that can lead to death<sup>1</sup>.

In Scotland mandatory surveillance of CDI commenced in October 2006, with enhanced surveillance commenced in 2009. Historically HPS reported CDI cases based on age ranges 15-64yrs and 65yrs and above but since October 2017 the definitions have changed to healthcare associated infection or community associated infection for all patients over the age of 15 years.

Each new case of CDI is discussed at a weekly multidisciplinary team meeting involving Infection Prevention and Control Doctor(s), Infection Prevention and Control Nurses and Surveillance Nurses. By close investigation of each case and typing of the organisms – when indicated – the Infection Prevention and Control Team is assured that there have not been any outbreaks of CDI.

Further information on CDI surveillance can be found at:

<https://www.hps.scot.nhs.uk/web-resources-container/protocol-for-the-scottish-surveillance-programme-for-clostridium-difficile-infection-user-manual/>

Please see below for abbreviations used in the following tables:

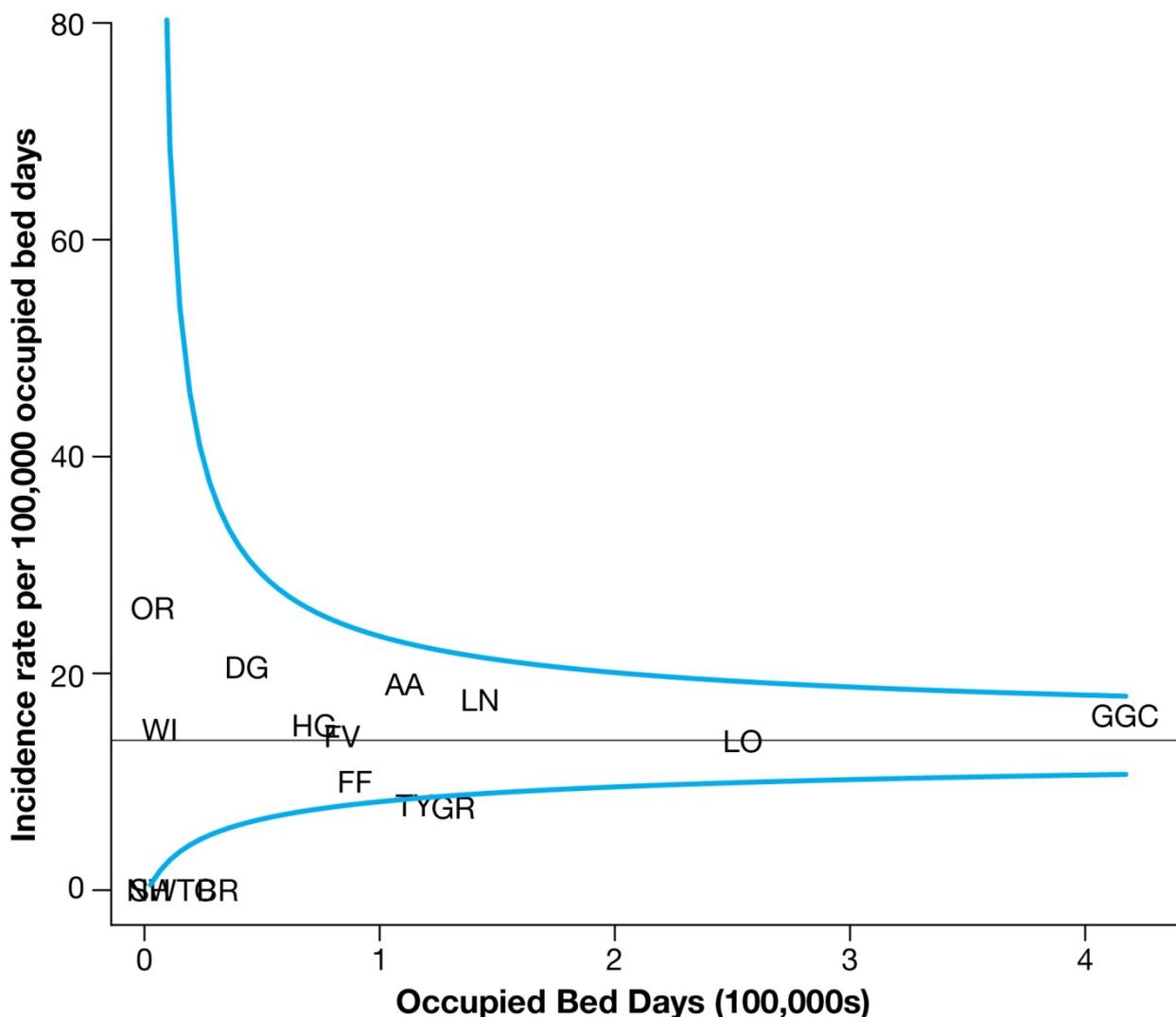
AA	Ayrshire & Arran	HG	Highland
BR	Borders	LO	Lothian
DG	Dumfries & Galloway	LN	Lanarkshire
FF	Fife	NWTC	National Waiting Times Centre
FV	Forth Valley	OR	Orkney
GGC	Greater Glasgow & Clyde	SH	Shetland
GR	Grampian	TY	Tayside
		WI	Western Isles

**CDI cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: Q3 2018 (July to September 2018) compared to Q4 (October to December 2018).**

<b>NHS Board</b>	<b>Q3 Cases</b>	<b>Q3 Bed Days</b>	<b>Q3 Rate</b>	<b>Q4 Cases</b>	<b>Q4 Bed Days</b>	<b>Q4 Rate</b>
AA	17	110,109	15.4	21	110,740	19.0
BR	4	32,651	12.3	0	31,191	0.0
DG	13	43,012	30.2	9	43,800	20.5
FF	7	87,820	8.0	9	89,935	10.0
FV	10	82,126	12.2	12	84,592	14.2
<b>GR</b>	<b>26</b>	<b>134,241</b>	<b>19.4</b>	<b>10</b>	<b>131,734</b>	<b>7.6</b>
GGC	98	412,912	23.7	67	417,273	16.1
HG	8	73,340	10.9	11	72,346	15.2
LN	23	138,817	16.6	25	142,634	17.5
LO	35	252,485	13.9	35	254,499	13.8
NWTC	0	12,390	0.0	0	11,765	0.0
OR	3	3,756	79.9	1	3,843	26.0
SH	0	2,446	0.0	0	2,501	0.0
TY	6	114,636	5.2	9	115,115	7.8
WI	0	7,123	0.0	1	6,753	14.8
<b>Scotland</b>	<b>250</b>	<b>1,507,864</b>	<b>16.6</b>	<b>210</b>	<b>1,518,721</b>	<b>13.8</b>

- Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)
- Figures include any updates received following the last publication

**Funnel plot of CDI incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS Boards in Scotland in Q4 2018.**



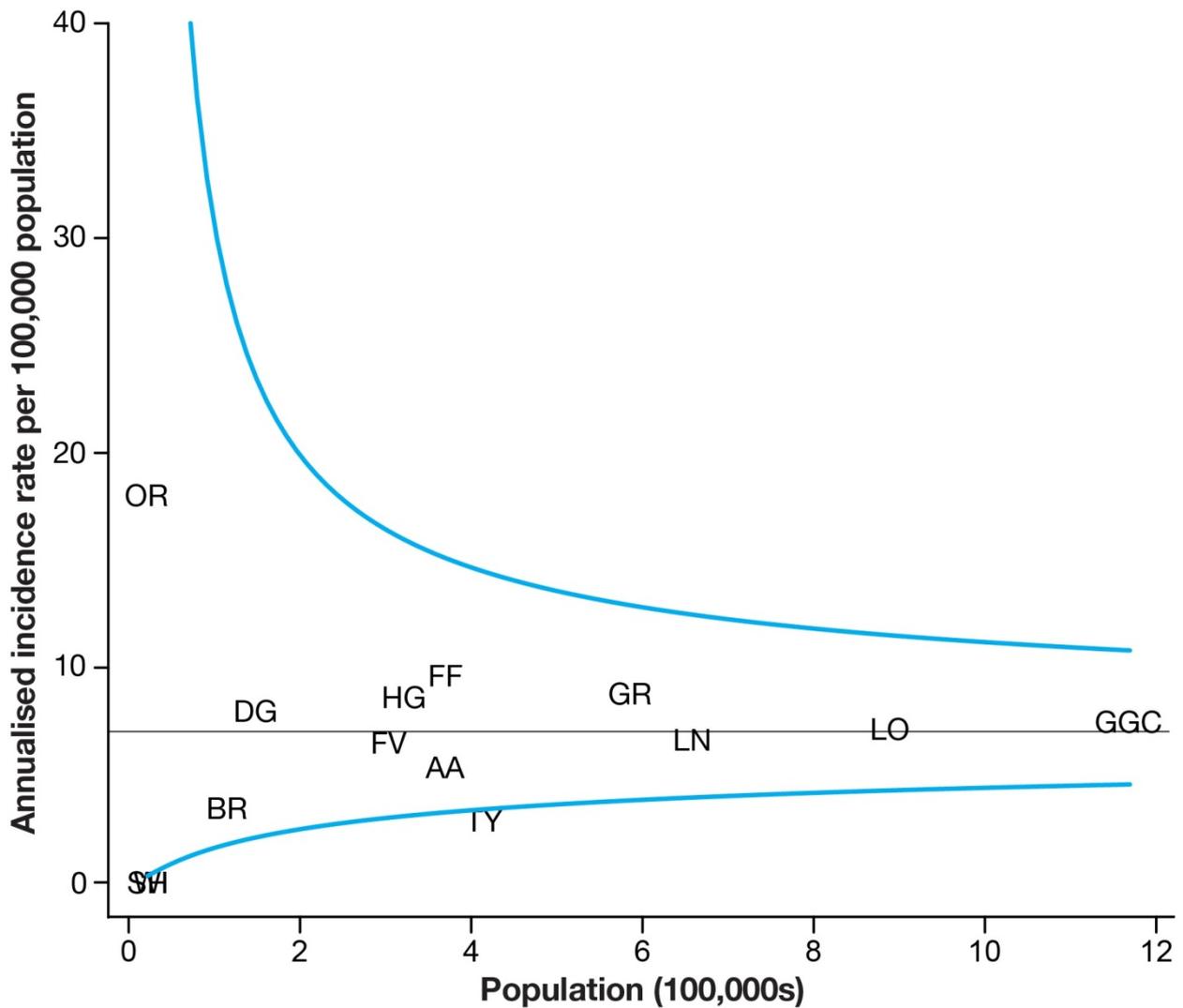
- Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)
- NHS National Waiting Times Centre, NHS Shetlands and NHS Western Isles overlap

**CDI cases and incidence rates (per 100,000 population) for community associated infection cases: Q3 2018 (July to September 2018) compared to Q4 (October to December 2018).**

NHS Board	Q3 Cases	Q3 Population	Q3 Rate	Q4 Cases	Q4 Population	Q4 Rate
AA	10	370,410	10.7	5	370,410	5.4
BR	2	115,020	6.9	1	115,020	3.4
DG	3	149,200	8.0	3	149,200	8.0
FF	5	371,410	5.3	9	371,410	9.6
FV	5	305,580	6.5	5	305,580	6.5
<b>GR</b>	<b>19</b>	<b>586,380</b>	<b>12.9</b>	<b>13</b>	<b>586,380</b>	<b>8.8</b>
GGC	16	1,169,110	5.4	22	1,169,110	7.5
HG	8	321,990	9.9	7	321,990	8.6
LN	6	658,130	3.6	11	658,130	6.6
LO	17	889,450	7.6	16	889,450	7.1
OR	1	22,000	18.0	1	22,000	18.0
SH	1	23,080	17.2	0	23,080	0.0
TY	3	416,090	2.9	3	416,090	2.9
WI	1	26,950	14.7	0	26,950	0.0
<b>Scotland</b>	<b>97</b>	<b>5,424,800</b>	<b>7.1</b>	<b>96</b>	<b>5,424,800</b>	<b>7.0</b>

- Quarterly population rates are based on an annualised population
- Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates
- Figures include any updates received following the last publication

**Funnel plot of CDI incidence rates (per 100,000 population) in community associated infection cases for all NHS Boards in Scotland in Q4 2018.**



- Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates

## National *Escherichia coli* Bacteraemia Surveillance Programme

*Escherichia coli* (*E.coli*) is the most frequent cause of Gram-negative bacteraemia in Scotland and is a frequent cause of infection worldwide. *E.coli* bacteraemia (ECB) usually develops as a complication of other infections including urinary tract infection, surgery, and use of medical devices e.g. catheters. The number of patients with ECBs reported to HPS has increased continually since 2009<sup>2</sup>.

In Scotland, mandatory surveillance for this programme commenced in 2016.

The Healthcare Associated Infection (HAI) *E.coli* is measured as a rate per 100,000 occupied bed days. However, community acquired infections are measured as a rate per 100,000 population.

Information on the national surveillance programme for *Escherichia coli* infection can be found at:

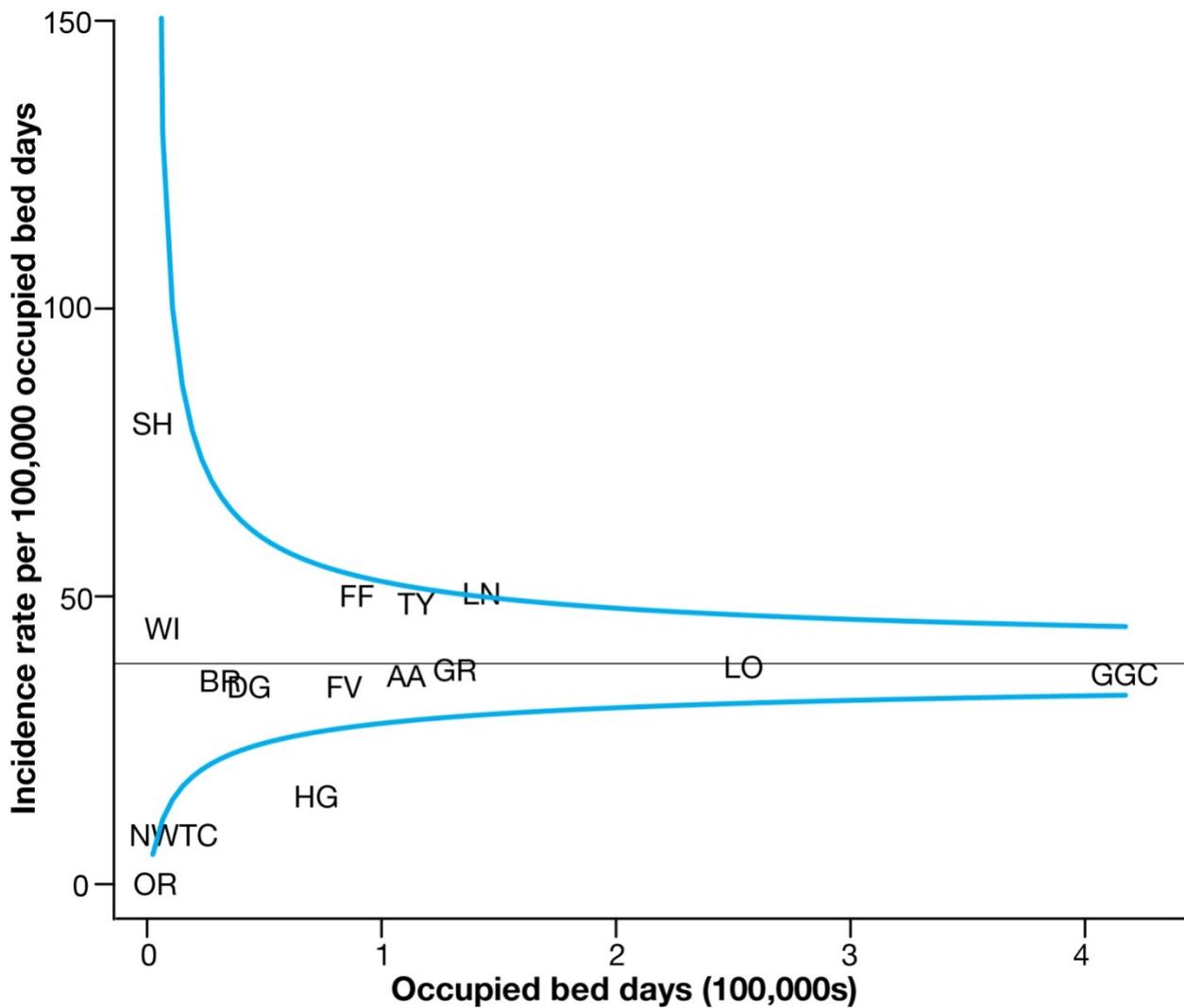
<https://www.hps.scot.nhs.uk/web-resources-container/quarterly-epidemiological-commentary-for-the-surveillance-of-healthcare-associated-infections-in-scotland-methods-caveats/>

**ECB cases and incidence rates (per 100,000 TOBD) for healthcare associated infection cases: Q3 2018 (July to September 2018) compared to Q4 (October to December 2018).**

NHS Board	Q3 Cases	Q3 Bed Days	Q3 Rate	Q4 Cases	Q4 Bed Days	Q4 Rate
AA	49	110,109	44.5	40	110,740	36.1
BR	10	32,651	30.6	11	31,191	35.3
DG	18	43,012	41.8	15	43,800	34.2
FF	36	87,820	41.0	45	89,935	50.0
FV	40	82,126	48.7	29	84,592	34.3
<b>GR</b>	<b>38</b>	<b>134,241</b>	<b>28.3</b>	<b>49</b>	<b>131,734</b>	<b>37.2</b>
GGC	180	412,912	43.6	152	417,273	36.4
HG	25	73,340	34.1	11	72,346	15.2
LN	70	138,817	50.4	72	142,634	50.5
LO	84	252,485	33.3	96	254,499	37.7
NWTC	2	12,390	16.1	1	11,765	8.5
OR	3	3,756	79.9	0	3,843	0.0
SH	2	2,446	81.8	2	2,501	80.0
TY	42	114,636	36.6	56	115,115	48.6
WI	7	7,123	98.3	3	6,753	44.4
<b>Scotland</b>	<b>606</b>	<b>1,507,864</b>	<b>40.2</b>	<b>582</b>	<b>1,518,721</b>	<b>38.3</b>

- An arrow denotes statistically significant change
- Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)
- Figures include any updates received following the last publication

**Funnel plot of ECB incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS Boards in Scotland in Q4 2018.**



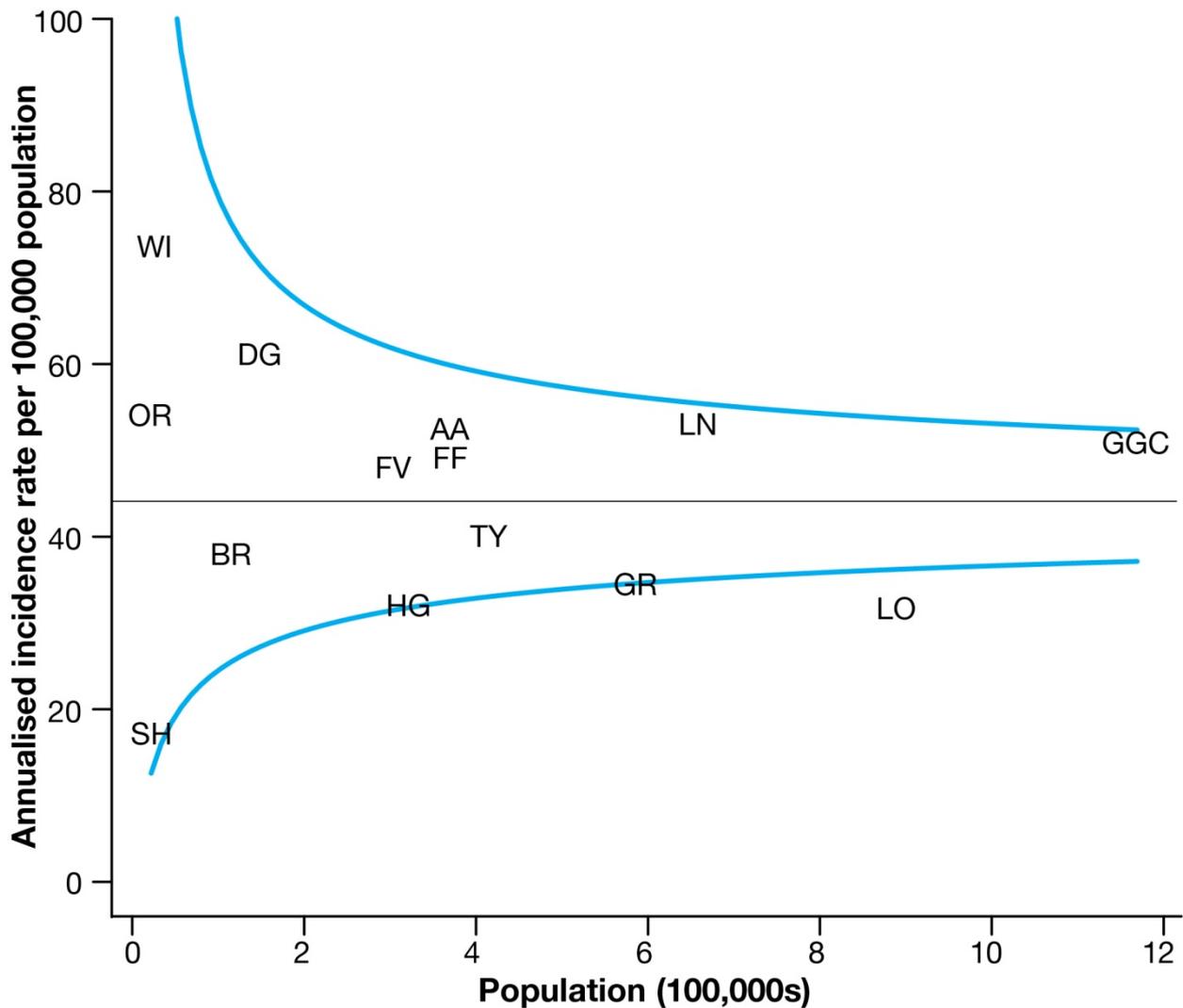
- Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)
- NHS Orkney and NHS Shetland overlap

**ECB cases and incidence rates (per 100,000 population) for community associated infection cases: Q3 2018 (July to September 2018) compared to Q4 (October to December 2018).**

NHS Board	Q3 Cases	Q3 Population	Q3 Rate	Q4 Cases	Q4 Population	Q4 Rate
AA	67	370,410	71.8	49	370,410	52.5
BR	17	115,020	58.6	11	115,020	37.9
DG	19	149,200	50.5	23	149,200	61.2
FF	39	371,410	41.7	46	371,410	49.1
FV	40	305,580	51.9	37	305,580	48.0
<b>GR</b>	<b>57</b>	<b>586,380</b>	<b>38.6</b>	<b>51</b>	<b>586,380</b>	<b>34.5</b>
GGC	151	1,169,110	51.2	150	1,169,110	50.9
HG	43	321,990	53.0	26	321,990	32.0
LN	100	658,130	60.3	88	658,130	53.0
LO	77	889,450	34.3	71	889,450	31.7
OR	1	22,000	18.0	3	22,000	54.1
SH	0	23,080	0.0	1	23,080	17.2
TY	53	416,090	50.5	42	416,090	40.0
WI	3	26,950	44.2	5	26,950	73.6
<b>Scotland</b>	<b>667</b>	<b>5,424,800</b>	<b>48.8</b>	<b>603</b>	<b>5,424,800</b>	<b>44.1</b>

- Quarterly population rates are based on an annualised population
- An arrow denotes statistically significant change
- Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates
- Figures include any updates received following the last publication

**Funnel plot of ECB incidence rates (per 100,000 population) in community associated infection cases for all NHS Boards in Scotland in Q4 2018.**



- Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates
- NHS Forth Valley and NHS Highland overlap

## Enhanced *Staphylococcus aureus* Bacteraemia (SAB) Surveillance

*Staphylococcus aureus* (*S. aureus*) is a Gram-positive bacterium which colonises the nasal cavity of about a quarter of the healthy population. This colonisation is usually harmless. However, infection can occur if *S. aureus* breaches the body's defence systems leading to illnesses from minor skin infections to serious systemic infections such as bacteraemia<sup>3</sup>.

In Scotland mandatory enhanced surveillance for *Staphylococcus aureus* bacteraemias (SABs) commenced in 2014.

As with *Clostridioides* (formerly *Clostridium*) *difficile*, enhanced SAB surveillance is carried out in all Health Boards using standardised data definitions. Each new case continues to be discussed at a weekly multidisciplinary team meeting involving Infection Prevention and Control Doctors, Infection Prevention and Control Nurses, Surveillance Nurses and an Infection Unit Nurse. The offer of attendance at speciality case review meetings from the IPCT is extended should further discussion be required.

Cases are defined as:

- Healthcare Associated
- Community Associated

More information on the national surveillance programme for *Staphylococcus aureus* bacteraemias can be found at:

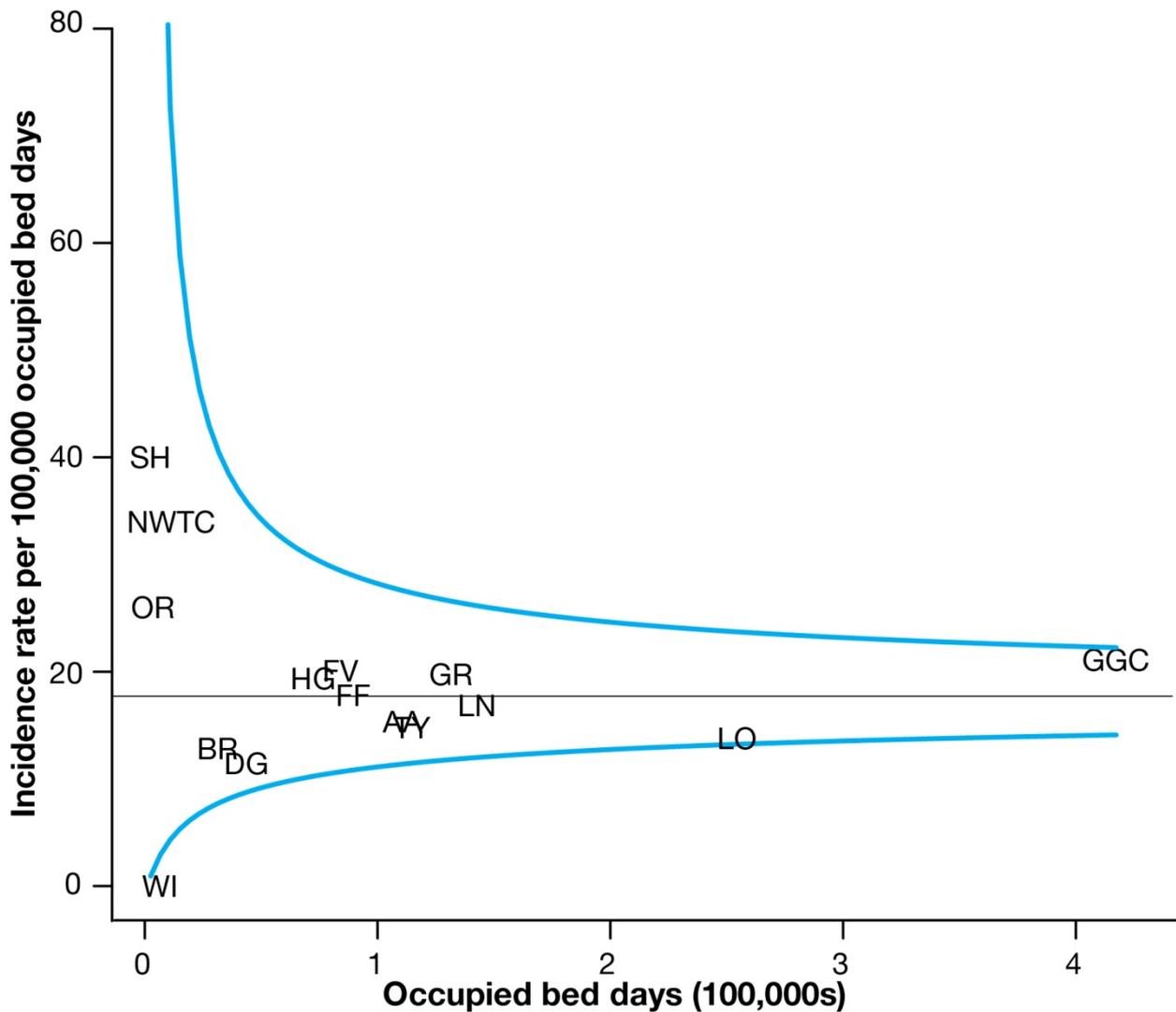
<https://www.hps.scot.nhs.uk/web-resources-container/protocol-for-enhanced-staphylococcus-aureus-bacteraemia-surveillance/>

**SAB cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: Q3 2018 (July to September 2018) compared to Q4 2018 (October to December 2018).**

NHS Board	Q3 Cases	Q3 Bed Days	Q3 Rate	Q4 Cases	Q4 Bed Days	Q4 Rate
AA	18	110,109	16.3	17	110,740	15.4
BR	9	32,651	27.6	4	31,191	12.8
DG	3	43,012	7.0	5	43,800	11.4
FF	23	87,820	26.2	16	89,935	17.8
FV	20	82,126	24.4	17	84,592	20.1
<b>GR</b>	<b>25</b>	<b>134,241</b>	<b>18.6</b>	<b>26</b>	<b>131,734</b>	<b>19.7</b>
GGC	67	412,912	16.2	88	417,273	21.1
HG	10	73,340	13.6	14	72,346	19.4
LN	21	138,817	15.1	24	142,634	16.8
LO	35	252,485	13.9	35	254,499	13.8
NWTC	1	12,390	8.1	4	11,765	34.0
OR	0	3,756	0.0	1	3,843	26.0
SH	1	2,446	40.9	1	2,501	40.0
TY	19	114,636	16.6	17	115,115	14.8
WI	1	7,123	14.0	0	6,753	0.0
<b>Scotland</b>	<b>253</b>	<b>1,507,864</b>	<b>16.8</b>	<b>269</b>	<b>1,518,721</b>	<b>17.7</b>

- An arrow denotes statistically significant change
- Note: Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)
- Figures include any updates received following the last publication

**Funnel plot of SAB incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS Boards in Scotland in Q4 2018.**



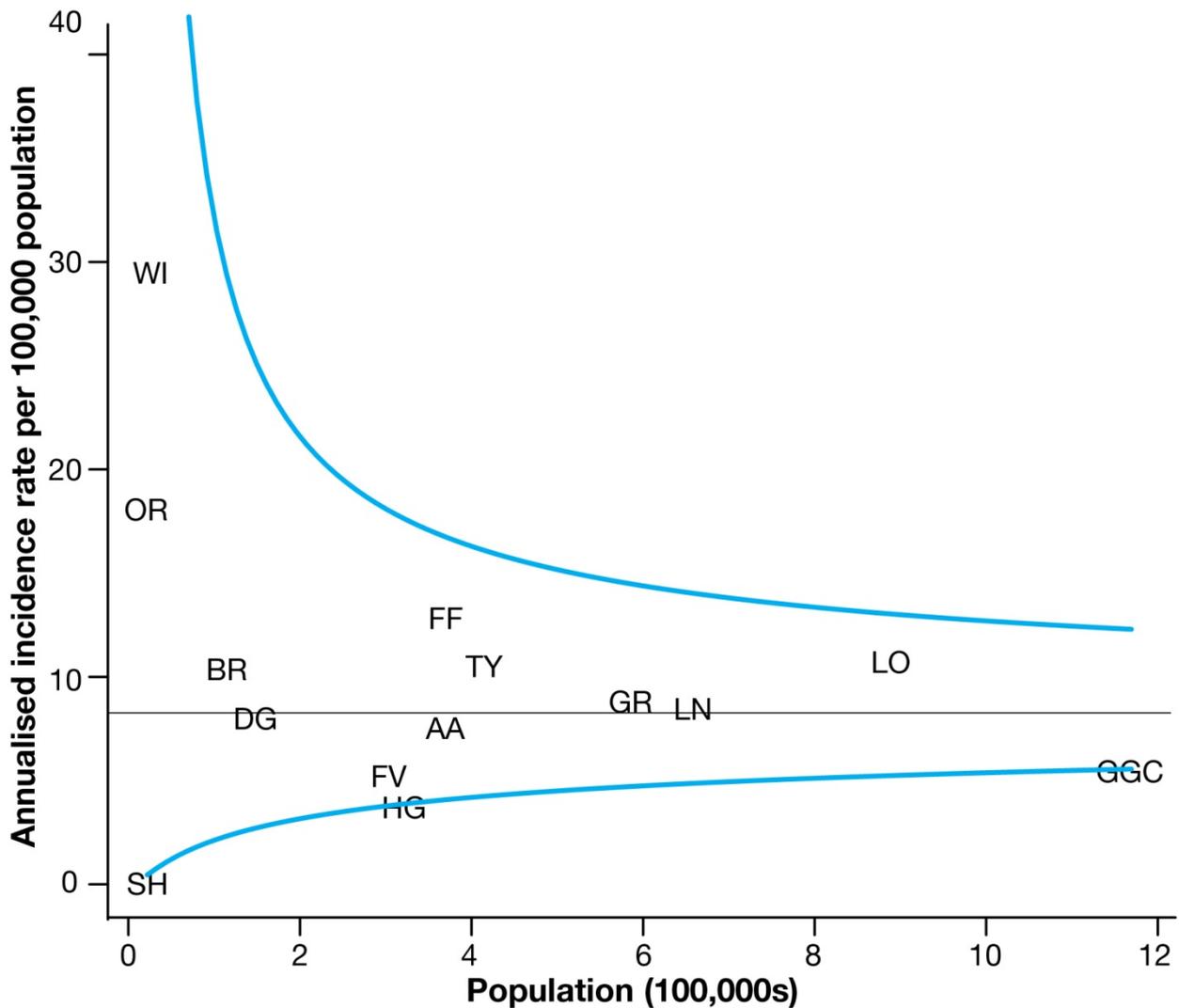
- Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)
- NHS Ayrshire & Arran and NHS Tayside overlap

**SAB cases and incidence rates (per 100,000 population) for community associated infection cases: Q3 2018 (July to September 2018) compared to Q4 2018 (October to December 2018).**

NHS Board	Q3 Cases	Q3 Population	Q3 Rate	Q4 Cases	Q4 Population	Q4 Rate
AA	17	370,410	18.2	7	370,410	7.5
BR	3	115,020	10.3	3	115,020	10.3
DG	4	149,200	10.6	3	149,200	8.0
FF	8	371,410	8.5	12	371,410	12.8
FV	6	305,580	7.8	4	305,580	5.2
<b>GR</b>	<b>15</b>	<b>586,380</b>	<b>10.1</b>	<b>13</b>	<b>586,380</b>	<b>8.8</b>
GGC	23	1,169,110	7.8	16	1,169,110	5.4
HG	9	321,990	11.1	3	321,990	3.7
LN	13	658,130	7.8	14	658,130	8.4
LO	18	889,450	8.0	24	889,450	10.7
OR	0	22,000	0.0	1	22,000	18.0
SH	0	23,080	0.0	0	23,080	0.0
TY	15	416,090	14.3	11	416,090	10.5
WI	1	26,950	14.7	2	26,950	29.4
<b>Scotland</b>	<b>132</b>	<b>5,424,800</b>	<b>9.7</b>	<b>113</b>	<b>5,424,800</b>	<b>8.3</b>

- Quarterly population rates are based on an annualised population
- An arrow denotes statistically significant change
- Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates
- Figures include any updates received following the last publication

**Funnel plot of SAB incidence rates (per 100,000 population) in community associated infection cases for all NHS Boards in Scotland in Q4 2018.**



- Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates
- NHS Orkney and NHS Shetland overlap as do NHS Borders and NHS Dumfries & Galloway

<b>Healthcare Associated SABs October – December 2018</b>	
<b>Source</b>	<b>Number</b>
Skin & soft tissue (skin break, eczema, burns, ulcer, pressure ulcer)	8
Devices (PICC/Midline, PVC, CVC non-tunnelled, urinary catheter, dialysis line non-tunnelled, CAPD, other)	7
Surgical Site Infection (organ/space)	2
Respiratory infection	3
Injection site related to illicit drug use	1
Other (parotid duct)	1
Not known	4
<b>Total Healthcare Associated SABs</b>	<b>26</b>

<b>Community Associated SABs October – December 2018</b>	
<b>Source</b>	<b>Number</b>
Skin & soft tissue (skin break, eczema, abscess)	8
Injection site related to illicit drug use	1
Not known	4
<b>Total Community Associated SABs</b>	<b>13</b>

## Surgical Site Infection (SSI) Surveillance

A Surgical Site Infection (SSI) is an infection that occurs after surgery in the part of the body where the surgery took place. SSI may be superficial infections involving the skin only while other SSI is more serious and can involve tissues under the skin, organs or implanted material. SSI is one of the most common types of HAI in Scotland<sup>4</sup>.

In Scotland the mandatory Surgical Site Infection (SSI) surveillance programme commenced in 2002. All NHS boards are required to undertake surveillance for hip arthroplasty (includes hemiarthroplasty) and caesarean section procedures as per the mandatory requirements of HDL (2006) 38 and CEL (11) 2009.

Post operative surveillance is carried out as follows:

- Caesarean section surveillance is carried out during admission, post discharge up to 10 days and readmission up to 30 days
- Hip arthroplasty (includes hemiarthroplasty) surveillance is carried out during admission, readmission up to 30 days and readmission up to 90 days if there is an implant

Information on the national surveillance programme for Surgical Site Infection can be found at:

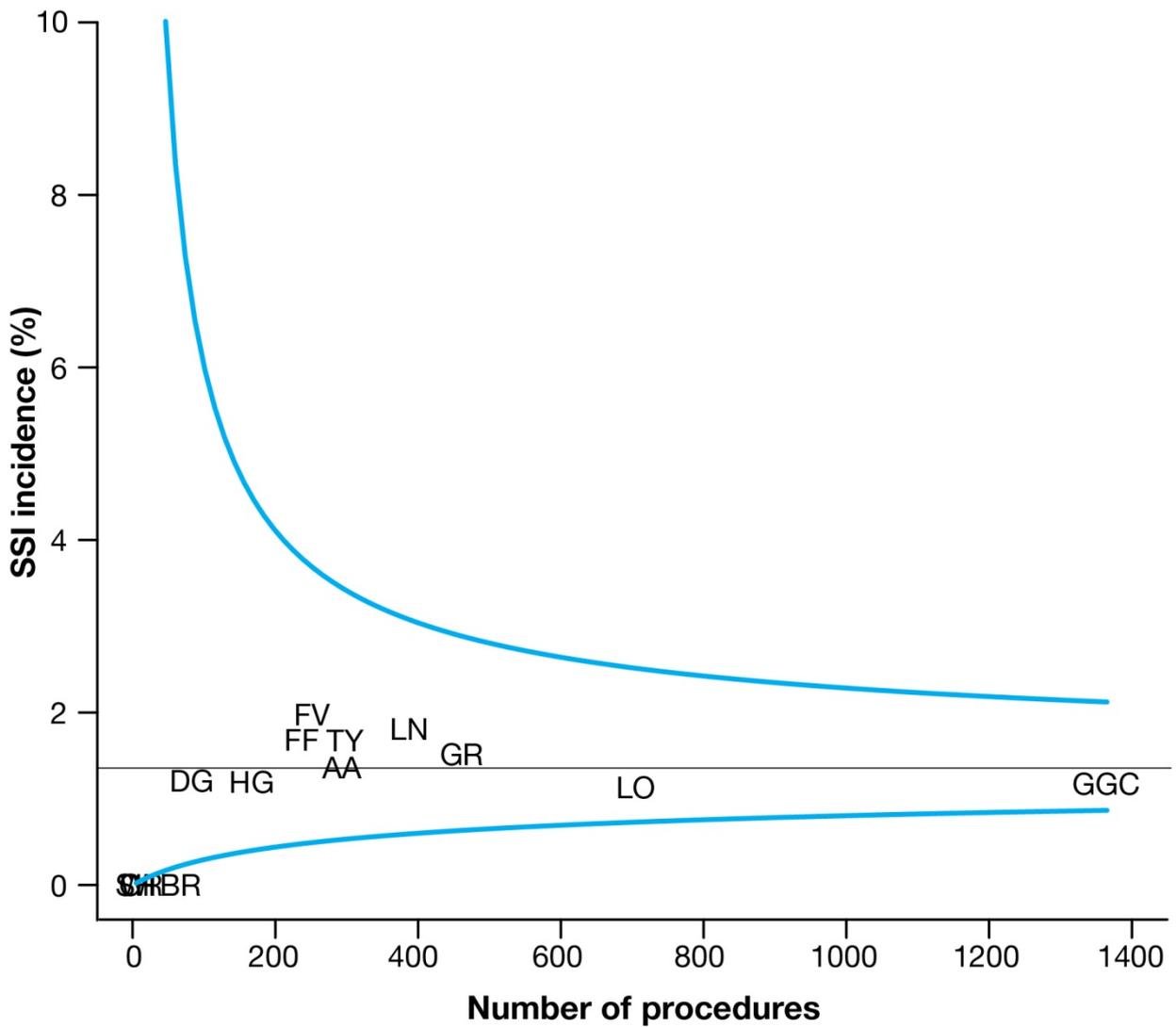
<https://www.hps.scot.nhs.uk/web-resources-container/mandatory-requirements-for-ssi-surveillance/>

**Caesarean section procedures and SSI incidence (per 100 procedures) for inpatients and PDS to day 10: Q3 2018 (July to September 2018) compared to Q4 2018 (October to December 2018).**

NHS Board	Q3 SSI	Q3 Procedures	Q3 Incidence	Q4 SSI	Q4 Procedures	Q4 Incidence
AA	0	294	0.0	4	294	1.4
BR	0	60	0.0	0	67	0.0
DG	0	64	0.0	1	83	1.2
FF	5	220	2.3	4	238	1.7
FV	6	228	2.6	5	253	2.0
<b>GR</b>	<b>3</b>	<b>493</b>	<b>0.6</b>	<b>7</b>	<b>462</b>	<b>1.5</b>
GGC	18	1,394	1.3	16	1,365	1.2
HG	5	185	2.7	2	167	1.2
LN	11	380	2.9	7	387	1.8
LO	12	667	1.8	8	705	1.1
OR	0	2	0.0	0	13	0.0
SH	0	8	0.0	0	8	0.0
TY	6	279	2.2	5	299	1.7
WI	0	18	0.0	0	8	0.0
<b>Scotland</b>	<b>66</b>	<b>4,292</b>	<b>1.5</b>	<b>59</b>	<b>4,346</b>	<b>1.4</b>

- Source of data is Surgical Site Infection Reporting System (SSIRS)
- Figures include any updates received following the last publication

**Funnel plot of caesarean section SSI incidence (per 100 procedures) in inpatients and PDS to day 10 for all NHS Boards in Scotland in Q4 2018.**



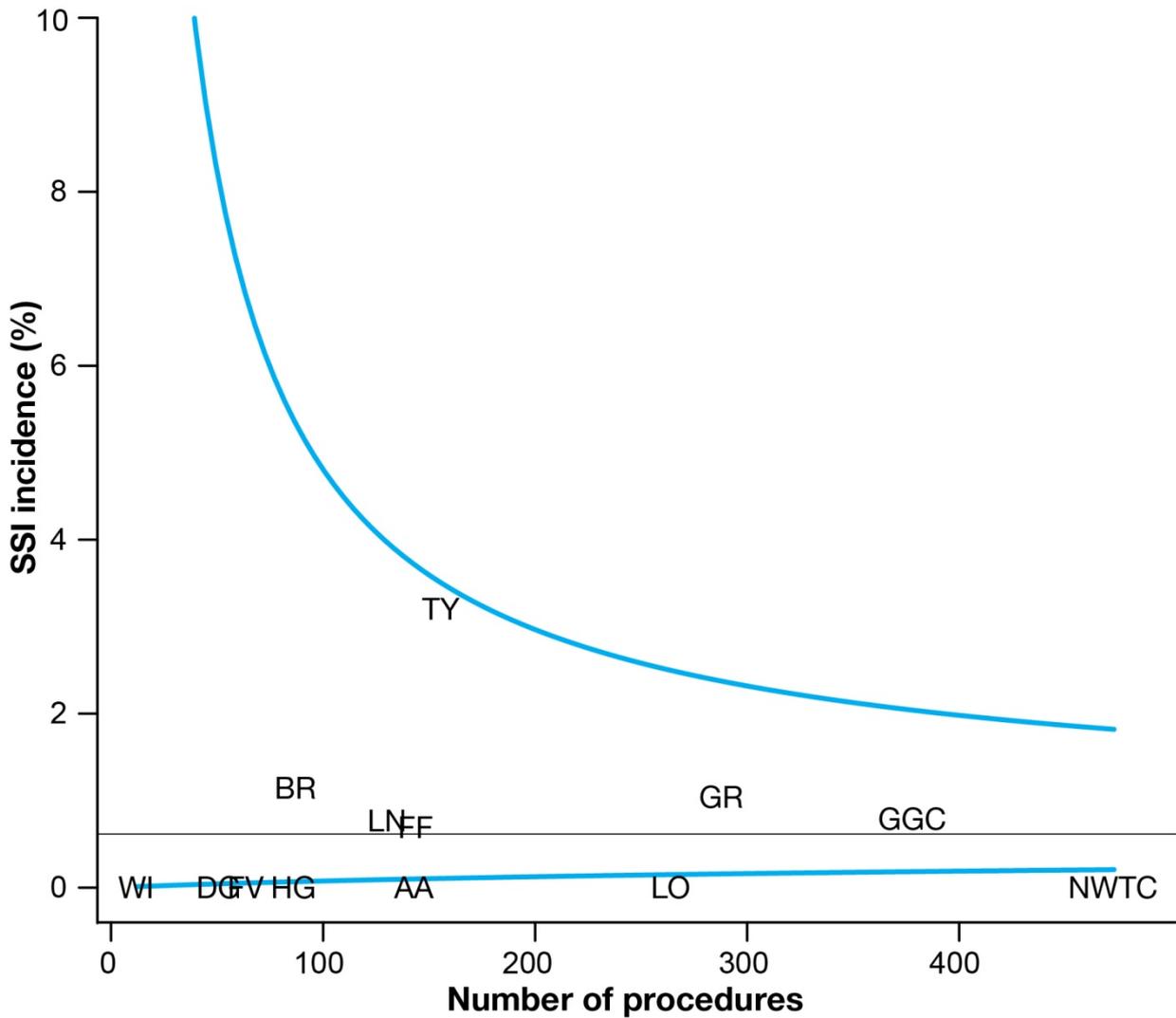
- Source of data is Surgical Site Infection Reporting System (SSIRS)
- NHS Borders and NHS Dumfries & Galloway overlap as do NHS Orkney, NHS Shetland and NHS Western Isles

**Hip arthroplasty procedures and SSI incidence (per 100 procedures) for inpatients and on readmission to day 30: Q3 2018 (July to September 2018) compared to Q4 2018 (October to December 2018).**

NHS Board	Q3 SSI	Q3 Procedures	Q3 Incidence	Q4 SSI	Q4 Procedures	Q4 Incidence
AA	2	99	2.0	0	143	0.0
BR	0	74	0.0	1	87	1.1
DG	1	38	2.6	0	51	0.0
FF	1	135	0.7	1	144	0.7
FV	0	58	0.0	0	64	0.0
<b>GR</b>	<b>1</b>	<b>274</b>	<b>0.4</b>	<b>3</b>	<b>288</b>	<b>1.0</b>
GGC	3	346	0.9	3	378	0.8
HG	1	121	0.8	0	86	0.0
LN	0	105	0.0	1	130	0.8
LO	2	263	0.8	0	264	0.0
NWTC	1	489	0.2	0	473	0.0
OR	0	0	-	0	0	-
TY	1	141	0.7	5	156	3.2
WI	0	11	0.0	0	12	0.0
<b>Scotland</b>	<b>13</b>	<b>2,154</b>	<b>0.6</b>	<b>14</b>	<b>2,276</b>	<b>0.6</b>

- Source of data is Surgical Site Infection Reporting System (SSIRS)
- Figures include any updates received following the last publication

**Funnel plot of hip arthroplasty SSI incidence (per 100 procedures) in inpatients and on readmission to day 30 for all NHS Boards in Scotland in Q4 2018.**



- Source of data is Surgical Site Infection Reporting System (SSIRS)
- NHS Fife and NHS Tayside overlap

## Meticillin-Resistant *Staphylococcus Aureus* (MRSA) Screening

The majority of individuals affected by Meticillin-Resistant *Staphylococcus Aureus* (MRSA) are colonised. This is when an organism lives harmlessly on the body with no ill effects. Infection is when the organism gains entry or penetrates tissue or sterile sites and causes disease process. MRSA is a form of *Staphylococcus aureus* (*S. aureus*). It is transmitted in the same way and causes the same range of infection but is resistant to commonly used antibiotics. This makes MRSA infections more difficult and costly to treat, hence every effort must be made to prevent spread<sup>5</sup>.

In early 2011, the Scottish Government announced new national minimum MRSA screening recommendations. Targeted MRSA screening by specialty (implemented in January 2010) has now been replaced by a Clinical Risk Assessment (CRA) followed by a nose and perineal swab (if the patient answers yes to any of the CRA questions). National Key Performance Indicators (KPIs) have now been implemented with Boards being required to achieve 90% compliance with CRA completion.

MRSA CRA screening compliance for Quarter 4\* (January – March 2019) within NHS Grampian was 87%.

*\*Please note that Quarter 4 for CPE CRA screening is January – March 2019*

	2017-18 Q3	2017-18 Q4	2018-19 Q1	2018-19 Q2	2018-19 Q3	2018-19 Q4
Grampian	89%	92%	86%	84%	89%	<b>87%</b>
Scotland	88%	83%	84%	84%	83%	83%

More information on the national surveillance programme for MRSA screening can be found at:

<https://www.hps.scot.nhs.uk/web-resources-container/protocol-for-cra-mrsa-screening-national-rollout-in-scotland/>

## Carbapenemase Producing Enterobacteriaceae (CPE) Screening

Infections caused by CPE are associated with high rates of morbidity and mortality and can have severe clinical consequences. Treatment of these infections is increasingly difficult as these organisms are often resistant to many and sometimes all available antibiotics. The number of CPE cases in Scotland remains low however we have seen a 50% increase in cases between 2016 (73) and 2017 (108) across Scotland.

Screening and data collection for CPE commenced 1<sup>st</sup> April 2018 at the request of the Scottish Government. All NHS Boards are required to undertake screening compliance as per the mandatory requirements of DL (2017) 2.

CPE CRA screening compliance for Quarter 4\* (January – March 2019) within NHS Grampian was 97%.

*\*Please note that Quarter 4 for CPE CRA screening is January – March 2019*

	2018-19 Q1	2018-19 Q2	2018-19 Q3	2018-19 Q4
Grampian	70%	93%	100%	<b>97%</b>
Scotland	72%	79%	78%	81%

More information on CPE screening can be found at:

<https://www.hps.scot.nhs.uk/resourcedocument.aspx?id=6990>

## Incidents and Outbreaks - Norovirus Prevalence

Monday Point Prevalence Surveillance figures are reported to Health Protection Scotland. These capture the significant outbreaks of Norovirus in NHS Grampian and the prevalence of Norovirus activity in close to real time. They are not and should not be interpreted as data for benchmarking or judgement. The data can be used for the assessment of risk and Norovirus outbreak preparedness only.

The following table details complete and partial ward closures in NHS Grampian due to enteric outbreaks (confirmed or suspected Norovirus).

	Apr 2018	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
Ward Closures	0	3	0	0	0	1	2	0	2	0	0	0
Bay Closures	0	2	1	0	1	0	0	1	2	0	0	0

Data on the numbers of wards closed across NHS Scotland due to confirmed or suspected Norovirus are available from HPS at:

<https://www.hps.scot.nhs.uk/a-to-z-of-topics/norovirus/#data>

(Do not use Internet Explorer to open this hyperlink, use Google Chrome instead)

NB. The method of data collection allows for data to be retrospective, therefore on occasions there will be bay/ward closures that are not seen on the dashboard until these areas are re-opened.

## Cleaning and the Healthcare Environment

NHS Grampian, as a whole, continues to achieve the required cleanliness standards as monitored by the Facilities Monitoring Tool.

Between January and March 2019 one location in NHS Grampian fell below the 90% cleaning compliance target and one location in NHS Grampian fell below the 90% estates monitoring compliance target.

	Jan 2019 Domestic	Jan 2019 Estates	Feb 2019 Domestic	Feb 2019 Estates	Mar 2019 Domestic	Mar 2019 Estates	Quarter 4 Domestic	Quarter 4 Estates
<b>NHS Grampian Overall</b>	93.40	94.05	93.00	93.20	93.50	94.55	<b>93.30</b>	<b>93.93</b>
<b>Aberdeen Maternity Hospital, RACH &amp; Outlying Areas</b>	93.00	93.75	93.45	92.95	93.80	93.80	<b>93.41</b>	<b>93.50</b>
<b>Aberdeen Royal Infirmary</b>	93.15	95.40	93.00	95.55	92.35	95.50	<b>92.83</b>	<b>95.48</b>
<b>Aberdeenshire North &amp; Moray Community</b>	96.70	95.70	96.85	95.60	95.45	95.75	<b>96.33</b>	<b>95.68</b>
<b>Aberdeenshire South &amp; Aberdeen City</b>	97.50	99.00	92.80	94.75	93.75	96.50	<b>94.68</b>	<b>96.75</b>
<b>Dr Grays Hospital</b>	92.45	88.15	93.20	88.60	93.60	88.85	<b>93.08</b>	<b>88.53</b>
<b>Royal Cornhill Hospital</b>	94.20	95.20	76.40	89.75	93.10	95.50	<b>87.90</b>	<b>93.48</b>
<b>Woodend Hospital</b>	93.85	95.85	94.25	89.65	94.45	96.15	<b>94.18</b>	<b>93.88</b>

## Healthcare Associated Infection Reporting Template (HAIRT)

### Section 2 – Healthcare Associated Infection Report Cards

The following section is a series of ‘Report Cards’ that provide information, for each acute hospital and key community hospitals in the Board, on the number of cases of *Staphylococcus aureus* blood stream infections (also broken down into MSSA and MRSA) and *Clostridioides* (formerly *Clostridium*) *difficile* infections, as well as cleaning compliance and hand hygiene. In addition, there is a single report card which covers all community hospitals [which do not have individual cards], and a report which covers infections identified as having been contracted from outwith hospital. The information in the report cards is provisional local data, and may differ from the national surveillance reports carried out by Health Protection Scotland and Health Facilities Scotland. The national reports are official statistics which undergo rigorous validation, which means final national figures may differ from those reported here. However, these reports aim to provide more detailed and up to date information on HAI activities at local level than is possible to provide through the national statistics.

#### Understanding the Report Cards – Infection Case Numbers

*Clostridioides* (formerly *Clostridium*) *difficile* infections (CDI) and *Staphylococcus aureus* bacteraemia (SAB) cases are presented for each hospital, broken down by month. *Staphylococcus aureus* bacteraemia (SAB) cases are further broken down into Meticillin Sensitive *Staphylococcus aureus* (MSSA) and Meticillin Resistant *Staphylococcus aureus* (MRSA).

For each hospital the total number of cases for each month are those which have been reported as positive from a laboratory report on samples taken more than 48 hours after admission. For the purposes of these reports, positive samples taken from patients within 48 hours of admission will be considered to be confirmation that the infection was contracted prior to hospital admission and will be shown in the “out of hospital” report card.

#### Targets

There are national targets associated with reductions in CDIs and SABs. More information on these can be found on the Scotland Performs website:

<http://www.gov.scot/About/Performance/scotPerforms/NHSScotlandperformance>

#### Understanding the Report Cards – Cleaning Compliance

Hospitals strive to keep the care environment as clean as possible. This is monitored through cleaning and estates compliance audits. More information on how hospitals carry out these audits can be found on the Health Facilities Scotland website:

<http://www.hfs.scot.nhs.uk/publications-/guidance-publications/?keywords=monitoring+framework&section=&category=&month=&year=&show=10>

## Understanding the Report Cards – Hand Hygiene Compliance

Hospitals carry out regular audits of how well their staff are complying with hand hygiene. Each hospital report card presents the combined percentage of hand hygiene compliance with both opportunity taken and technique used broken down by staff group.

## Understanding the Report Cards – ‘Out of Hospital Infections’

*Clostridioides* (formerly *Clostridium*) *difficile* infections and *Staphylococcus aureus* (including MRSA) bacteraemia cases are all associated with being treated in hospitals. However, this is not the only place a patient may contract an infection. This total will also include infection from community sources such as GP surgeries and care homes. The final Report Card report in this section covers ‘Out of Hospital Infections’ and reports on SAB and CDI cases reported to a Health Board which are not attributable to a hospital.

## NHS BOARD REPORT CARD – NHS Grampian

### Staphylococcus aureus bacteraemia - monthly case numbers

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>MRSA</b>	2	0	1	0	0	1	2	0	2	0	0	0
<b>MSSA</b>	13	9	12	9	18	12	13	15	7	12	9	8
<b>Total SABS</b>	15	9	13	9	18	13	15	15	9	12	9	8

### Clostridioides (formerly Clostridium) difficile infections - monthly case numbers

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>Total CDIs (Ages 15+)</b>	19	37	20	22	12	11	7	7	8	9	3	12

### Cleaning Compliance (%)

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>Board Total</b>	94	94	94	93	94	94	93	94	94	93	93	94

### Estates Monitoring Compliance (%)

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>Board Total</b>	95	95	95	95	95	95	94	95	95	94	93	95

### Hand Hygiene Monitoring Compliance (%)

	Apr 2018	May 2018	June 2018	July 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>AHP</b>	98	98	98	99	99	98	98	99	99	99	99	99
<b>Ancillary</b>	97	97	96	96	96	96	98	96	97	97	96	97
<b>Medical</b>	96	94	97	99	99	99	97	98	100	97	96	94
<b>Nurse</b>	99	99	99	95	98	97	99	95	99	98	98	97
<b>Total</b>	98	97	98	98	98	98	98	98	99	98	97	97

## NHS HOSPITAL A REPORT CARD – Aberdeen Royal Infirmary

### Staphylococcus aureus bacteraemia - monthly case numbers

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>MRSA</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>MSSA</b>	4	1	3	4	3	3	5	3	3	3	3	0
<b>Total SABS</b>	4	1	3	4	3	3	5	3	3	3	3	0

### Clostridioides (formerly Clostridium) difficile infections - monthly case numbers

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>Total CDIs (Ages 15+)</b>	10	7	6	3	5	3	4	2	1	2	0	5

### Cleaning Compliance (%)

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>ARI Total</b>	93	93	94	93	93	93	92	94	94	93	93	92

### Estates Monitoring Compliance (%)

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>ARI Total</b>	97	96	96	96	96	96	95	96	96	95	96	96

## NHS HOSPITAL B REPORT CARD – Dr Gray’s Hospital

### *Staphylococcus aureus* bacteraemia - monthly case numbers

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>MRSA</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>MSSA</b>	1	0	0	0	2	0	0	0	0	0	0	0
<b>Total SABS</b>	1	0	0	0	2	0	0	0	0	0	0	0

### *Clostridioides* (formerly *Clostridium*) *difficile* infections - monthly case numbers

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>Total CDIs (Ages 15+)</b>	0	0	0	0	1	0	0	0	0	1	0	1

### Cleaning Compliance (%)

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>DGH Total</b>	94	94	93	93	94	93	91	93	93	92	93	94

### Estates Monitoring Compliance (%)

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>DGH Total</b>	94	92	93	91	91	91	90	92	91	88	89	89

## NHS HOSPITAL C REPORT CARD – Woodend Hospital

### Staphylococcus aureus bacteraemia - monthly case numbers

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>MRSA</b>	0	0	0	0	0	0	0	0	0	0	0	0
<b>MSSA</b>	0	0	0	0	0	0	0	0	1	0	0	1
<b>Total SABS</b>	0	0	0	0	0	0	0	0	1	0	0	1

### Clostridioides (formerly Clostridium) difficile infections - monthly case numbers

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>Total CDIs (Ages 15+)</b>	0	0	0	0	0	0	0	0	0	0	0	0

### Cleaning Compliance (%)

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>WGH Total</b>	94	95	94	95	96	94	92	95	95	94	94	94

### Estates Monitoring Compliance (%)

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>WGH Total</b>	95	94	96	98	99	96	93	95	95	96	90	96

## OTHER NHS HOSPITALS REPORT CARD

The other hospitals covered in this report card include:

Aberdeen Maternity Hospital  
 Royal Cornhill Hospital  
 Royal Aberdeen Children's Hospital  
 Roxburgh House  
 All Community Hospitals

### *Staphylococcus aureus* bacteraemia - monthly case numbers

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>MRSA</b>	0	0	1	0	0	0	0	0	0	0	0	0
<b>MSSA</b>	2	0	1	0	0	1	0	1	0	0	0	1
<b>Total SABS</b>	2	0	2	0	0	1	0	1	0	0	0	1

### *Clostridioides* (formerly *Clostridium*) *difficile* infections - monthly case numbers

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>Total CDIs (Ages 15+)</b>	2	1	2	2	1	0	0	0	1	0	1	0

## NHS OUT OF HOSPITAL REPORT CARD

### *Staphylococcus aureus* bacteraemia - monthly case numbers

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>MRSA</b>	1	0	0	0	0	0	2	0	2	0	0	0
<b>MSSA</b>	7	8	8	5	13	1	8	11	3	9	6	6
<b>Total SABS</b>	8	8	8	5	13	1	10	11	5	9	6	6

### *Clostridioides* (formerly *Clostridium*) *difficile* infections - monthly case numbers

	Apr 2018	May 2018	June 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
<b>Total CDIs (Ages 15+)</b>	7	29	11	17	5	8	4	5	6	6	2	6

## References

- 1 – 4: HealthProtection Scotland (2019) *Quarterly epidemiological data on Clostridioides Difficile infection, Escherichia coli bacteraemia, Staphylococcus aureus bacteraemia and Surgical Site Infection in Scotland*. Available at: [https://hpspubsrepo.blob.core.windows.net/hps-website/nss/2744/documents/2\\_2019-04-02%20SAB-CDI-EColi-SSI-Infections-Q4-2018-Report%20v1.2.pdf](https://hpspubsrepo.blob.core.windows.net/hps-website/nss/2744/documents/2_2019-04-02%20SAB-CDI-EColi-SSI-Infections-Q4-2018-Report%20v1.2.pdf)
- 5: NHS Grampian Staff Protocol for the Screening and Management of Patients with Meticillin-Resistant Staphylococcus aureus (MRSA) within NHS Healthcare Settings (Excluding Care Homes). Available at: <http://nhsgintranet.grampian.scot.nhs.uk/depts/InfectionPreventionAndControlManual/Documents/NHSG%20Staff%20Protocol%20for%20the%20Treatment%20of%20Patients%20with%20MRSA%20in%20Healthcare%20Settings%20March%202017.pdf>