

**Healthcare Associated Infection (HAI)
Bimonthly Report – September 2019**

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 1 (January to March 2019) published on 2nd July 2019.

HAI Summary - Quarter Ending March 2019

***Clostridioides difficile* infection (CDI)**

The total number of CDI cases in patients reported to HPS was 25 – 10.6% of the total across Scotland and up slightly from 23 in the previous quarter.

16 CDI cases were reported to HPS as healthcare associated. This corresponded to an incidence rate of 12.1 cases per 100,000 total occupied bed days (TOBDs) which was higher than the Scotland wide rate of 11.8 per 100,000 TOBDs.

Nine CDI cases were reported as community associated. This corresponded to an incidence rate of 6.2 cases per 100,000 population, which was higher than the Scotland wide rate of 4.0 cases per 100,000 population.

Surgical Site Infection (SSI)

Nine cases (2.0%) of SSI following caesarean section procedures were reported to HPS, detected either during inpatient stay or by PDS to day 10. Across Scotland the proportion was 1.6%.

No cases of SSI following hip arthroplasty procedure were reported to HPS, detected either during inpatient stay or on readmission to day 30. Across Scotland the proportion was 0.4%.

***Staphylococcus aureus* bacteraemia (SAB)**

The total number of SAB cases in patients reported to HPS was 29 – 7.6% of the total across Scotland and a decrease of 25% from the previous quarter.

19 SAB cases were reported to HPS as healthcare associated. This corresponded to an incidence rate of 14.4 cases per 100,000 TOBDs. The Scotland wide rate was higher at 15.6 cases per 100,000 TOBDs.

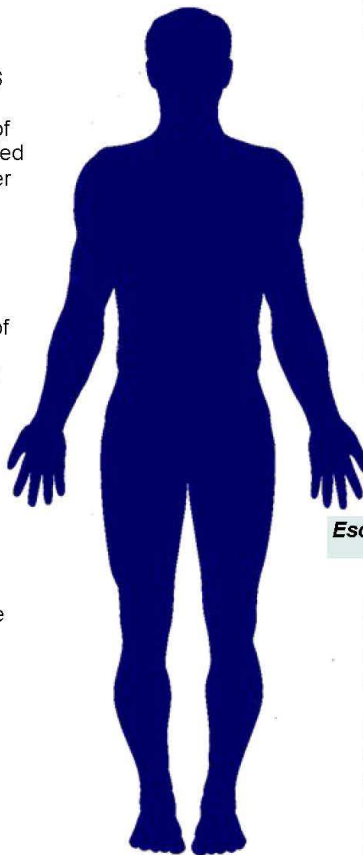
10 SAB cases were reported as community associated. This corresponds to an incidence rate of 6.9 cases per 100,000 population, below the Scotland wide rate of 10.7 cases per 100,000 population.

***Escherichia coli* bacteraemia (ECB)**

The total number of ECB cases in patients reported to HPS was 112 – 9.6% of the total across Scotland and an increase of 12% from the previous quarter.

56 ECB cases were reported to HPS as healthcare associated. This corresponded to an incidence rate 42.3 cases per 100,000 TOBDs which was above the Scotland wide rate of 37.3 cases per 100,000 TOBDs.

56 ECB cases were reported as community associated. This corresponded to an incidence rate of 38.9 cases per 100,000 population, which was below the Scotland wide rate of 44.6 per 100,000 population.



Additional Surveillance not reported in Health Protection Scotland's Quarterly Epidemiological report:

Methicillin-Resistant *Staphylococcus Aureus* (MRSA) Screening

MRSA (CRA) screening compliance for Quarter 1 (April – June 2019) was 89% which is below the compliance target of 90% and equal to the national average (89%).

Carbapenemase Producing Enterobacteriaceae (CPE) Screening

CPE (CRA) screening compliance for Quarter 1 (April – June 2019) was 98% which is above both the compliance target (90%) and the national average (86%).

Norovirus

For the period April – June 2019 there were 4 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 April – June 2019 was 93% and the estates monitoring compliance was 94%; both these scores are above the national targets of 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 CDIs & SABs awaited from Scottish Government
- 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	To be confirmed by Scottish Government	Jan – Mar 2019, HPS	11.8	12.1	Amber
	Community Associated Infection			4.0	6.2	Amber
<i>E coli</i> Bacteraemia	Healthcare Associated Infection	No target (rate per 100,000 bed days)	Jan – Mar 2019, HPS	37.3	42.3	Amber
	Community Associated Infection	No target (annualised rate per 100,000 population)		44.6	38.9	Green
SABs	Healthcare Associated Infection	To be confirmed by Scottish Government	Jan – Mar 2019, HPS	15.6	14.4	Green
	Community Associated Infection			10.7	6.9	Green
Surgical Site Infections (SSIs)	Caesarean Section		Jan – Mar 2019, HPS	1.6	2.0	Amber
	Hip Arthroplasty		Jan – Mar 2019, HPS	0.4	0.0	Green
MRSA (CRA) screening		HPS 90%	Apr – Jun 2019, HPS	89	89	Amber
CPE (CRA) screening		HPS 90%	Apr – Jun 2019, HPS	86	98	Green
Cleaning	All clinical areas	HFS 90%	Apr – Jun 2019, NHSG	N/A	93	Green
Estates		HFS 90%	Apr – Jun 2019, NHSG	N/A	94	Green
Hand Hygiene	Nursing staff	SGHD 90%	Apr – Jun 2019, NHSG	N/A	99	Green
	Medical staff	SGHD 90%	Apr – Jun 2019, NHSG	N/A	96	Green
	Allied Health Professionals	SGHD 90%	Apr – Jun 2019, NHSG	N/A	98	Green
	Ancillary staff	SGHD 90%	Apr – Jun 2019, NHSG	N/A	94	Green

*RAG (Red / Amber / Green) Status

Above upper control limit = **Red**
 Below National average = **Green**

Below upper control limit but above National average = **Amber**
 Below lower control limit = **Green**

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

Contact for further information

Grace McKerron
Infection Prevention and Control Manager
grace.mckerron@nhs.net

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.

***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 death¹.

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 total occupied bed days) for healthcare associated infection cases

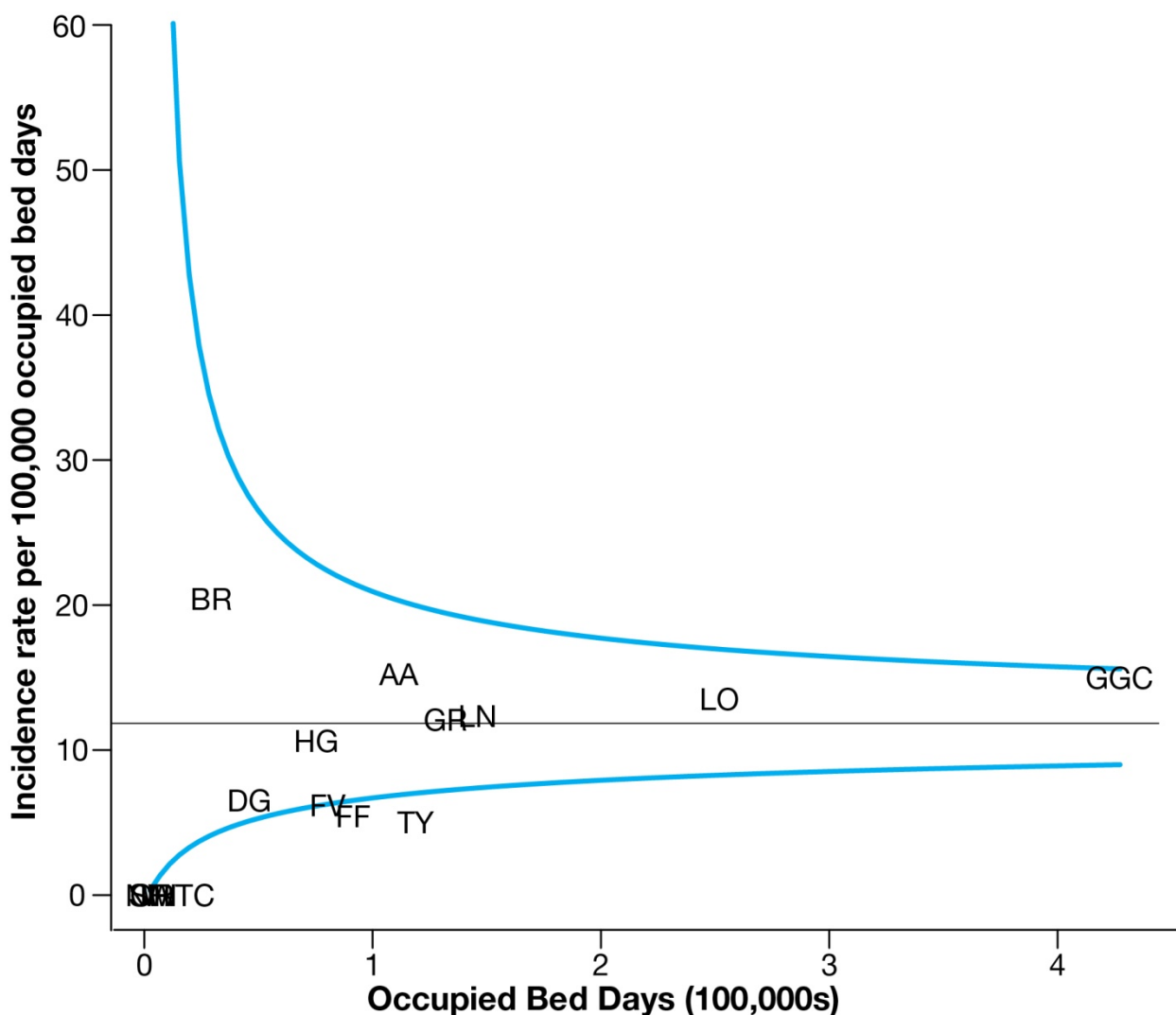
Q4 (October to December 2018) compared to Q1 (January to March 2019)

NHS Board	Q4 Cases	Q4 Bed Days	Q4 Rate	Q1 Cases	Q1 Bed Days	Q1 Rate
AA	21	110,740	19.0	17	111,660	15.2
BR	0	31,191	0.0	6	29,390	20.4
DG	12	43,800	27.4	3	46,147	6.5
FF	10	91,463	10.9	5	91,885	5.4
FV	14	84,592	16.6	5	80,825	6.2
GR	10	131,734	7.6	16	132,257	12.1
GGC	67	417,273	16.1	64	427,318	15.0
HG	11	72,346	15.2	8	75,357	10.6
LN	25	142,634	17.5	18	145,876	12.3
LO	36	254,499	14.1	34	251,904	13.5
NWTC	0	11,765	0.0	0	11,654	0.0
OR	1	3,843	26.0	0	3,829	0.0
SH	0	2,501	0.0	0	2,511	0.0
TY	9	115,115	7.8	6	119,250	5.0
WI	1	6,753	14.8	0	6,871	0.0
Scotland	217	1,520,249	14.3	182	1,536,734	11.8

- 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 total occupied bed days) in healthcare associated infection cases for all NHS Boards in Scotland

Q1 (January to March 2019)



- Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)1
- NHS National Waiting Times Centre, NHS Orkney, NHS Shetland and NHS Western Isles overlap as do NHS Grampian and NHS Lanarkshire

CDI cases and incidence rates (per 100,000 population) for community associated infection cases

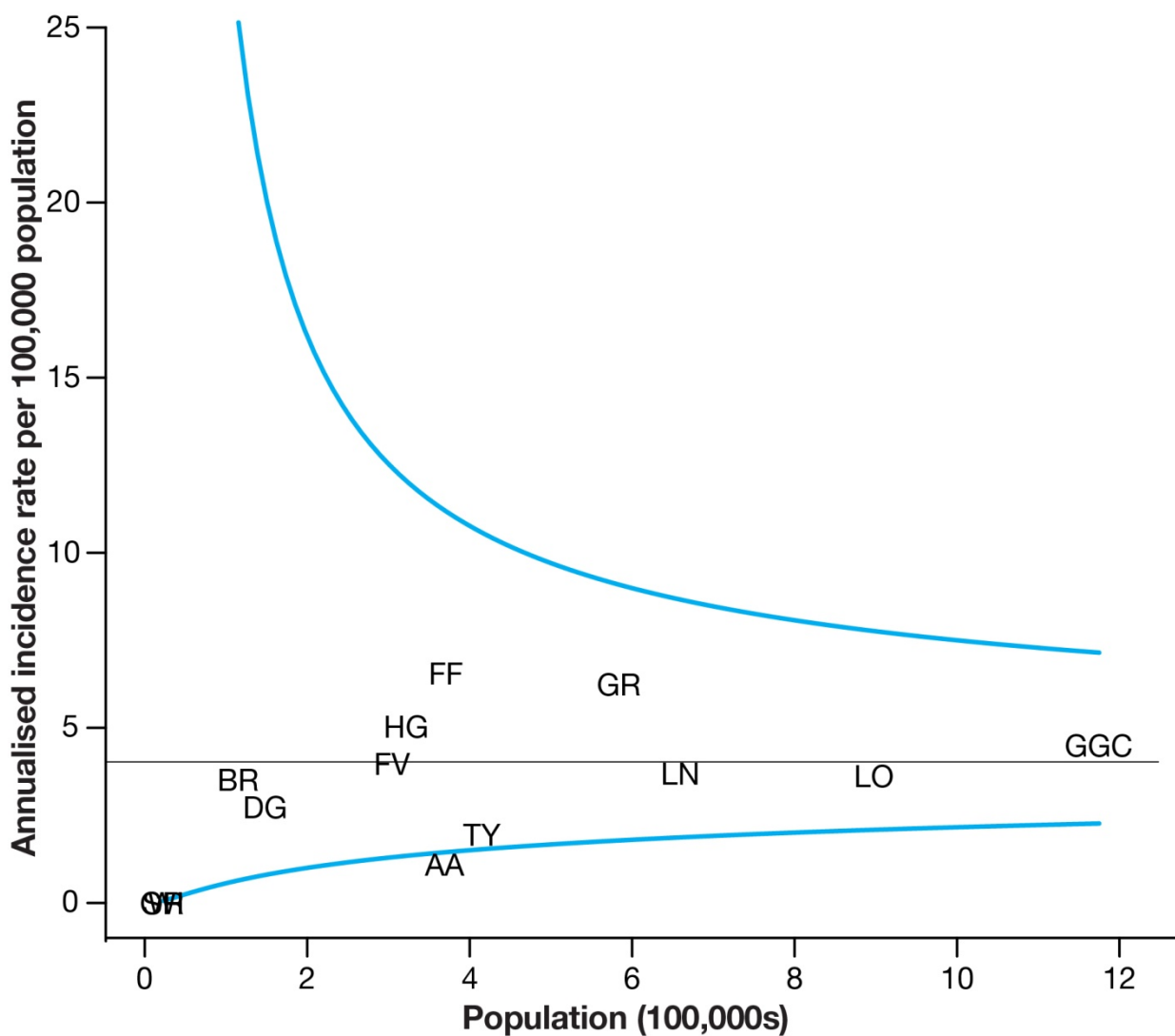
Q4 (October to December 2018) compared to Q1 (January to March 2019)

NHS Board	Q4 Cases	Q4 Population	Q4 Rate	Q1Cases	Q1Population	Q1 Rate
AA	5	369,670	5.4	1	369,670	1.1
BR	1	115,270	3.4	1	115,270	3.5
DG	0	148,790	0.0	1	148,790	2.7
FF	8	371,910	8.5	6	371,910	6.5
FV	3	306,070	3.9	3	306,070	4.0
GR	13	584,550	8.8	9	584,550	6.2
GGC	22	1,174,980	7.4	13	1,174,980	4.5
HG	7	321,800	8.6	4	321,800	5.0
LN	11	659,200	6.6	6	659,200	3.7
LO	15	897,770	6.6	8	897,770	3.6
OR	1	22,190	17.9	0	22,190	0.0
SH	0	22,990	0.0	0	22,990	0.0
TY	3	416,080	2.9	2	416,080	1.9
WI	0	26,830	0.0	0	26,830	0.0
Scotland	89	5,438,100	6.5	54	5,438,100	4.0 ↓

- An arrow denotes statistically significant change
- 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

Q1 (January to March 2019)



- Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates
- NHS Orkney, NHS Shetland and NHS Western Isles overlap

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 2009².

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 total 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 total occupied bed days) for healthcare associated infection cases

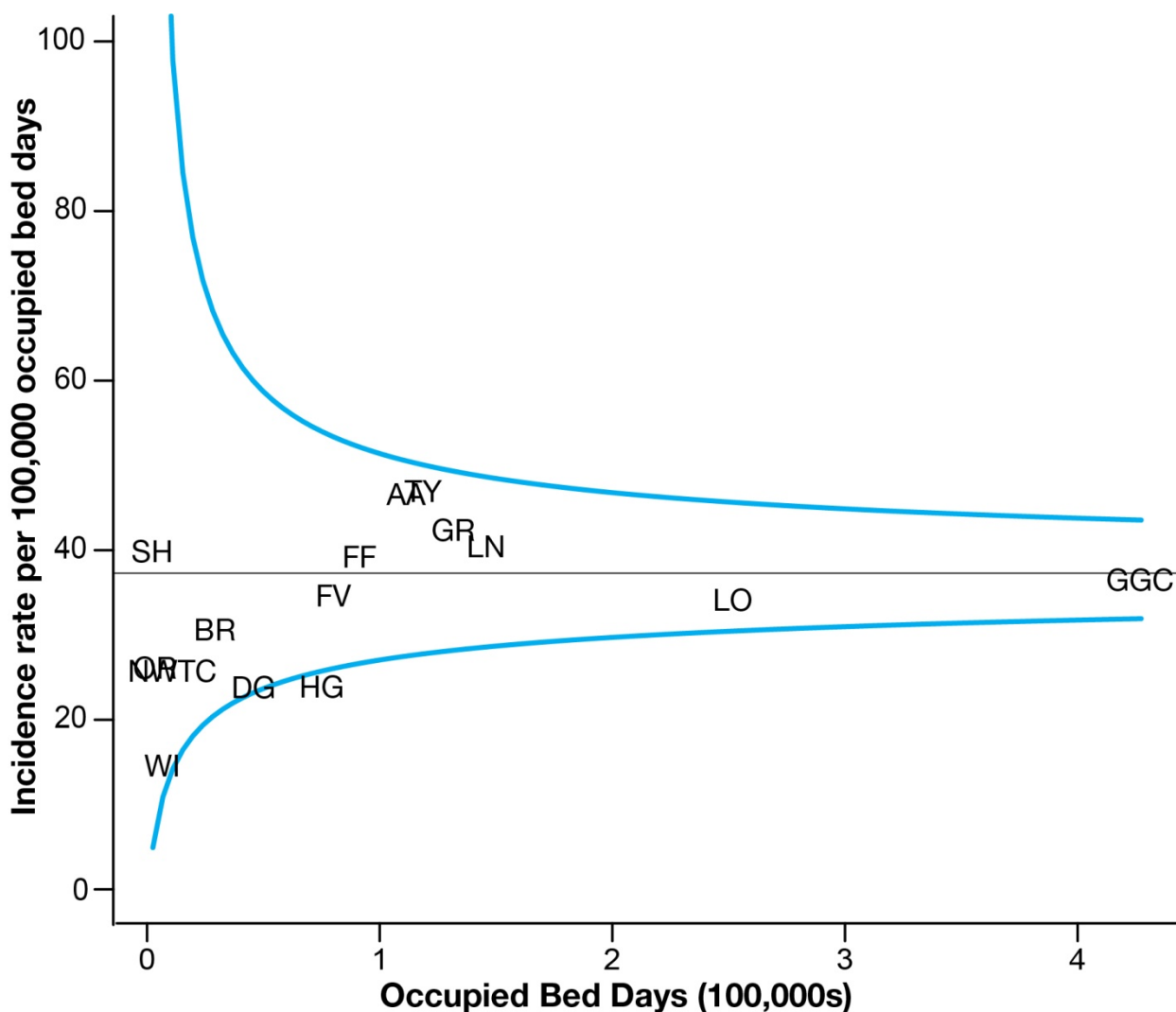
Q4 (October to December 2018) compared to Q1 (January to March 2019)

NHS Board	Q4 Cases	Q4 Bed Days	Q4 Rate	Q1 Cases	Q1 Bed Days	Q1Rate
AA	40	110,740	36.1	52	111,660	46.6
BR	11	31,191	35.3	9	29,390	30.6
DG	15	43,800	34.2	11	46,147	23.8
FF	45	91,463	49.2	36	91,885	39.2
FV	29	84,592	34.3	28	80,825	34.6
GR	49	131,734	37.2	56	132,257	42.3
GGC	152	417,273	36.4	156	427,318	36.5
HG	11	72,346	15.2	18	75,357	23.9
LN	72	142,634	50.5	59	145,876	40.4
LO	96	254,499	37.7	86	251,904	34.1
NWTC	1	11,765	8.5	3	11,654	25.7
OR	0	3,843	0.0	1	3,829	26.1
SH	2	2,501	80.0	1	2,511	39.8
TY	56	115,115	48.6	56	119,250	47.0
WI	3	6,753	44.4	1	6,871	14.6
Scotland	582	1,520,249	38.3	573	1,536,734	37.3

- 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 total occupied bed days) in healthcare associated infection cases for all NHS Boards in Scotland

Q1 (January to March 2019)



- 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 as do NHS National Waiting Time Centre and NHS Orkney

ECB cases and incidence rates (per 100,000 population) for community associated infection cases

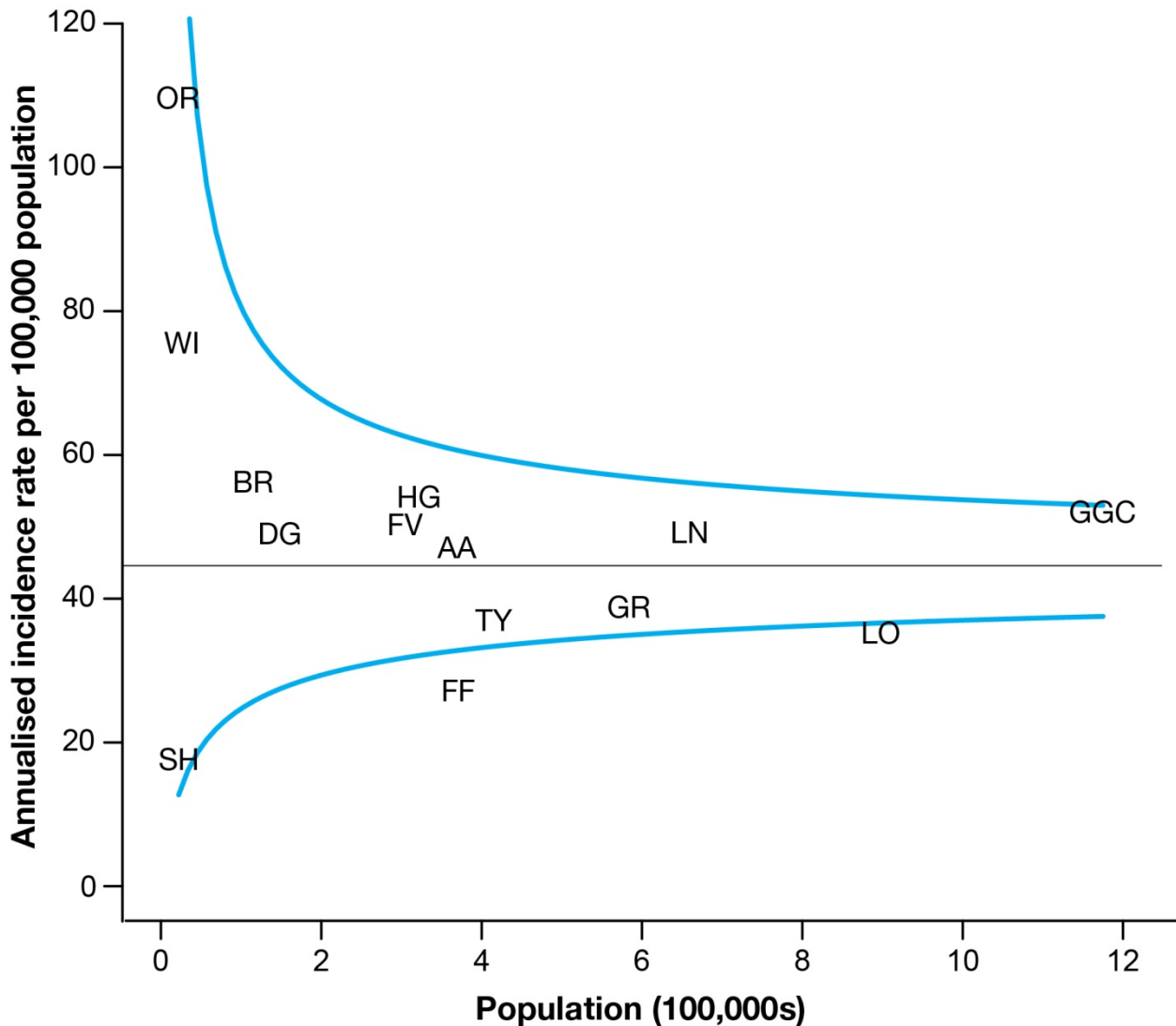
Q4 (October to December 2018) compared to Q1 (January to March 2019)

NHS Board	Q4 Cases	Q4Population	Q4 Rate	Q1 Cases	Q1 Population	Q1Rate
AA	49	369,670	52.6	43	369,670	47.2
BR	11	115,270	37.9	16	115,270	56.3
DG	23	148,790	61.3	18	148,790	49.1
FF	46	371,910	49.1	25	371,910	27.3
FV	37	306,070	48.0	38	306,070	50.4
GR	51	584,550	34.6	56	584,550	38.9
GGC	150	1,174,980	50.6	151	1,174,980	52.1
HG	26	321,800	32.1	43	321,800	54.2
LN	88	659,200	53.0	80	659,200	49.2
LO	71	897,770	31.4	78	897,770	35.2
OR	3	22,190	53.6	6	22,190	109.7
SH	1	22,990	17.3	1	22,990	17.6
TY	42	416,080	40.0	38	416,080	37.0
WI	5	26,830	73.9	5	26,830	75.6
Scotland	603	5,438,100	44.0	598	5,438,100	44.6

- Quarterly population rates are based on an annualised population
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Funnel plot of ECB incidence rates (per 100,000 population) in community associated infection cases for all NHS Boards in Scotland

Q1 (January to March 2019)



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

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 bacteraemia³.

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 Infection Prevention and Control Team 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 total occupied bed days) for healthcare associated infection cases

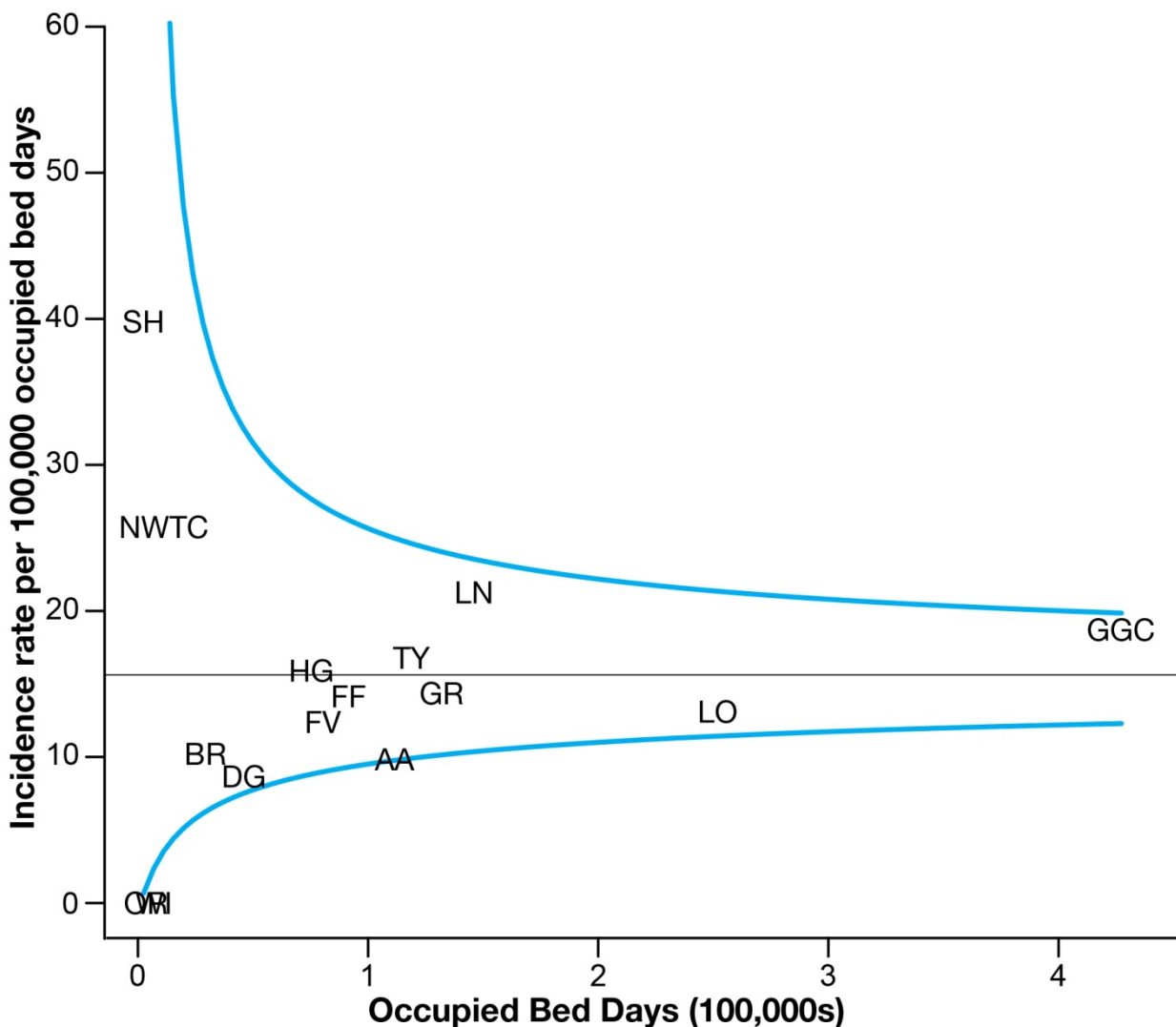
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FV	17	84,592	20.1	10	80,825	12.4
GR	26	131,734	19.7	19	132,257	14.4
GGC	88	417,273	21.1	80	427,318	18.7
HG	14	72,346	19.4	12	75,357	15.9
LN	24	142,634	16.8	31	145,876	21.3
LO	35	254,499	13.8	33	251,904	13.1
NWTC	4	11,765	34.0	3	11,654	25.7
OR	1	3,843	26.0	0	3,829	0.0
SH	1	2,501	40.0	1	2,511	39.8
TY	17	115,115	14.8	20	119,250	16.8
WI	0	6,753	0.0	0	6,871	0.0
Scotland	269	1,520,249	17.7	240	1,536,734	15.6

- 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

Q1 (January to March 2019)



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

SAB cases and incidence rates (per 100,000 population) for community associated infection cases

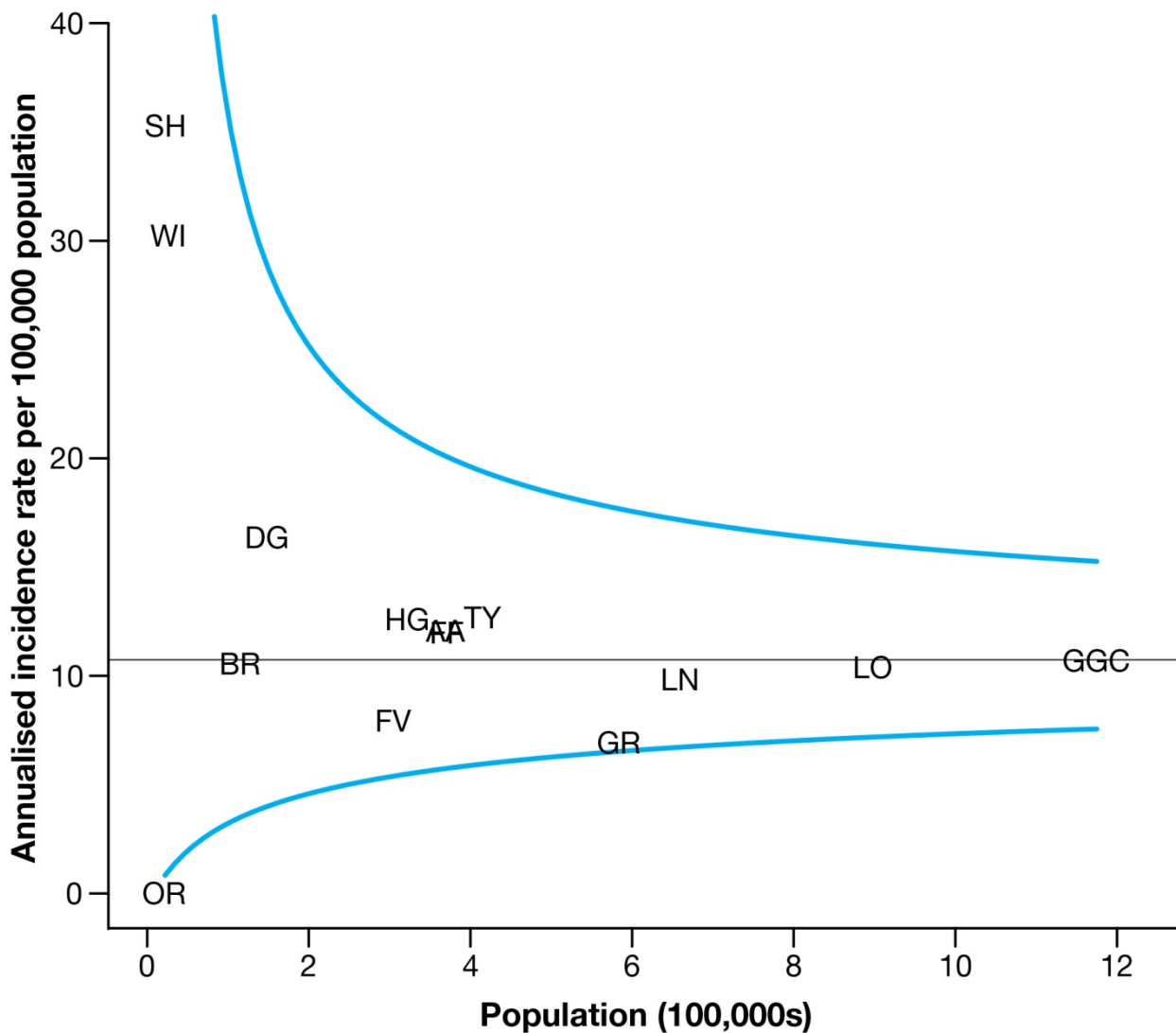
Q4 (October to December 2018) compared to Q1 (January to March 2019)

NHS Board	Q4 Cases	Q4 Population	Q4Rate	Q1 Cases	Q1 Population	Q1 Rate
AA	7	369,670	7.5	11	369,670	12.1
BR	3	115,270	10.3	3	115,270	10.6
DG	3	148,790	8.0	6	148,790	16.4
FF	12	371,910	12.8	11	371,910	12.0
FV	4	306,070	5.2	6	306,070	8.0
GR	13	584,550	8.8	10	584,550	6.9
GGC	16	1,174,980	5.4	31	1,174,980	10.7
HG	3	321,800	3.7	10	321,800	12.6
LN	14	659,200	8.4	16	659,200	9.8
LO	24	897,770	10.6	23	897,770	10.4
OR	1	22,190	17.9	0	22,190	0.0
SH	0	22,990	0.0	2	22,990	35.3
TY	11	416,080	10.5	13	416,080	12.7
WI	2	26,830	29.6	2	26,830	30.2
Scotland	113	5,438,100	8.3	144	5,438,100	10.7 ↑

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

Q1 (January to March 2019)



- Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates
- NHS Ayrshire & Arran and NHS Fife overlap

Healthcare Associated SABs January – March 2019	
Source	Number
Skin & soft tissue (skin break, eczema, ulcer, cellulitis, other)	6
Devices (PVC, CVC tunnelled, urinary catheter, other)	6
Surgical Site Infection (organ/space, deep, superficial)	3
Respiratory infection	2
Contaminant	1
Not known	1
Total Healthcare Associated SABs	19

Community Associated SABs January – March 2019	
Source	Number
Skin & soft tissue (skin break, eczema, cellulitis)	7
Respiratory infection	2
Injection site related to illicit drug use	1
Not known	1
Total Community Associated SABs	11*

** One of these community associated SABs was re-assigned against the board of residence of the patient therefore the total community associated SABs for NHS Grampian during this quarter is 10*

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 Scotland⁴.

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/surgical-site-infection-surveillance-protocol-and-resource-pack-edition-71/>

Caesarean section procedures and SSI incidence (per 100 procedures) for inpatients and post discharge surveillance to day 10

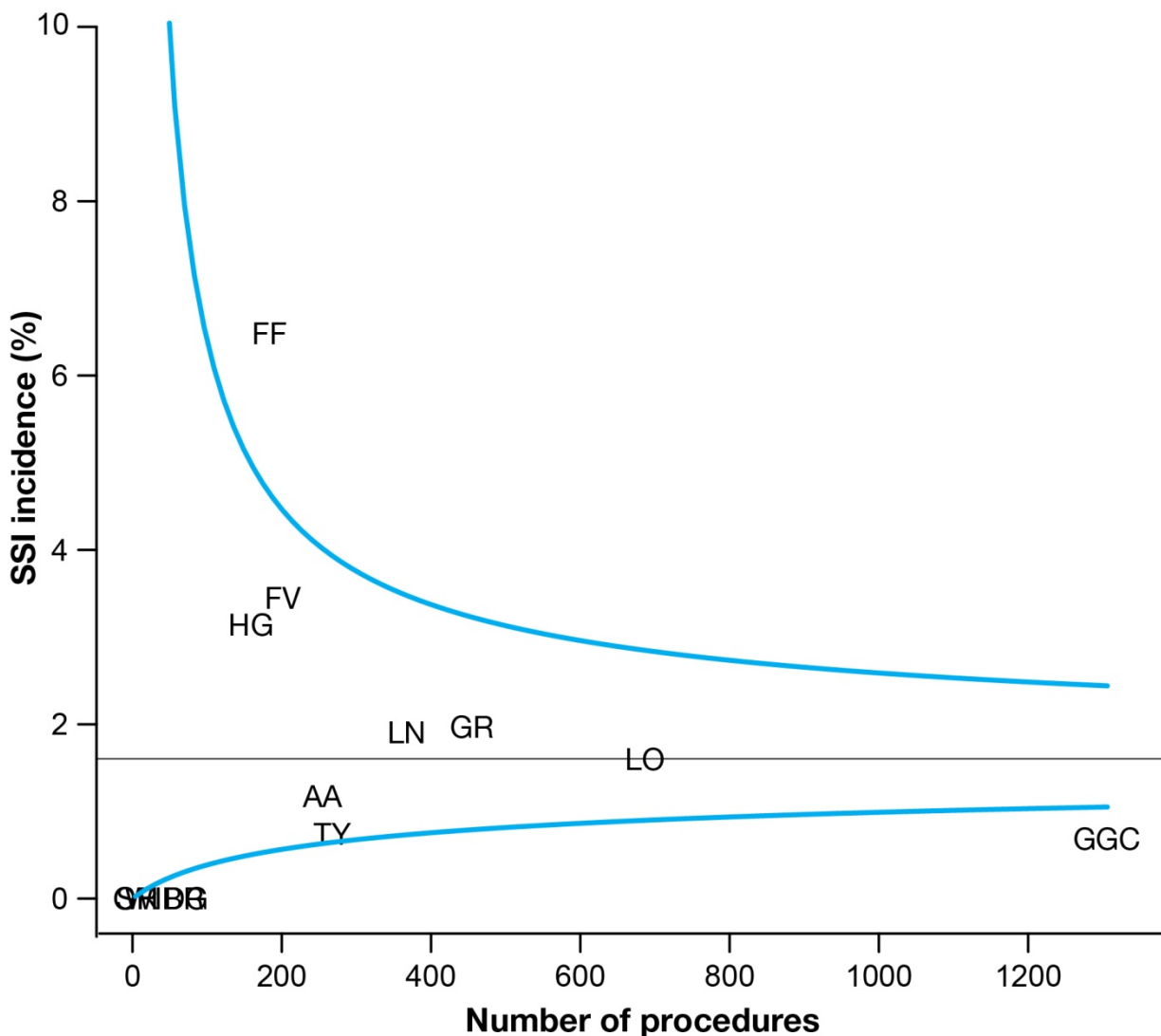
Q4 (October to December 2018) compared to Q1 (January to March 2019)

NHS Board	Q4 SSI	Q4 Procedures	Q4 Incidence	Q1 SSI	Q1 Procedures	Q1 Incidence
AA	4	294	1.4	3	255	1.2
BR	0	67	0.0	0	68	0.0
DG	1	83	1.2	0	72	0.0
FF	4	238	1.7	12	185	6.5
FV	5	253	2.0	7	203	3.4
GR	7	462	1.5	9	456	2.0
GGC	16	1,365	1.2	9	1,306	0.7
HG	2	167	1.2	5	159	3.1
LN	7	387	1.8	7	367	1.9
LO	8	705	1.1	11	687	1.6
OR	0	13	0.0	0	4	0.0
SH	0	5	0.0	0	6	0.0
TY	5	299	1.7	2	269	0.7
WI	0	8	0.0	0	15	0.0
Scotland	59	4,346	1.4	65	4,052	1.6

- 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 post discharge surveillance to day 10 for all NHS Boards in Scotland

Q1 (January to March 2019)



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

**Hip arthroplasty procedures and SSI incidence (per 100 procedures) for inpatients
and on readmission to day 30**

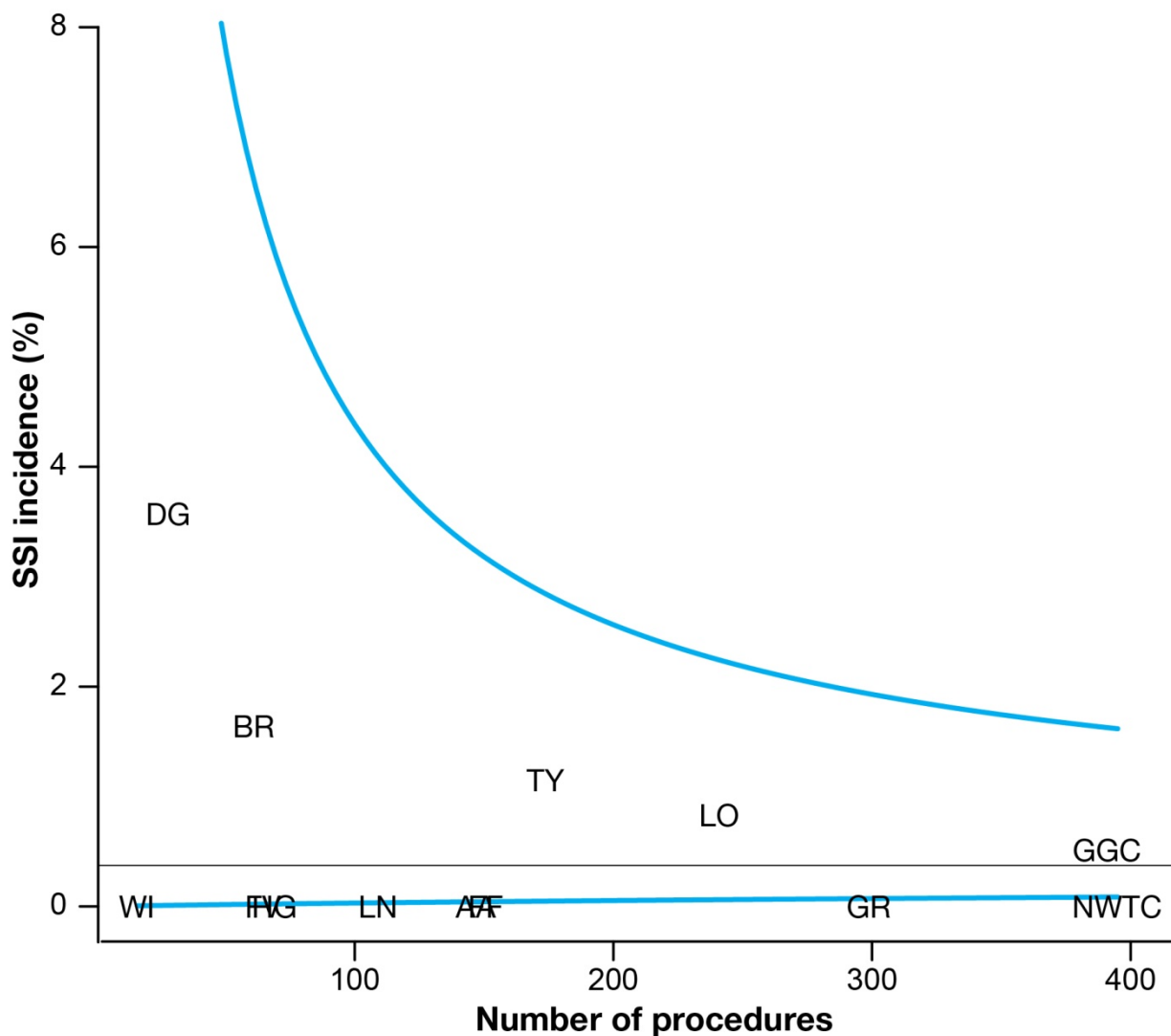
Q4 (October to December 2018) compared to Q1 (January to March 2019)

NHS Board	Q4 SSI	Q4 Procedures	Q4 Incidence	Q1 SSI	Q1 Procedures	Q1 Incidence
AA	0	143	0.0	0	147	0.0
BR	1	87	1.1	1	61	1.6
DG	0	51	0.0	1	28	3.6
FF	1	144	0.7	0	151	0.0
FV	0	64	0.0	0	65	0.0
GR	3	288	1.0	0	299	0.0
GGC	3	378	0.8	2	391	0.5
HG	0	86	0.0	0	69	0.0
LN	2	130	1.5	0	109	0.0
LO	0	264	0.0	2	241	0.8
NWTC	0	473	0.0	0	395	0.0
TY	5	156	3.2	2	174	1.1
WI	0	12	0.0	0	16	0.0
Scotland	15	2,276	0.7	8	2,146	0.4

- 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

Q1 (January to March 2019)



- Source of data is Surgical Site Infection Reporting System (SSIRS)
- NHS Forth Valley and NHS Highland overlap as do NHS Ayrshire & Arran and NHS Fife

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 spread⁵.

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 1* (April – June 2019) within NHS Grampian was 89%.

**Please note that Quarter 1 for MRSA CRA screening is April – June 2019*

	2018-19 Q1	2018-19 Q2	2018-19 Q3	2018-19 Q4	2019-20 Q1
Grampian	86%	84%	89%	87%	89%
Scotland	84%	84%	83%	83%	89%

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 1st 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 Clinical Risk Assessment (CRA) screening compliance for Quarter 1* (April – June 2019) within NHS Grampian was 98%.

**Please note that Quarter 1 for CPE CRA screening is April – June 2019*

	2018-19 Q1	2018-19 Q2	2018-19 Q3	2018-19 Q4	2019-20 Q1
Grampian	70%	93%	100%	97%	98%
Scotland	72%	79%	78%	81%	86%

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 comparison. 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).

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

Incident Management Team (IMT) and Problem Assessment Group (PAG) Meetings

In NHS Grampian the Infection Prevention and Control Team are continually alert for an actual or potential healthcare incident, infection and outbreak or data exceedance. We apply Chapter 3 of the National Infection Prevention and Control Manual⁶. The Healthcare Infection Incident Assessment Tool (HIIAT)⁷ guides assessment, communication and escalation of risk within the Health Board, Health Protection Scotland and Scottish Government. Multi-disciplinary meetings to address the infection risk are called Problem Assessment Groups (PAGs) and Incident Management Team meetings (IMTs).

A PAG may be convened to assess and determine if an IMT is required or whether there has been a greater than expected data exceedance such as non-compliant hand hygiene audits.

An IMT is defined as a multi-disciplinary, multi-agency group with responsibility for investigating and managing an incident⁸.

PAGs and IMTs can be supported by NHS Grampian's Health Protection Team and Health Protection Scotland.

In NHS Grampian between April and June 2019 there were a total of eight IMT meetings and five PAG meetings. These meetings establish and monitor risk control measures for patient and staff safety.

Please note: all IMTs remain ongoing and have not been closed yet.

IMT meetings April – June 2019			
Date	Area	Reason	HIIAT assessment* (dynamic assessment accurate at the time of reporting)
16.04.19	ITU, ARI	Aspergillus fumigatus – increased incidence	Amber
25.04.19			Green
30.05.19			Green
26.04.19	Kincardine Renal Unit, Stonehaven	Water Safety	Green
05.06.19			Green
30.05.19	Eye OPD, ARI	Ventilation Safety	Green
11.06.19			Red
18.06.19	Aberdeen Health Village	Water Safety	Green

*HIIAT assessment

All Minor = **Green**

No Major and 2-4 Moderate = **Amber**

3 Minor and 1 Moderate = **Green**

Any Major = **Red**

Incident Management Team (IMT) and Problem Assessment Group (PAG) Meetings

PAG meetings April – June 2019			
Date	Area	Reason	HIIAT assessment* (dynamic assessment accurate at the time of reporting)
10.05.19	Ward 17, Woodend	Hand Hygiene Audit	Green
28.05.19	Eye OPD, ARI	Ventilation Safety – initial assessment	Green
12.06.19	Theatres 4 & 12, ARI	Hand Hygiene Audits	Green
07.06.19	Stroke Unit East, Woodend	MRSA - increased incidence	Green
26.06.19	Emergency Dept, ARI	Hand Hygiene Audit	Green

*HIIAT assessment

All Minor = **Green**

No Major and 2-4 Moderate = **Amber**

3 Minor and 1 Moderate = **Green**

Any Major = **Red**

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 April and June 2019 one location in NHS Grampian fell below the 90% estates monitoring compliance target.

	Apr 2019 Domestic	Apr 2019 Estates	May 2019 Domestic	May 2019 Estates	Jun 2019 Domestic	Jun 2019 Estates	Quarter 1 Domestic	Quarter 1 Estates
NHS Grampian Overall	93.50	94.50	93.00	93.75	93.54	94.22	93.35	94.16
Aberdeen Maternity Hospital, RACH & Outlying Areas	92.40	91.90	93.15	90.40	92.78	92.40	92.78	91.6
Aberdeen Royal Infirmary	92.55	95.20	91.75	95.25	92.28	95.59	92.2	95.35
Aberdeenshire North & Moray Community	95.55	95.30	97.35	96.35	96.23	96.23	96.4	95.96
Aberdeenshire South & Aberdeen City	96.40	98.85	92.60	98.60	95.08	97.60	94.7	98.35
Dr Grays Hospital	93.70	89.65	93.50	87.80	93.89	88.55	93.7	88.67
Royal Cornhill Hospital	96.75	96.75	93.80	96.05	93.31	95.22	94.62	95.37
Woodend Hospital	95.15	95.75	94.55	95.60	94.68	95.21	94.8	95.52

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

The national targets associated with reductions in CDIs and SABs are currently under review. 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§ion=&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

	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	June 2019
MRSA	0	0	1	2	0	2	0	0	0	0	1	0
MSSA	9	18	12	13	15	7	12	9	8	15	13	9
Total SABS	9	18	13	15	15	9	12	9	8	15	14	9

Clostridioides (formerly Clostridium) difficile infections - monthly case numbers

	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	June 2019
Total CDIs (Ages 15+)	22	12	11	7	7	8	9	3	12	2	7	6

Cleaning Compliance (%)

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

Estates Monitoring Compliance (%)

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

Hand Hygiene Monitoring Compliance (%)

	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019
AHP	99	99	98	98	99	99	99	99	99	98	98	99
Ancillary	96	96	96	98	96	97	97	96	97	93	95	93
Medical	99	99	99	97	98	100	97	96	94	96	96	97
Nurse	95	98	97	99	95	99	98	98	97	99	98	99

NHS HOSPITAL A REPORT CARD – Aberdeen Royal Infirmary

Staphylococcus aureus bacteraemia - monthly case numbers

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

Clostridioides (formerly Clostridium) difficile infections - monthly case numbers

	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	June 2019
Total CDIs (Ages 15+)	3	5	3	4	2	1	2	0	5	1	3	0

Cleaning Compliance (%)

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

Estates Monitoring Compliance (%)

	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	June 2019
ARI Total	96	96	96	95	96	96	95	96	96	95	95	95

NHS HOSPITAL B REPORT CARD – Dr Gray’s Hospital

Staphylococcus aureus bacteraemia - monthly case numbers

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

Clostridioides (formerly Clostridium) difficile infections - monthly case numbers

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

Cleaning Compliance (%)

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

Estates Monitoring Compliance (%)

	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	June 2019
DGH Total	91	91	91	90	92	91	88	89	89	90	88	89

NHS HOSPITAL C REPORT CARD – Woodend Hospital

Staphylococcus aureus bacteraemia - monthly case numbers

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

Clostridioides (formerly Clostridium) difficile infections - monthly case numbers

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

Cleaning Compliance (%)

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

Estates Monitoring Compliance (%)

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

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

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

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

NHS OUT OF HOSPITAL REPORT CARD

Staphylococcus aureus bacteraemia - monthly case numbers

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

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

	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	June 2019
Total CDIs (Ages 15+)	17	5	8	4	5	6	6	2	6	1	4	6

References

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