ARHAI Scotland

Antimicrobial Resistance and Healthcare Associated Infection

NHS National Services Scotland

Quarterly epidemiological data on Clostridioides difficile infection, Escherichia coli bacteraemia, Staphylococcus aureus bacteraemia and Surgical Site Infection in Scotland

January to March 2021

6 July 2021

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Contents

Introduction

Antimicrobial Resistance and Healthcare Associated Infection (ARHAI) Scotland provides a commentary on quarterly epidemiological data in Scotland for January to March (Q1) 2021 on the following:

- *Clostridioides difficile* infection
- *Escherichia coli* bacteraemia
- *Staphylococcus aureus* bacteraemia
- Surgical Site Infection

Data are provided for the 14 NHS boards and one NHS Special Health Board.

Main Points

Clostridioides difficile infection (CDI) during January to March 2021

- The total number of CDI cases in patients reported to ARHAI was 262.
- 211 CDI cases were reported to ARHAI as healthcare associated. This corresponds to an incidence rate of 15.6 cases per 100,000 total occupied bed days (TOBDs).
- 51 CDI cases were reported as community associated. This corresponds to an incidence rate of 3.8 cases per 100,000 population.
- No NHS boards were above the 95% confidence interval upper limit for healthcare or community associated CDI in the funnel plot analysis.
- No NHS boards were above normal variation for healthcare associated CDI when analysing trends over the past three years.

Escherichia coli bacteraemia (ECB) during January to March 2021

- The total number of ECB cases in patients reported to ARHAI was 961.
- 468 ECB cases were reported to ARHAI as healthcare associated. This corresponds to an incidence rate of 34.7 cases per 100,000 TOBDs.
- 493 ECB cases were reported as community associated. This corresponds to an incidence rate of 36.6 cases per 100,000 population.
- No NHS boards were above the 95% confidence interval upper limit for healthcare associated ECB in the funnel plot analysis.
- NHS Ayrshire & Arran was above the 95% confidence interval upper limit for community associated ECB in the funnel plot analysis.
- No NHS boards were above normal variation for healthcare or community associated ECB when analysing trends over the past three years.

Staphylococcus aureus bacteraemia (SAB) during January to March 2021

- The total number of SAB cases in patients reported to ARHAI was 388.
- 248 SAB cases were reported to ARHAI as healthcare associated. This corresponds to an incidence rate of 18.4 cases per 100,000 TOBDs.
- 140 SAB cases were reported as community associated. This corresponds to an incidence rate of 10.4 cases per 100,000 population.
- No NHS boards were above the 95% confidence interval upper limit for healthcare or community associated SAB in the funnel plot analysis.
- No NHS boards were above normal variation for healthcare associated SAB when analysing trends over the past three years.

Surgical Site Infection (SSI) January to March 2021

Epidemiological data for SSI are not included for this quarter due to the pausing of surveillance to support the COVID-19 response.

Results and Commentary

Clostridioides difficile Infection (CDI)

Total Cases for Quarter

- During Q1 2021, 262 *Clostridioides difficile* infection (CDI) cases in patients were reported to ARHAI. In the previous quarter there were 278 cases.
- In the clinical surveillance typing scheme (covering severe cases and/or outbreaks) ribotype 015 and 078 (13.1%) were the most common ribotypes isolated, followed by 005 (11.5%), 014, 106, (both 6.6%), 002, 020, 023, 026 (all 4.9%) and 017, 087, 126, 137 (all 3.3%) out of a total of 61 isolates. The remaining ribotypes comprise a mixture each with a prevalence of less than 3%. All clinical surveillance isolates tested were susceptible to metronidazole and vancomycin.
- In the snapshot surveillance (which reflects the general distribution of ribotypes among all CDI cases), ribotype 015 was the most common (13.3%) followed by 002 and 005 (both 8.9%), 078, 087, 106 (all 6.7%), and 014, 020, 023, 026, 054, 201 (all 4.4%) out of a total of 45 isolates. The remaining ribotypes comprise a mixture each with a prevalence of less than 3%. In the snapshot surveillance, one isolate was resistant to metronidazole but susceptible to vancomycin. All other isolates were susceptible to both metronidazole and vancomycin.

Healthcare associated infection cases by health board of laboratory

- During Q1 2021, 211 CDI cases were reported to ARHAI as healthcare associated. This corresponds to an incidence rate of 15.6 cases per 100,000 total occupied bed days (TOBDs) (Table 1).
- Yearly trends (comparing year-ending March 2020 with year-ending March 2021) show that there was an increase in NHS Ayrshire & Arran, NHS Lanarkshire and Scotland overall (Table 2).
- No NHS boards were above the 95% confidence interval upper limit in the funnel plot analysis (Figure 1).
- No NHS boards were above normal variation when analysing trends over the past three years (see supplementary data).

Community associated infection cases by health board of residence

- During Q1 2021, 51 CDI cases were reported as community associated. This corresponds to an incidence rate of 3.8 cases per 100,000 population (Table 3).
- Yearly trends (comparing year-ending March 2020 with year-ending March 2021) show that there was no increase or decrease in NHS boards or Scotland overall. (Table 4).
- No NHS boards were above the 95% confidence interval upper limit in the funnel plot analysis (Figure 2).
- No NHS boards were above normal variation when analysing trends over the past three years (see supplementary data).

Table 1: CDI cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: Q4 2020 (October to December) compared to Q1 2021 (January to March 2021).[1,2]

NHS Board	Q4 Cases	Q4 Bed Days	Q4 Rate	Q1 Cases	Q1 Bed Days	Q1 Rate
AA	30	102,772	29.2	25	99,393	25.2
BR	3	27,161	11.0	0	28,168	0.0
DG	8	37,533	21.3	8	37,147	21.5
FF	6	77,595	7.7	11	78,707	14.0
FV	11	70,565	15.6	7	68,486	10.2
GJ	3	11,255	26.7	1	12,150	8.2
GR	17	107,564	15.8	17	108,735	15.6
GGC	64	390,384	16.4	58	384,314	15.1
HG	10	63,656	15.7	14	65,903	21.2
LN	25	127,447	19.6	30	126,794	23.7
LO	29	226,514	12.8	31	226,087	13.7
OR	0	3,055	0.0	0	3,174	0.0
SH	0	2,118	0.0	1	2,106	47.5
TY	15	104,559	14.3	6	103,158	5.8
WI	1	5,151	19.4	2	5,794	34.5
Scotland	**222**	**1,357,329**	**16.4**	**211**	**1,350,116**	**15.6**

1. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)1.
2. Figures include any updates received following the last publication (see Appendix 2).

Table 2: CDI cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: year-ending March 2020 (YE Q1 20) compared to year-ending March 2021 (YE Q1 21).[1,2,3]

NHS Board	YE Q1 20 Cases	YE Q1 20 Bed Days	YE Q1 20 Rate	YE Q1 21 Cases	YE Q1 21 Bed Days	YE Q1 21 Rate
AA	74	439,397	16.8	88	381,740	23.1 ↑
BR	14	116,978	12.0	9	101,260	8.9
DG	31	182,533	17.0	29	138,495	20.9
FF	33	357,536	9.2	29	294,546	9.8
FV	47	299,641	15.7	35	262,177	13.3
GJ	3	46,538	6.4	6	41,573	14.4
GR	55	528,097	10.4	61	417,362	14.6
GGC	268	1,679,319	16.0	248	1,456,455	17.0
HG	45	295,714	15.2	51	239,591	21.3
LN	86	579,725	14.8	103	476,915	21.6 ↑
LO	122	979,317	12.5	128	852,686	15.0
OR	1	12,561	8.0	0	11,031	0.0
SH	5	10,423	48.0	3	7,906	37.9
TY	32	458,772	7.0	33	388,113	8.5
WI	7	26,956	26.0	3	18,297	16.4
Scotland	**823**	**6,013,507**	**13.7**	**826**	**5,088,147**	**16.2 ↑**

1. An arrow denotes statistically significant change.
2. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)1.
3. Figures include any updates received following the last publication (see Appendix 2).

Table 3: CDI cases and incidence rates (per 100,000 population) for community associated infection cases: Q4 2020 (October to December 2020) compared to Q1 2021 (January to March 2021).[1,2,3,4]

NHS Board	Q4 Cases	Q4 Population	Q4 Rate	Q1 Cases	Q1 Population	Q1 Rate
AA	8	369,360	8.6	6	369,360	6.6
BR	0	115,510	0.0	0	115,510	0.0
DG	3	148,860	8.0	0	148,860	0.0
FF	2	373,550	2.1	5	373,550	5.4
FV	1	306,640	1.3	0	306,640	0.0
GR	11	585,700	7.5	6	585,700	4.2
GGC	9	1,183,120	3.0	10	1,183,120	3.4
HG	3	321,700	3.7	3	321,700	3.8
LN	4	661,900	2.4	10	661,900	6.1
LO	8	907,580	3.5	8	907,580	3.6
OR	1	22,270	17.9	0	22,270	0.0
SH	1	22,920	17.4	0	22,920	0.0
TY	5	417,470	4.8	2	417,470	1.9
WI	0	26,720	0.0	1	26,720	15.2
Scotland	**56**	**5,463,300**	**4.1**	**51**	**5,463,300**	**3.8**

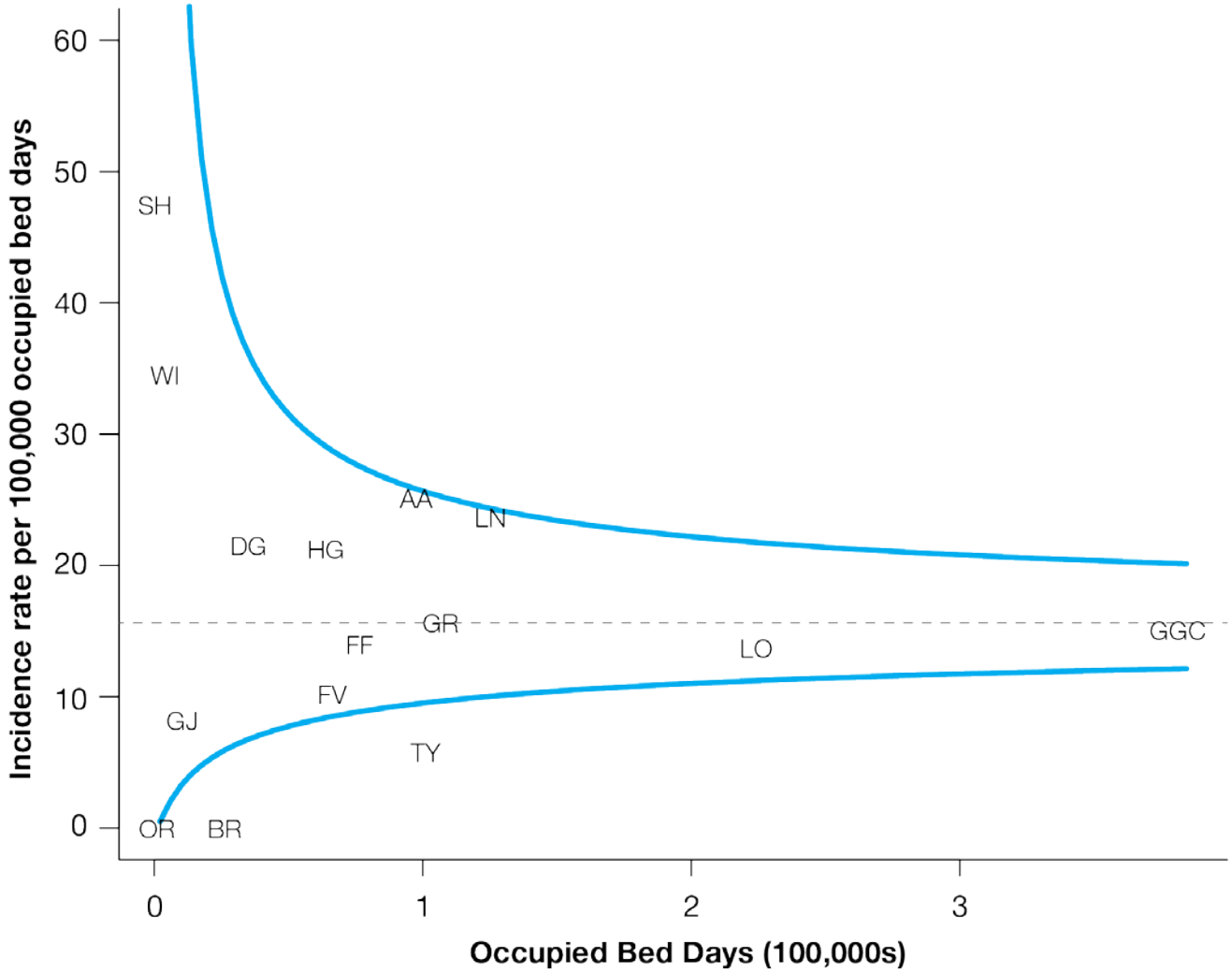
1. Quarterly population rates are based on an annualised population.
2. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates.
3. Figures include any updates received following the last publication (see Appendix 2).

Table 4: CDI cases and incidence rates (per 100,000 population) for community associated infection cases: year-ending March 2020 (YE Q1 20) compared to year-ending March 2021 (YE Q1 21).[1,2]

NHS Board	YE Q1 20 Cases	YE Q1 20 Population	YE Q1 20 Rate	YE Q1 21 Cases	YE Q1 21 Population	YE Q1 21 Rate
AA	30	369,360	8.1	29	369,360	7.9
BR	5	115,510	4.3	4	115,510	3.5
DG	13	148,860	8.7	11	148,860	7.4
FF	11	373,550	2.9	14	373,550	3.7
FV	3	306,640	1.0	4	306,640	1.3
GR	29	585,700	5.0	37	585,700	6.3
GGC	44	1,183,120	3.7	42	1,183,120	3.5
HG	16	321,700	5.0	23	321,700	7.1
LN	36	661,900	5.4	35	661,900	5.3
LO	46	907,580	5.1	56	907,580	6.2
OR	0	22,270	0.0	3	22,270	13.5
SH	0	22,920	0.0	2	22,920	8.7
TY	11	417,470	2.6	15	417,470	3.6
WI	3	26,720	11.2	2	26,720	7.5
Scotland	**247**	**5,463,300**	**4.5**	**277**	**5,463,300**	**5.1**

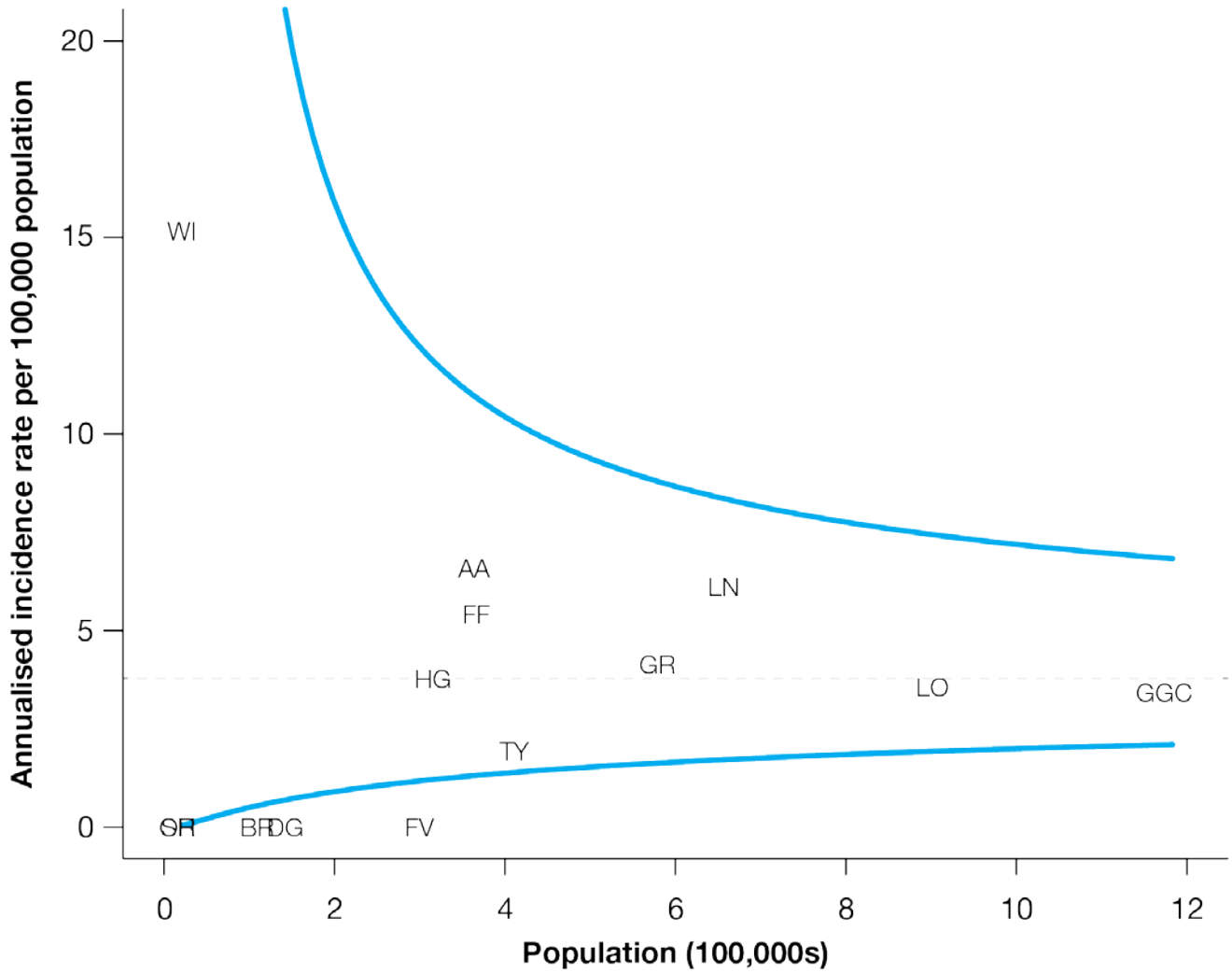
1. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates.
2. Figures include any updates received following the last publication (see Appendix 2).

Figure 1: Funnel plot of CDI incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS boards in Scotland in Q1 2021.[1]



1. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)1.

Figure 2: Funnel plot of CDI incidence rates (per 100,000 population) in community associated infection cases for all NHS boards in Scotland in Q1 2021.[1,2]



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

Escherichia coli bacteraemia (ECB)

Total Cases for Quarter

- During Q1 2021, 961 *Escherichia coli* bacteraemia (ECB) cases in patients were reported to ARHAI. In the previous quarter there were 1,076 cases.

Healthcare associated infection cases by health board of laboratory

- During Q1 2021, 468 ECB cases were reported to ARHAI as healthcare associated. This corresponds to an incidence rate of 34.7 cases per 100,000 TOBDs and is a decrease compared to the Q4 2020 incidence rate of 40.9 cases per 100,000 TOBDs (Table 5).
- Yearly trends (comparing year-ending March 2020 with year-ending March 2021) show that there was no increase or decrease in NHS boards or Scotland overall (Table 6).
- No NHS boards were above the 95% confidence interval upper limit in the funnel plot analysis (Figure 3).
- No NHS boards were above normal variation when analysing trends over the past three years (see supplementary data).

Community associated infection cases by health board of residence

- During Q1 2021, 493 ECB cases were reported as community associated. This corresponds to an incidence rate of 36.6 cases per 100,000 population (Table 7).
- Yearly trends (comparing year-ending March 2020 with year-ending March 2021) show that there was a decrease in NHS Borders, NHS Greater Glasgow & Clyde and Scotland overall (Table 8).
- NHS Ayrshire & Arran was above the 95% confidence interval upper limit in the funnel plot analysis (Figure 4).
- No NHS boards were above normal variation when analysing trends over the past three years (see supplementary data).

Table 5: ECB cases and incidence rates (per 100,000 TOBD) for healthcare associated infection cases: Q4 2020 (October to December 2020) compared to Q1 2021 (January to March 2021).[1,2,3]

NHS Board	Q4 Cases	Q4 Bed Days	Q4 Rate	Q1 Cases	Q1 Bed Days	Q1 Rate
AA	56	102,772	54.5	41	99,393	41.3
BR	12	27,161	44.2	9	28,168	32.0
DG	15	37,533	40.0	10	37,147	26.9
FF	39	77,595	50.3	17	78,707	21.6
FV	40	70,565	56.7	28	68,486	40.9
GJ	1	11,255	8.9	0	12,150	0.0
GR	42	107,564	39.0	45	108,735	41.4
GGC	159	390,384	40.7	122	384,314	31.7
HG	19	63,656	29.8	18	65,903	27.3
LN	57	127,447	44.7	50	126,794	39.4
LO	67	226,514	29.6	75	226,087	33.2
OR	0	3,055	0.0	3	3,174	94.5
SH	3	2,118	141.6	2	2,106	95.0
TY	44	104,559	42.1	44	103,158	42.7
WI	1	5,151	19.4	4	5,794	69.0
Scotland	**555**	**1,357,329**	**40.9**	**468**	**1,350,116**	**34.7 ↓**

1. An arrow denotes statistically significant change.
2. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)1.
3. Figures include any updates received following the last publication (see Appendix 2).

Table 6: ECB cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: year-ending March 2020 (YE Q1 20) compared to year-ending March 2021 (YE Q1 21).[1,2,3]

NHS Board	YE Q1 20 Cases	YE Q1 20 Bed days	YE Q1 20 Rate	YE Q1 21 Cases	YE Q1 21 Bed days	YE Q1 21 Rate
AA	192	439,397	43.7	193	381,740	50.6
BR	47	116,978	40.2	48	101,260	47.4
DG	60	182,533	32.9	46	138,495	33.2
FF	162	357,536	45.3	113	294,546	38.4
FV	152	299,641	50.7	143	262,177	54.5
GJ	7	46,538	15.0	3	41,573	7.2
GR	228	528,097	43.2	174	417,362	41.7
GGC	610	1,679,319	36.3	548	1,456,455	37.6
HG	70	295,714	23.7	69	239,591	28.8
LN	270	579,725	46.6	216	476,915	45.3
LO	346	979,317	35.3	267	852,686	31.3
OR	8	12,561	63.7	4	11,031	36.3
SH	9	10,423	86.3	7	7,906	88.5
TY	186	458,772	40.5	158	388,113	40.7
WI	9	26,956	33.4	10	18,297	54.7
Scotland	**2,356**	**6,013,507**	**39.2**	**1,999**	**5,088,147**	**39.3**

1. An arrow denotes statistically significant change.
2. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)1.
3. Figures include any updates received following the last publication (see Appendix 2).

Table 7: ECB cases and incidence rates (per 100,000 population) for community associated infection cases: Q4 2020 (October to December 2020) compared to Q1 2021 (January to March 2021).[1,2,3,4]

NHS Board	Q4 Cases	Q4 Population	Q4 Rate	Q1 Cases	Q1 Population	Q1 Rate
AA	51	369,360	54.9	47	369,360	51.6
BR	8	115,510	27.6	10	115,510	35.1
DG	23	148,860	61.5	21	148,860	57.2
FF	26	373,550	27.7	32	373,550	34.7
FV	46	306,640	59.7	38	306,640	50.3
GR	36	585,700	24.5	47	585,700	32.5
GGC	83	1,183,120	27.9	91	1,183,120	31.2
HG	21	321,700	26.0	30	321,700	37.8
LN	81	661,900	48.7	58	661,900	35.5
LO	90	907,580	39.5	79	907,580	35.3
OR	2	22,270	35.7	3	22,270	54.6
SH	2	22,920	34.7	0	22,920	0.0
TY	47	417,470	44.8	37	417,470	35.9
WI	5	26,720	74.4	0	26,720	0.0
Scotland	**521**	**5,463,300**	**37.9**	**493**	**5,463,300**	**36.6**

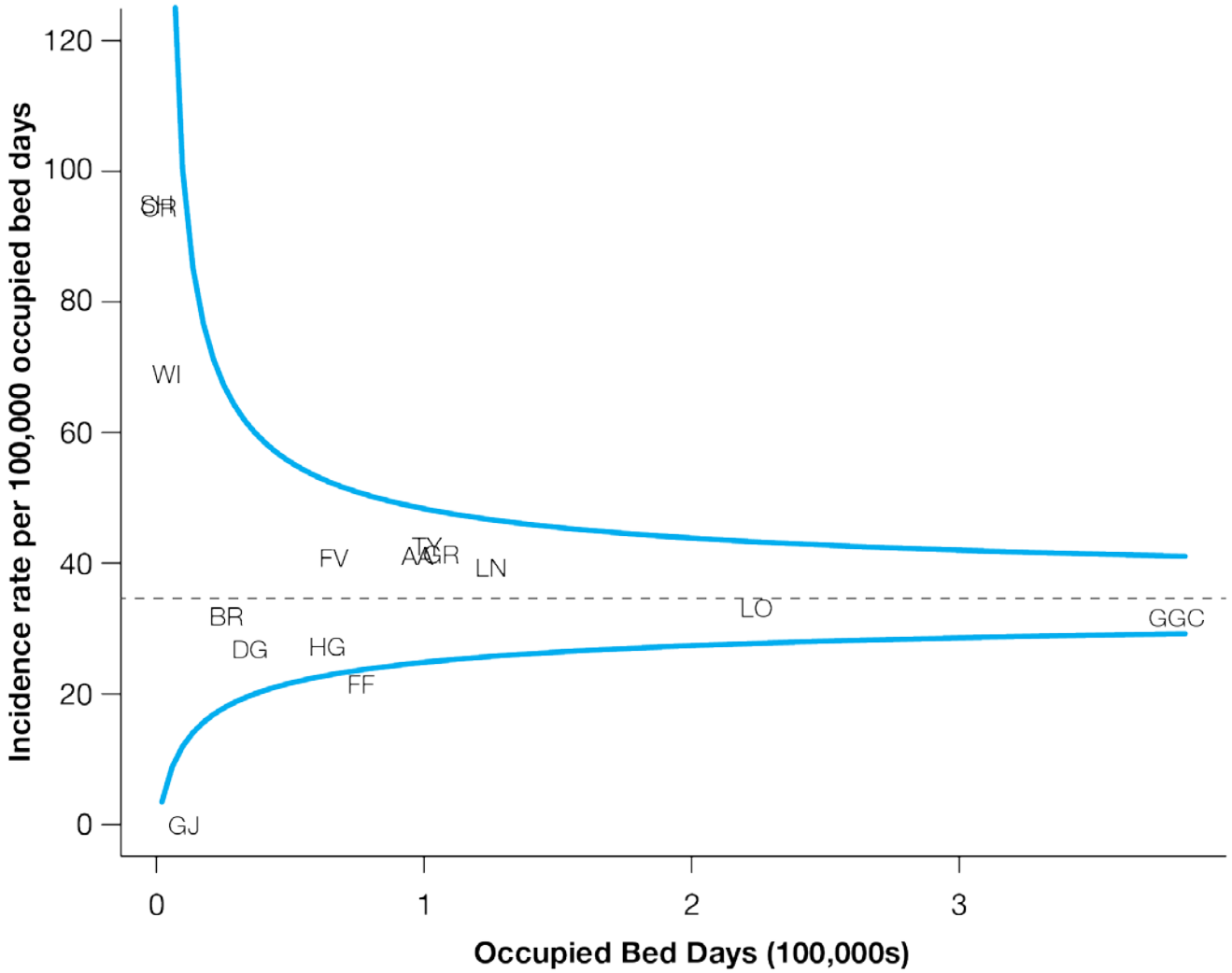
1. Quarterly population rates are based on an annualised population.
2. An arrow denotes statistically significant change.
3. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates.
4. Figures include any updates received following the last publication (see Appendix 2).

Table 8: ECB cases and incidence rates (per 100,000 population) for community associated infection cases: year-ending March 2020 (YE Q1 20) compared to year-ending March 2021 (YE Q1 21).[1,2,3]

NHS Board	YE Q1 20 Cases	YE Q1 20 Population	YE Q1 20 Rate	YE Q1 21 Cases	YE Q1 21 Population	YE Q1 21 Rate
AA	205	369,360	55.5	207	369,360	56.0
BR	68	115,510	58.9	33	115,510	28.6 ↓
DG	90	148,860	60.5	89	148,860	59.8
FF	138	373,550	36.9	138	373,550	36.9
FV	173	306,640	56.4	169	306,640	55.1
GR	185	585,700	31.6	167	585,700	28.5
GGC	486	1,183,120	41.1	391	1,183,120	33.0 ↓
HG	130	321,700	40.4	109	321,700	33.9
LN	317	661,900	47.9	321	661,900	48.5
LO	264	907,580	29.1	300	907,580	33.1
OR	12	22,270	53.9	7	22,270	31.4
SH	10	22,920	43.6	5	22,920	21.8
TY	193	417,470	46.2	164	417,470	39.3
WI	21	26,720	78.6	16	26,720	59.9
Scotland	**2,292**	**5,463,300**	**42.0**	**2,116**	**5,463,300**	**38.7 ↓**

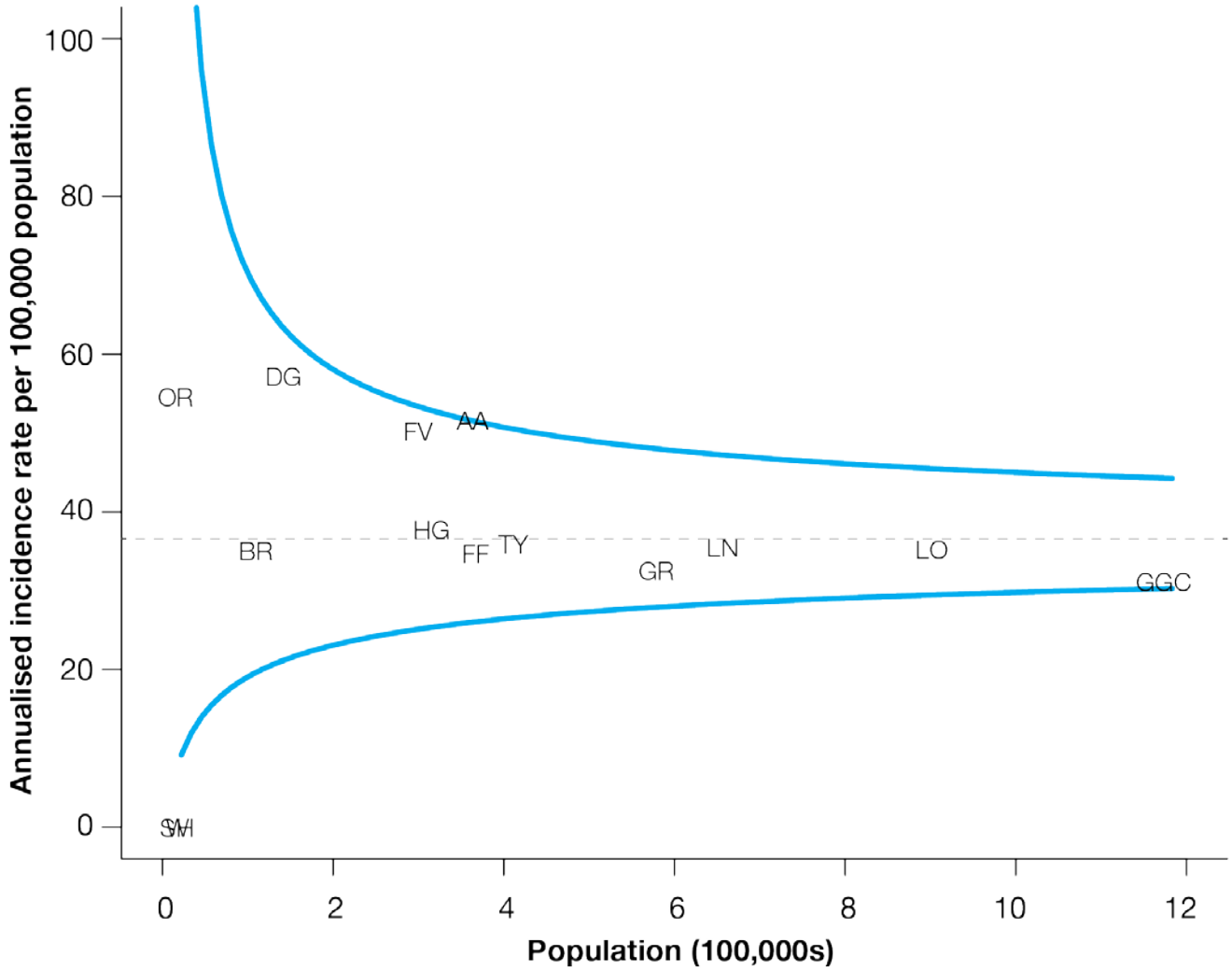
1. An arrow denotes statistically significant change.
2. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates.
3. Figures include any updates received following the last publication (see Appendix 2).

Figure 3: Funnel plot of ECB incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS boards in Scotland in Q1 2021.[1]



1. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)1.
2. NHS Orkney and NHS Shetland overlap as do NHS Ayrshire & Arran, NHS Grampian and NHS Tayside.

Figure 4: Funnel plot of ECB incidence rates (per 100,000 population) in community associated infection cases for all NHS boards in Scotland in Q1 2021.[1,2]



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

Staphylococcus aureus bacteraemia (SAB)

Total cases for quarter

- During Q1 2021, 388 *Staphylococcus aureus* bacteraemia (SAB) cases were reported to ARHAI. In the previous quarter there were 387 SAB cases.

Healthcare associated infection cases by health board of laboratory

- During Q1 2021, 248 SAB cases were reported to ARHAI as healthcare associated. This corresponds to an incidence rate of 18.4 cases per 100,000 TOBDs (Table 9).
- Yearly trends (comparing year-ending March 2020 with year-ending March 2021) show that there was an increase in NHS Borders and Scotland overall (Table 10).
- No NHS boards were above the 95% confidence interval upper limit in the funnel plot analysis (Figure 5).
- No NHS boards were above normal variation when analysing trends over the past three years (see supplementary data).

Community associated infection cases by health board of residence

- During Q1 2021, 140 SAB cases were reported as community associated. This corresponds to an incidence rate of 10.4 cases per 100,000 population (Table 11).
- Yearly trends (comparing year-ending March 2020 with year-ending March 2021) show that there was no increase or decrease in NHS boards or Scotland overall (Table 12).
- No NHS boards were above the 95% confidence interval upper limit in the funnel plot analysis (Figure 6).
- No NHS boards were above normal variation when analysing trends over the past three years (see supplementary data).

Table 9: SAB cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: Q4 2020 (October to December 2020) compared to Q1 2021 (January to March 2021).[1,2,3]

NHS Board	Q4 Cases	Q4 Bed Days	Q4 Rate	Q1 Cases	Q1 Bed Days	Q1 Rate
AA	25	102,772	24.3	12	99,393	12.1
BR	5	27,161	18.4	7	28,168	24.9
DG	5	37,533	13.3	4	37,147	10.8
FF	16	77,595	20.6	14	78,707	17.8
FV	20	70,565	28.3	10	68,486	14.6
GJ	1	11,255	8.9	4	12,150	32.9
GR	21	107,564	19.5	26	108,735	23.9
GGC	79	390,384	20.2	59	384,314	15.4
HG	12	63,656	18.9	15	65,903	22.8
LN	24	127,447	18.8	34	126,794	26.8
LO	25	226,514	11.0	37	226,087	16.4
OR	1	3,055	32.7	0	3,174	0.0
SH	1	2,118	47.2	0	2,106	0.0
TY	20	104,559	19.1	24	103,158	23.3
WI	1	5,151	19.4	2	5,794	34.5
Scotland	**256**	**1,357,329**	**18.9**	**248**	**1,350,116**	**18.4**

1. An arrow denotes statistically significant change.
2. Note: Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)1.
3. Figures include any updates received following the last publication (see Appendix 2).

Table 10: SAB cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: year-ending March 2020 (YE Q1 20) compared to year-ending March 2021 (YE Q1 21).[1,2,3]

NHS Board	YE Q1 20 Cases	YE Q1 20 Bed days	YE Q1 20 Rate	YE Q1 21 Cases	YE Q1 21 Bed days	YE Q1 21 Rate
AA	75	439,397	17.1	76	381,740	19.9
BR	7	116,978	6.0	19	101,260	18.8 ↑
DG	17	182,533	9.3	19	138,495	13.7
FF	47	357,536	13.1	48	294,546	16.3
FV	45	299,641	15.0	57	262,177	21.7
GJ	6	46,538	12.9	10	41,573	24.1
GR	83	528,097	15.7	87	417,362	20.8
GGC	321	1,679,319	19.1	277	1,456,455	19.0
HG	36	295,714	12.2	33	239,591	13.8
LN	117	579,725	20.2	98	476,915	20.5
LO	125	979,317	12.8	119	852,686	14.0
OR	6	12,561	47.8	1	11,031	9.1
SH	2	10,423	19.2	4	7,906	50.6
TY	93	458,772	20.3	92	388,113	23.7
WI	9	26,956	33.4	7	18,297	38.3
Scotland	**989**	**6,013,507**	**16.4**	**947**	**5,088,147**	**18.6 ↑**

1. An arrow denotes statistically significant change.
2. Note: Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)1.
3. Figures include any updates received following the last publication (see Appendix 2).

Table 11: SAB cases and incidence rates (per 100,000 population) for community associated infection cases: Q4 2020 (October to December 2020) compared to Q1 2021 (January to March 2021).[1,2,3,4]

NHS Board	Q4 Cases	Q4 Population	Q4 Rate	Q1 Cases	Q1 Population	Q1 Rate
AA	12	369,360	12.9	9	369,360	9.9
BR	4	115,510	13.8	4	115,510	14.0
DG	1	148,860	2.7	3	148,860	8.2
FF	12	373,550	12.8	13	373,550	14.1
FV	12	306,640	15.6	8	306,640	10.6
GR	16	585,700	10.9	14	585,700	9.7
GGC	15	1,183,120	5.0	23	1,183,120	7.9
HG	7	321,700	8.7	6	321,700	7.6
LN	15	661,900	9.0	25	661,900	15.3
LO	26	907,580	11.4	21	907,580	9.4
OR	0	22,270	0.0	0	22,270	0.0
SH	0	22,920	0.0	0	22,920	0.0
TY	10	417,470	9.5	13	417,470	12.6
WI	1	26,720	14.9	1	26,720	15.2
Scotland	**131**	**5,463,300**	**9.5**	**140**	**5,463,300**	**10.4**

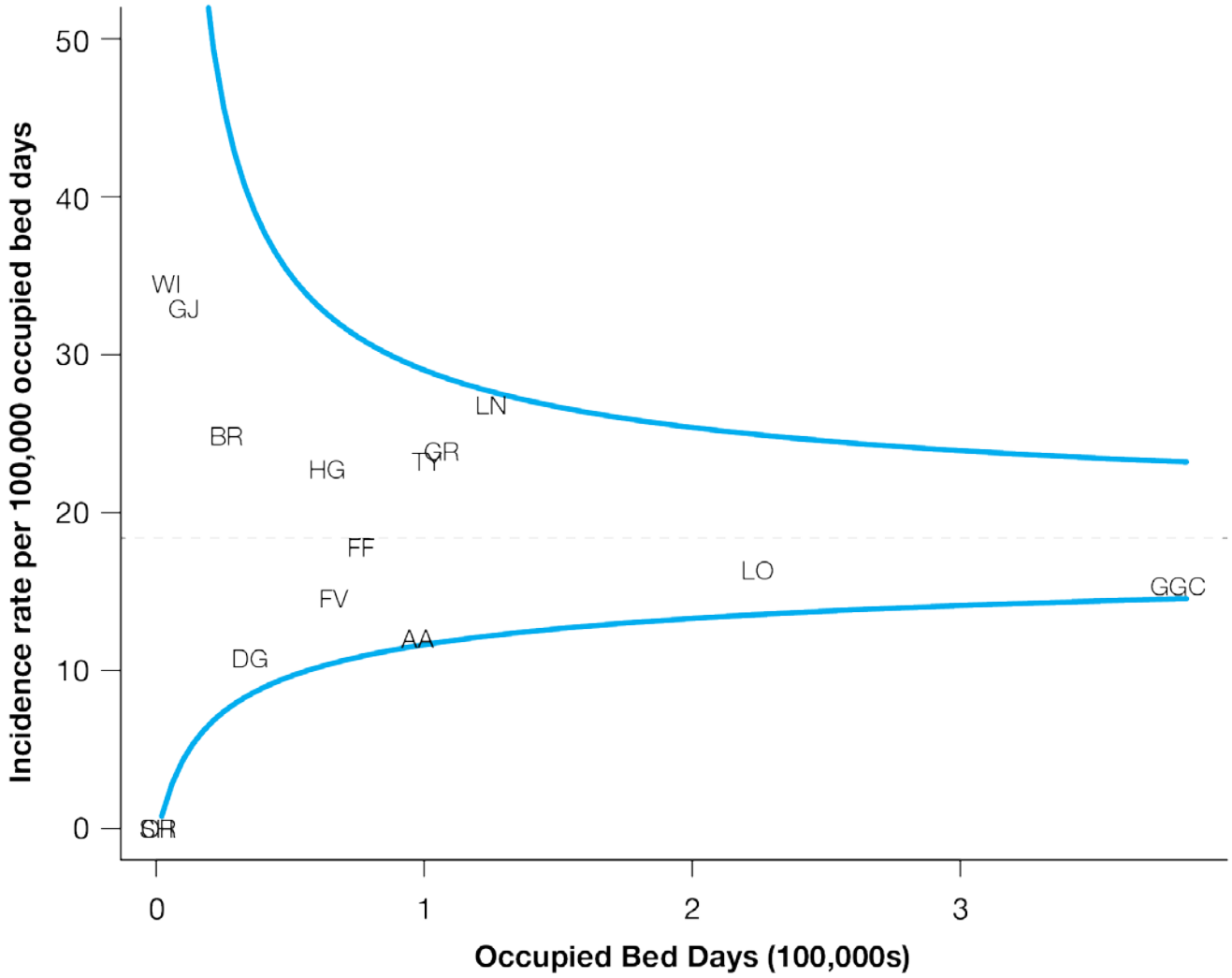
1. Quarterly population rates are based on an annualised population.
2. An arrow denotes statistically significant change.
3. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates.
4. Figures include any updates received following the last publication (see Appendix 2).

Table 12: SAB cases and incidence rates (per 100,000 population) for community associated infection cases: year-ending March 2020 (YE Q1 20) compared to year-ending March 2021 (YE Q1 21).[1,2,3]

NHS Board	YE Q1 20 Cases	YE Q1 20 Population	YE Q1 20 Rate	YE Q1 21 Cases	YE Q1 21 Population	YE Q1 21 Rate
AA	47	369,360	12.7	49	369,360	13.3
BR	10	115,510	8.7	14	115,510	12.1
DG	19	148,860	12.8	11	148,860	7.4
FF	34	373,550	9.1	44	373,550	11.8
FV	39	306,640	12.7	40	306,640	13.0
GR	47	585,700	8.0	61	585,700	10.4
GGC	80	1,183,120	6.8	79	1,183,120	6.7
HG	34	321,700	10.6	35	321,700	10.9
LN	58	661,900	8.8	72	661,900	10.9
LO	94	907,580	10.4	94	907,580	10.4
OR	4	22,270	18.0	2	22,270	9.0
SH	5	22,920	21.8	0	22,920	0.0
TY	45	417,470	10.8	46	417,470	11.0
WI	0	26,720	0.0	5	26,720	18.7
Scotland	**516**	**5,463,300**	**9.4**	**552**	**5,463,300**	**10.1**

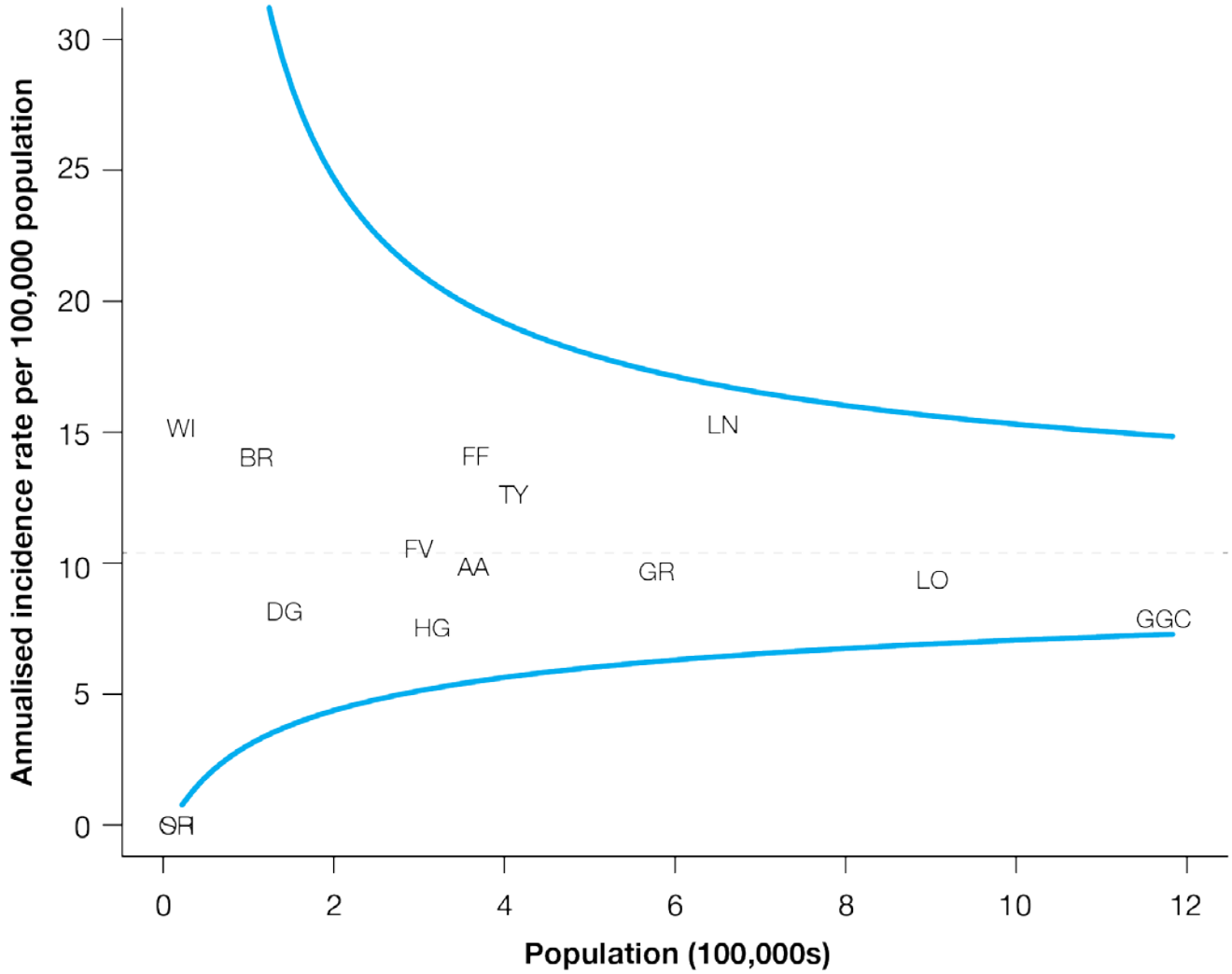
1. An arrow denotes statistically significant change.
2. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates.
3. Figures include any updates received following the last publication (see Appendix 2).

Figure 5: Funnel plot of SAB incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS boards in Scotland in Q1 2021.[1,2]



1. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & Total occupied bed days: Information Services Division ISD(S)1.
2. NHS Grampian and NHS Tayside overlap as do NHS Shetland and NHS Orkney.

Figure 6: Funnel plot of SAB incidence rates (per 100,000 population) in community associated infection cases for all NHS boards in Scotland in Q1 2021.[1,2]



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

Surgical Site Infection (SSI)

Epidemiological data for SSI are not included for this quarter due to the pausing of surveillance to support the COVID-19 response.

List of Tables

File name	File and size
Table 1: CDI cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: Q4 2020 (October to December 2020) compared to Q1 2021 (January to March 2021).	supplementary data (443 Kb)
Table 2: CDI cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: year-ending March 2020 (YE Q1 20) compared to year-ending March 2021 (YE Q1 21).	supplementary data (443 Kb)
Table 3: CDI cases and incidence rates (per 100,000 population) for community associated infection cases: Q4 2020 (October to December 2020) compared to Q1 2021 (January to March 2021).	supplementary data (443 Kb)
Table 4: CDI cases and incidence rates (per 100,000 population) for community associated infection cases: year-ending March 2020 (YE Q1 20) compared to year-ending March 2021 (YE Q1 21).	supplementary data (443 Kb)
Table 5: ECB cases and incidence rates (per 100,000 TOBD) for healthcare associated infection cases: Q4 2020 (October to December 2020) compared to Q1 2021 (January to March 2021).	supplementary data (443 Kb)
Table 6: ECB cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: year-ending March 2020 (YE Q1 20) compared to year-ending March 2021 (YE Q1 21).	supplementary data (443 Kb)
Table 7: ECB cases and incidence rates (per 100,000 population) for community associated infection cases: Q4 2020 (October to December 2020) compared to Q1 2021 (January to March 2021).	supplementary data (443 Kb)
Table 8: ECB cases and incidence rates (per 100,000 population) for community associated infection cases: year-ending March 2020 (YE Q1 20) compared to year-ending March 2021 (YE Q1 21).	supplementary data (443 Kb)
Table 9: SAB cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: Q4 2020 (October to December 2020) compared to Q1 2021 (January to March 2021).	supplementary data (443 Kb)
Table 10: SAB cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: year-ending March 2020 (YE Q1 20) compared to year-ending March 2021 (YE Q1 21).	supplementary data (443 Kb)
Table 11: SAB cases and incidence rates (per 100,000 population) for community associated infection cases: Q4 2020 (October to December 2020) compared to Q1 2021 (January to March 2021).	supplementary data (443 Kb)
Table 12: SAB cases and incidence rates (per 100,000 population) for community associated infection cases: year-ending March 2020 (YE Q1 20) compared to year-ending March 2021 (YE Q1 21).	supplementary data (443 Kb)

Contact

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Further Information

Further Information can be found on the HPS website.

For more information on types of infections included in this report, please see the CDI, ECB, SAB and SSI pages.

The next release of this publication will be October 2021.

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Appendices

Appendix 1 – Background information

Revisions to the surveillance

Description of Revision	First report revision applied	Report section(s) revision applies to	Rational for revision
Name change for *Clostridium difficile* to *Clostridioides difficile*.	October 2018	CDI	A novel genus *Clostridioides* has been proposed for *Clostridium difficile* which will now be known as ***Clostridioides difficile***. There are no implications with regards to the natural history of infection, infection prevention and control, or clinical treatment.
Addition of healthcare/ community case assignment	October 2017	CDI/SAB	An increasing awareness of those infections occurring in community settings has warranted measurement of incidence rates by healthcare setting (healthcare settings vs. community settings) to enable interventions to be targeted to the relevant settings.
Use of standardised denominator data for CDI/ECB/SAB	October 2017	CDI/SAB	The 'total occupied bed days' data will be extracted from the ISD(S)1 data collection which contains aggregated information on acute and non-acute bed days including geriatric medicine and long-term stays in real-time. The standardisation of denominator data across the three surveillance programmes could result in slightly less accurate denominators due to inclusion of persons in the denominator who are at slightly lower risk of infection. However, in surveillance programmes developed for the purpose of preventing infection and driving quality improvement in care, consistency of the

Description of Revision	First report revision applied	Report section(s) revision applies to	Rational for revision
			denominators over time tend to be more important than getting a very precise estimate of the population at risk, as the primary aim is to reduce infection to a lower incidence relative to what it was at the initial time of benchmarking.
Reporting of CDI cases aged 15 years and above only	October 2017	CDI	Current Scottish Government Local Delivery Plan Standards are based on the incidence rate in cases aged 15 years and above, therefore the report has been aligned to reflect this. ARHAI will continue to monitor CDI incidence rates in the separate age groups (15-64 years and 65 years and above) internally.
Reporting of total SAB cases only (i.e. Removal of MRSA sub-analysis)	October 2017	SAB	MRSA numbers are becoming too small to carry out statistical analysis. ARHAI will continue to monitor internally.
Addition of year end trends to ECB	October 2018	ECB	This analysis (already included for other reported organisms) is now possible for ECB due the amount of data that has now been collected.
Change in production of Quarterly SPC Charts	April 2020	All sections	Updated method used for calculating exceptions within the SPC charts. The mean, Trigger/warning lines (+2 standard deviations) and upper control limits (+3 standard deviations) presented, are now calculated using the 12 quarters prior to the most recent quarter, as to compare the new rate against an existing baseline.

Description of Revision	First report revision applied	Report section(s) revision applies to	Rational for revision
Changes to data collection in response to COVID-19	July 2020	All sections	A CNO letter sent 25th March 2020 asked NHS Boards to continue to report case numbers and origin of infection data but they would not be required to report risk factor data as would normally be expected under enhanced/extended surveillance for *Staphylococcus aureus* bacteraemia (SAB), *Escherichia coli* bacteraemia (ECB) and *Clostridioides difficile* infection (CDI). All mandatory and voluntary Surgical Site Infection (SSI) surveillance was paused until further notice.
Change from Health Protection Scotland to ARHAI Scotland	October 2020	All sections	In April 2020, as part of launch of Public Health Scotland, the ARHAI Group within Health Protection Scotland (HPS) became ARHAI Scotland. ARHAI Scotland will continue to support NHS boards in the prevention and control of healthcare associated infections. The report was updated to reflect this branding change.
Change from National Waiting Times Centre (NWTC) to NHS Golden Jubilee (GJ)	January 2021	All sections	Labelling updated.

Report methods and caveats

Full details of the **report methods and caveats**

UK comparisons

Improved collaboration with the other UK nations has made comparisons and standardisation across the UK a high priority for all four nations' governments/health departments. The changes introduced in the Scottish HAI surveillance, described here facilitate benchmarking of the Scottish data against those of the rest of the UK.

Appendix 2 – Publication Metadata

Metadata Indicator	Description
Publication title	Quarterly epidemiological data on *Clostridioides difficile* infection, *Escherichia coli* bacteraemia, *Staphylococcus aureus* bacteraemia and Surgical Site Infection in Scotland
Description	This release provides information on *Clostridioides difficile* infection, *Escherichia coli* bacteraemia, *Staphylococcus aureus* bacteraemia and Surgical Site Infection in Scotland for the period January to March 2021.
Theme	Infections in Scotland
Topic	*Clostridioides difficile* infection, *Escherichia coli* bacteraemia, *Staphylococcus aureus* bacteraemia and Surgical Site Infection
Format	Excel workbooks
Data source(s)	***Clostridioides difficile* infection:** **Case data source:** Electronic Communication of Surveillance in Scotland (ECOSS) **Data linkage source**: General / Acute Inpatient and Day Case Scottish Morbidity Records (SMR01) **Healthcare associated denominator:** Total occupied bed days: Information Services Division ISD(S)1 **Community associated denominator:** National Records of Scotland (NRS) mid-year population estimates ***Escherichia coli* bacteraemia:** **Case data source:** Electronic Communication of Surveillance in Scotland (ECOSS) Enhanced Surveillance Web Tool **Healthcare associated denominator:** Total occupied bed days: Information Services Division ISD(S)1 **Community associated denominator:** NRS mid-year population estimates ***Staphylococcus aureus* bacteraemia:** **Case data source:** Electronic Communication of Surveillance in Scotland (ECOSS) Enhanced Surveillance Web Tool **Healthcare associated denominator:** Total occupied bed days: Information Services Division ISD(S)1 **Community associated denominator:** NRS mid-year population estimates

Metadata Indicator	Description
	Surgical Site Infection: **Case data source:** Surgical Site Infection Reporting System (SSIRS) **Number of procedures denominator:** SSIRS
Date that data are acquired	The date the data were extracted for analysis. *Clostridioides difficile:* 22/04/2021 *Escherichia coli* Bacteraemia: 24/05/2021 *Staphylococcus aureus* Bacteraemia: 24/05/2021 Surgical Site Infection: Epidemiological data for SSI are not included for this quarter due to the pausing of surveillance to support the COVID-19 response.
Release date	6 July 2021
Frequency	Quarterly
Timeframe of data and timeliness	The latest iteration of data is 31 March 2021, therefore the data are three months in arrears.
Continuity of data	Quarterly as at March, June, September, December
Revisions statement	These data are not subject to planned major revisions. However, ARHAI aims to continually improve the interpretation of the data and therefore analysis methods are regularly reviewed and may be updated in the future.
Revisions relevant to this publication	**Updates to previously published figures** **Total Occupied Bed Days (TOBDs)** Amendments to total occupied bed days dataset provided by Information Services Division (ISD) have been included in historic dataset for analysis and reporting. Updated figures are available to view in the most recent supplementary data. **Quarter** | **NHS Board** | **Previous TOBDs** | **Updated TOBDs** 2020 Q4 | FF | 77,486 | 77,595 ***Clostridioides difficile* Infection (CDI)** Data linkage between CDI surveillance data and the Scottish Morbidity Records (SMR01) is used to identify community and healthcare associated CDI cases. Delays in SMR01 data availability at the time of report production means that some cases may be reassigned as either healthcare associated or community associated CDI at a later date (see Methods and Caveats).

Metadata Indicator	Description

Retrospective data amendment

NHS Board	Quarter	Amendment made
FV	Q4 2020	Healthcare Associated CDI cases previously10, updated to 11 Community Associated CDI cases previously 2, updated to 1
GGC	Q4 2020	Healthcare Associated CDI cases previously 62, updated to 64 Community Associated CDI cases previously 11, updated to 9

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

Retrospective data amendment

NHS Board	Quarter	Amendment made
LO	Q2 2017	Healthcare Associated ECB cases previously 70, updated to 75 Community Associated ECB cases previously 82, updated to 77
LO	Q4 2017	Healthcare Associated ECB cases previously 56, updated to 58 Community Associated ECB cases previously 85, updated to 83

***Staphylococcus aureus* Bacteraemia (SAB)**

Retrospective data amendment

NHS Board	Quarter	Amendment made
GGC	Q4 2020	Healthcare Associated SAB cases previously 78, updated to 79 Community Associated SAB cases previously 16, updated to 15

Surgical Site Infection (SSI)
Epidemiological data for SSI are not included for this quarter due to the pausing of surveillance to support the COVID-19 response.

Metadata Indicator	Description
Concepts and definitions	***Clostridioides difficile* Infection (CDI)** *Clostridioides difficile* infection (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 (PMC), toxic megacolon and peritonitis that can lead to death. For mild disease, diarrhoea is usually the only symptom. Other clinical features consistent with more severe forms of CDI include fever, leukocytosis, pseudomembranous colitis and ileus. Symptoms of CDI, and associated immune reactions in children differ from those in adults, but the pathology is not well described. Routine testing in children aged less than 3 years old is not recommended. Approximately 3% of healthy adults and 20% of hospital patients carry *C. difficile* in their gut. The elderly living in care homes or staying in long-term care facilities are more likely to carry *C. difficile* than other adults. In studies from the US, 20% of care home residents and 50% of patients in long-term care facilities, respectively, were colonised with *C. difficile*. The Scottish CDI guidance 'Guidance on Prevention and Control of CDI in Healthcare Settings in Scotland' and *C. difficile* testing protocol 'protocol for diagnosis of CDI' are key documents for the control and reduction of CDI in Scotland. There remains scope for a reduction of incidence rates through continued local monitoring, appropriate prescribing, and compliance with infection prevention and control measures. ***Escherichia coli* Bacteraemia (ECB)** *Escherichia coli* (*E. coli*) is a bacterium commonly found in the gut of animals and people where it forms part of the normal gut flora that helps human digestion. Although most types of *E. coli* live harmlessly in your gut, some types can make you unwell. Some types *E. coli* can cause urinary tract infections (UTI) and illnesses such as pneumonia. *E. coli* continues to be the most frequent cause of Gram-negative bacteraemia in Scotland and is a frequent cause of infection worldwide. The number of patients with *E. coli* bacteraemia (ECB) reported to ARHAI has increased continuously since 2009. New cases of ECB are identified by laboratory testing (via positive blood cultures) and submitted to the national system ECOSS. Only cases of ECB that have been reviewed and confirmed by the NHS boards in the enhanced surveillance system are included in the quarterly commentaries. ***Staphylococcus aureus* Bacteraemia (SAB)** *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 and can cause a range of illnesses from minor skin infections to serious systemic infections such as

Metadata Indicator	Description
	bacteraemia. Some strains of *S. aureus* produce toxins or show resistance to first line treatments therefore can be more complicated to treat. Scotland has had a mandatory meticillin resistant *S. aureus* (MRSA) bacteraemia surveillance programme since 2001. The programme was extended to include meticillin sensitive *S. aureus* (MSSA) bacteraemias in 2006 and in 2014 to include enhanced *S. aureus* bacteraemia (SAB) surveillance. Full details of the surveillance methods may be found in the protocol. **Surgical Site Infection (SSI)** 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 healthcare associated infection in Scotland, estimated to account for 16.5% of inpatient healthcare associated infection within NHSScotland, according to Scottish Point Prevalence Survey 2016. Surgical Site Infection Surveillance (SSIS) is mandatory across NHSScotland and all NHS boards participate in SSI surveillance for all inpatient and post discharge surveillance (PDS) for 10 post-operative days for caesarean section procedures and prospective readmission surveillance for hip arthroplasty for 30 post-operative days. Additional new mandatory large bowel and vascular procedures commenced since April 2017. Reporting these procedures will not take place until it is assessed that robust data have been provided by boards. Further information on the **methods and caveats** is available. When a board is highlighted as an exception this will be looked at further as per the exception reporting process. Further information on the **production of quarterly exception reports (SOP)** is available.
Relevance and key uses of the statistics	***Clostridioides difficile* Infection (CDI)** Surveillance data is essential for monitoring trends and assisting in outbreak investigations. Certain strains of *C. difficile* have been associated with more severe disease (e.g. PCR types 027 and 078) and antibiotic resistance has been suggested to be a factor in the emergence and spread of *C. difficile* epidemic types. In addition, the identification of ribotypes can assist in the investigation of outbreaks. The surveillance data should inform and support NHS boards in implementing antimicrobial prescribing policies, infection control and prevention interventions. ***Escherichia coli* Bacteraemia (ECB)** The outputs of the surveillance programme are intended to support the NHS boards in controlling and reducing the burden of ECB. Benchmarking against other NHS boards (and other countries) is an important function of the surveillance. In conjunction with other sources of intelligence (including enhanced surveillance data) the outputs of the quarterly surveillance

Metadata Indicator	Description
	can also help the NHS boards with planning and targeting activities to reduce risk to patient of becoming infected and improve the care of patients (i.e. strategic planning, targeted intervention, care quality improvement). As urinary tract infections are commonly associated with *E. coli* bacteraemia cases, we are collaborating with the Scottish Urinary Tract Infection Network (SUTIN). This will promote collaborative working with our partners within Health and Social Care around change ideas which may reduce the risk of *E. coli* bacteraemia. Work is also being done on improving antimicrobial treatment of people with infections – co-ordinated by the Scottish Antimicrobial Prescribing Group (SAPG) through a network of antimicrobial management teams. ***Staphylococcus aureus* Bacteraemia (SAB)** ARHAI continues to offer support to NHS boards across Scotland to aid their local SAB reduction strategies. A programme of enhanced SAB surveillance commenced in all NHS boards in Scotland on 1 October 2014. This is providing further intelligence to focus future reduction interventions. **Surgical Site Infection (SSI)** SSIs are estimated to double the length of post-operative stay in hospital and significantly increase the cost of care. The national SSIS programme is intended to enhance the quality of patient care with use of data obtained from surveillance to compare incidence of SSI over time and against a benchmark rate and to use this information locally to review and guide clinical practice. **Key to NHS boards** AA = NHS Ayrshire & Arran BR = NHS Borders DG = NHS Dumfries & Galloway FV = NHS Forth Valley FF = NHS Fife GJ = NHS Golden Jubilee GR = NHS Grampian GGC = NHS Greater Glasgow & Clyde HG = NHS Highland LN = NHS Lanarkshire LO = NHS Lothian OR = NHS Orkney SH = NHS Shetland TY = NHS Tayside WI = NHS Western Isles
Accuracy	CDI, ECB and SAB data are the product of the Electronic Communication of Surveillance in Scotland (ECOSS). Participating laboratories routinely report all identifications of organisms, infection or microbiological intoxication, unless they are known to be of no clinical or public health importance. The collected data is used for: the identification of single cases of severe

Metadata Indicator	Description
	disease, outbreaks, and longer term trends in the incidence of laboratory reported infections, enhanced surveillance, health protection, analytical and statistical use. Delays in SMR01 data availability at the time of report production means that some CDI cases may be reassigned at a later date. Therefore, healthcare-associated and community-associated CDI cases in this report are provisional and may change. The enhanced ECB and SAB ECOSS web tool has built-in validation rules that have to be met before the data is submitted. Further checks of the data are made by ARHAI before the data are analysed. CDI validation of collected data entails sending a list of CDI cases extracted from ECOSS and asking for confirmation that the cases represent true CDI cases, i.e., meet the case definition which is defined in the surveillance protocol sent to all the NHS boards and available on the HPS website. The final list of CDI cases is then agreed before publishing. SSI data comes from the Surgical Site Infection Reporting System (SSIRS). Complying with a national minimum dataset and definitions for Surgical Site Infections, enables the data submitted to Health Protection Scotland to be mapped into the national dataset following a rigorous quality assurance process. SSIRS has built-in validation rules and data cannot be submitted until rules are met. SSIRS primary validation checks for incomplete or ambiguous core data fields, for example, if presentation to the surgery is 'emergency' the OPCS code should correspond. Secondary validation includes data checks that can be accepted without completion and/or values that are outside the stated requirements.
Completeness	**ECB/SAB:** Surveillance data are collected using an ECOSS Surveillance Web Tool that allows data collectors in NHS boards to validate ECOSS records as well as additional cases that may not be included in the ECOSS system. This therefore means that completeness is near to 100%. Only cases reviewed in the enhanced surveillance are included in the 'analysis' in the commentary publication. **CDI:** Diagnosis of CDI is confirmed in a patient who is both symptomatic with diarrhoea and whose stool has tested positive using a two-step diagnostic algorithm. Laboratory reports of positive samples are then sent to ECOSS for data extraction. In the community, patients with CDI may have a mild illness that does not require a GP visit, or the symptoms may not be recognised by a GP for a *C. difficile* test request. In hospitals, the chance of a diarrhoea sample not being tested for *C. difficile* is much lower, and patients who have ileus (i.e., CDI but with no diarrhoea) might be missed; however, as a result of ARHAI published guidance on managing CDI patients, this is not likely. ARHAI carries out validation with the NHS boards to check that no CDI cases have been missed from ECOSS each quarter. As with most surveillance programmes, completeness will not be 100% but mandatory surveillance, supported by ARHAI through issued guidance on diagnosis of CDI and validation of cases, ensures this is as near to 100% as practically possible. When categorising by healthcare or community, not all cases may be successfully data linked in any one quarter. Therefore, the sum total of the healthcare and community CDI cases may not equal the total number of CDI cases reported to ARHAI.

Metadata Indicator	Description
	SSI: Surveillance coordinators are responsible for completeness and accuracy of data. At hospital level, processes are in placed to ensure all patients included in the standard surveillance have had forms completed (e.g. cross checking with admission or theatre list). ARHAI also compare SSIRS data with data from ISD to a make sure all procedures under surveillance have been included; however, this comparison is only done annually.
Comparability	**CDI / ECB / SAB:** Public Health England report rates per quarter for CDI, ECB and SAB (methods and definitions may differ) – https://www.gov.uk/government/statistics/mrsa-mssa-and-e-coli-bacteraemia-and-c-difficile-infection-quarterly-epidemiological-commentary **SSI:** SSI rates by health board are not published by the rest of UK. Annual numbers are reported by Public Health England - https://www.gov.uk/government/publications/surgical-site-infections-ssi-surveillance-nhs-hospitals-in-england
Accessibility	It is the policy of ARHAI to make its web sites and products accessible according to **published guidelines**.
Coherence and clarity	**Tables and charts** are accessible via the HPS website.
Value type and unit of measurement	Healthcare associated cases and incidence rates (per 100,000 Total occupied bed days (TOBDs)) for *Clostridioides difficile* infection, *Escherichia coli* bacteraemia & *Staphylococcus aureus* bacteraemia. Community associated cases and incidence rates (per 100,000 population) for *Clostridioides difficile* infection, *Escherichia coli* bacteraemia & *Staphylococcus aureus* bacteraemia. Number of procedures and Surgical Site Infections and incidence per categories (per 100 procedures) for inpatients and post discharge surveillance.
Disclosure	The **HPS protocol on Statistical Disclosure Protocol** is followed
Official Statistics designation	Official Statistics
UK Statistics Authority Assessment	Not Assessed
Last published	13 April 2021
Next published	5 October 2021

Metadata Indicator	Description
Date of first publication	7 April 2015 Prior to this *Clostridioides difficile* infection (first publication - 2 Apr 2008) and *Staphylococcus aureus* bacteraemia (first publication - 3 Apr 2002) were separate reports.
Help email	NSS.HPSHAIIC@nhs.scot
Date form completed	6 July 2021

Appendix 3 – Early access details

Pre-Release Access

Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", ARHAI is obliged to publish information on those receiving Pre-Release Access ("Pre-Release Access" refers to statistics in their final form prior to publication). The standard maximum Pre-Release Access is five working days. Shown below are details of those receiving standard Pre-Release Access.

Standard Pre-Release Access:

- Scottish Government Health Department
- NHS Board Chief Executives
- NHS Board Communication leads

Appendix 4 – ARHAI Scotland and Official Statistics

About ARHAI Scotland

ARHAI Scotland works at the very heart of the health service across Scotland, delivering services critical to frontline patient care and supporting the efficient and effective operation of NHS Scotland.

Official Statistics

Our statistics comply with the **Code of Practice for Statistics** in terms of trustworthiness, high quality and public value. This also means that we keep data secure at all stages, through collection, processing, analysis and output production, and adhere to the '**five safes**'.