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

April to June 2020

06 October 2020

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Introduction

Antimicrobial Resistance and Healthcare Associated Infection (ARHAI) Scotland provides a commentary on quarterly epidemiological data in Scotland for April to June (Q2) 2020 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 April to June 2020

- The total number of CDI cases in patients reported to ARHAI was 246.
- 166 CDI cases were reported to ARHAI as healthcare associated. This corresponds to an incidence rate of 15.4 cases per 100,000 total occupied bed days (TOBDs).
- 80 CDI cases were reported as community associated. This corresponds to an incidence rate of 5.9 cases per 100,000 population.
- No NHS boards were above the 95% confidence interval upper limit for healthcare associated CDI in the funnel plot analysis.
- No NHS boards were above the 95% confidence interval upper limit for community associated CDI in the funnel plot analysis.
- No NHS boards were above normal variation for healthcare or community associated CDI when analysing trends over the past three years.

Escherichia coli bacteraemia (ECB) during April to June 2020

- The total number of ECB cases in patients reported to ARHAI was 917.
- 429 ECB cases were reported to ARHAI as healthcare associated. This corresponds to an incidence rate of 39.7 cases per 100,000 TOBDs.
- 488 ECB cases were reported as community associated. This corresponds to an incidence rate of 35.9 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 Dumfries & Galloway 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 April to June 2020

- The total number of SAB cases in patients reported to ARHAI was 351.
- 219 SAB cases were reported to ARHAI as healthcare associated. This corresponds to an incidence rate of 20.3 cases per 100,000 TOBDs.
- 132 SAB cases were reported as community associated. This corresponds to an incidence rate of 9.7 cases per 100,000 population.
- No NHS boards were above the 95% confidence interval upper limit for healthcare associated SAB in the funnel plot analysis.
- No NHS boards were above the 95% confidence interval upper limit for community associated SAB in the funnel plot analysis.
- NHS Ayrshire & Arran was above normal variation for healthcare associated SAB when analysing trends over the past three years.

Surgical Site Infection (SSI) April to June 2020

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 Q2 2020, 246 *Clostridioides difficile* infection (CDI) cases in patients were reported to ARHAI. In the previous quarter there were 247 cases.
- In the clinical surveillance typing scheme (covering severe cases and/or outbreaks) ribotype 078 (11.4%) was the most common ribotype isolated, followed by 002, 015, 020 (all 9.1%), 014, 023, 072 (all 6.8%), and 005, 283, 975 (all 4.5%), out of a total of 44 isolates. The remaining ribotypes comprise a mixture each with a prevalence of less than 3%.
- In the snapshot surveillance (which reflects the general distribution of ribotypes among all CDI cases), ribotype 002 was the most common (14.5%) followed by 005, 014 (both 10.5%), 015 (9.2%), 020 (7.9%), 023, 078 (both 6.6%) and 019 (3.9%) out of a total of 76 isolates. The remaining ribotypes comprise a mixture each with a prevalence of less than 3%. All isolates tested (snapshot and clinical) were susceptible to metronidazole and vancomycin.

Healthcare associated infection cases by health board of laboratory

- During Q2 2020, 166 CDI cases were reported to ARHAI as healthcare associated. This corresponds to an incidence rate of 15.4 cases per 100,000 total occupied bed days (TOBDs) (Table 1).
- Yearly trends (comparing year-ending June 2019 with year-ending June 2020) show that there was an increase in NHS Highland (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 Q2 2020, 80 CDI cases were reported as community associated. This corresponds to an incidence rate 5.9 cases per 100,000 population and is an increase compared to the Q1 2020 incidence rate of 3.3 cases per 100,000 population (Table 3).
- Yearly trends (comparing year-ending June 2019 with year-ending June 2020) show that there was a decrease in NHS Fife. (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: Q1 2020 (January to March 2020) compared to Q2 2020 (April to June 2020).[1,2]

NHS Board	Q1 Cases	Q1 Bed Days	Q1 Rate	Q2 Cases	Q2 Bed Days	Q2 Rate
AA	17	107,446	15.8	13	81,868	15.9
BR	3	28,855	10.4	4	21,568	18.5
DG	12	44,334	27.1	3	27,088	11.1
FF	7	87,695	8.0	5	63,241	7.9
FV	9	76,312	11.8	7	58,320	12.0
GR	17	131,518	12.9	13	94,592	13.7
GGC	65	413,057	15.7	48	304,920	15.7
HG	16	71,286	22.4	13	50,361	25.8
LN	20	140,747	14.2	21	100,174	21.0
LO	25	240,426	10.4	31	182,151	17.0
NWTC	1	10,915	9.2	1	8,152	12.3
OR	0	3,184	0.0	0	2,102	0.0
SH	0	2,514	0.0	0	1,591	0.0
TY	8	111,519	7.2	7	81,757	8.6
WI	1	6,357	15.7	0	3,200	0.0
Scotland	**201**	**1,476,165**	**13.6**	**166**	**1,081,085**	**15.4**

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 June 2019 (YE Q2 19) compared to year-ending June 2020 (YE Q2 20).[1,2,3]

NHS Board	YE Q2 19 Cases	YE Q2 19 Bed Days	YE Q2 19 Rate	YE Q2 20 Cases	YE Q2 20 Bed Days	YE Q2 20 Rate
AA	70	442,289	15.8	72	411,485	17.5
BR	14	122,978	11.4	14	108,800	12.9
DG	34	178,626	19.0	28	163,954	17.1
FF	30	360,508	8.3	32	332,920	9.6
FV	41	321,280	12.8	43	292,013	14.7
GR	66	529,602	12.5	58	491,319	11.8
GGC	300	1,677,374	17.9	245	1,564,368	15.7
HG	35	295,847	11.8	52	271,271	19.2↑
LN	85	572,514	14.8	90	534,712	16.8
LO	136	1,003,143	13.6	123	917,213	13.4
NWTC	0	47,706	0.0	4	42,793	9.3
OR	4	14,907	26.8	1	11,184	8.9
SH	1	10,000	10.0	4	9,472	42.2
TY	27	462,496	5.8	33	427,045	7.7
WI	2	27,760	7.2	6	23,143	25.9
Scotland	**845**	**6,067,030**	**13.9**	**805**	**5,601,692**	**14.4**

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: Q1 2020 (January to March 2020) compared to Q2 2020 (April to June 2020).[1,2,3,4]

NHS Board	Q1 Cases	Q1 Population	Q1 Rate	Q2 Cases	Q2 Population	Q2 Rate
AA	9	369,360	9.8	8	369,360	8.7
BR	3	115,510	10.4	0	115,510	0.0
DG	2	148,860	5.4	2	148,860	5.4
FF	1	373,550	1.1	1	373,550	1.1
FV	1	306,640	1.3	2	306,640	2.6
GR	10	585,700	6.9	10	585,700	6.9
GGC	7	1,183,120	2.4	13	1,183,120	4.4
HG	3	321,700	3.8	9	321,700	11.3
LN	3	661,900	1.8	14	661,900	8.5
LO	6	907,580	2.7	18	907,580	8.0
OR	0	22,270	0.0	0	22,270	0.0
SH	0	22,920	0.0	0	22,920	0.0
TY	0	417,470	0.0	2	417,470	1.9
WI	1	26,720	15.1	1	26,720	15.1
Scotland	**46**	**5,463,300**	**3.3**	**80**	**5,463,300**	**5.9↑**

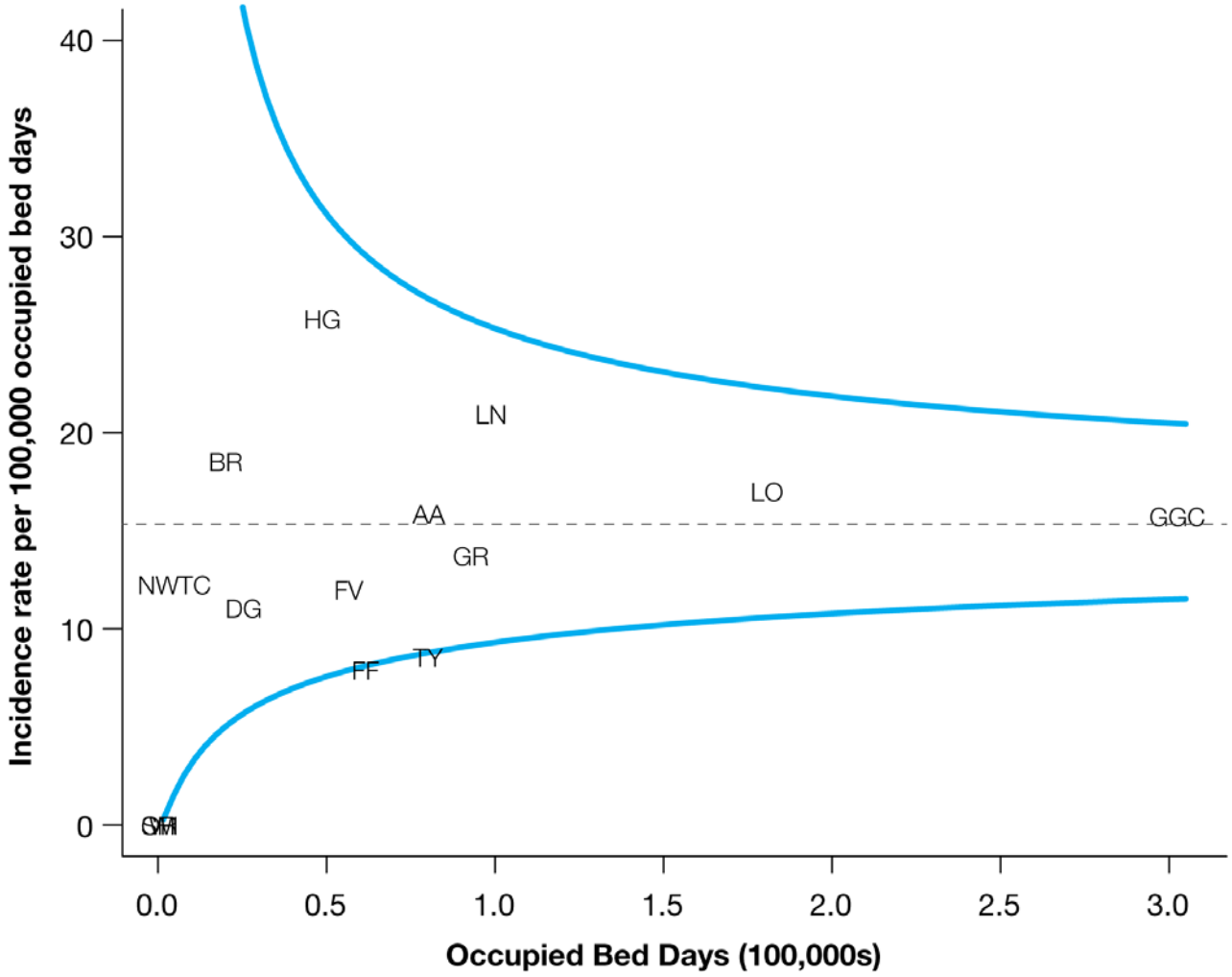
1. An arrow denotes statistically significant change.
2. Quarterly population rates are based on an annualised population.
3. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates.
4. Figures include any updates received following the last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

Table 4: CDI cases and incidence rates (per 100,000 population) for community associated infection cases: year-ending June 2019 (YE Q2 19) compared to year-ending June 2020 (YE Q2 20).[1,2,3]

NHS Board	YE Q2 19 Cases	YE Q2 19 Population	YE Q2 19 Rate	YE Q2 20 Cases	YE Q2 20 Population	YE Q2 20 Rate
AA	24	369,360	6.5	30	369,360	8.1
BR	4	115,510	3.5	5	115,510	4.3
DG	8	148,860	5.4	11	148,860	7.4
FF	20	373,550	5.4	9	373,550	2.4↓
FV	10	306,640	3.3	5	306,640	1.6
GR	43	585,700	7.3	33	585,700	5.6
GGC	63	1,183,120	5.3	45	1,183,120	3.8
HG	22	321,700	6.8	20	321,700	6.2
LN	34	661,900	5.1	37	661,900	5.6
LO	50	907,580	5.5	53	907,580	5.8
OR	2	22,270	9.0	0	22,270	0.0
SH	1	22,920	4.4	0	22,920	0.0
TY	11	417,470	2.6	10	417,470	2.4
WI	2	26,720	7.5	3	26,720	11.2
Scotland	**294**	**5,463,300**	**5.4**	**261**	**5,463,300**	**4.8**

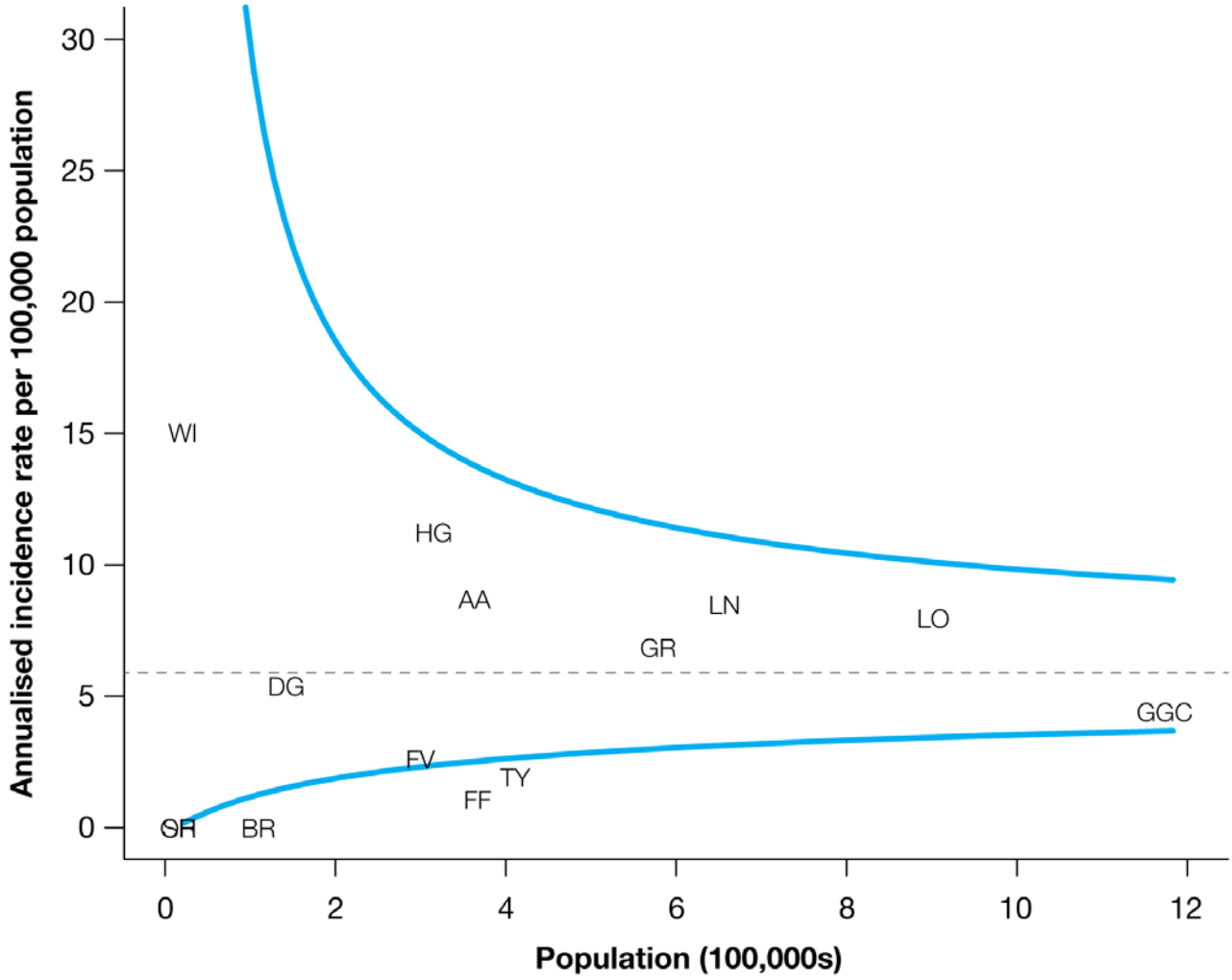
1. An arrow denotes statistically significant change.
2. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates.
3. Figures include any updates received following the last publication (see Appendix 2).

Figure 1: Funnel plot of CDI incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS boards in Scotland in Q2 2020.[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 Orkney, NHS Shetland and NHS Western Isles overlap.

Figure 2: Funnel plot of CDI incidence rates (per 100,000 population) in community associated infection cases for all NHS boards in Scotland in Q2 2020.[1,2]



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

Escherichia coli bacteraemia (ECB)

Total Cases for Quarter

- During Q2 2020, 917 *Escherichia coli* bacteraemia (ECB) cases in patients were reported to ARHAI. In the previous quarter there were 1,052 cases.

Healthcare associated infection cases by health board of laboratory

- During Q2 2020, 429 ECB cases were reported to ARHAI as healthcare associated. This corresponds to an incidence rate of 39.7 cases per 100,000 TOBDs (Table 5).
- Yearly trends (comparing year-ending June 2019 with year-ending June 2020) 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 Q2 2020, 488 ECB cases were reported as community associated. This corresponds to an incidence rate of 35.9 cases per 100,000 population (Table 7).
- Yearly trends (comparing year-ending June 2019 with year-ending June 2020) show that there was a decrease in NHS Highland, NHS Lothian, NHS Greater Glasgow & Clyde and Scotland overall (Table 8).
- NHS Dumfries & Galloway 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: Q1 2020 (January to March 2020) compared to Q2 2020 (April to June 2020).[1,2,3]

NHS Board	Q1 Cases	Q1 Bed Days	Q1 Rate	Q2 Cases	Q2 Bed Days	Q2 Rate
AA	50	107,446	46.5	36	81,868	44.0
BR	10	28,855	34.7	14	21,568	64.9
DG	15	44,334	33.8	9	27,088	33.2
FF	42	87,695	47.9	23	63,241	36.4
FV	37	76,312	48.5	33	58,320	56.6
GR	49	131,518	37.3	36	94,592	38.1
GGC	123	413,057	29.8	125	304,920	41.0
HG	16	71,286	22.4	14	50,361	27.8
LN	64	140,747	45.5	51	100,174	50.9
LO	84	240,426	34.9	57	182,151	31.3
NWTC	0	10,915	0.0	1	8,152	12.3
OR	1	3,184	31.4	0	2,102	0.0
SH	1	2,514	39.8	0	1,591	0.0
TY	44	111,519	39.5	28	81,757	34.2
WI	2	6,357	31.5	2	3,200	62.5
Scotland	**538**	**1,476,165**	**36.4**	**429**	**1,081,085**	**39.7**

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 June 2019 (YE Q2 19) compared to year-ending June 2020 (YE Q2 20).[1,2,3]

NHS Board	YE Q2 19 Cases	YE Q2 19 Bed days	YE Q2 19 Rate	YE Q2 20 Cases	YE Q2 20 Bed days	YE Q2 20 Rate
AA	187	442,289	42.3	182	411,485	44.2
BR	45	122,978	36.6	46	108,800	42.3
DG	59	178,626	33.0	54	163,954	32.9
FF	154	360,508	42.7	148	332,920	44.5
FV	136	321,280	42.3	146	292,013	50.0
GR	195	529,602	36.8	212	491,319	43.1
GGC	652	1,677,374	38.9	571	1,564,368	36.5
HG	73	295,847	24.7	65	271,271	24.0
LN	265	572,514	46.3	257	534,712	48.1
LO	348	1,003,143	34.7	321	917,213	35.0
NWTC	9	47,706	18.9	5	42,793	11.7
OR	6	14,907	40.2	6	11,184	53.6
SH	8	10,000	80.0	6	9,472	63.3
TY	195	462,496	42.2	173	427,045	40.5
WI	13	27,760	46.8	9	23,143	38.9
Scotland	**2,345**	**6,067,030**	**38.7**	**2,201**	**5,601,692**	**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: Q1 2020 (January to March 2020) compared to Q2 2020 (April to June 2020).[1,2,3,4]

NHS Board	Q1 Cases	Q1 Population	Q1 Rate	Q2 Cases	Q2 Population	Q2 Rate
AA	52	369,360	56.6	45	369,360	49.0
BR	13	115,510	45.3	7	115,510	24.4
DG	20	148,860	54.0	23	148,860	62.1
FF	31	373,550	33.4	36	373,550	38.8
FV	39	306,640	51.2	29	306,640	38.0
GR	48	585,700	33.0	45	585,700	30.9
GGC	95	1,183,120	32.3	111	1,183,120	37.7
HG	20	321,700	25.0	25	321,700	31.3
LN	76	661,900	46.2	70	661,900	42.5
LO	70	907,580	31.0	48	907,580	21.3
OR	3	22,270	54.2	1	22,270	18.1
SH	1	22,920	17.5	2	22,920	35.1
TY	41	417,470	39.5	41	417,470	39.5
WI	5	26,720	75.3	5	26,720	75.3
Scotland	**514**	**5,463,300**	**37.8**	**488**	**5,463,300**	**35.9**

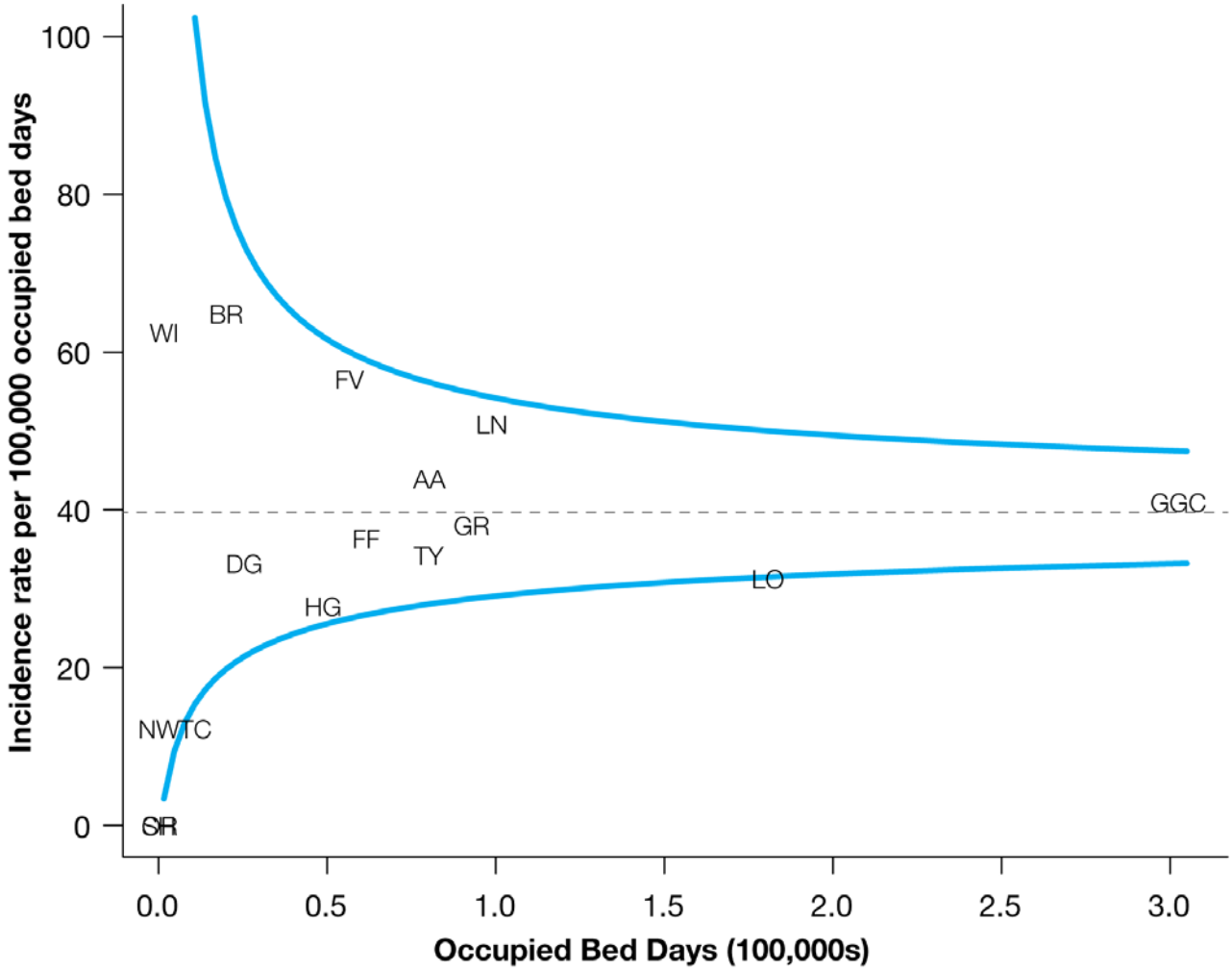
1. Quarterly population rates are based on an annualised population.
2. An arrow denotes statistically significant change.
3. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates.
4. Figures include any updates received following the last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

Table 8: ECB cases and incidence rates (per 100,000 population) for community associated infection cases: year-ending June 2019 (YE Q2 19) compared to year-ending June 2020 (YE Q2 20).[1,2,3]

NHS Board	YE Q2 19 Cases	YE Q2 19 Population	YE Q2 19 Rate	YE Q2 20 Cases	YE Q2 20 Population	YE Q2 20 Rate
AA	216	369,360	58.5	193	369,360	52.3
BR	63	115,510	54.5	56	115,510	48.5
DG	80	148,860	53.7	93	148,860	62.5
FF	143	373,550	38.3	141	373,550	37.7
FV	156	306,640	50.9	161	306,640	52.2
GR	213	585,700	36.4	181	585,700	30.9
GGC	586	1,183,120	49.5	463	1,183,120	39.1 ↓
HG	153	321,700	47.6	114	321,700	35.4 ↓
LN	348	661,900	52.6	307	661,900	46.4
LO	295	907,580	32.5	243	907,580	26.8 ↓
OR	15	22,270	67.4	8	22,270	35.9
SH	5	22,920	21.8	9	22,920	39.3
TY	180	417,470	43.1	187	417,470	44.8
WI	19	26,720	71.1	20	26,720	74.9
Scotland	**2,472**	**5,463,300**	**45.2**	**2,176**	**5,463,300**	**39.8 ↓**

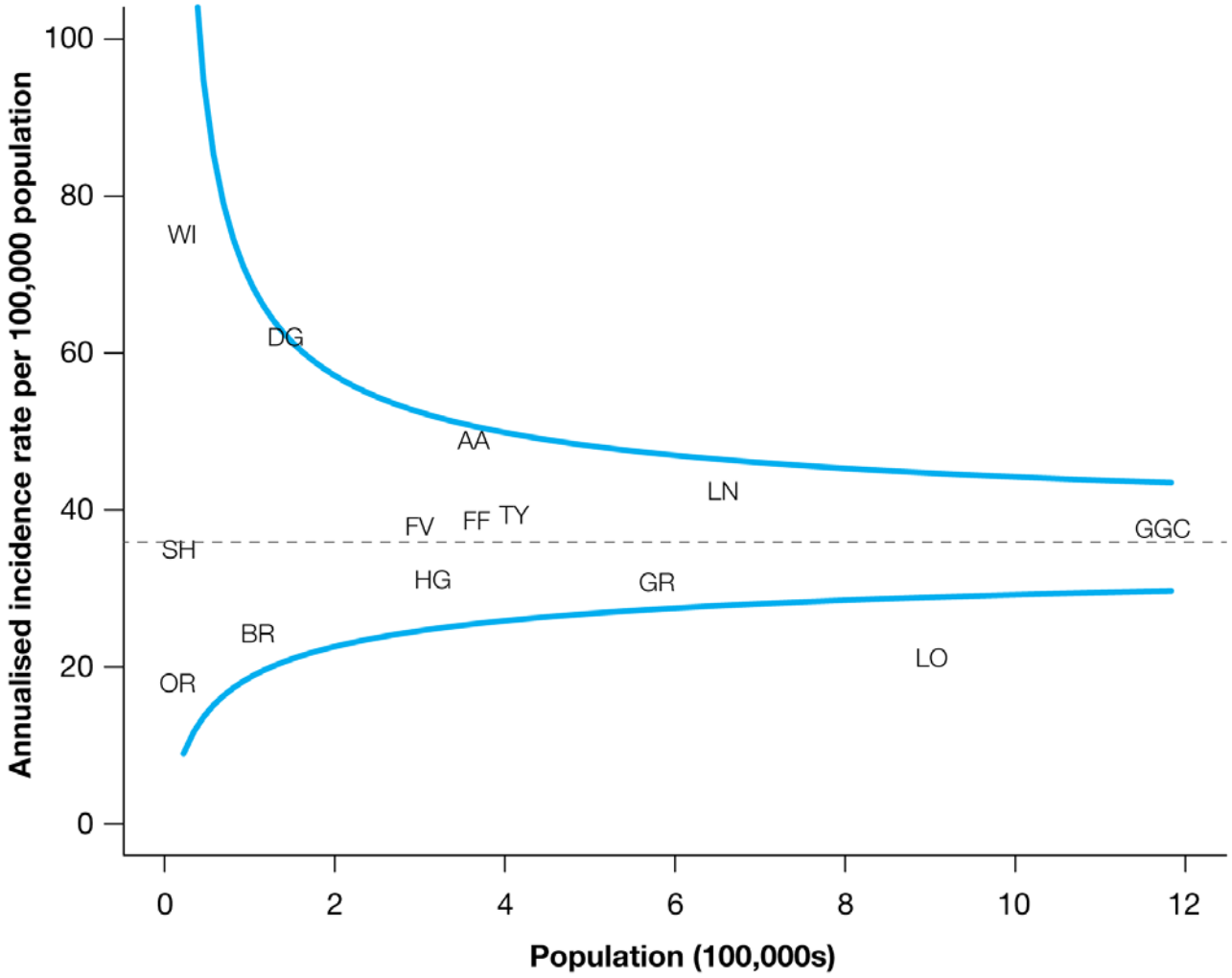
1. An arrow denotes statistically significant change.
2. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates.
3. Figures include any updates received following the last publication (see Appendix 2).

Figure 3: Funnel plot of ECB incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS boards in Scotland in Q2 2020.[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 Orkney and NHS Shetland overlap.

Figure 4: Funnel plot of ECB incidence rates (per 100,000 population) in community associated infection cases for all NHS boards in Scotland in Q2 2020.[1]



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

Staphylococcus aureus bacteraemia (SAB)

Total cases for quarter

- During Q2 2020, 351 *Staphylococcus aureus* bacteraemia (SAB) cases were reported to ARHAI. In the previous quarter there were 390 SAB cases.

Healthcare associated infection cases by health board of laboratory

- During Q2 2020, 219 SAB cases were reported to ARHAI as healthcare associated. This corresponds to an incidence rate of 20.3 cases per 100,000 TOBDs and is an increase compared to the Q1 2020 incidence rate of 16.3 cases per 100,000 TOBDs (Table 9).
- Yearly trends (comparing year-ending June 2019 with year-ending June 2020) show that there was an decrease in NHS Fife (Table 10).
- No NHS boards were above the 95% confidence interval upper limit in the funnel plot analysis (Figure 5).
- NHS Ayrshire & Arran was above normal variation when analysing trends over the past three years (see supplementary data).

Community associated infection cases by health board of residence

- During Q2 2020, 132 SAB cases were reported as community associated. This corresponds to an incidence rate of 9.7 cases per 100,000 population (Table 11).
- Yearly trends (comparing year-ending June 2019 with year-ending June 2020) 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: Q1 2020 (January to March 2020) compared to Q2 2020 (April to June 2020).[1,2,3]

NHS Board	Q1 Cases	Q1 Bed Days	Q41Rate	Q2 Cases	Q2 Bed Days	Q2 Rate
AA	19	107,446	17.7	23	81,868	28.1
BR	3	28,855	10.4	5	21,568	23.2
DG	8	44,334	18.0	4	27,088	14.8
FF	11	87,695	12.5	4	63,241	6.3
FV	8	76,312	10.5	16	58,320	27.4
GR	16	131,518	12.2	18	94,592	19.0
GGC	75	413,057	18.2	69	304,920	22.6
HG	6	71,286	8.4	3	50,361	6.0
LN	29	140,747	20.6	16	100,174	16.0
LO	43	240,426	17.9	30	182,151	16.5
NWTC	1	10,915	9.2	3	8,152	36.8
OR	2	3,184	62.8	0	2,102	0.0
SH	0	2,514	0.0	2	1,591	125.7
TY	19	111,519	17.0	24	81,757	29.4
WI	1	6,357	15.7	2	3,200	62.5
Scotland	**241**	**1,476,165**	**16.3**	**219**	**1,081,085**	**20.3 ↑**

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 June 2019 (YE Q2 19) compared to year-ending June 2020 (YE Q2 20).[1,2,3]

NHS Board	YE Q2 19 Cases	YE Q2 19 Bed days	YE Q2 19 Rate	YE Q2 20 Cases	YE Q2 20 Bed days	YE Q2 20 Rate
AA	64	442,289	14.5	80	411,485	19.4
BR	18	122,978	14.6	10	108,800	9.2
DG	15	178,626	8.4	18	163,954	11.0
FF	64	360,508	17.8	39	332,920	11.7 ↓
FV	61	321,280	19.0	47	292,013	16.1
GR	96	529,602	18.1	75	491,319	15.3
GGC	319	1,677,374	19.0	306	1,564,368	19.6
HG	46	295,847	15.5	29	271,271	10.7
LN	103	572,514	18.0	106	534,712	19.8
LO	128	1,003,143	12.8	130	917,213	14.2
NWTC	11	47,706	23.1	6	42,793	14.0
OR	3	14,907	20.1	4	11,184	35.8
SH	4	10,000	40.0	3	9,472	31.7
TY	78	462,496	16.9	95	427,045	22.2
WI	3	27,760	10.8	9	23,143	38.9
Scotland	**1,013**	**6,067,030**	**16.7**	**957**	**5,601,692**	**17.1**

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: Q1 2020 (January to March 2020) compared to Q2 2020 (April to June 2020).[1,2,3,4]

NHS Board	Q1 Cases	Q1 Population	Q1 Rate	Q2 Cases	Q2 Population	Q2 Rate
AA	15	369,360	16.3	13	369,360	14.2
BR	3	115,510	10.4	5	115,510	17.4
DG	8	148,860	21.6	4	148,860	10.8
FF	6	373,550	6.5	13	373,550	14.0
FV	6	306,640	7.9	11	306,640	14.4
GR	16	585,700	11.0	13	585,700	8.9
GGC	23	1,183,120	7.8	14	1,183,120	4.8
HG	8	321,700	10.0	9	321,700	11.3
LN	19	661,900	11.5	16	661,900	9.7
LO	27	907,580	12.0	20	907,580	8.9
OR	3	22,270	54.2	0	22,270	0.0
SH	2	22,920	35.1	0	22,920	0.0
TY	13	417,470	12.5	11	417,470	10.6
WI	0	26,720	0.0	3	26,720	45.2
Scotland	**149**	**5,463,300**	**11.0**	**132**	**5,463,300**	**9.7**

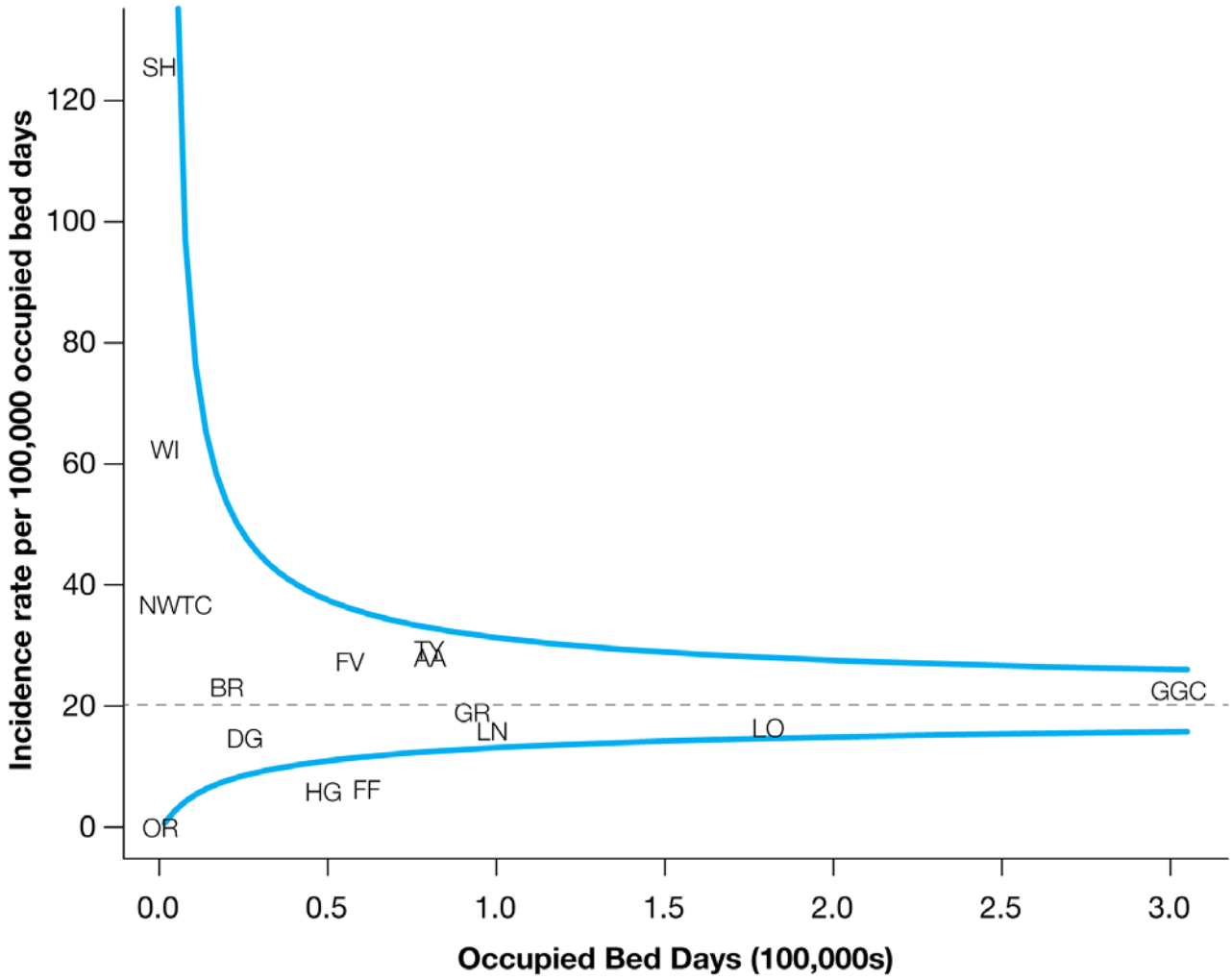
1. Quarterly population rates are based on an annualised population.
2. An arrow denotes statistically significant change.
3. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates.
4. Figures include any updates received following the last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

Table 12: SAB cases and incidence rates (per 100,000 population) for community associated infection cases: year-ending June 2019 (YE Q2 19) compared to year-ending June 2020 (YE Q2 20).[1,2,3]

NHS Board	YE Q2 19 Cases	YE Q2 19 Population	YE Q2 19 Rate	YE Q2 20 Cases	YE Q2 20 Population	YE Q2 20 Rate
AA	50	369,360	13.5	45	369,360	12.2
BR	12	115,510	10.4	12	115,510	10.4
DG	19	148,860	12.8	17	148,860	11.4
FF	40	373,550	10.7	38	373,550	10.2
FV	25	306,640	8.2	41	306,640	13.4
GR	50	585,700	8.5	48	585,700	8.2
GGC	88	1,183,120	7.4	76	1,183,120	6.4
HG	28	321,700	8.7	37	321,700	11.5
LN	54	661,900	8.2	63	661,900	9.5
LO	96	907,580	10.6	83	907,580	9.1
OR	2	22,270	9.0	3	22,270	13.5
SH	4	22,920	17.5	3	22,920	13.1
TY	49	417,470	11.7	46	417,470	11.0
WI	5	26,720	18.7	3	26,720	11.2
Scotland	**522**	**5,463,300**	**9.6**	**515**	**5,463,300**	**9.4**

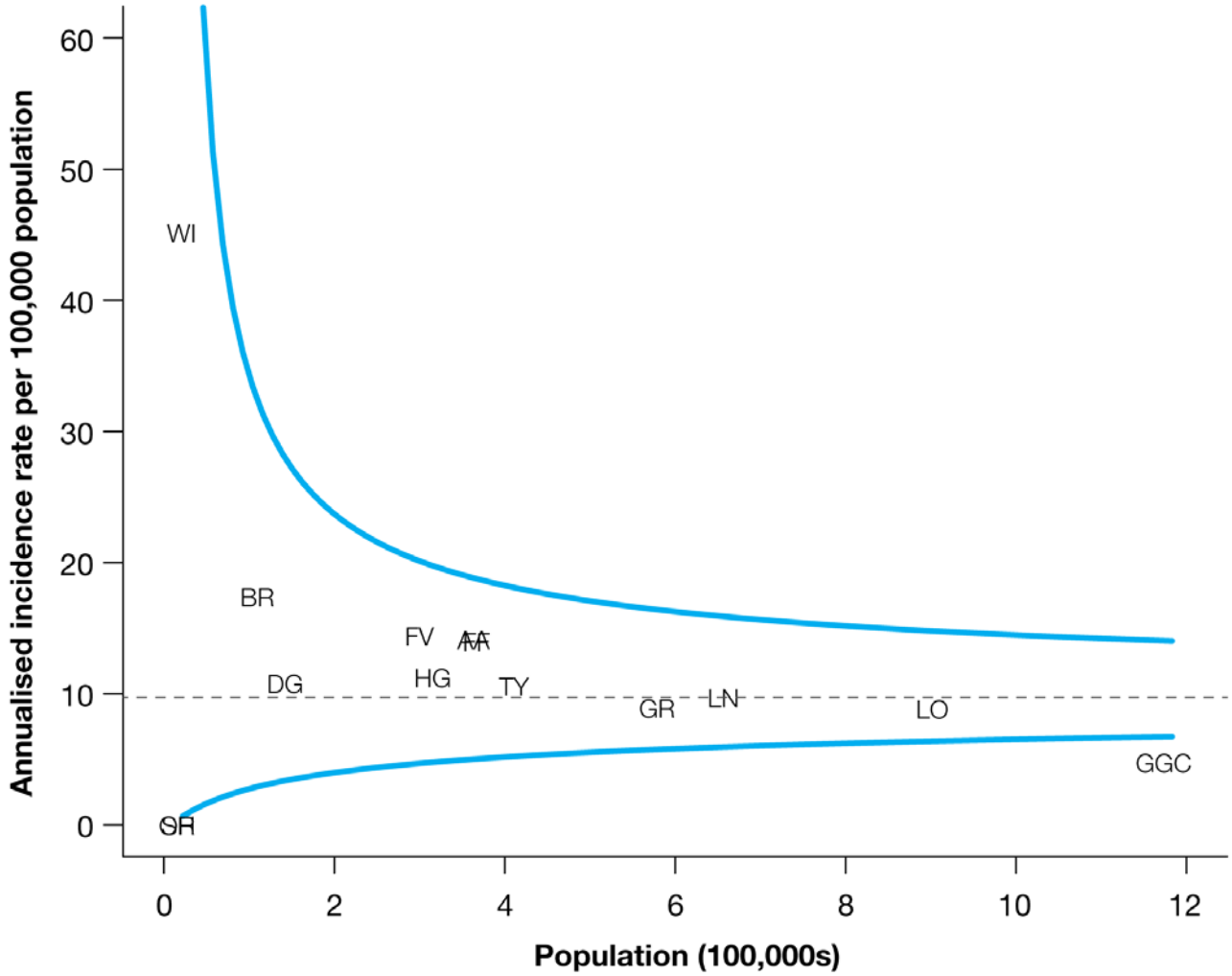
1. An arrow denotes statistically significant change.
2. Source of data is Electronic Communication of Surveillance in Scotland (ECOSS) & NRS mid-year population estimates.
3. Figures include any updates received following the last publication (see Appendix 2).

Figure 5: Funnel plot of SAB incidence rates (per 100,000 TOBD) in healthcare associated infection cases for all NHS boards in Scotland in Q2 2020.[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 Ayrshire & Arran and NHS Tayside overlap.

Figure 6: Funnel plot of SAB incidence rates (per 100,000 population) in community associated infection cases for all NHS boards in Scotland in Q2 2020.[1,2]



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

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: Q1 2020 (January to March 2020) compared to Q2 2020 (April to June 2020).	supplementary data (433 Kb)
Table 2: CDI cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: year-ending June 2019 (YE Q2 19) compared to year-ending June 2020 (YE Q2 20).	supplementary data (433 Kb)
Table 3: CDI cases and incidence rates (per 100,000 population) for community associated infection cases: Q1 2020 (January to March 2020) compared to Q2 2020 (April to June 2020).	supplementary data (433 Kb)
Table 4: CDI cases and incidence rates (per 100,000 population) for community associated infection cases: year-ending June 2019 (YE Q2 19) compared to year-ending June 2020 (YE Q2 20).	supplementary data (433 Kb)
Table 5: ECB cases and incidence rates (per 100,000 TOBD) for healthcare associated infection cases: Q1 2020 (January to March 2020) compared to Q2 2020 (April to June 2020).	supplementary data (433 Kb)
Table 6: ECB cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: year-ending June 2019 (YE Q2 19) compared to year-ending June 2020 (YE Q2 20).	supplementary data (433 Kb)
Table 7: ECB cases and incidence rates (per 100,000 population) for community associated infection cases: Q1 2020 (January to March 2020) compared to Q2 2020 (April to June 2020).	supplementary data (433 Kb)
Table 8: ECB cases and incidence rates (per 100,000 population) for community associated infection cases: year-ending June 2019 (YE Q2 19) compared to year-ending June 2020 (YE Q2 20).	supplementary data (433 Kb)
Table 9: SAB cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: Q1 2020 (January to March 2020) compared to Q2 2020 (April to June 2020).	supplementary data (433 Kb)
Table 10: SAB cases and incidence rates (per 100,000 TOBDs) for healthcare associated infection cases: year-ending June 2019 (YE Q2 19) compared to year-ending June 2020 (YE Q2 20).	supplementary data (433 Kb)
Table 11: SAB cases and incidence rates (per 100,000 population) for community associated infection cases: Q1 2020 (January to March 2020) compared to Q2 2020 (April to June 2020).	supplementary data (433 Kb)
Table 12: SAB cases and incidence rates (per 100,000 population) for community associated infection cases: year-ending June 2019 (YE Q2 19) compared to year-ending June 2020 (YE Q2 20).	supplementary data (433 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 January 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 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.

Description of Revision	First report revision applied	Report section(s) revision applies to	Rational for revision
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 less risk of infection. However, in surveillance programmes developed for the purpose of preventing infection and driving quality improvement in care, consistency of the denominators over time tend to be more important than

Description of Revision	First report revision applied	Report section(s) revision applies to	Rational for revision
			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

Description of Revision	First report revision applied	Report section(s) revision applies to	Rational for revision
			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.
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

Description of Revision	First report revision applied	Report section(s) revision applies to	Rational for revision
			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. Future versions of this report will be updated to reflect this branding

Description of Revision	First report revision applied	Report section(s) revision applies to	Rational for revision
			change. This change will therefore be instated for the next publication in October 2020.

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	Commentary on 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 April to June 2020.
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 **Surgical Site Infection:** **Case data source:** Surgical Site Infection Reporting System (SSIRS) **Number of procedures denominator:** SSIRS

<table>
<tr><th>Metadata Indicator</th><th>Description</th></tr>
<tr><td>Date that data are acquired</td><td>The date the data were extracted for analysis.

Clostridioides difficile: 03/08/2020Escherichia coli Bacteraemia: 01/09/2020
Staphylococcus aureus Bacteraemia: 27/08/2020
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.</td></tr>
<tr><td>Release date</td><td>6 October 2020</td></tr>
<tr><td>Frequency</td><td>Quarterly</td></tr>
<tr><td>Timeframe of data and timeliness</td><td>The latest iteration of data is 30 June 2020, therefore three months in arrears</td></tr>
<tr><td>Continuity of data</td><td>Quarterly as at March, June, September, December</td></tr>
<tr><td>Revisions statement</td><td>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.</td></tr>
<tr><td>Revisions relevant to this publication</td><td>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.

No retrospective amendments to Bed Days

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).

The following updates have been made to the CDI case numbers as a result of more SMR01 hospital discharge records being made available for linkage since the last publication:

Updates to healthcare and community associated CDI data:

<table>
<tr><th>NHS Board</th><th>Quarter</th><th>Amendment made</th></tr>
<tr><td>GGC</td><td>Q1 2020</td><td>Healthcare associated CDI case figure updated to 65 when previously 63.

Community associated CDI case figure updated to 7 when previously 9 as 2 cases were reassigned as healthcare.</td></tr>
</table>
*When a case is reassigned from community associated to healthcare associated infection, the NHS Board reported will change from NHS Board of residence to NHS Board of laboratory.
**SMR01 records for 2020 Q1were below the required level of completeness at time of data linkage. Amendments have been manually applied following validation with the NHS boards.</td></tr>
</table>

Metadata Indicator	Description
	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.
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

Metadata Indicator	Description
	cause a range of illnesses from minor skin infections to serious systemic infections such as 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**
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 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

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

Metadata Indicator	Description
	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. **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)

Metadata Indicator	Description
	SSI: SSI rates by health board are not published by the rest of UK. **Annual numbers** are reported by Public Health 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	7 July 2020
Next published	12 January 2021
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	**mailto:NSS.HPSHAIIC@nhs.scot**
Date form completed	6 October 2020

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 NHSScotland.

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**'.