

S. aureus bacteraemia surveillance

Quarterly report

October - December 2023

Key points

- Overall *S. aureus* (SA) rates for Northern Ireland (MRSA plus MSSA bacteraemias) decreased by approximately 8% during October-December 2023 compared to July-September 2023.
- MRSA rates decreased by approximately 38% during October-December 2023 compared to July-September 2023.
- MSSA rates decreased by approximately 4% during October-December 2023 compared to July-September 2023.
- Please note: Bed Day data were not available for SEHSCT hospitals and estimates were used this quarter (averages taken for Q4, 2019-2022).

For further information or clarification on HCAI definitions, please refer to previous reports or contact hcaini@hscni.net

S. aureus bacteraemia surveillance

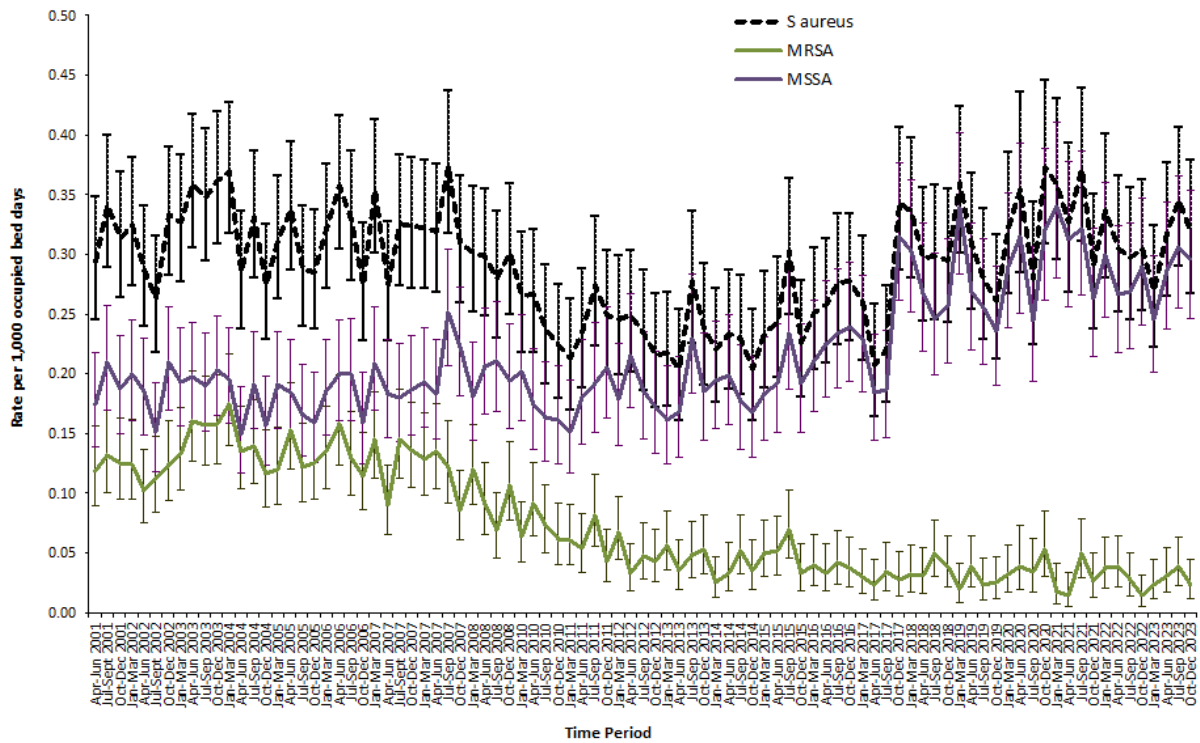


Figure 1: MSSA, MRSA and *S. aureus* rates in Northern Ireland by quarter, with 95% confidence intervals, April 2001 – December 2023 (see Appendix 3)

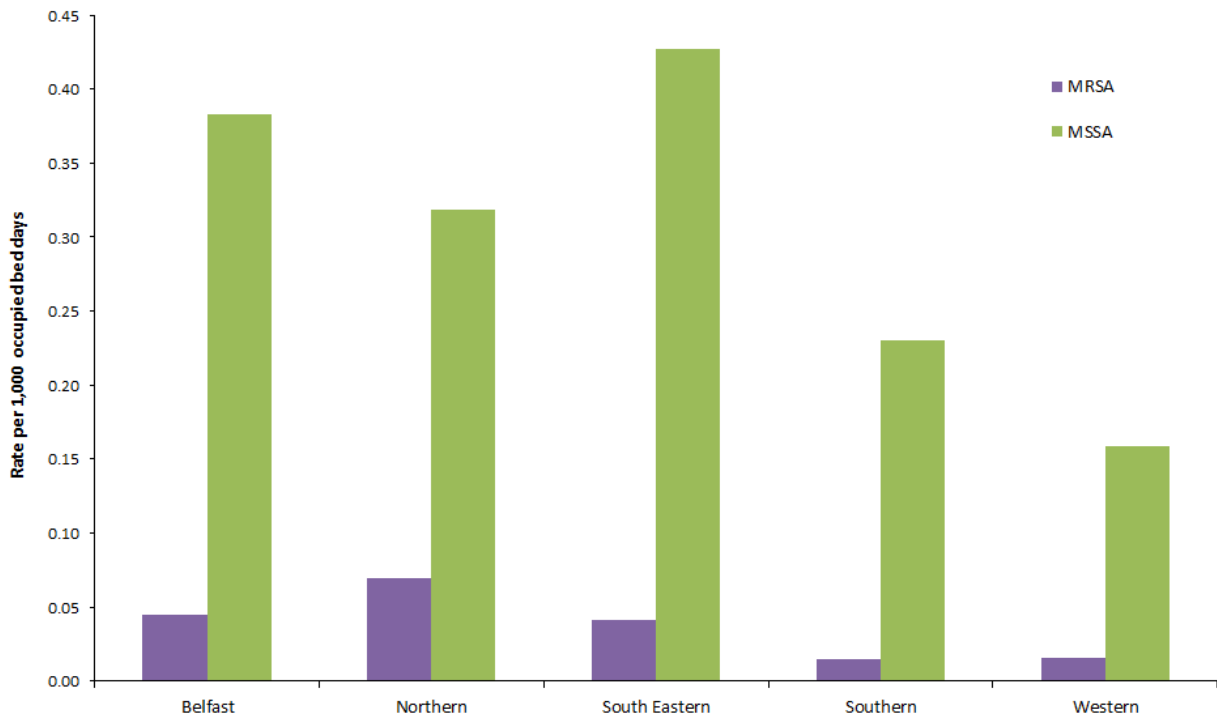


Figure 2: MRSA and MSSA rates per 1,000 occupied bed days, by HSCT, Oct-Dec 2023.

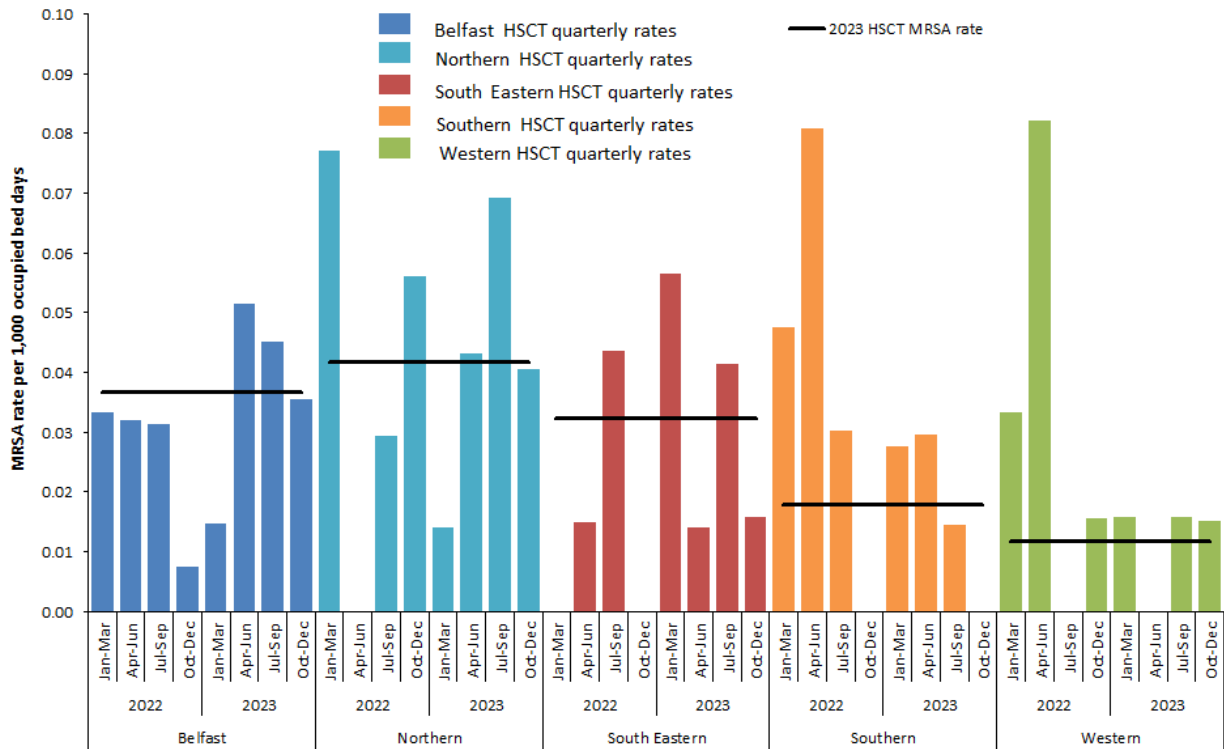


Figure 3: MRSA quarterly rate Jan 2022– Dec 2023, by HSCT, with 2023 HSCT MRSA rate

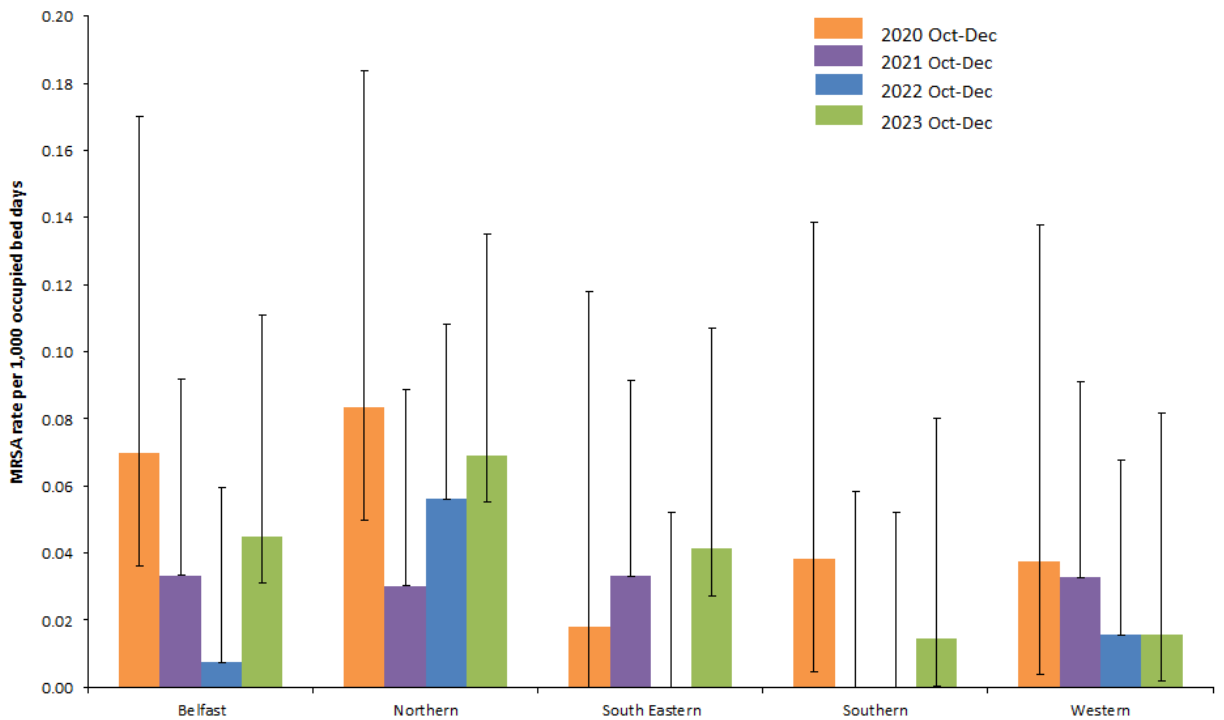


Figure 4: MRSA rate during Oct-Dec, by HSCT, from 2020–2023, with 95% confidence intervals

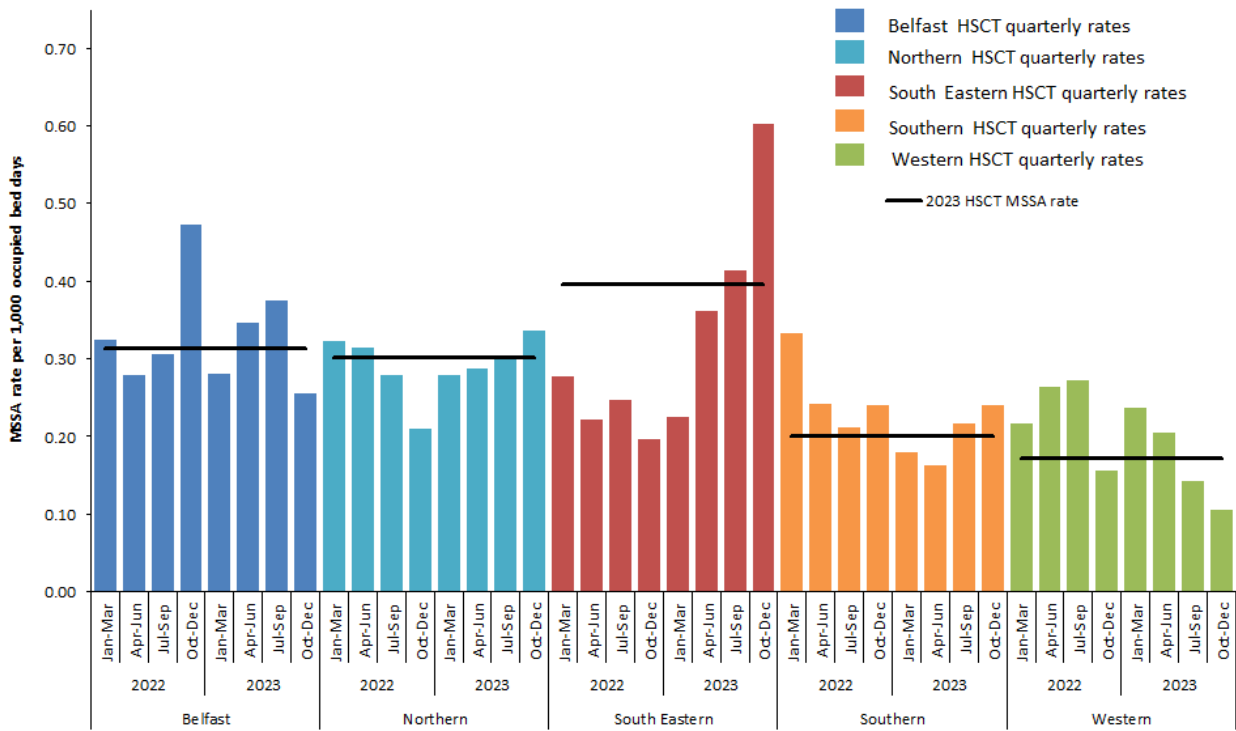


Figure 5: MSSA quarterly rate Jan 2022 – Dec 2023, by HSCT, with 2023 HSCT MSSA rate

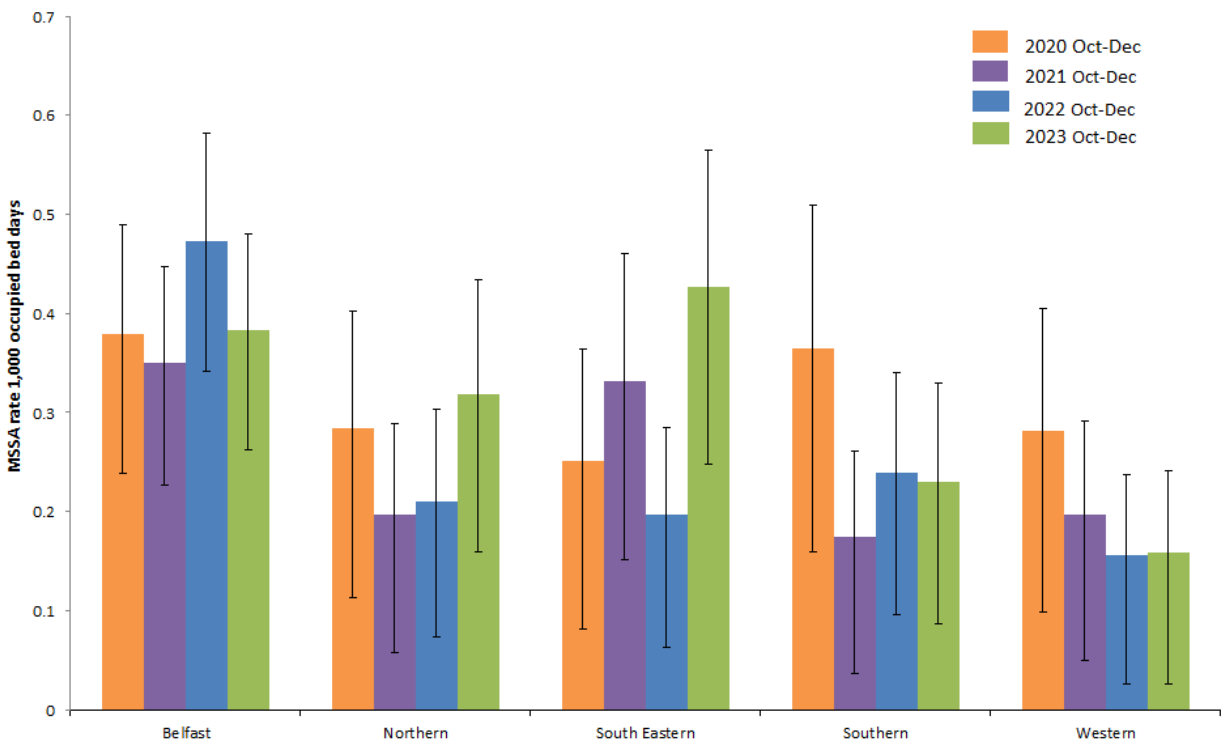


Figure 6: MSSA rate during Oct-Dec, by HSCT, from 2020–2023, with 95% confidence intervals.

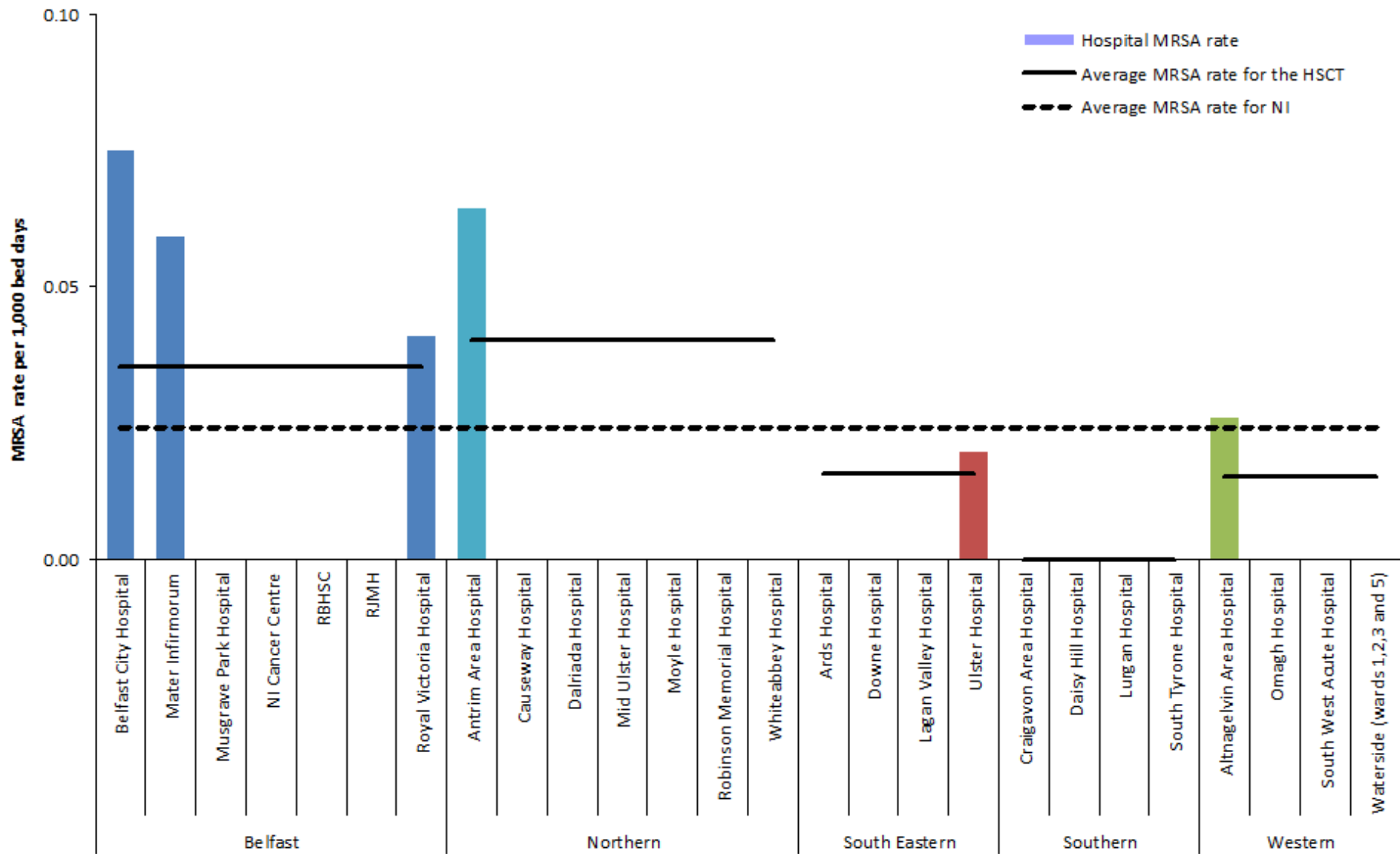


Figure 7: Rates of MRSA, October-December 2023 by individual hospitals, (gaps represent zero episodes), compared to October-December 2023 average rates for Northern Ireland and HSCTs

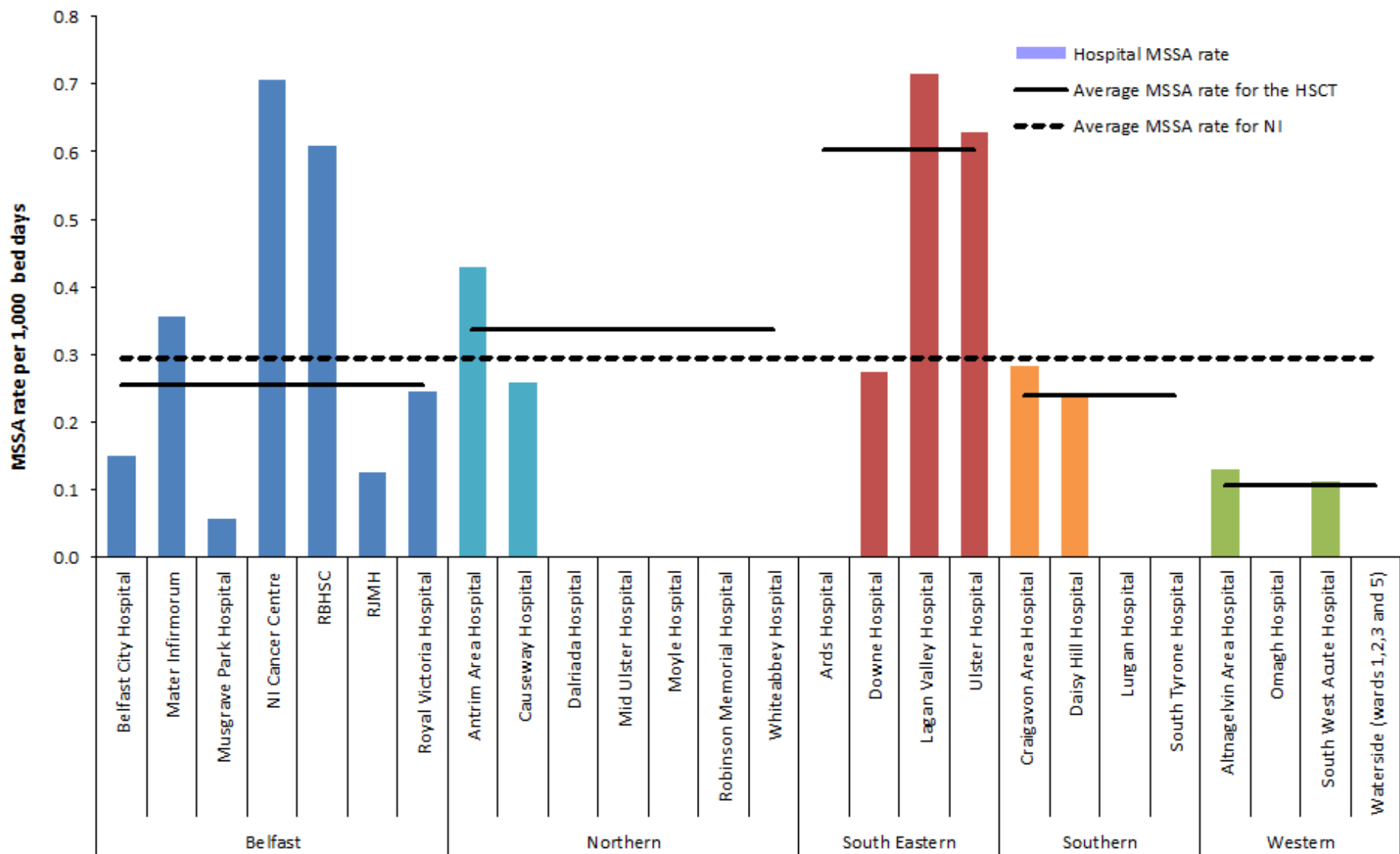


Figure 8: Rates of MSSA, October-December 2023 by individual hospitals, (gaps represent zero episodes), compared to October-December 2023 average rates for Northern Ireland and HSCT

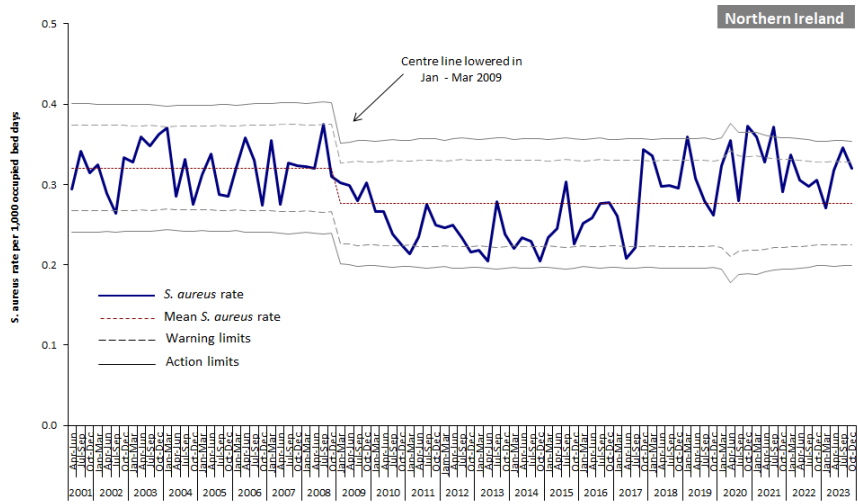


Figure 9a: Statistical process control chart for quarterly *S. aureus* rates in Northern Ireland

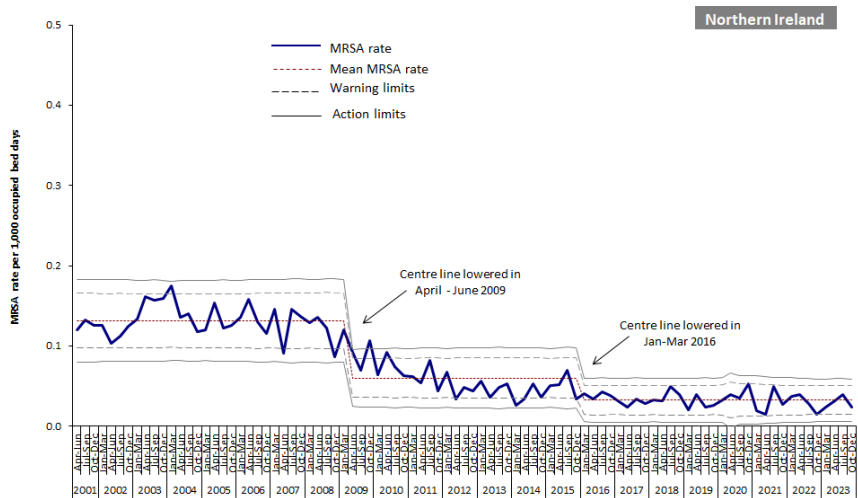


Figure 9b: Statistical process control chart for quarterly MRSA rates in Northern Ireland

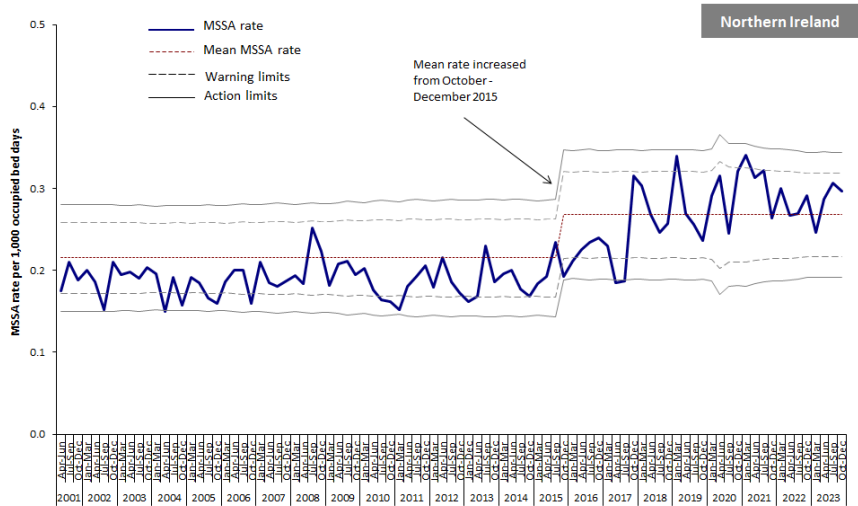


Figure 9c: Statistical process control chart for quarterly MSSA rates in Northern Ireland

Appendix 1

Table 1: Quarterly rate of MRSA patient episodes, by hospital, Jan-Dec 2023

Hospital	Jan-Mar 2023	Apr - Jun 2023	Jul - Sep 2023	Oct - Dec 2023
Belfast City Hospital	0.079	0.074	0.220	0.075
Mater Infirmorum	0.000	0.123	0.000	0.059
Musgrave Park Hospital	0.000	0.000	0.000	0.000
NICCO	0.241	0.236	0.000	0.000
RBHSC	0.000	0.000	0.000	0.000
RJMH	0.000	0.000	0.000	0.000
Royal Group of Hospitals	0.000	0.043	0.042	0.041
Belfast Health & Social Care Trust	0.015	0.051	0.045	0.035
Antrim Area Hospital	0.023	0.047	0.022	0.064
Causeway Hospital	0.000	0.054	0.220	0.000
Dalriada Hospital	0.000	0.000	0.000	0.000
Mid Ulster Hospital	0.000	0.000	0.000	0.000
Moyle Hospital	0.000	0.000	0.000	0.000
Robinson Memorial Hospital	0.000	0.000	0.000	0.000
Whiteabbey Hospital	0.000	0.000	0.000	0.000
Northern Health & Social Care Trust	0.014	0.043	0.069	0.040
Ards Hospital	0.000	0.000	0.000	0.000
Downe Hospital	0.000	0.000	0.000	0.000
Lagan Valley Hospital	0.137	0.137	0.000	0.000
Ulster Hospital	0.052	0.000	0.051	0.020
South Eastern Health & Social Care Trust	0.056	0.014	0.041	0.016
Craigavon Area Hospital	0.044	0.023	0.000	0.000
Daisy Hill Hospital	0.000	0.060	0.060	0.000
Lurgan Hospital	0.000	0.000	0.000	0.000
South Tyrone Hospital	0.000	0.000	0.000	0.000
Southern Health & Social Care Trust	0.028	0.030	0.014	0.000
Altnagelvin Area Hospital	0.027	0.000	0.027	0.026
Omagh Hospital	0.000	0.000	0.000	0.000
South West Acute Hospital	0.000	0.000	0.000	0.000
Waterside Hospital	0.000	0.000	0.000	0.000
Western Health & Social Care Trust	0.016	0.000	0.016	0.015
NI TOTAL	0.024	0.032	0.039	0.024

Table 2: Quarterly MRSA patient episodes, by HSCT, Jan-Dec 2023

Trust	Jan-Mar 2023 Episodes	Apr - Jun 2023 Episodes	Jul - Sep 2023 Episodes	Oct - Dec 2023 Episodes
Belfast Health & Social Care Trust	2	7	6	5
Northern Health & Social Care Trust	1	3	5	3
South Eastern Health & Social Care Trust	4	1	3	1
Southern Health & Social Care Trust	2	2	1	0
Western Health & Social Care Trust	1	0	1	1
NI TOTAL	10	13	16	10

Appendix 1

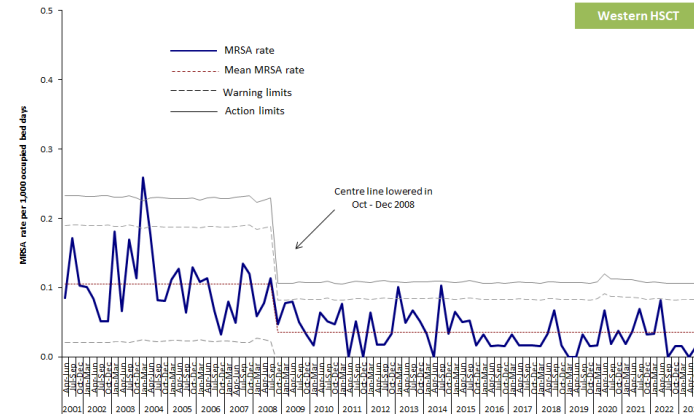
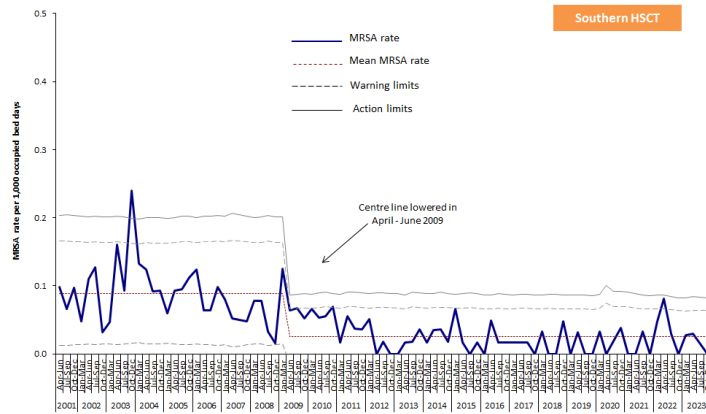
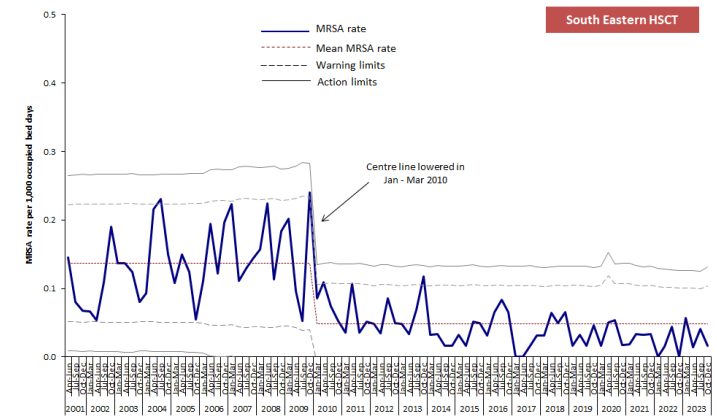
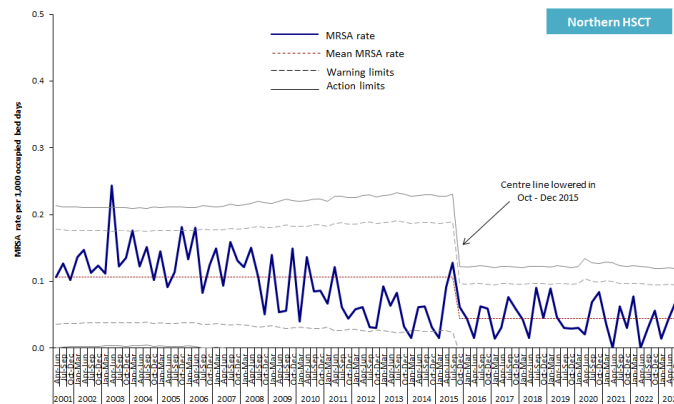
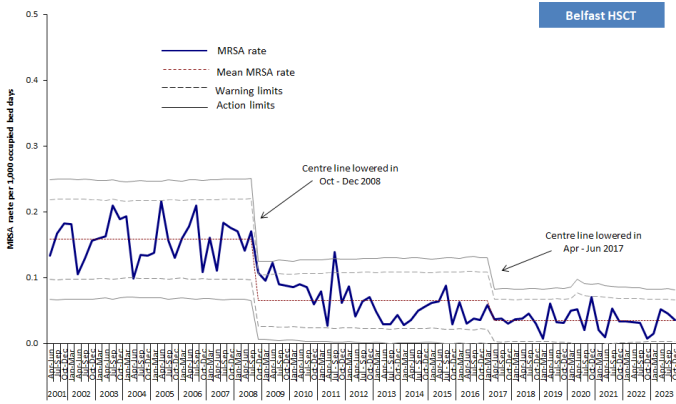
Table 3: Quarterly rate of MSSA patient episodes, by hospital, Jan-Dec 2023

Hospital	Jan-Mar 2023	Apr-Jun 2023	Jul-Sep 2023	Oct-Dec 2023
Belfast City Hospital	0.079	0.368	0.294	0.150
Mater Infirmorum	0.062	0.431	0.294	0.356
Musgrave Park Hospital	0.111	0.056	0.123	0.057
NICCO	0.965	0.707	0.463	0.706
RBHSC	0.399	0.000	0.285	0.609
RJMH	0.000	0.298	0.000	0.126
Royal Group of Hospitals	0.385	0.413	0.502	0.246
Belfast Health & Social Care Trust	0.281	0.346	0.375	0.255
Antrim Area Hospital	0.419	0.233	0.372	0.429
Causeway Hospital	0.102	0.538	0.275	0.258
Dalriada Hospital	0.000	0.000	0.000	0.000
Mid Ulster Hospital	0.000	0.000	0.000	0.000
Moyle Hospital	0.000	0.000	0.000	0.000
Robinson Memorial Hospital	0.000	0.000	0.000	0.000
Whiteabbey Hospital	0.000	0.000	0.000	0.000
Northern Health & Social Care Trust	0.279	0.288	0.304	0.337
Ards Hospital	0.000	0.000	0.000	0.000
Downe Hospital	0.000	0.000	0.000	0.274
Lagan Valley Hospital	0.275	0.267	0.393	0.716
Ulster Hospital	0.242	0.412	0.458	0.629
South Eastern Health & Social Care Trust	0.226	0.362	0.413	0.602
Craigavon Area Hospital	0.177	0.186	0.245	0.283
Daisy Hill Hospital	0.216	0.180	0.239	0.240
Lurgan Hospital	0.000	0.000	0.000	0.000
South Tyrone Hospital	0.268	0.000	0.000	0.000
Southern Health & Social Care Trust	0.180	0.163	0.216	0.239
Altnagelvin Area Hospital	0.269	0.246	0.135	0.130
Omagh Hospital	0.000	0.000	0.000	0.000
South West Acute Hospital	0.291	0.229	0.229	0.111
Waterside Hospital	0.000	0.000	0.000	0.000
Western Health & Social Care Trust	0.236	0.205	0.143	0.106
NI TOTAL	0.246	0.287	0.307	0.296

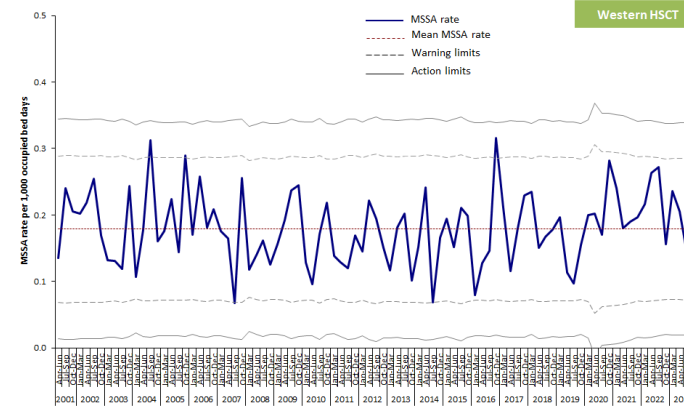
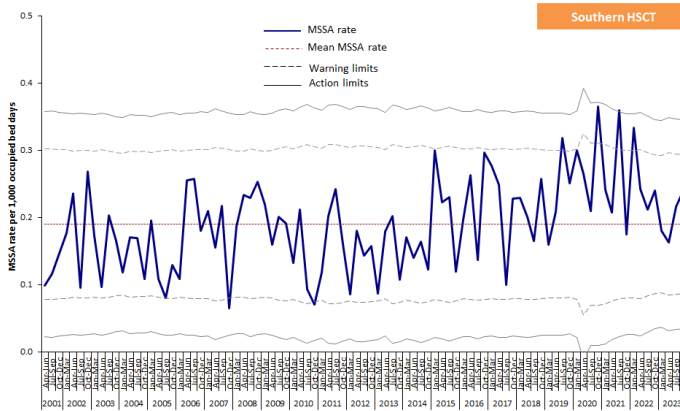
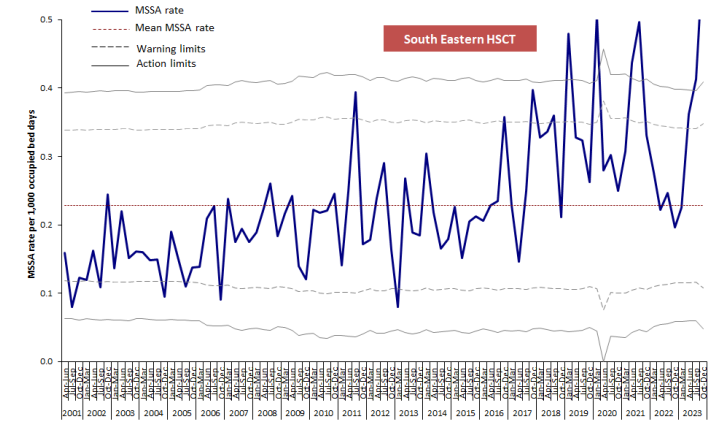
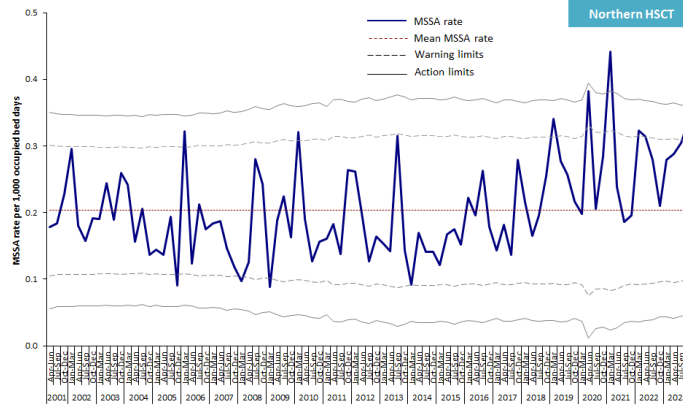
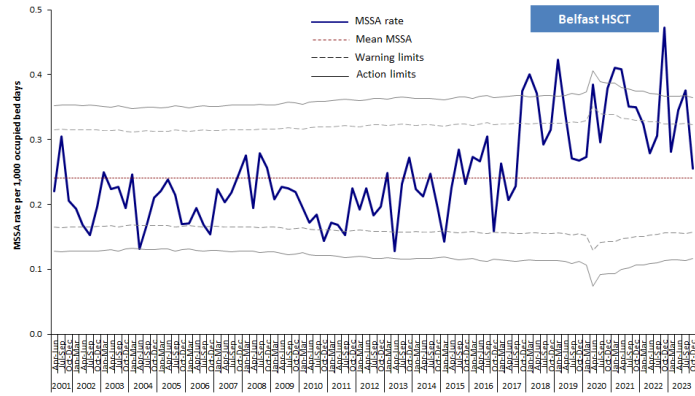
Table 4: Quarterly MSSA patient episodes, by HSCT, Jan-Dec 2023

Trust	Jan-Mar 2023 Episodes	Apr-Jun 2023 Episodes	Jul-Sep 2023 Episodes	Oct-Dec 2023 Episodes
Belfast Health & Social Care Trust	38	47	50	36
Northern Health & Social Care Trust	20	20	22	25
South Eastern Health & Social Care Trust	16	26	30	38
Southern Health & Social Care Trust	13	11	15	17
Western Health & Social Care Trust	15	13	9	7
NI TOTAL	102	117	126	123

Appendix 2: Trends in MRSA rates, by HSCT and quarter, April 2001 – Dec 2023



Appendix 2: Trends in MSSA rates, by HSCT and quarter, April 2001 – Dec 2023



Appendix 3

Table 5: MSSA, MRSA and total *S. aureus* patient episode rates, and the percentage of *S. aureus* reported as MRSA, in Northern Ireland, Jan 2015 – Dec 2023.

Quarter	MSSA rate	MRSA rate	All <i>S. aureus</i> rate	% MRSA
Jan-Mar 2015	0.184	0.050	0.234	21.4
Apr-Jun 2015	0.193	0.052	0.245	21.2
Jul-Sep 2015	0.234	0.070	0.304	23.0
Oct-Dec 2015	0.193	0.034	0.226	15.0
Jan-Mar 2016	0.211	0.040	0.252	15.9
Apr-Jun 2016	0.225	0.034	0.259	13.1
Jul-Sep 2016	0.234	0.043	0.277	15.5
Oct-Dec 2016	0.240	0.038	0.278	13.7
Jan-Mar 2017	0.230	0.031	0.260	11.9
Apr-Jun 2017	0.185	0.023	0.208	11.1
Jul-Sep 2017	0.187	0.034	0.222	15.3
Oct-Dec 2017	0.315	0.028	0.343	8.2
Jan-Mar 2018	0.303	0.033	0.339	9.7
Apr-Jun 2018	0.269	0.050	0.300	10.4
Jul-Sep 2018	0.246	0.050	0.296	16.9
Oct-Dec 2018	0.257	0.039	0.296	13.2
Jan-Mar 2019	0.342	0.021	0.362	5.8
Apr-Jun 2019	0.269	0.039	0.308	12.7
Jul-Sep 2019	0.256	0.024	0.280	8.6
Oct-Dec 2019	0.237	0.025	0.262	9.5
Jan-Mar 2020	0.291	0.033	0.323	10.2
Apr-Jun 2020	0.316	0.039	0.355	11.0
Jul-Sep 2020	0.245	0.035	0.280	12.5
Oct-Dec 2020	0.320	0.053	0.373	14.2
Jan-Mar 2021	0.264	0.019	0.360	5.3
Apr-Jun 2021	0.313	0.015	0.327	4.6
Jul-Sep 2021	0.322	0.050	0.372	13.4
Oct-Dec 2021	0.264	0.027	0.291	9.3
Jan-Mar 2022	0.300	0.037	0.337	11.0
Apr-Jun 2022	0.267	0.039	0.306	12.7
Jul-Sep 2022	0.270	0.028	0.298	9.4
Oct-Dec 2022	0.291	0.015	0.305	4.9
Jan-Mar 2023	0.246	0.024	0.271	8.9
Apr-June 2023	0.287	0.032	0.318	10.1
Jul-Sep 2023	0.307	0.039	0.346	11.3
Oct-Dec 2023	0.296	0.024	0.320	7.5

Appendix 4

Table 6: MRSA patient episodes for each financial year, by HSCT

HSCT	Financial Year												
	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Belfast	48	46	32	18	28	34	22	19	16	22	15	15	11
Northern	27	19	14	12	11	21	10	14	16	9	12	11	7
South Eastern	15	14	13	15	7	9	13	5	12	7	7	6	8
Southern	11	10	1	5	9	2	6	4	3	4	3	5	9
Western	15	7	10	12	12	9	5	4	7	4	7	10	7
Northern Ireland	116	96	70	62	67	75	56	46	54	46	44	47	42

Table 7: MSSA patient episodes for each financial year, by HSCT

HSCT	Financial Year												
	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Belfast	103	109	115	121	112	142	134	163	189	147	138	166	176
Northern	46	57	42	43	37	47	52	55	64	63	73	60	75
South Eastern	46	57	54	57	50	47	64	70	85	88	59	95	62
Southern	28	38	32	38	42	45	59	49	48	67	54	66	59
Western	39	34	40	38	40	38	50	47	42	35	46	46	58
Northern Ireland	262	295	283	297	281	319	359	384	428	400	370	433	430