

S. aureus bacteraemia surveillance

Quarterly report

October – December 2020

Key points

- Overall *S. aureus* (SA) rates for Northern Ireland (MRSA plus MSSA bacteraemias) increased by approximately 29% during October - December 2020 compared to July – September 2020.
- MRSA rates increased by approximately 51% during October - December 2020 compared to July – September 2020.
- MRSA reports during 2019/20 decreased by 15% compared to 2018/19.
- MSSA rates increased by approximately 26% during October - December 2020 compared to July – September 2020.
- MSSA reports during 2019/20 decreased by 7% compared to 2018/19.

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

S. aureus bacteraemia surveillance

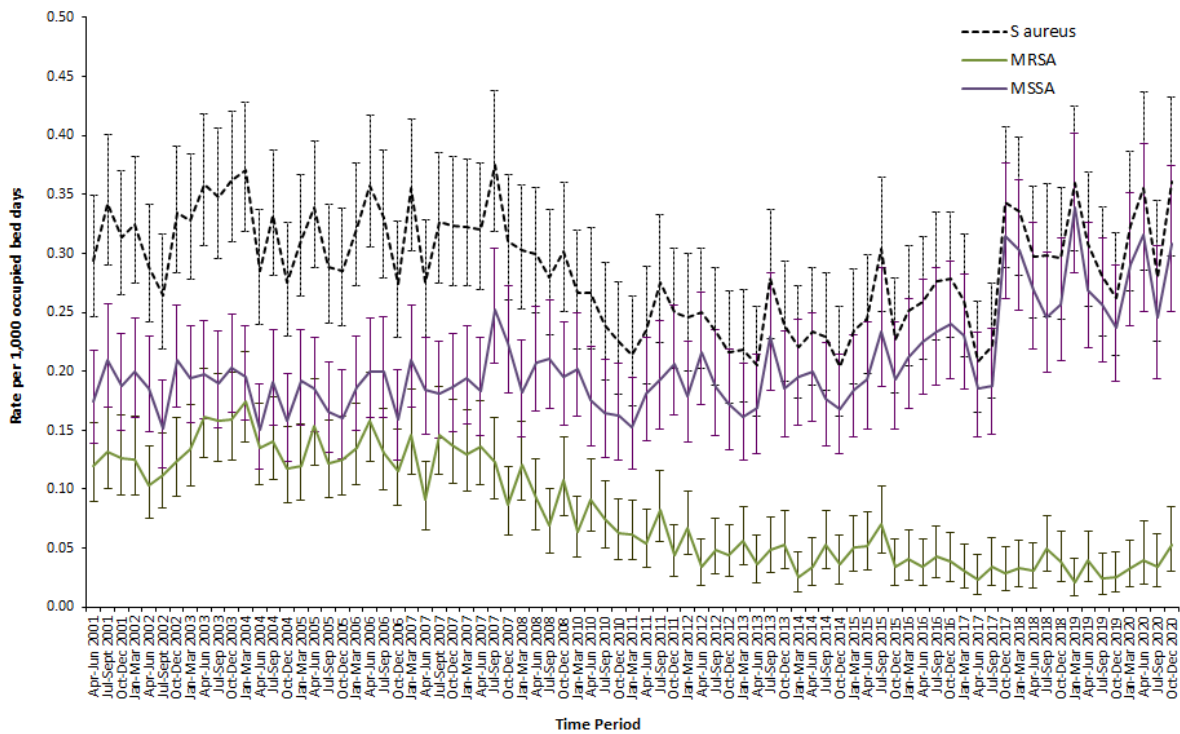


Figure 1: MSSA, MRSA and *S. aureus* rates in Northern Ireland by quarter, with 95% confidence intervals, April 2001 – December 2020 (see Appendix 3)

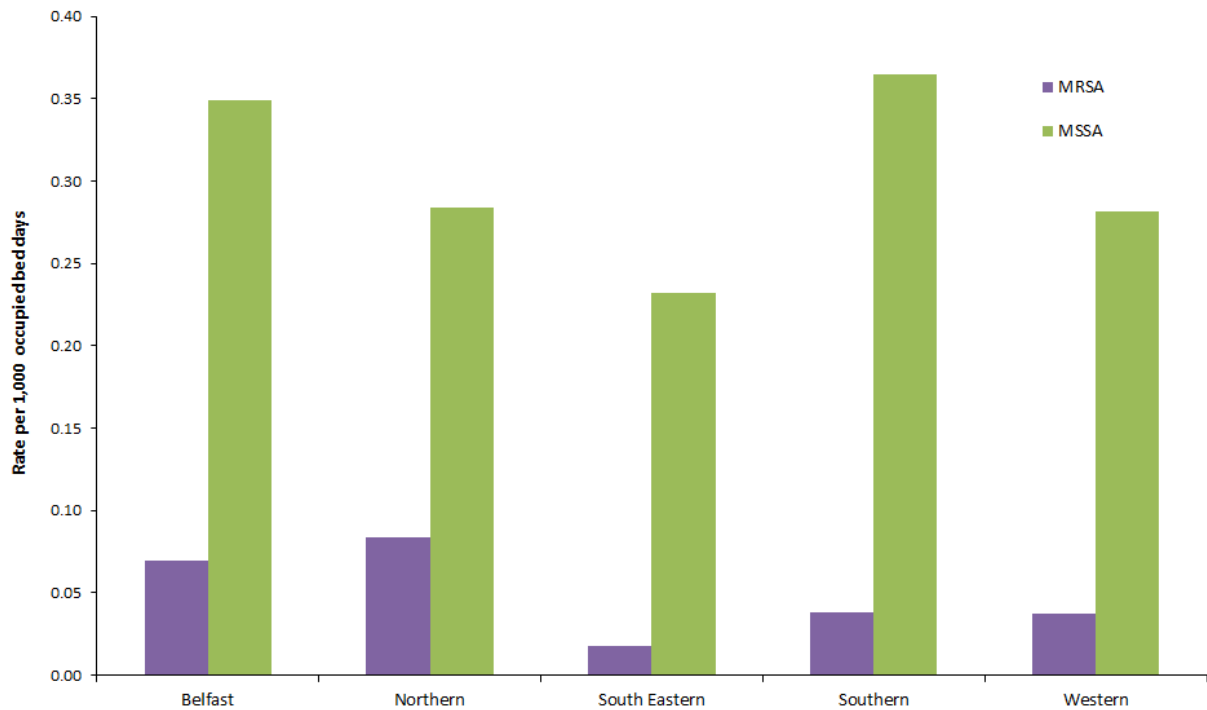


Figure 2: MRSA and MSSA rates per 1,000 occupied bed days, by HSCT, Oct – Dec 2020.

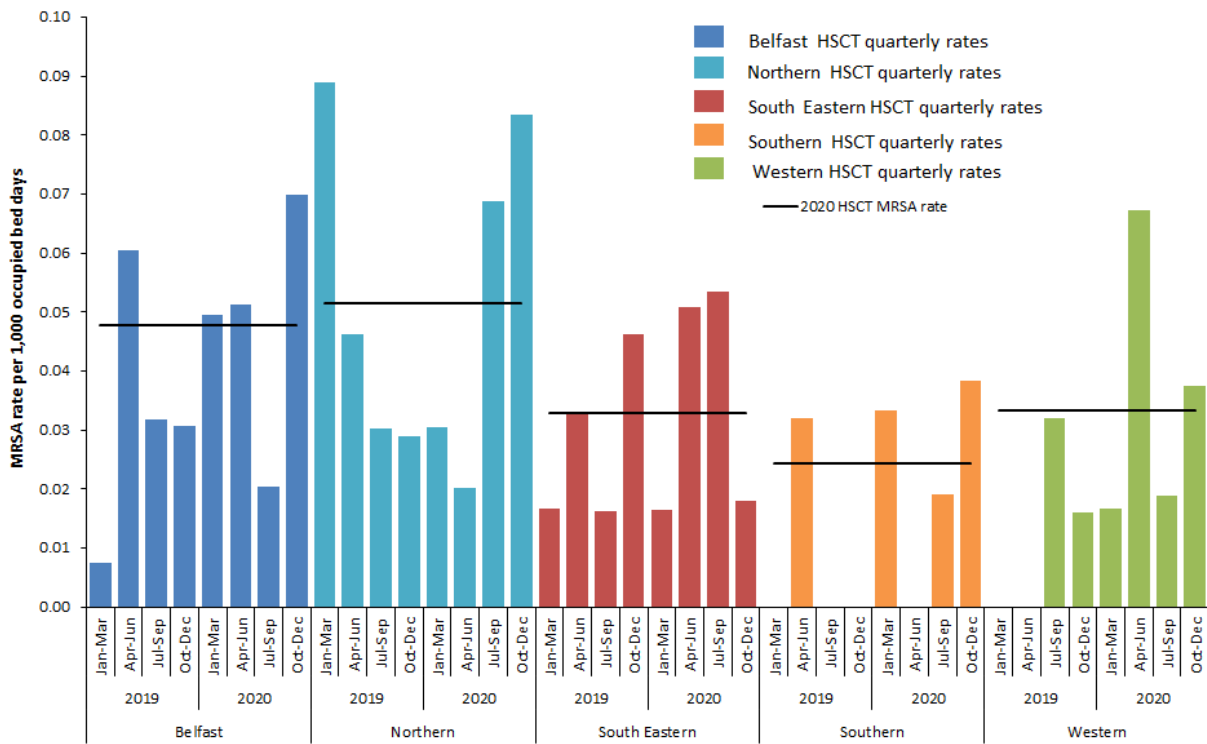


Figure 3: MRSA quarterly rate Jan 2019 – Dec 2020, by HSCT, with 2020 HSCT MRSA rate

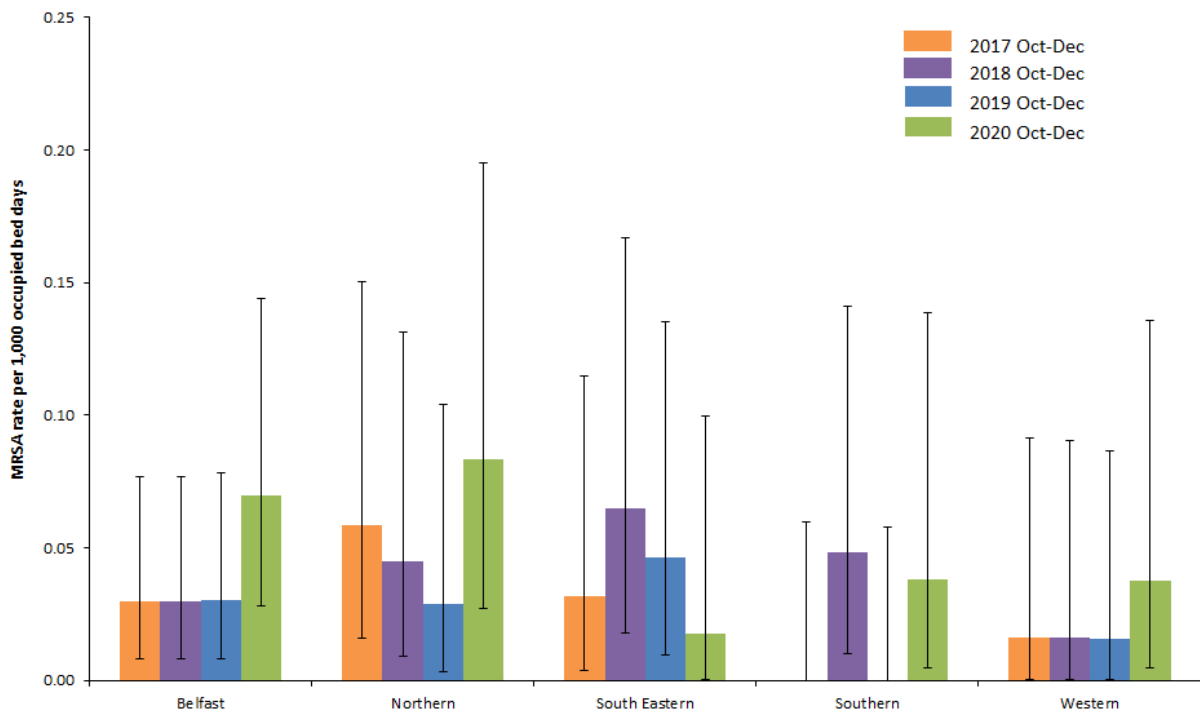


Figure 4: MRSA rate during Oct - Dec, by HSCT, from 2017–2020, with 95% confidence intervals

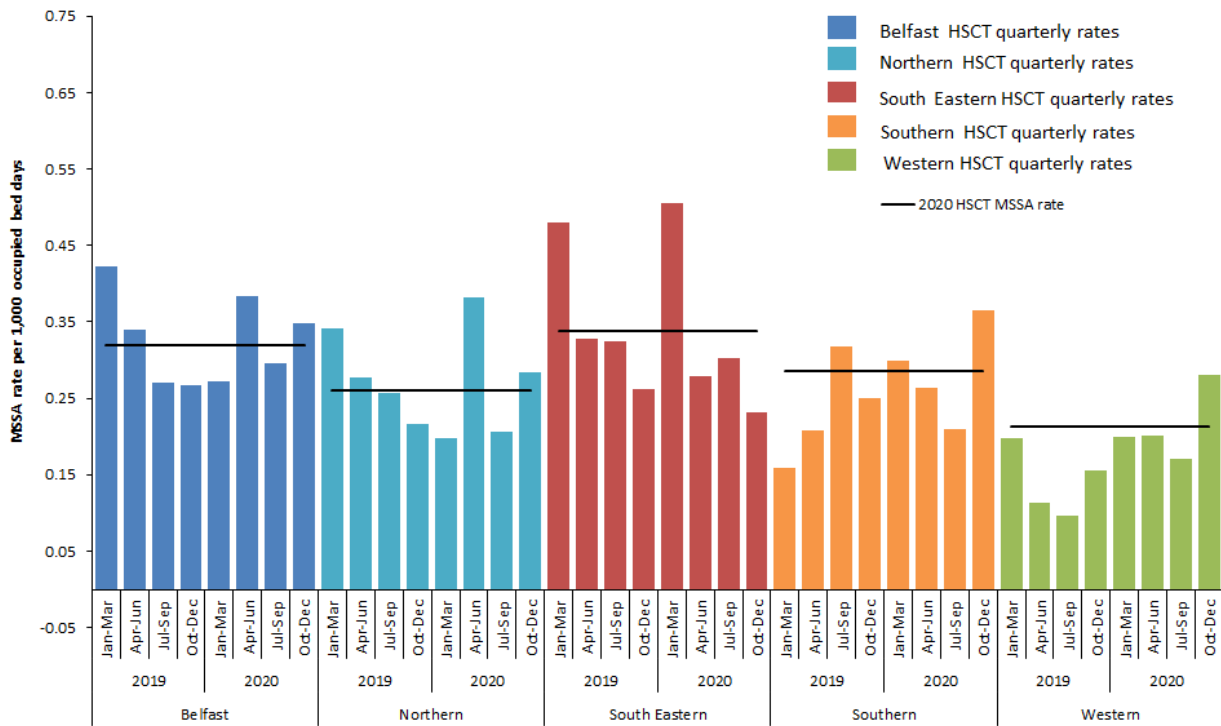


Figure 5: MSSA quarterly rate Jan 2019 – Dec 2020, by HSCT, with 2020 HSCT MSSA rate

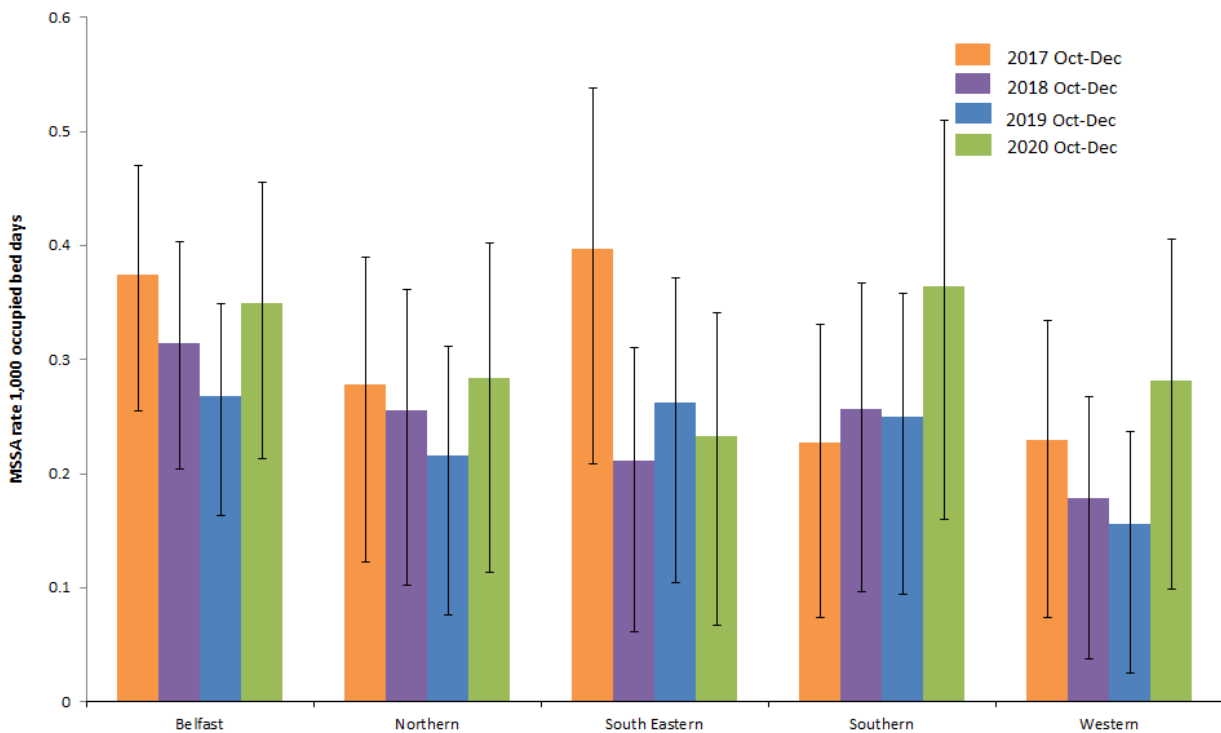


Figure 6: MSSA rate during Oct - Dec, by HSCT, from 2017–2020, with 95% confidence intervals.

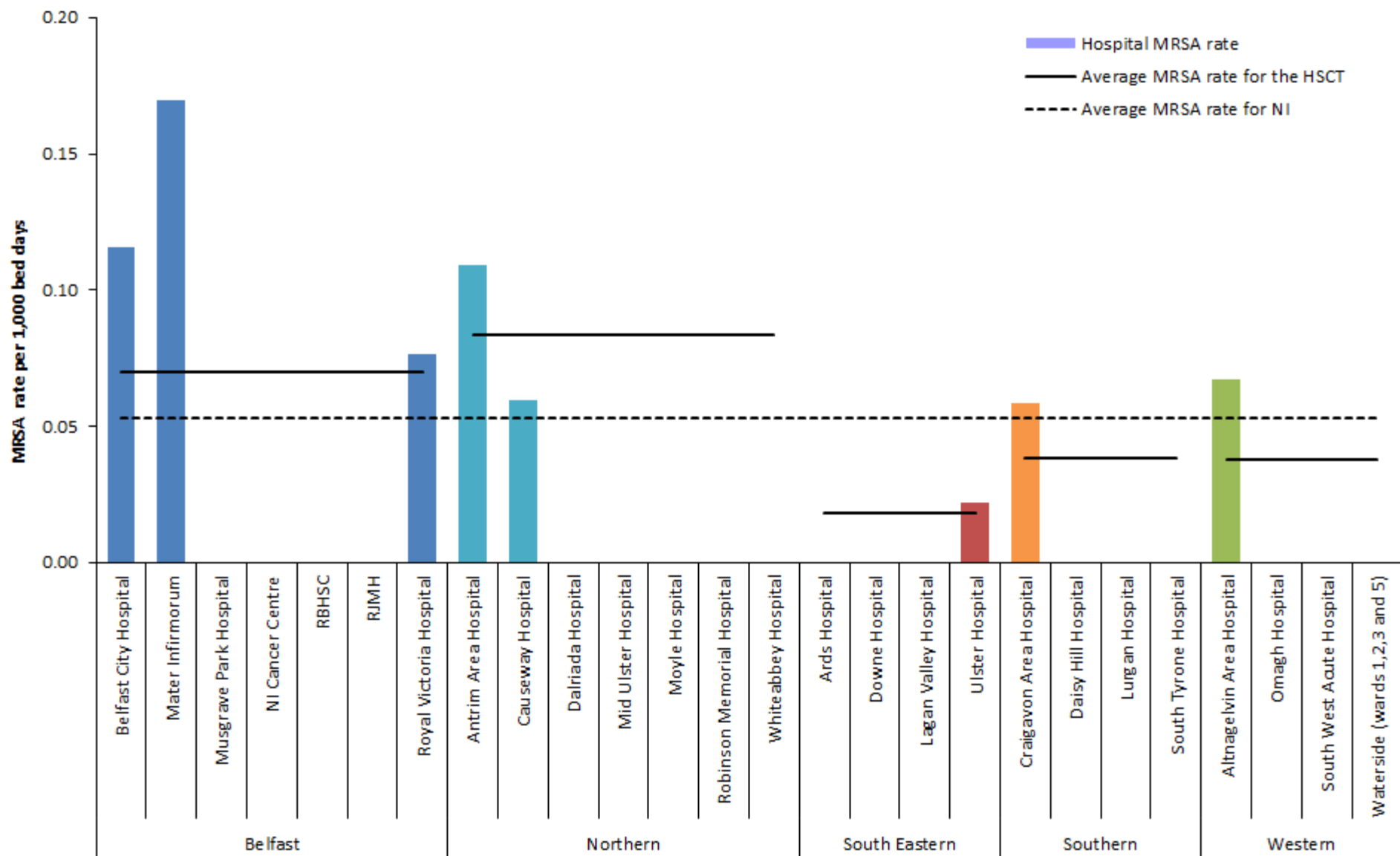


Figure 7: Rates of MRSA, October-December 2020 by individual hospitals, (gaps represent zero episodes), compared to October-December 2020 average rates for Northern Ireland and HSCTs

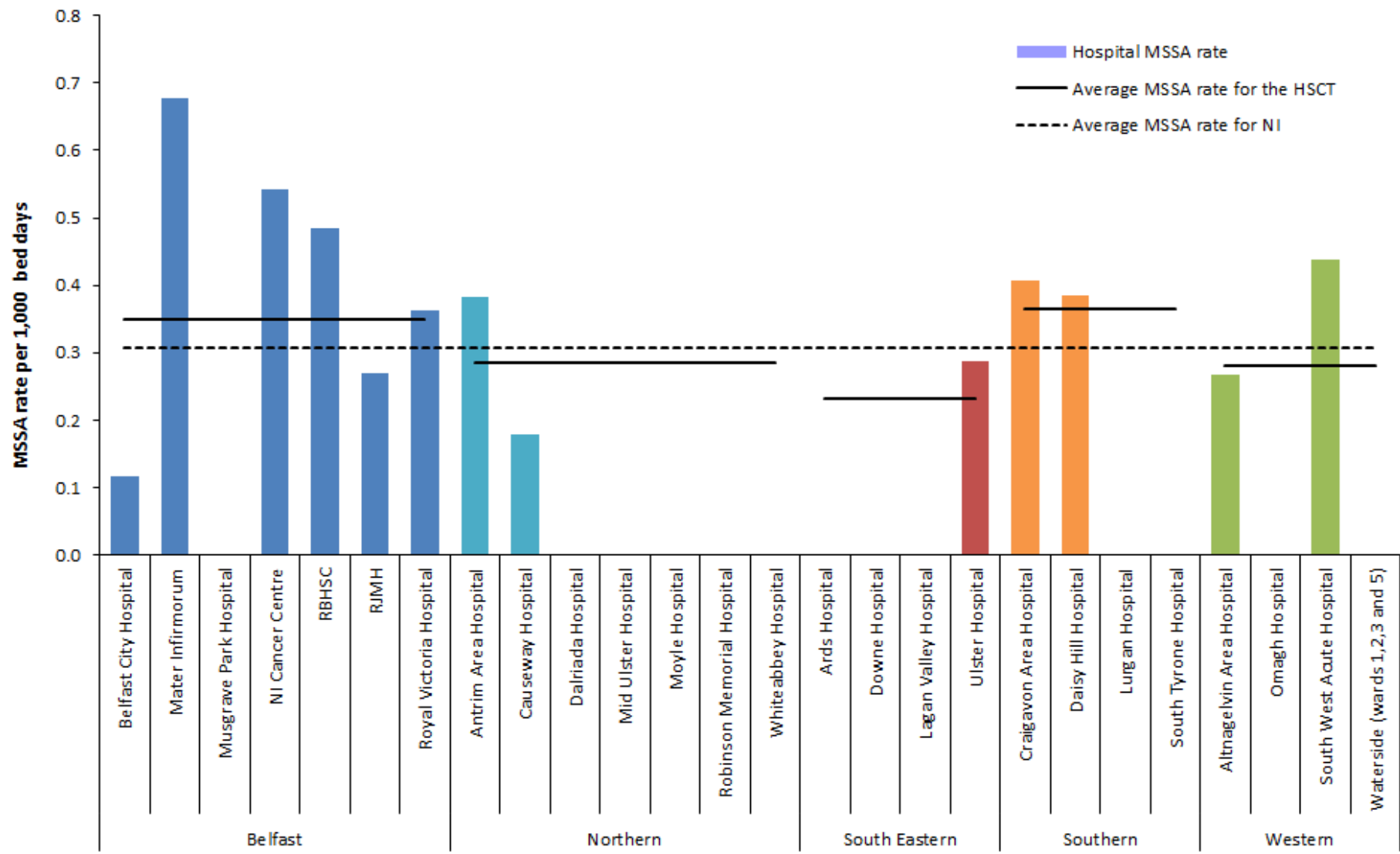


Figure 8: Rates of MSSA, October-December 2020 by individual hospitals, (gaps represent zero episodes), compared to October-December 2020 average rates for Northern Ireland and HSCT

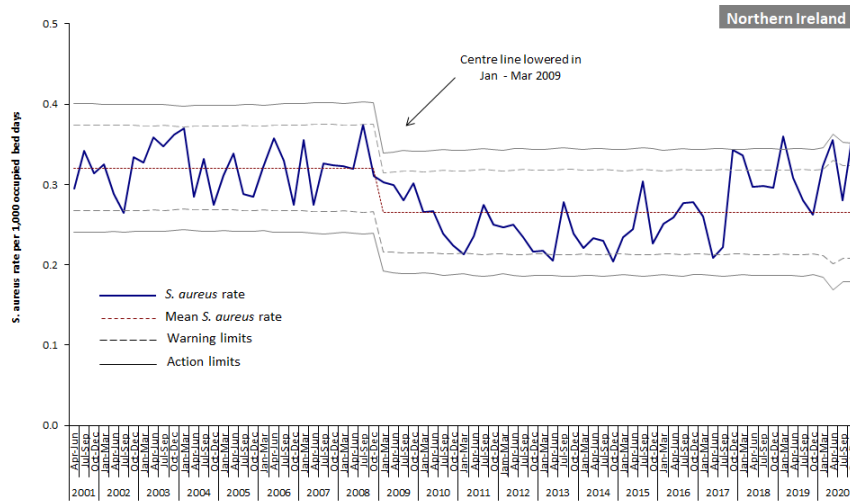


Figure 9a: Statistical process control chart for quarterly *S. aureus* rates in Northern Ireland

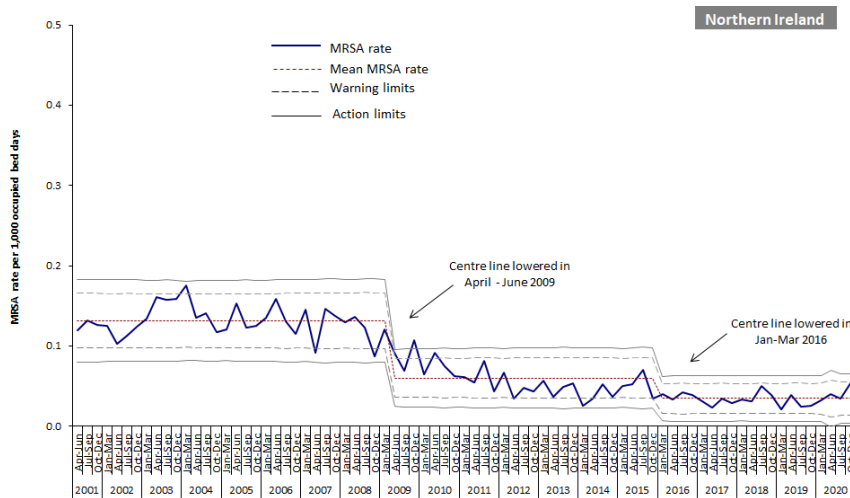


Figure 9b: Statistical process control chart for quarterly MRSA rates in Northern Ireland

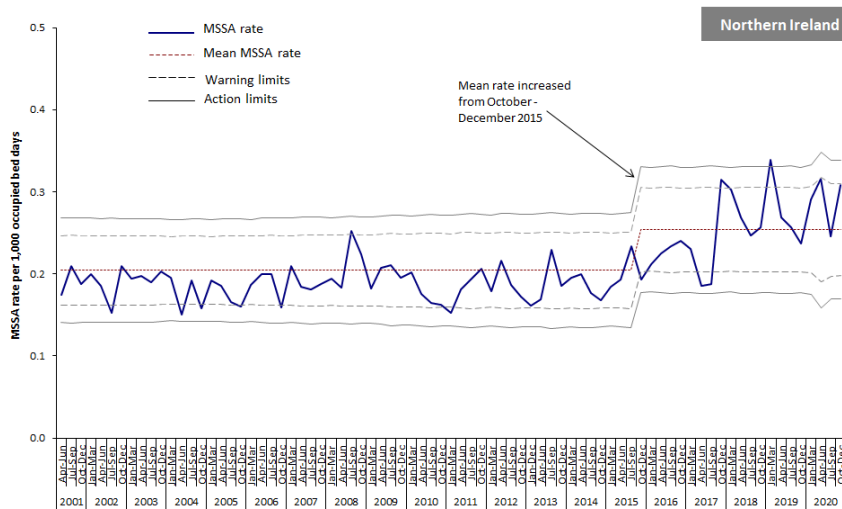


Figure 9c: Statistical process control chart for quarterly MSSA rates in Northern Ireland

Appendix 1

Table 1: Quarterly rate of MRSA patient episodes, by hospital, Jan – Dec 2020

Hospital	Jan - Mar 2020	Apr - Jun 2020	Jul - Sep 2020	Oct - Dec 2020
Belfast City Hospital	0.160	0.000	0.000	0.116
Mater Infirmorum	0.000	0.000	0.089	0.170
Musgrave Park Hospital	0.000	0.000	0.000	0.000
NICCO	0.000	0.241	0.000	0.000
RBHSC	0.000	0.000	0.000	0.000
RJMH	0.000	0.173	0.000	0.000
Royal Group of Hospitals	0.039	0.047	0.020	0.076
Belfast Health & Social Care Trust	0.050	0.051	0.020	0.070
Antrim Area Hospital	0.051	0.000	0.082	0.109
Causeway Hospital	0.000	0.082	0.063	0.060
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	0.030	0.020	0.069	0.084
Ards Hospital	0.000	0.000	0.000	0.000
Downe Hospital	0.000	0.000	0.000	0.000
Lagan Valley Hospital	0.000	0.000	0.000	0.000
Ulster Hospital	0.020	0.065	0.065	0.022
South Eastern Health & Social Care Trust	0.016	0.051	0.053	0.018
Craigavon Area Hospital	0.055	0.000	0.029	0.058
Daisy Hill Hospital	0.000	0.000	0.000	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	0.033	0.000	0.019	0.038
Altnagelvin Area Hospital	0.000	0.040	0.034	0.067
Omagh Hospital	0.000	0.000	0.000	0.000
South West Acute Hospital	0.059	0.156	0.000	0.000
Waterside Hospital	0.000	0.000	0.000	0.000
Western Health & Social Care Trust	0.017	0.067	0.019	0.038
NI TOTAL	0.033	0.039	0.035	0.053

Table 2: Quarterly MRSA patient episodes, by HSCT, Jan – Dec 2020

Trust	Jan - Mar 2020 Episodes	Apr - Jun 2020 Episodes	Jul - Sep 2020 Episodes	Oct - Dec 2020 Episodes
Belfast Health & Social Care Trust	6	4	2	7
Northern Health & Social Care Trust	2	1	4	5
South Eastern Health & Social Care Trust	1	2	3	1
Southern Health & Social Care Trust	2	0	1	2
Western Health & Social Care Trust	1	3	1	2
NI TOTAL	12	10	11	17

Appendix 1

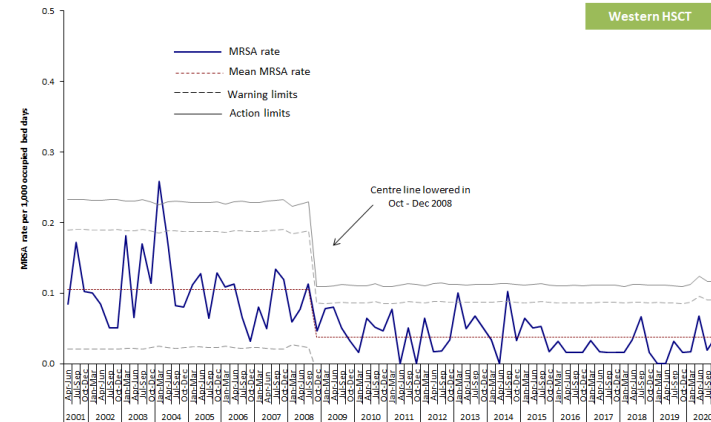
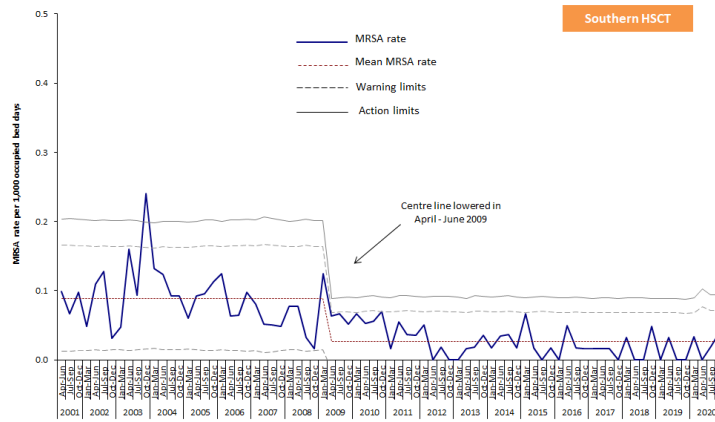
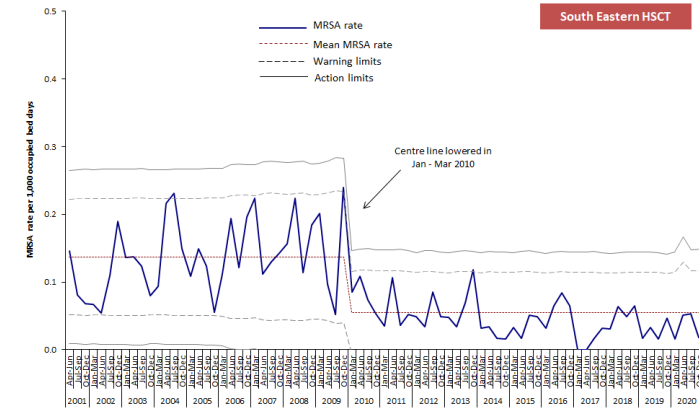
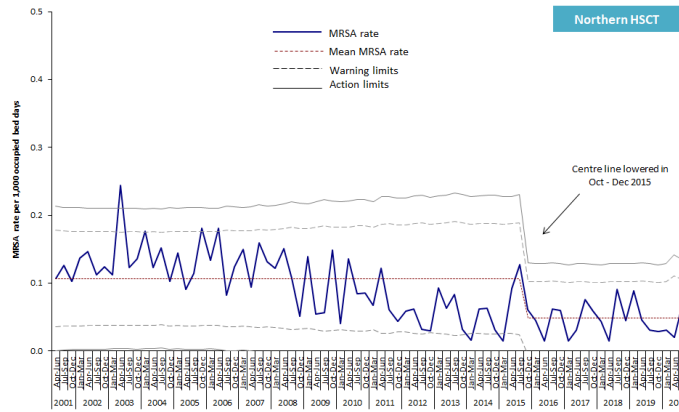
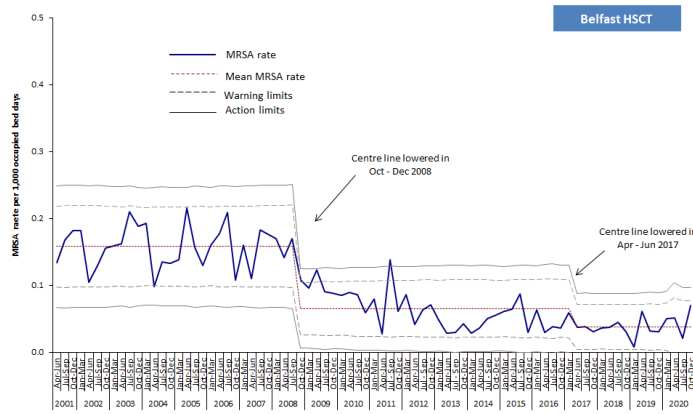
Table 3: Quarterly rate of MSSA patient episodes, by hospital, Jan – Dec 2020

Hospital	Jan - Mar 2020	Apr - Jun 2020	Jul - Sep 2020	Oct - Dec 2020
Belfast City Hospital	0.120	0.193	0.301	0.116
Mater Infirmorum	0.673	0.881	0.536	0.678
Musgrave Park Hospital	0.068	0.000	0.199	0.000
NICCO	0.212	0.241	0.292	0.542
RBHSC	0.151	1.488	0.495	0.484
RJMH	0.286	0.173	0.286	0.269
Royal Group of Hospitals	0.332	0.303	0.239	0.362
Belfast Health & Social Care Trust	0.273	0.384	0.296	0.349
Antrim Area Hospital	0.306	0.549	0.245	0.382
Causeway Hospital	0.059	0.163	0.189	0.179
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	0.197	0.382	0.206	0.284
Ards Hospital	0.000	0.000	0.000	0.000
Downe Hospital	0.273	0.000	0.316	0.000
Lagan Valley Hospital	0.290	0.000	0.173	0.000
Ulster Hospital	0.571	0.358	0.327	0.288
South Eastern Health & Social Care Trust	0.506	0.280	0.302	0.232
Craigavon Area Hospital	0.439	0.376	0.314	0.408
Daisy Hill Hospital	0.124	0.092	0.000	0.384
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	0.300	0.264	0.210	0.364
Altnagelvin Area Hospital	0.236	0.200	0.170	0.268
Omagh Hospital	0.000	0.516	0.000	0.000
South West Acute Hospital	0.235	0.234	0.243	0.439
Waterside Hospital	0.000	0.000	0.000	0.000
Western Health & Social Care Trust	0.200	0.202	0.170	0.281
NI TOTAL	0.291	0.316	0.245	0.308

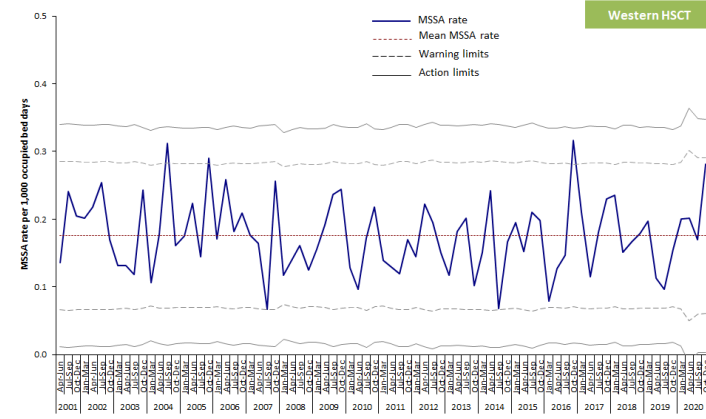
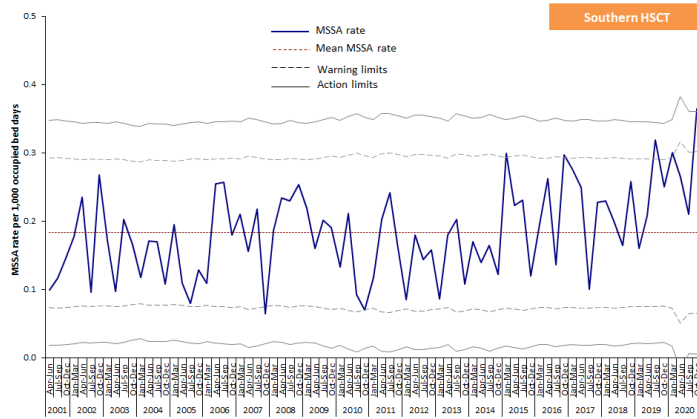
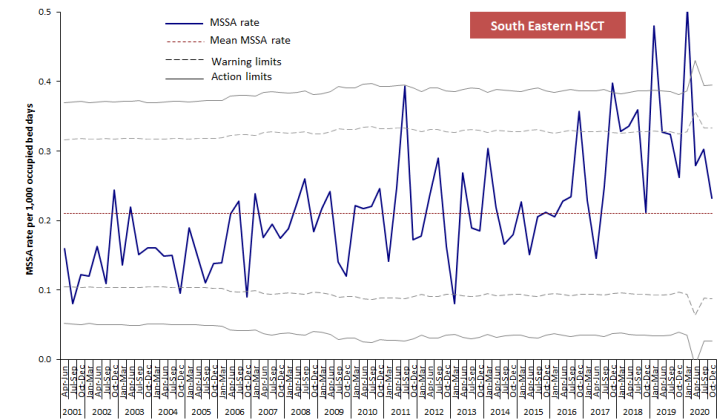
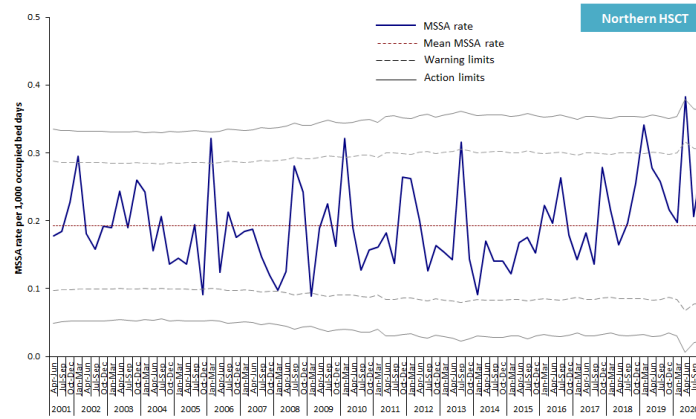
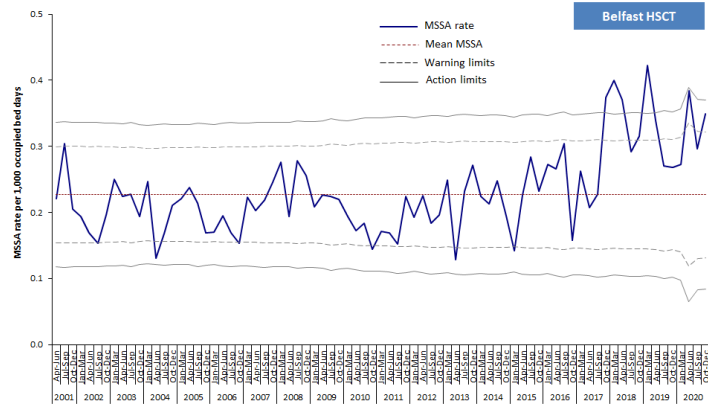
Table 4: Quarterly MSSA patient episodes, by HSCT, Jan – Dec 2020

Trust	Jan - Mar 2020 Episodes	Apr - Jun 2020 Episodes	Jul - Sep 2020 Episodes	Oct - Dec 2020 Episodes
Belfast Health & Social Care Trust	33	30	29	35
Northern Health & Social Care Trust	13	19	12	17
South Eastern Health & Social Care Trust	31	11	17	13
Southern Health & Social Care Trust	18	11	11	19
Western Health & Social Care Trust	12	9	9	15
NI TOTAL	107	80	78	99

Appendix 2: Trends in MRSA rates, by HSCT and quarter, April 2001 – December 2020



Appendix 2: Trends in MSSA rates, by HSCT and quarter, April 2001 – December 2020



Appendix 3

Table 3: MSSA, MRSA and total *S. aureus* patient episode rates, and the percentage of *S. aureus* reported as MRSA, in Northern Ireland, Jan 2011 – Dec 2020.

Quarter	MSSA rate	MRSA rate	All <i>S. aureus</i> rate	% MRSA
Jan-Mar 2011	0.152	0.061	0.214	28.5
Apr-Jun 2011	0.181	0.054	0.235	23.0
Jul-Sep 2011	0.193	0.082	0.275	29.8
Oct-Dec 2011	0.206	0.044	0.250	17.6
Jan-Mar 2012	0.179	0.067	0.246	27.3
Apr-Jun 2012	0.216	0.034	0.250	13.6
Jul-Sep 2012	0.186	0.048	0.234	20.5
Oct-Dec 2012	0.173	0.044	0.216	20.4
Jan-Mar 2013	0.162	0.056	0.218	25.7
Apr-Jun 2013	0.169	0.036	0.205	17.6
Jul-Sep 2013	0.230	0.049	0.278	17.6
Oct-Dec 2013	0.188	0.053	0.241	22.0
Jan-Mar 2014	0.195	0.026	0.221	11.8
Apr-Jun 2014	0.200	0.034	0.234	14.5
Jul-Sep 2014	0.177	0.053	0.229	23.1
Oct-Dec 2014	0.168	0.036	0.204	17.6
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	0.308	0.053	0.361	14.7

Appendix 4

Table 4: MRSA patient episodes for each financial year, by HSCT

		Financial Year													
HSCT	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
Belfast	115	109	86	62	48	46	32	18	28	34	22	19	16	22	
Northern	47	42	35	22	27	19	14	12	11	21	10	14	16	9	
South Eastern	49	34	46	28	15	14	13	15	7	9	13	5	12	7	
Southern	19	14	16	15	11	10	1	5	9	2	6	4	3	4	
Western	18	22	20	11	15	7	10	12	12	9	5	4	7	4	
Northern Ireland	248	221	203	138	116	96	70	62	67	75	56	46	54	46	

Table 5: MSSA patient episodes for each financial year, by HSCT

		Financial Year													
HSCT	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	
Belfast	130	161	157	138	103	109	115	121	112	142	134	163	189	147	
Northern	60	46	57	66	46	57	42	43	37	47	52	55	64	63	
South Eastern	51	46	56	43	46	57	54	57	50	47	64	70	85	88	
Southern	56	38	59	40	28	38	32	38	42	45	59	49	48	67	
Western	51	37	37	49	39	34	40	38	40	38	50	47	42	35	
Northern Ireland	348	328	366	336	262	295	283	297	281	319	359	384	428	400	