

S. aureus bacteraemia surveillance

Quarterly report

July – September 2019

Key points

- Overall *S. aureus* (SA) rates for Northern Ireland (MRSA plus MSSA bacteraemias) decreased by approximately 9% during July - September 2019 compared to April – June 2019.
- MRSA rates decreased by approximately 39% during July - September 2019 compared to April – June 2019.
- MRSA reports during 2018/19 increased by 17% compared to 2017/18.
- MSSA rates decreased by approximately 5% during July - September 2019 compared to April – June 2019.
- MSSA reports during 2018/19 increased by 12% compared to 2017/18.

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

S. aureus bacteraemia surveillance

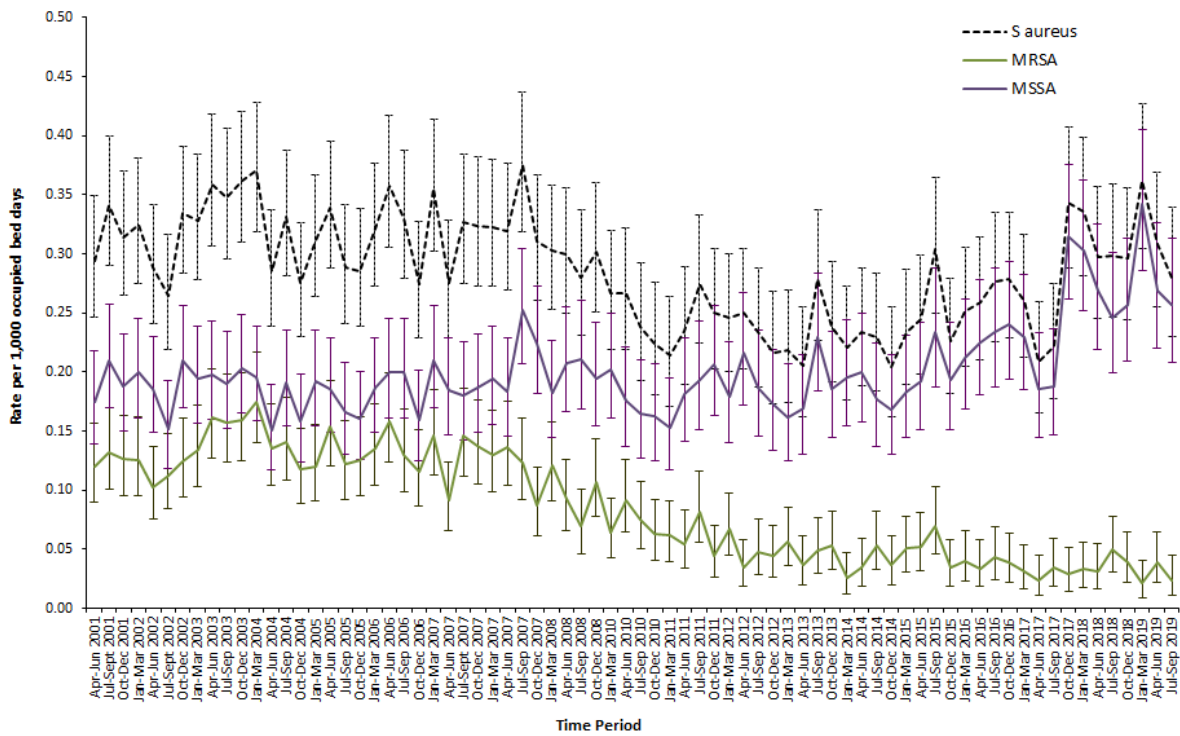


Figure 1: MSSA, MRSA and *S. aureus* rates in Northern Ireland by quarter, with 95% confidence intervals, April 2001 – September 2019 (see Appendix 3)

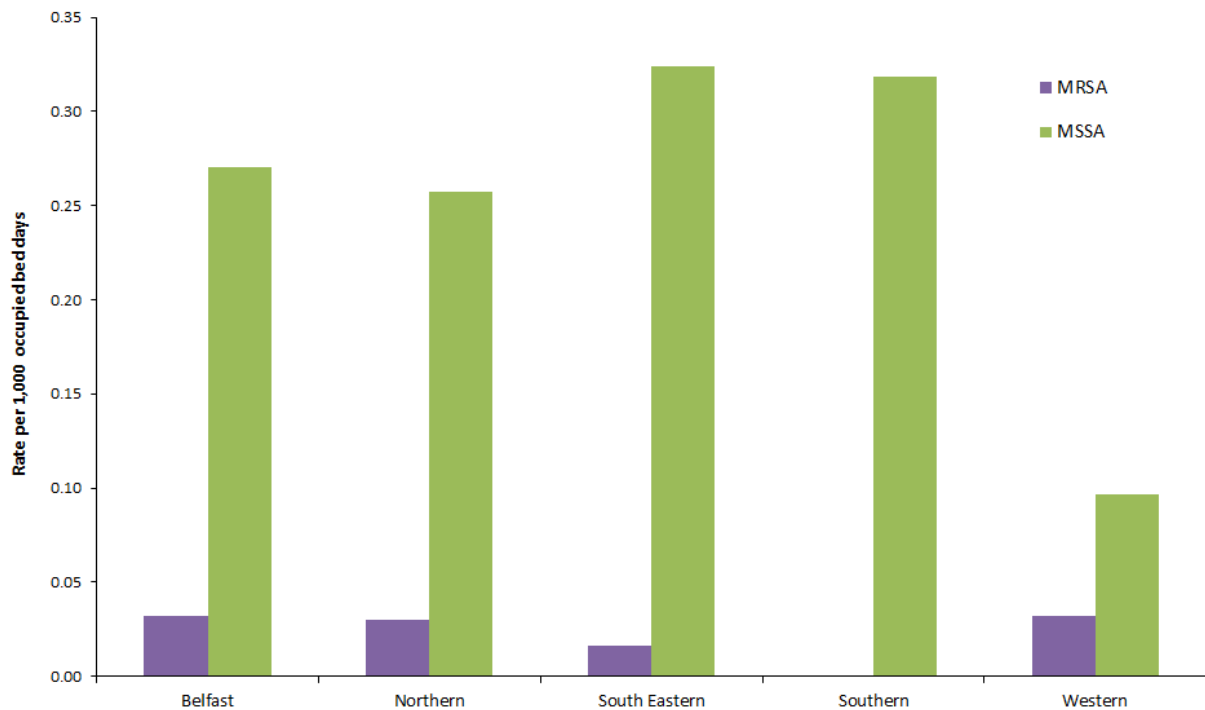


Figure 2: MRSA and MSSA rates per 1,000 occupied bed days, by HSCT, July-Sept 2019.

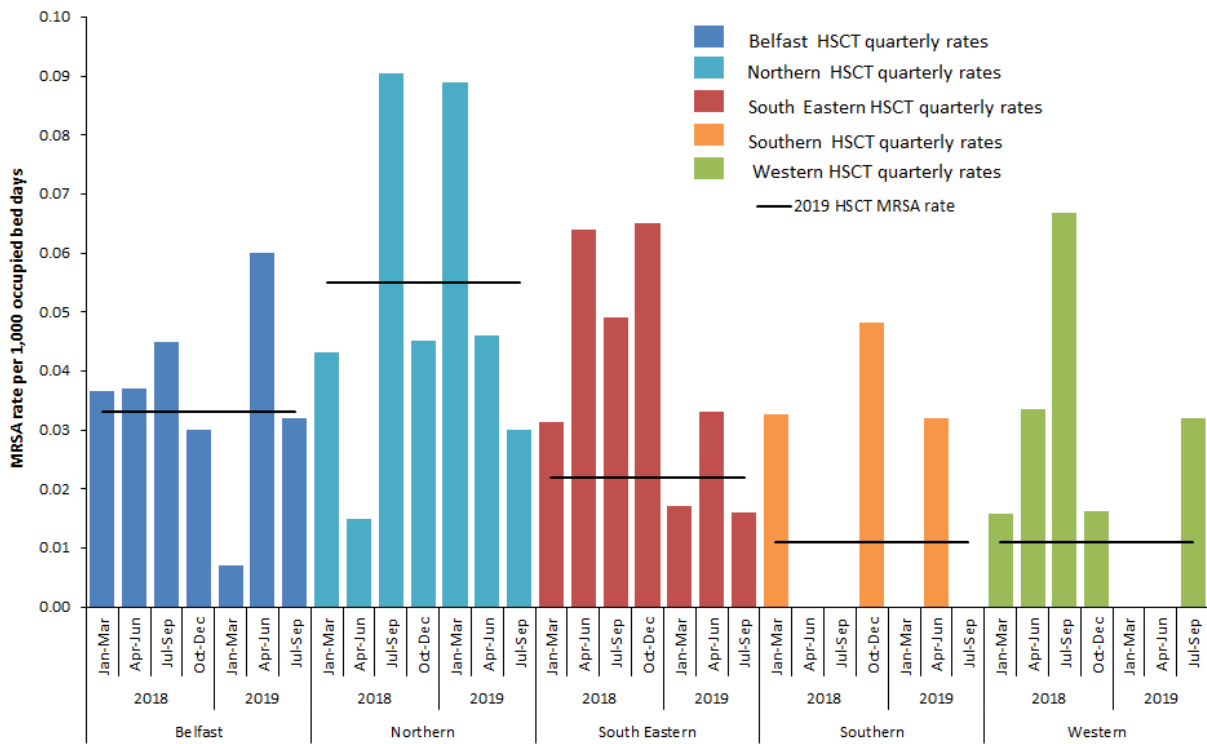


Figure 3: MRSA quarterly rate Jan 2018 – Sept 2019, by HSCT, with 2019 HSCT MRSA rate

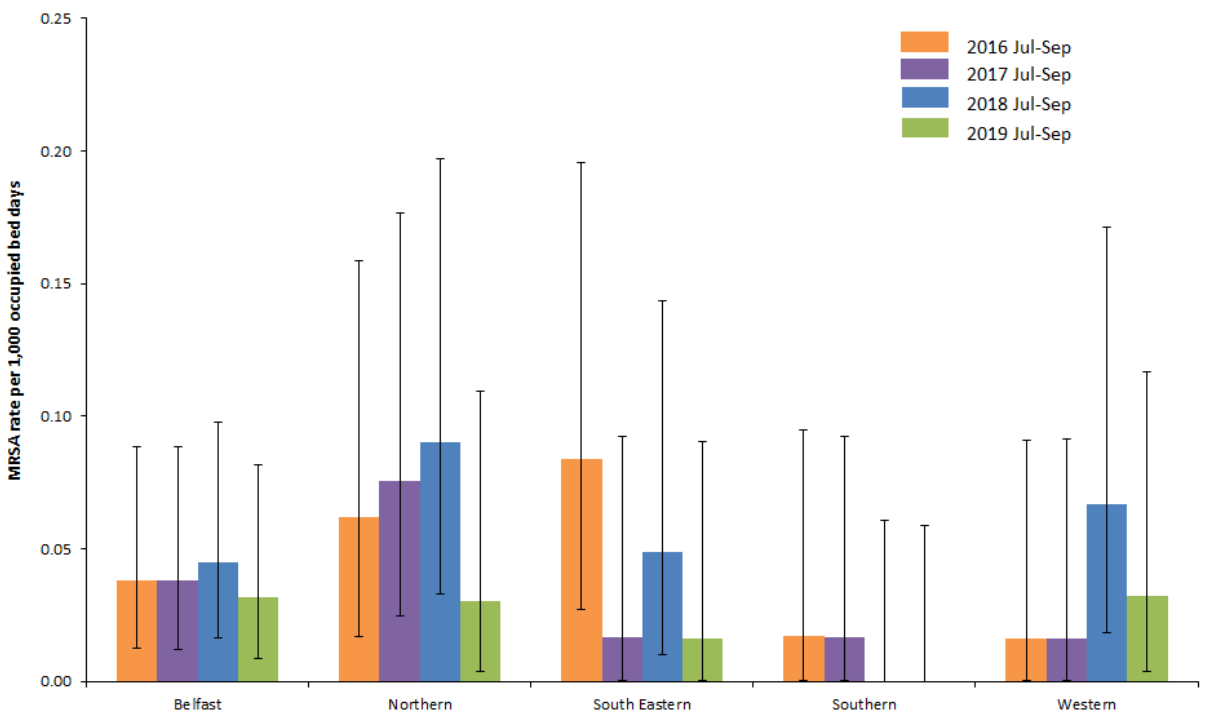


Figure 4: MRSA rate during April-June, by HSCT, from 2016–2019, with 95% confidence intervals

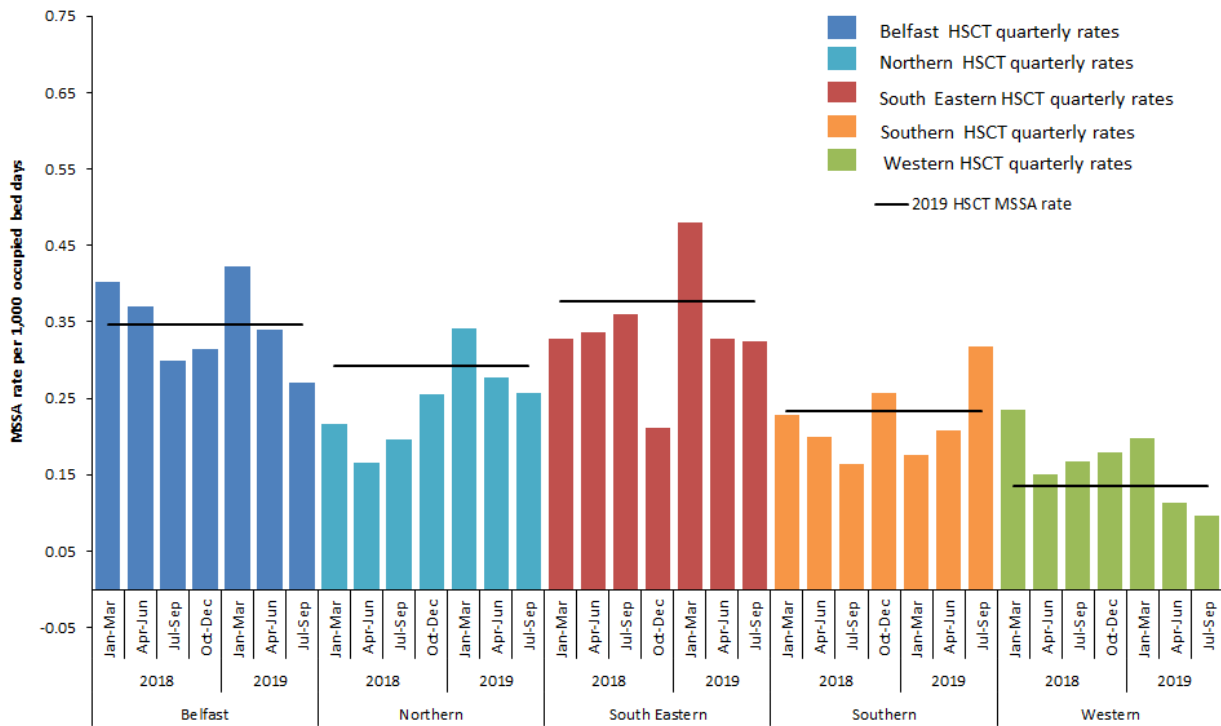


Figure 5: MSA quarterly rate Jan 2018 – Sept 2019, by HSCT, with 2019 HSCT MSA rate

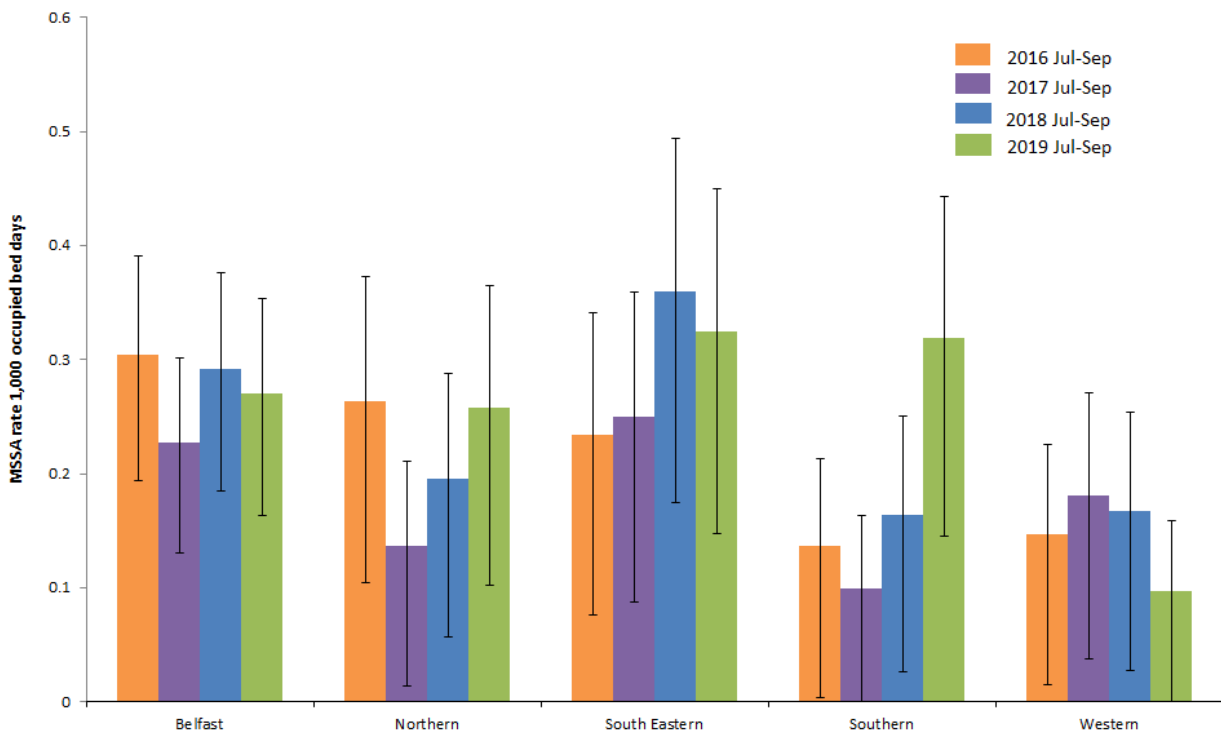


Figure 6: MSA rate during July - Sept, by HSCT, from 2016–2019, with 95% confidence intervals.

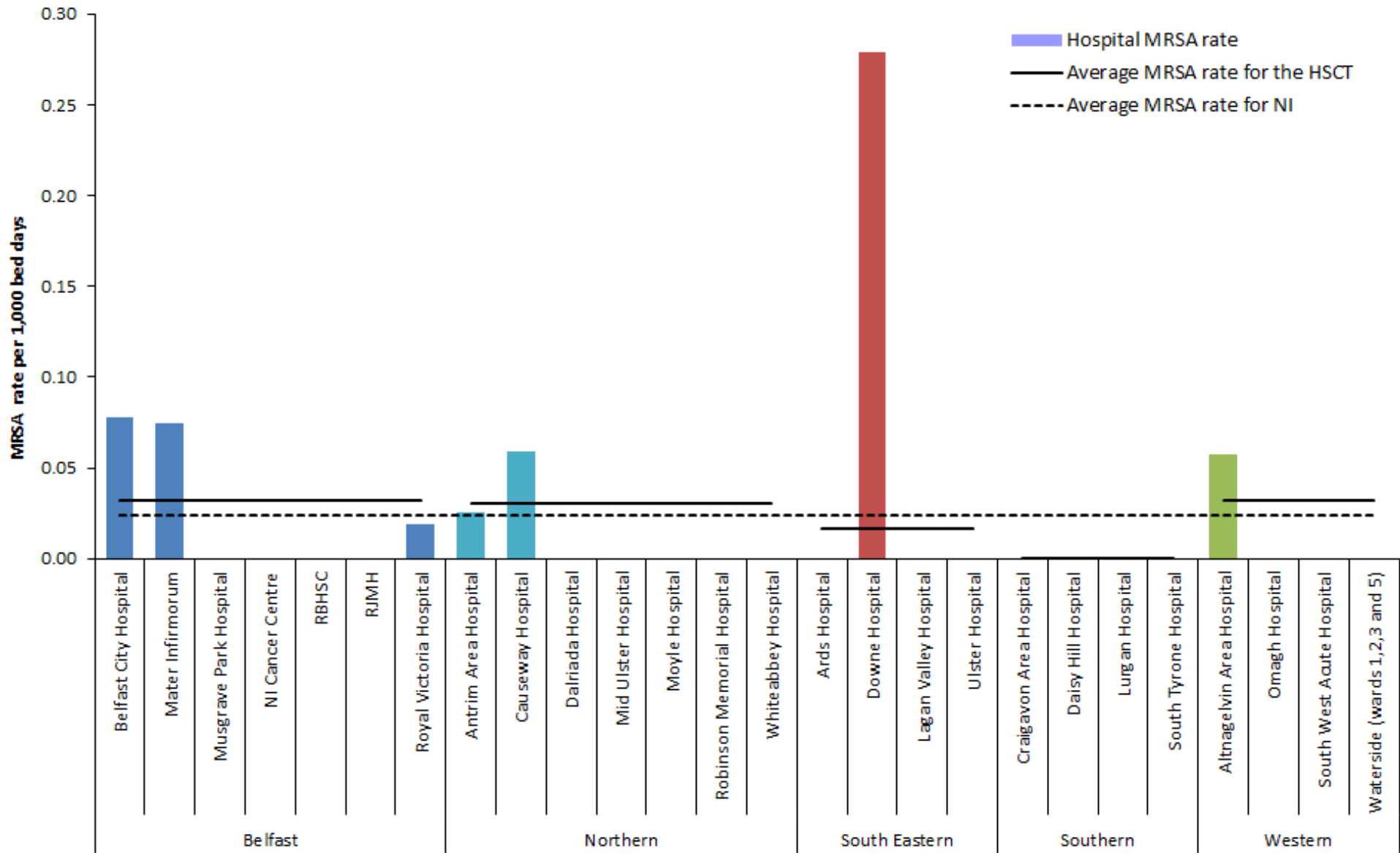


Figure 7: Rates of MRSA, July-September 2019 by individual hospitals, (gaps represent zero episodes), compared to July-September 2019 average rates for Northern Ireland and HSCTs

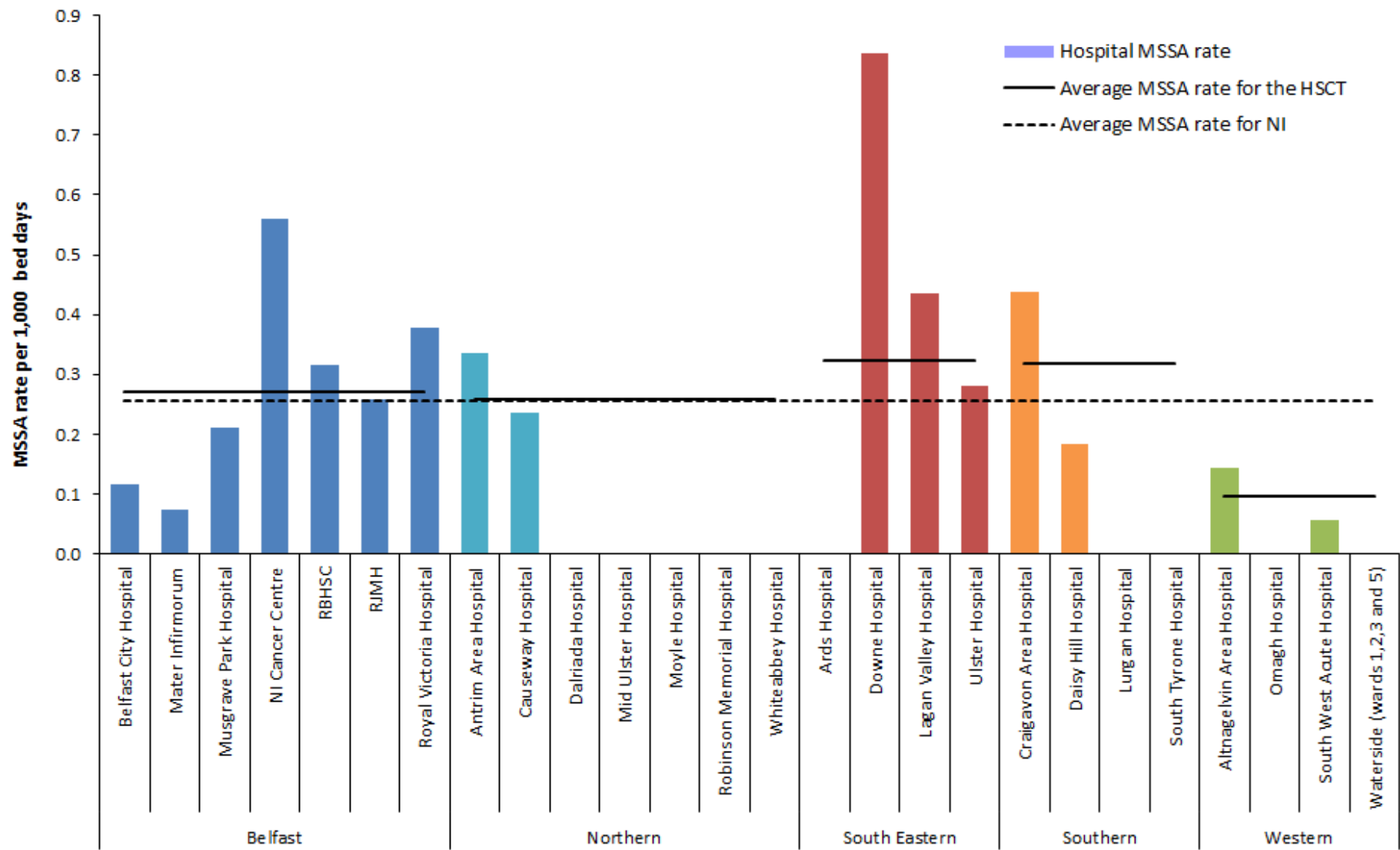


Figure 8: Rates of MSA, July-September 2019 by individual hospitals, (gaps represent zero episodes), compared to July-September 2019 average rates for Northern Ireland and HSCT

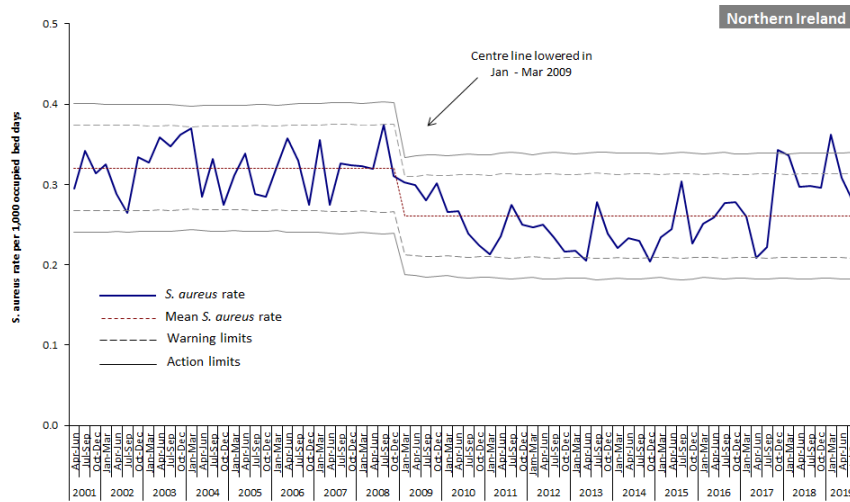


Figure 9a: Statistical process control chart for quarterly *S. aureus* rates in Northern Ireland

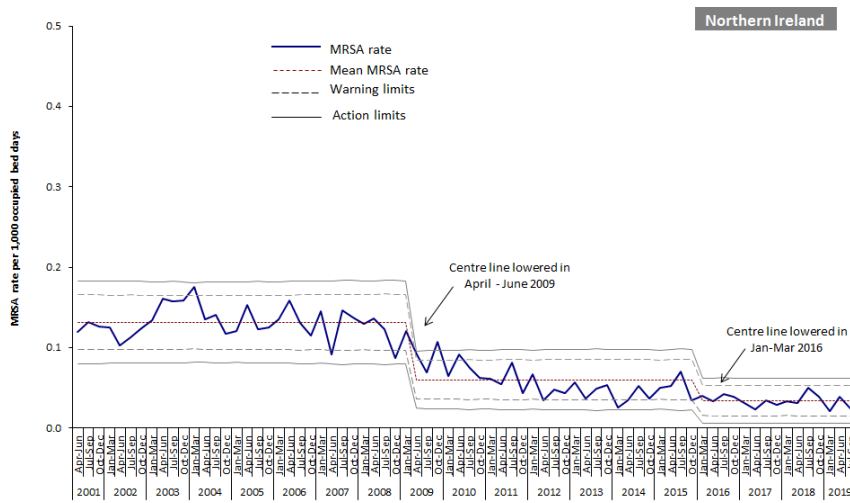


Figure 9b: Statistical process control chart for quarterly MRSA rates in Northern Ireland

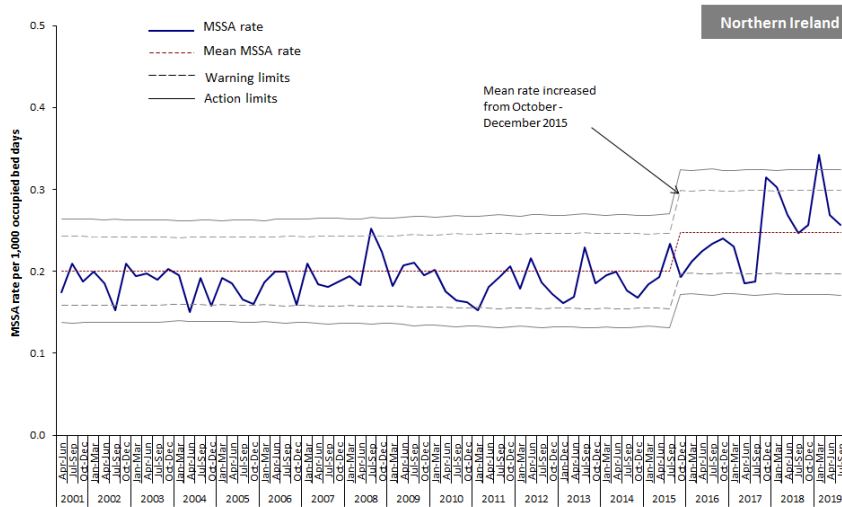


Figure 9c: Statistical process control chart for quarterly MSSA rates in Northern Ireland

Appendix 1

Table 1: Quarterly rates of MRSA patient episodes, by hospital, Oct 2018 – Sept 2019.

Hospital	Oct - Dec 2018	Jan - Mar 2019	Apr - Jun 2019	Jul - Sep 2019
Belfast City Hospital	0.039	0.000	0.073	0.078
Mater Infirmorum	0.000	0.000	0.119	0.075
Musgrave Park Hospital	0.000	0.000	0.000	0.000
NICCO	0.000	0.000	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	0.056	0.018	0.074	0.019
Belfast Health & Social Care Trust	0.030	0.007	0.059	0.032
Antrim Area Hospital	0.077	0.075	0.052	0.026
Causeway Hospital	0.000	0.178	0.059	0.059
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	0.045	0.089	0.045	0.030
Ards Hospital	0.000	0.000	0.000	0.000
Downe Hospital	0.000	0.000	0.000	0.279
Lagan Valley Hospital	0.141	0.000	0.000	0.000
Ulster Hospital	0.061	0.021	0.041	0.000
South Eastern Health & Social Care Trust	0.065	0.017	0.032	0.016
Craigavon Area Hospital	0.052	0.000	0.054	0.000
Daisy Hill Hospital	0.062	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	0.048	0.000	0.033	0.000
Altnagelvin Area Hospital	0.029	0.000	0.000	0.057
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	0.000	0.032
NI TOTAL	0.039	0.021	0.039	0.024

Table 2: Quarterly number of MRSA patient episodes, by Trust, Oct 2018 – Sept 2019.

Trust	Oct - Dec 2018 Episodes	Jan - Mar 2019 Episodes	Apr - Jun 2019 Episodes	Jul - Sep 2019 Episodes
Belfast Health & Social Care Trust	4	1	8	4
Northern Health & Social Care Trust	3	6	3	2
South Eastern Health & Social Care Trust	4	1	2	1
Southern Health & Social Care Trust	3	0	2	0
Western Health & Social Care Trust	1	0	0	2
NI TOTAL	15	8	15	9

Appendix 1

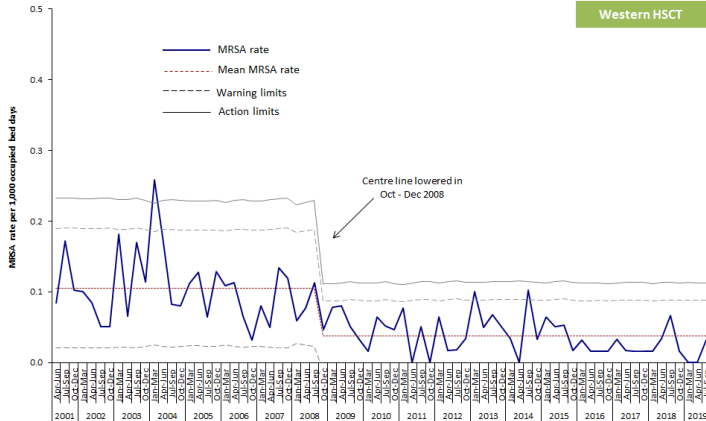
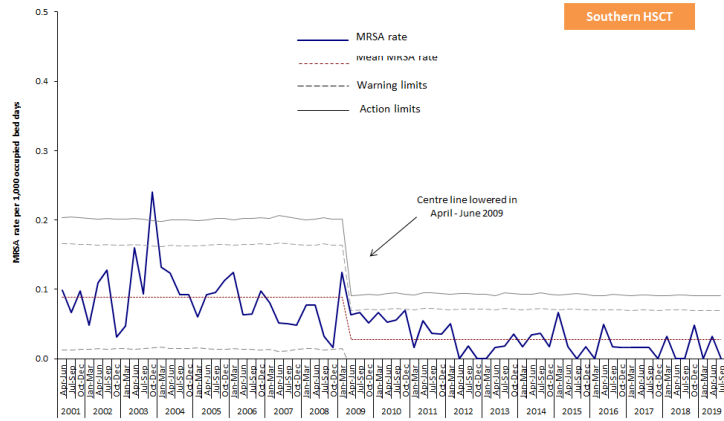
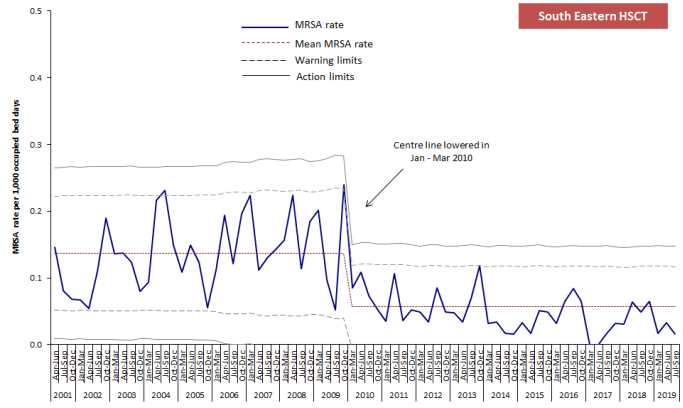
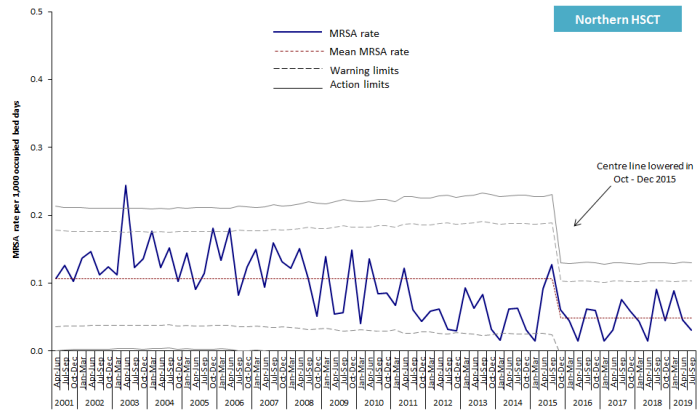
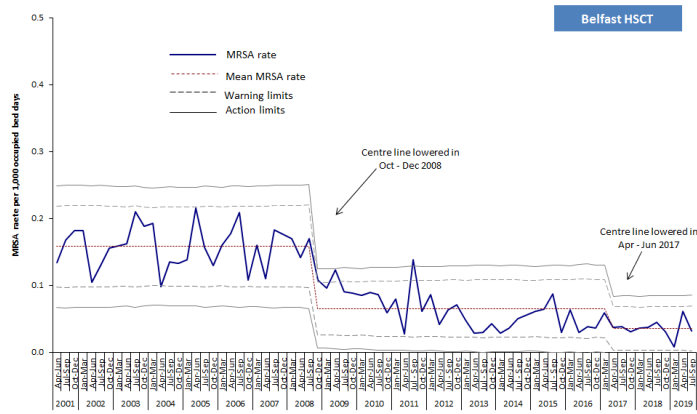
Table 3: Quarterly rates of MSSA patient episodes, by hospital, Oct 2018 – Sept 2019.

Hospital	Oct - Dec 2018	Jan - Mar 2019	Apr - Jun 2019	Jul - Sep 2019
Belfast City Hospital	0.272	0.461	0.385	0.117
Mater Infirmorum	0.162	0.376	0.221	0.075
Musgrave Park Hospital	0.196	0.000	0.065	0.210
NICCO	0.372	0.000	0.194	0.561
RBHSC	0.000	0.835	0.599	0.315
RJMH	0.000	0.280	0.270	0.257
Royal Group of Hospitals	0.502	0.551	0.428	0.378
Belfast Health & Social Care Trust	0.315	0.422	0.339	0.271
Antrim Area Hospital	0.413	0.351	0.230	0.335
Causeway Hospital	0.059	0.534	0.502	0.237
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	0.290	0.000
Northern Health & Social Care Trust	0.255	0.341	0.277	0.257
Ards Hospital	0.000	0.000	0.000	0.000
Downe Hospital	0.279	1.047	0.583	0.838
Lagan Valley Hospital	0.141	0.694	0.145	0.436
Ulster Hospital	0.224	0.418	0.345	0.281
South Eastern Health & Social Care Trust	0.212	0.480	0.328	0.324
Craigavon Area Hospital	0.182	0.206	0.233	0.437
Daisy Hill Hospital	0.555	0.182	0.241	0.182
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	0.257	0.176	0.208	0.318
Altnagelvin Area Hospital	0.289	0.204	0.085	0.143
Omagh Hospital	0.000	0.000	0.000	0.000
South West Acute Hospital	0.054	0.277	0.228	0.056
Waterside Hospital	0.000	0.000	0.000	0.000
Western Health & Social Care Trust	0.178	0.197	0.113	0.097
NI TOTAL	0.257	0.342	0.269	0.256

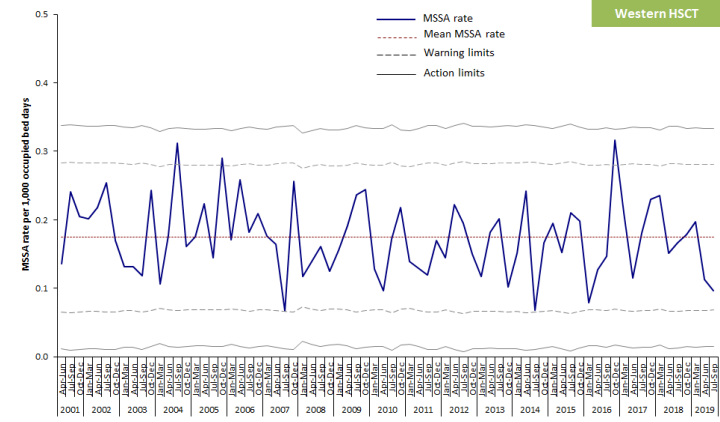
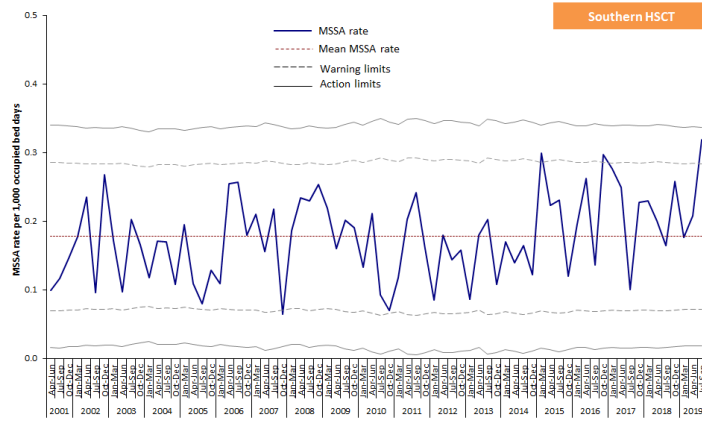
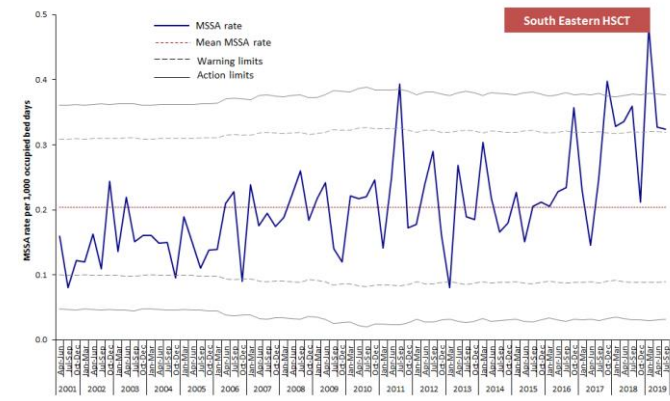
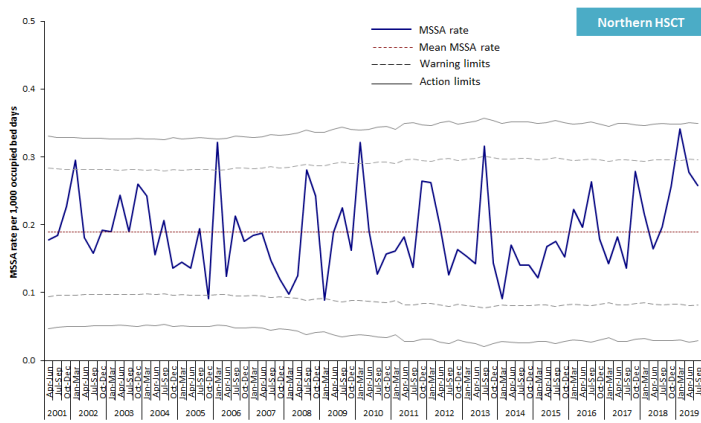
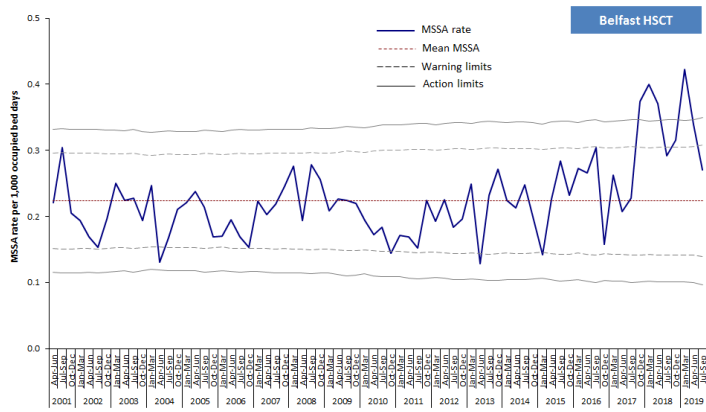
Table 4: Quarterly number of MSSA patient episodes, by Trust, Oct 2018 – Sept 2019.

Trust	Oct - Dec 2018 Episodes	Jan - Mar 2019 Episodes	Apr - Jun 2019 Episodes	Jul - Sep 2019 Episodes
Belfast Health & Social Care Trust	42	57	45	34
Northern Health & Social Care Trust	17	23	18	17
South Eastern Health & Social Care Trust	13	29	20	20
Southern Health & Social Care Trust	16	11	13	20
Western Health & Social Care Trust	11	12	7	6
NI TOTAL	99	132	103	97

Appendix 2: Trends in MRSA rates, by HSCT and quarter, April 2001 – September 2019



Appendix 2: Trends in MSSA rates, by HSCT and quarter, April 2001 – September 2019



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 2010 – Sept 2019.

Quarter	MSSA rate	MRSA rate	All <i>S. aureus</i> rate	% MRSA
Jan-Mar 2010	0.202	0.064	0.266	24.1
Apr-Jun 2010	0.175	0.091	0.267	34.1
Jul-Sep 2010	0.164	0.074	0.239	31.0
Oct-Dec 2010	0.160	0.062	0.222	27.9
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

Appendix 4

Table 6: 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
Belfast	115	109	86	62	48	46	32	18	28	34	22	19	16
Northern	47	42	35	22	27	19	14	12	11	21	10	14	16
South Eastern	49	34	46	28	15	14	13	15	7	9	13	5	12
Southern	19	14	16	15	11	10	1	5	9	2	6	4	3
Western	18	22	20	11	15	7	10	12	12	9	5	4	7
Northern Ireland	248	221	203	138	116	96	70	62	67	75	56	46	54

Table 7: 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
Belfast	130	161	157	138	103	109	115	121	112	142	134	163	189
Northern	60	46	57	66	46	57	42	43	37	47	52	55	64
South Eastern	51	46	56	43	46	57	54	57	50	47	64	70	85
Southern	56	38	59	40	28	38	32	38	42	45	59	49	49
Western	51	37	37	49	39	34	40	38	40	38	50	47	42
Northern Ireland	348	328	366	336	262	295	283	297	281	319	359	384	429