

S. aureus bacteraemia surveillance

Quarterly report

Oct - Dec 2018

Key points

- Overall *S. aureus* (SA) rates for Northern Ireland (MRSA plus MSSA bacteraemias) decreased by approximately 1% during October–December 2018 compared to July–September 2018.
- MRSA rates decreased by approximately 22% during October–December compared to July–September 2018.
- MRSA reports during 2017/18 decreased by 17% compared to 2016/17.
- MSSA rates increased by approximately 3% during October–December compared to July–September 2018.
- MSSA reports during 2017/18 increased by 7% compared to 2016/17.

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

S. aureus bacteraemia surveillance

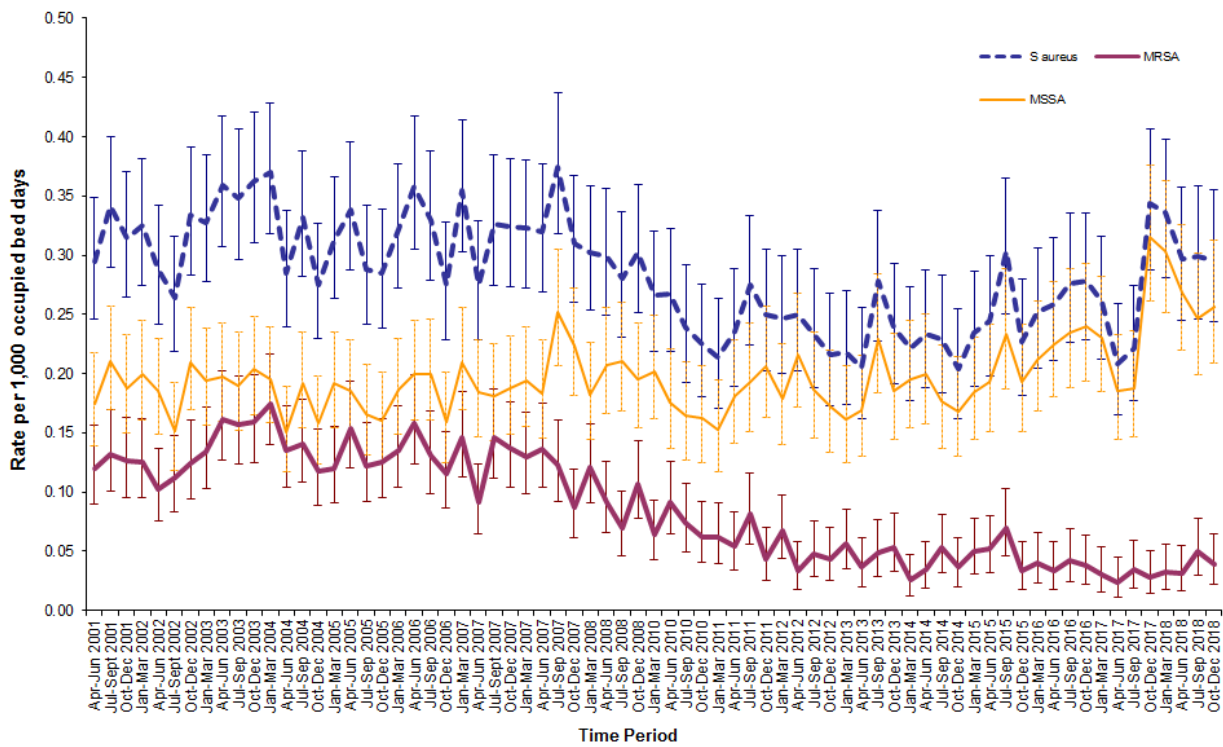


Figure 1: MSSA, MRSA and *S. aureus* rates in Northern Ireland by quarter, with 95% confidence intervals, April 2001 – December 2018 (see Appendix 3)

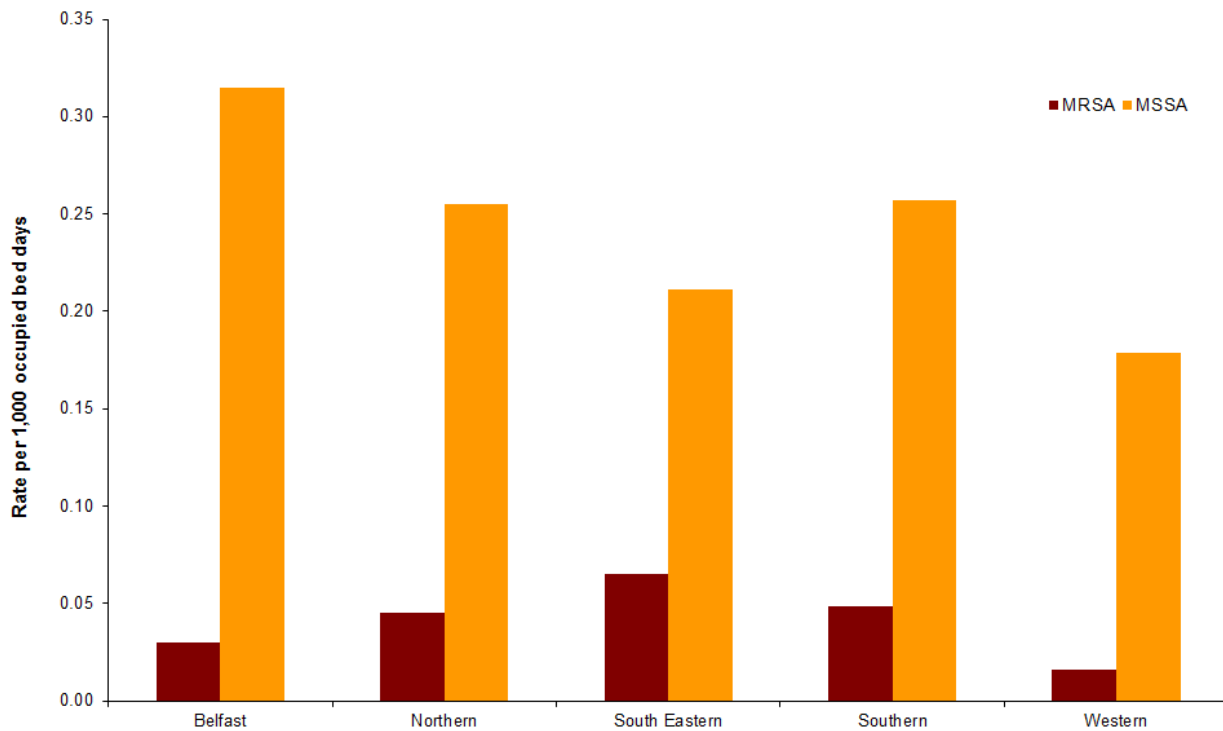


Figure 2: MRSA and MSSA rates per 1,000 occupied bed days, by HSCT, October-December 2018.

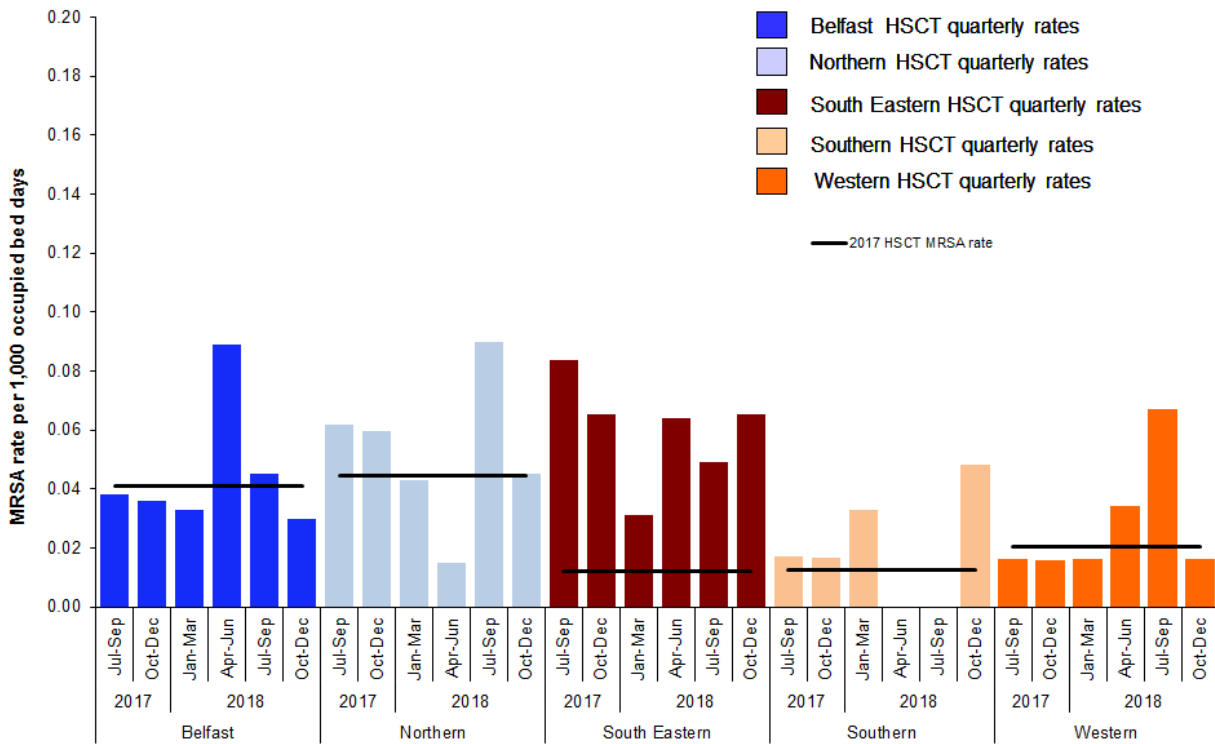


Figure 3: MRSA quarterly rate October-December 2018, by HSCT, with 2017 HSCT MRSA rate

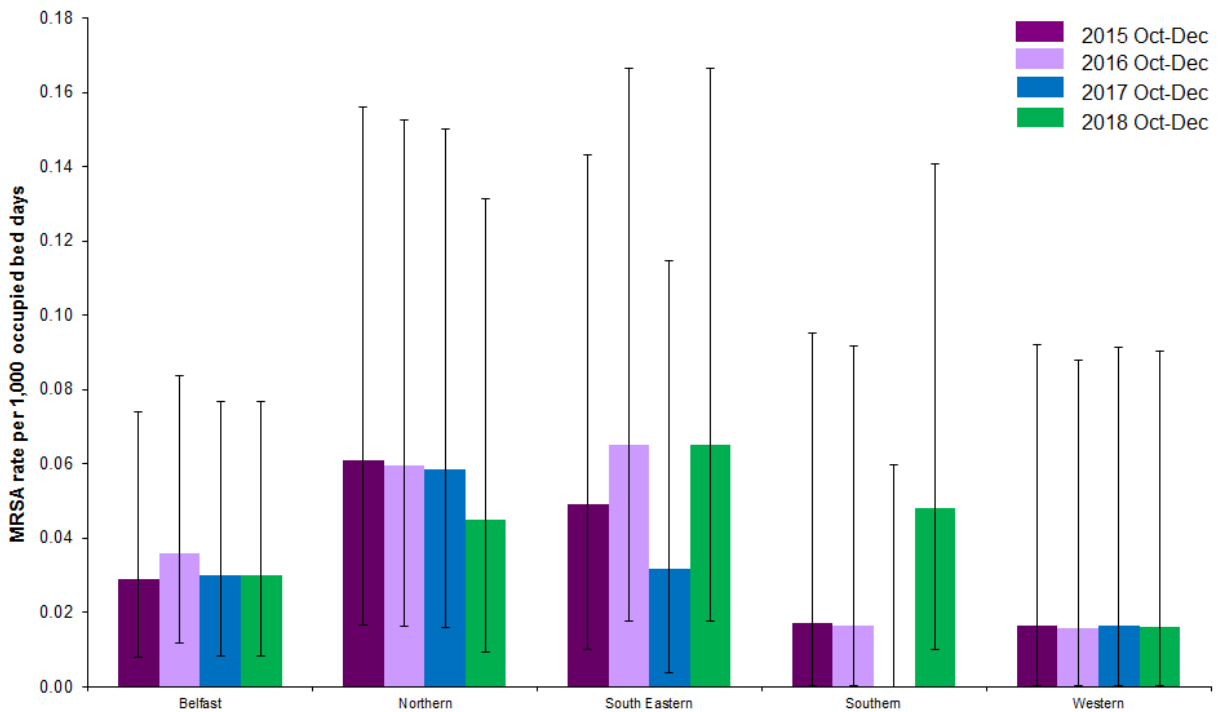


Figure 4: MRSA rate during October-December 2018, by HSCT, from 2015–2018, with 95% confidence intervals

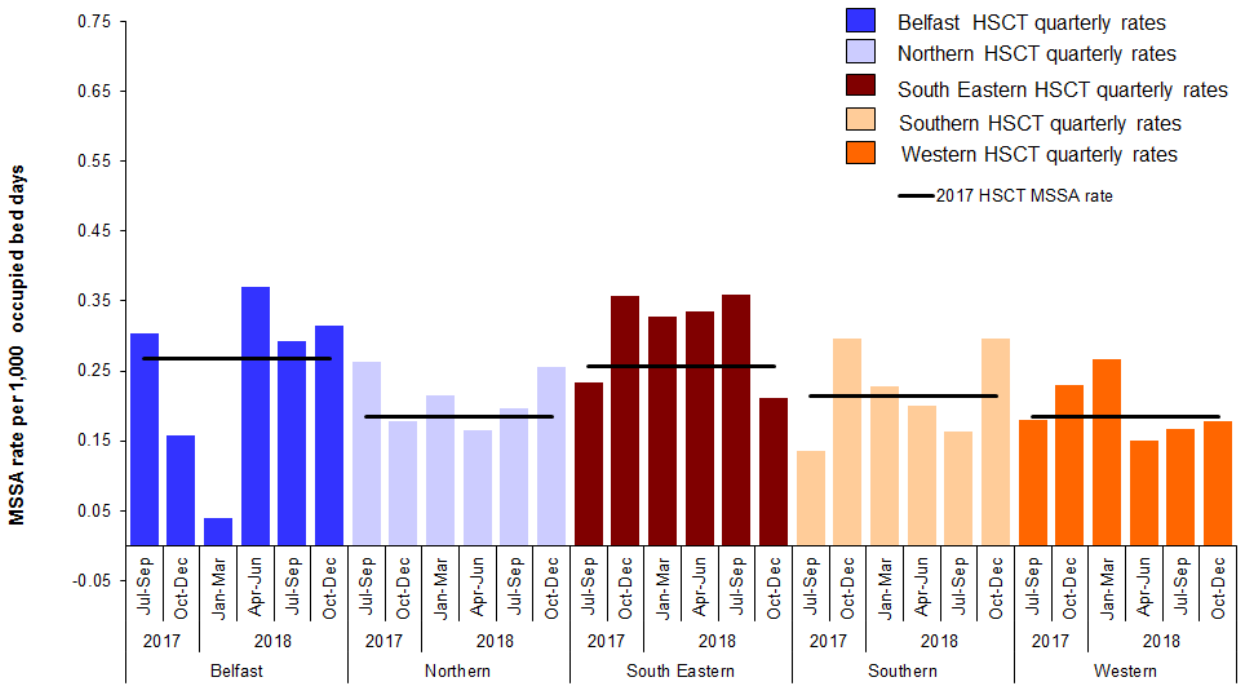


Figure 5: MSSA quarterly rate October-December 2018, by HSCT, with 2017 HSCT MSSA rate

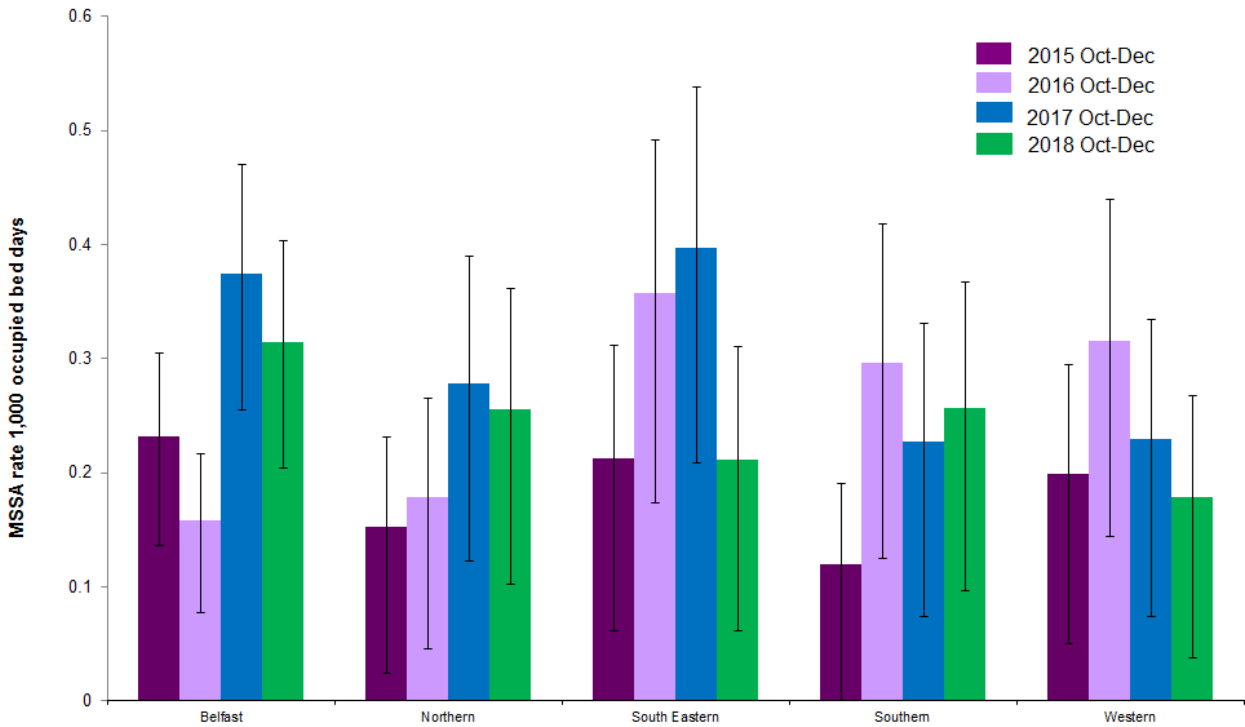


Figure 6: MSSA rate during October-December 2018, by HSCT, from 2015–2018, with 95% confidence intervals.

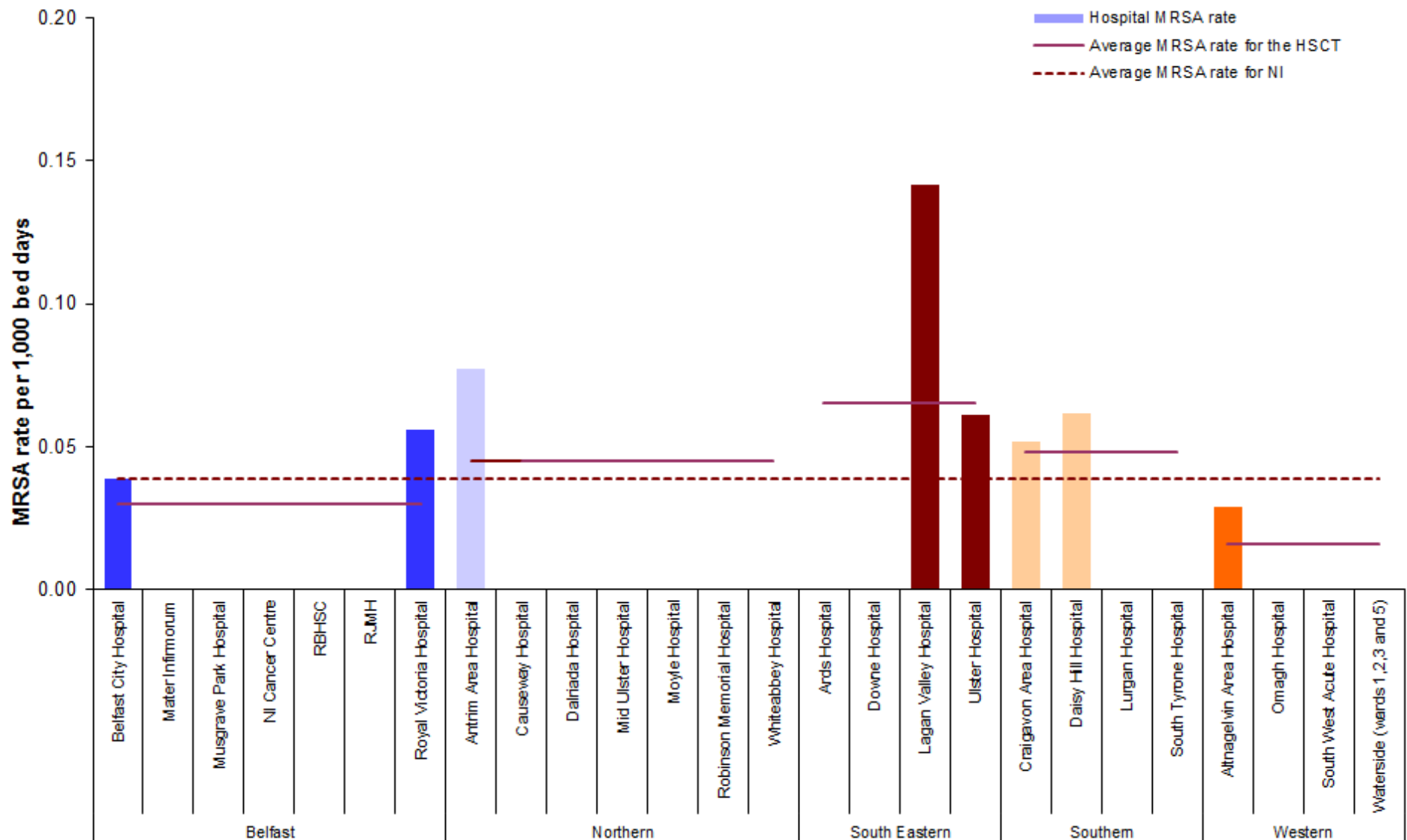


Figure 7: Rates of MRSA, October-December 2018 by individual hospitals, (gaps represent zero episodes), compared to October-December 2018 average rates for Northern Ireland and HSCTs

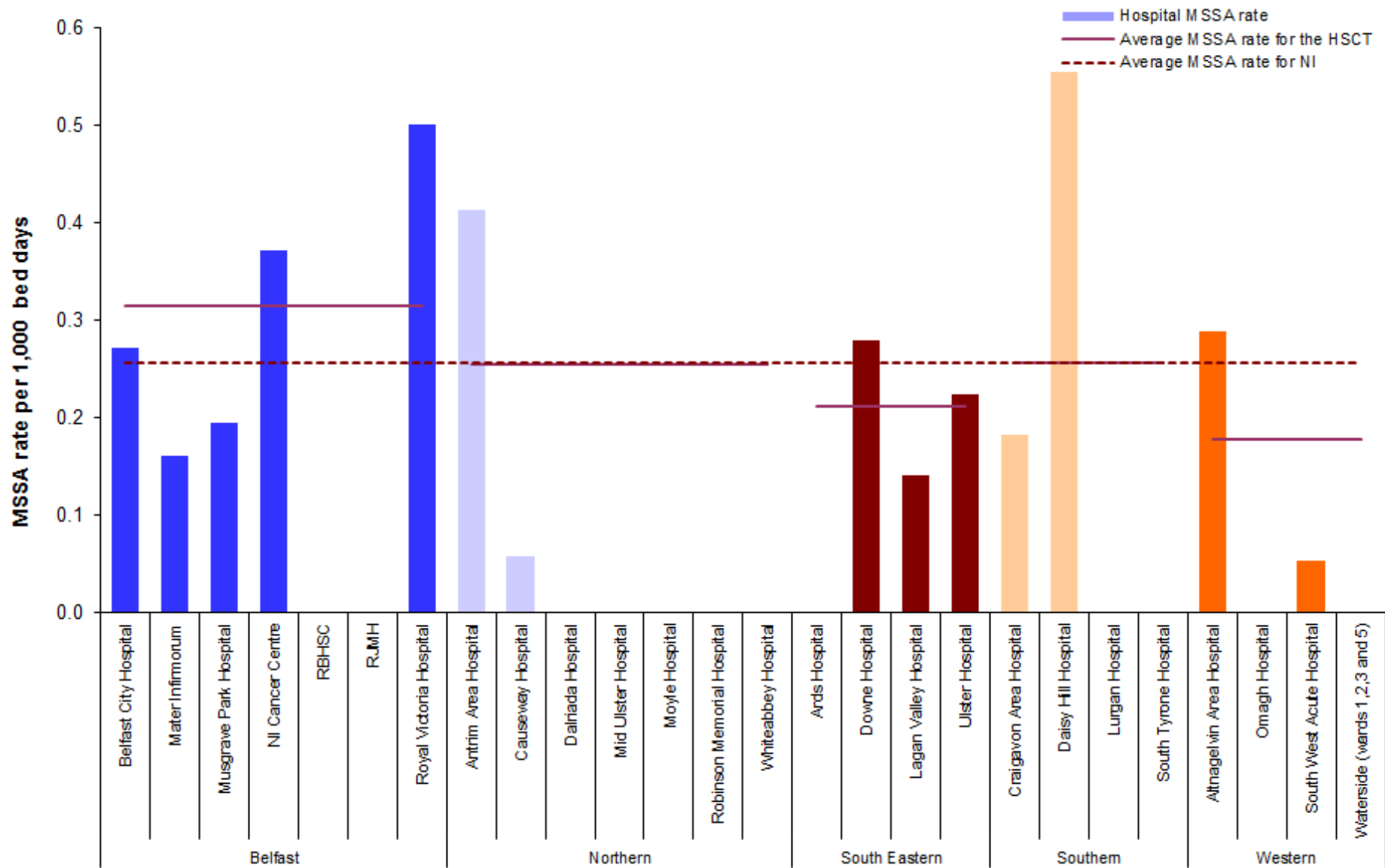


Figure 8: Rates of MSSA, October-December by individual hospitals, (gaps represent zero episodes), compared to October-December average rates for Northern Ireland and HSCT

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

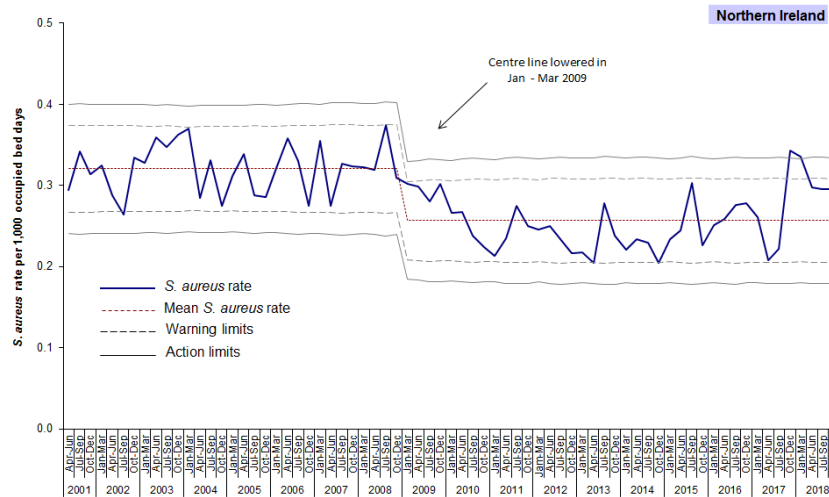


Figure 9b: Statistical process control chart for quarterly MRSA rates in Northern Ireland

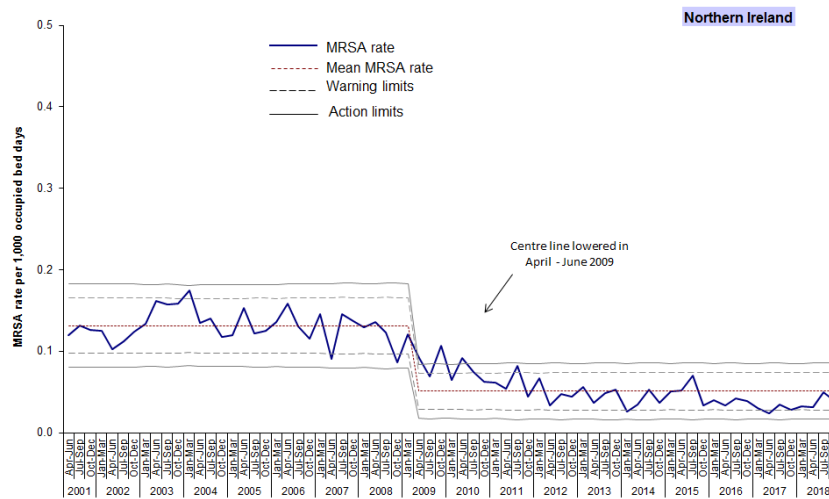
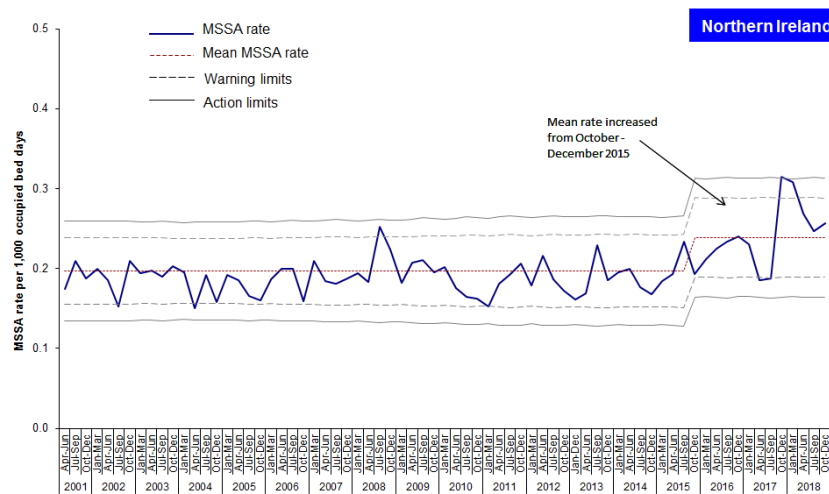


Figure 9c: Statistical process control chart for quarterly MSSA rates in Northern Ireland



Appendix 1

Table 1: Quarterly number and rate of MRSA patient episodes, by hospital, January 2018 – December 2018.

Hospital	Jan - Mar 2018	Apr - Jun 2018	Jul-Sep 2018	Oct-Dec 2018
	Rate	Rate	Rate	Rate
Belfast City Hospital	0.110	0.000	0.037	0.039
Mater Infirmorum	0.053	0.000	0.112	0.000
Musgrave Park Hospital	0.000	0.000	0.000	0.000
NICCO (formerly at Belvoir Park)	0.000	0.000	0.000	0.000
RBHSC	0.000	0.142	0.000	0.000
RJMH	0.000	0.000	0.000	0.000
Royal Victoria Hospital	0.018	0.075	0.057	0.056
Belfast HSCT	0.036	0.037	0.045	0.030
Antrim Area Hospital	0.070	0.000	0.104	0.077
Causeway Hospital	0.000	0.059	0.117	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 HSCT	0.043	0.015	0.090	0.045
Ards Hospital	0.000	0.000	0.000	0.000
Downe Hospital	0.000	0.267	0.000	0.000
Lagan Valley Hospital	0.131	0.000	0.000	0.141
Ulster Hospital	0.020	0.060	0.061	0.061
South Eastern HSCT	0.031	0.064	0.049	0.065
Craigavon Area Hospital	0.053	0.000	0.000	0.052
Daisy Hill Hospital	0.000	0.000	0.000	0.062
Lurgan Hospital	0.000	0.000	0.000	0.000
South Tyrone Hospital	0.000	0.000	0.000	0.000
Southern HSCT	0.033	0.000	0.000	0.048
Altnagelvin Area Hospital	0.000	0.031	0.030	0.029
South West Acute Hospital	0.053	0.000	0.172	0.000
Tyrone County / Omagh Hospital	0.000	0.056	0.000	0.000
Waterside Hospital (Wards 1-3, 5)	0.000	0.000	0.000	0.000
Western HSCT	0.016	0.034	0.067	0.016
Northern Ireland total	0.033	0.031	0.050	0.039

Table 2: Quarterly MRSA patient episodes, by Trust, January 2018 – December 2018.

Trust	Jan - Mar 2018	Apr - Jun 2018	Jul-Sep 2018	Oct-Dec 2018
	Episodes	Episodes	Episodes	Episodes
Belfast Health & Social Care Trust	5	5	6	4
Northern Health & Social Care Trust	3	1	6	3
South Eastern Health & Social Care Trust	2	4	3	4
Southern Health & Social Care Trust	2	0	0	3
Western Health & Social Care Trust	1	2	4	1
NI TOTAL	13	12	19	15

Appendix 1

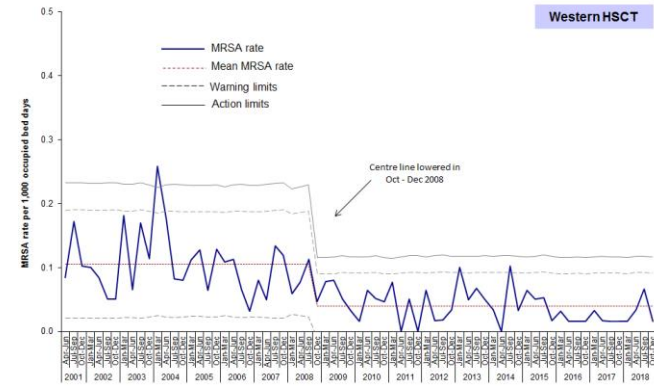
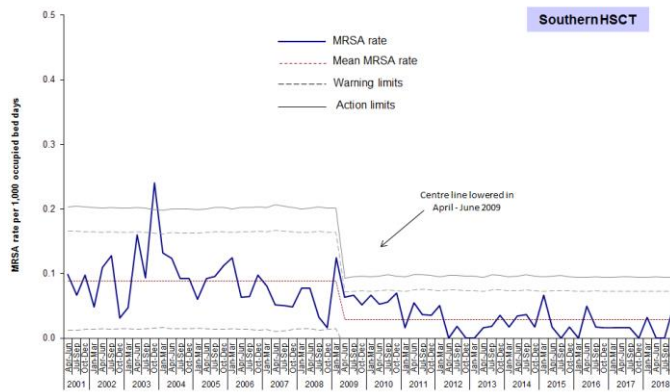
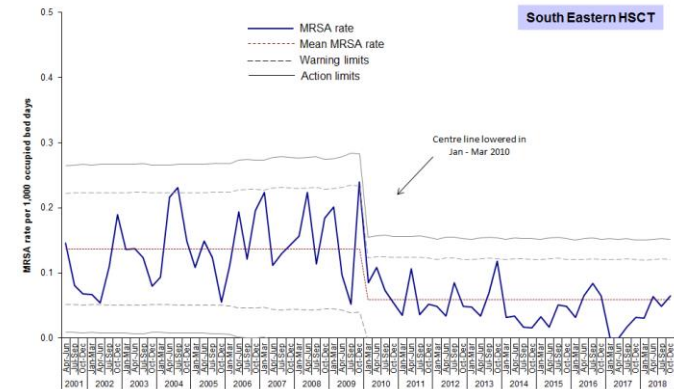
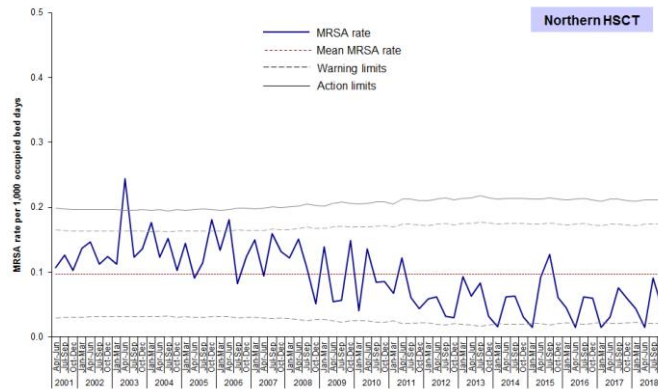
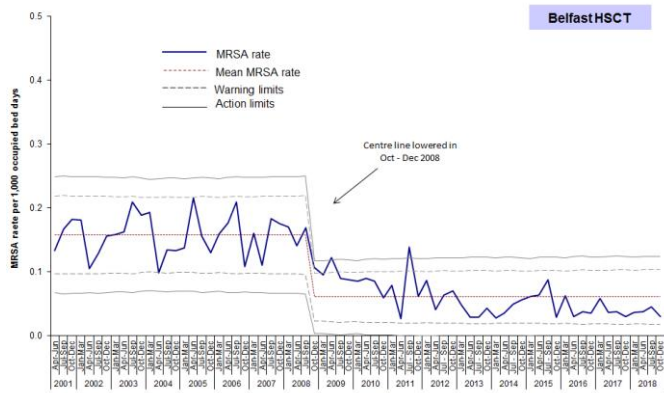
Table 3: Quarterly number and rate of MSSA patient episodes, by hospital, January 2018 – December 2018.

Hospital	Jan - Mar 2018	Apr - Jun 2018	Jul-Sep 2018	Oct-Dec 2018
	Rate	Rate	Rate	Rate
Belfast City Hospital	0.400	0.111	0.221	0.272
Mater Infirmorum	0.480	0.380	0.224	0.162
Musgrave Park Hospital	0.060	0.063	0.128	0.196
NICCO (formerly at Belvoir Park)	0.380	0.000	0.189	0.372
RBHSC	0.550	0.708	0.900	0.000
RJMH	0.120	0.128	0.000	0.000
Royal Victoria Hospital	0.490	0.621	0.398	0.502
Belfast HSCT	0.400	0.371	0.292	0.315
Antrim Area Hospital	0.270	0.206	0.234	0.413
Causeway Hospital	0.230	0.176	0.234	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 HSCT	0.216	0.165	0.196	0.255
Ards Hospital	0.000	0.000	0.000	0.000
Downe Hospital	1.010	0.267	0.000	0.279
Lagan Valley Hospital	0.260	0.287	0.632	0.141
Ulster Hospital	0.300	0.359	0.364	0.224
South Eastern HSCT	0.328	0.336	0.360	0.212
Craigavon Area Hospital	0.270	0.215	0.160	0.182
Daisy Hill Hospital	0.250	0.261	0.250	0.555
Lurgan Hospital	0.000	0.000	0.000	0.000
South Tyrone Hospital	0.000	0.000	0.000	0.000
Southern HSCT	0.229	0.200	0.164	0.257
Altnagelvin Area Hospital	0.278	0.153	0.120	0.289
South West Acute Hospital	0.267	0.112	0.344	0.054
Tyrone County / Omagh Hospital	0.000	0.668	0.000	0.000
Waterside Hospital (Wards 1-3, 5)	0.000	0.000	0.000	0.000
Western HSCT	0.235	0.151	0.167	0.178
Northern Ireland total	0.303	0.269	0.246	0.257

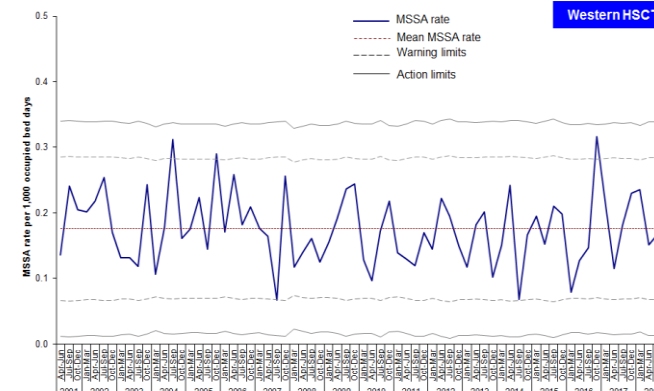
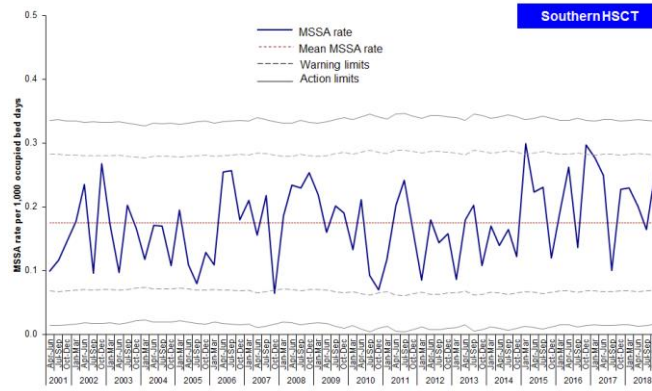
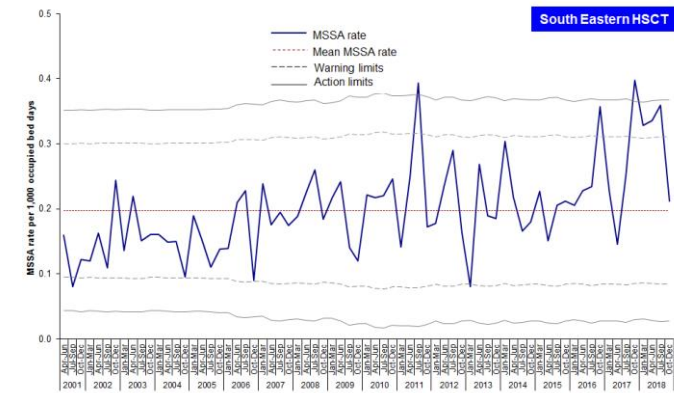
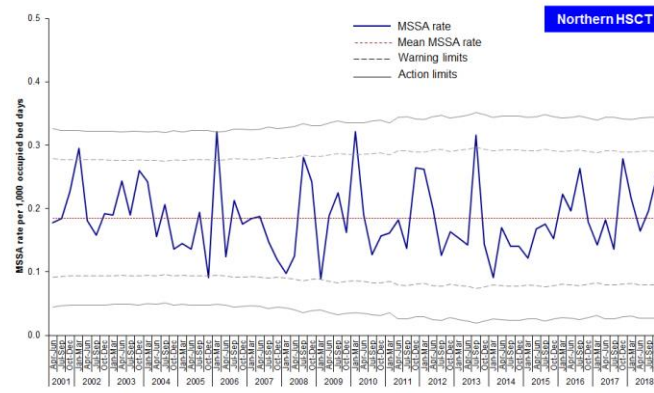
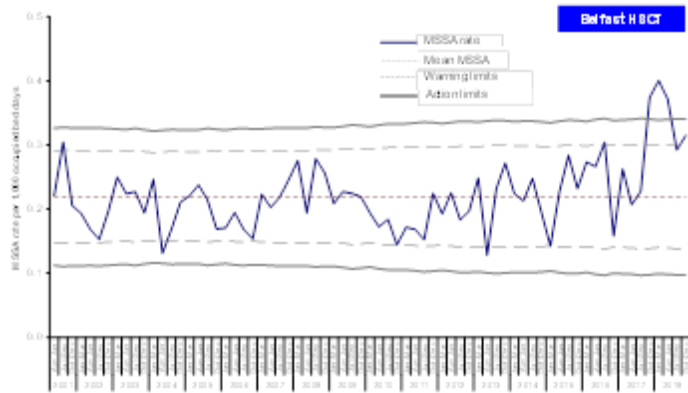
Table 4: Quarterly MSSA patient episodes, by Trust, January 2018 – December 2018.

Trust	Jan - Mar 2018	Apr - Jun 2018	Jul-Sep 2018	Oct-Dec 2018
	Episodes	Episodes	Episodes	Episodes
Belfast Health & Social Care Trust	55	50	39	42
Northern Health & Social Care Trust	15	11	13	17
South Eastern Health & Social Care Trust	21	21	22	13
Southern Health & Social Care Trust	14	12	10	16
Western Health & Social Care Trust	15	9	10	11
NI TOTAL	122	103	94	99

Appendix 2: Trends in MRSA rates, by HSCT and quarter, April 2001 – December 2018



Appendix 2: Trends in MSSA rates, by HSCT and quarter, April 2001 – December 2018



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, Oct 2008 – Dec 2018.

Quarter	MSSA rate	MRSA rate	All <i>S. aureus</i> rate	% MRSA
Oct-Dec 2008	0.223	0.087	0.310	28.1
Jan-Mar 2009	0.182	0.120	0.302	39.7
Apr-Jun 2009	0.207	0.092	0.299	30.8
Jul-Sep 2009	0.206	0.069	0.275	25.1
Oct-Dec 2009	0.195	0.107	0.302	35.4
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

Appendix 4

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

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

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

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