

S. aureus bacteraemia surveillance

Quarterly report

July - September 2017

Key points

- Overall *S. aureus* (SA) rates for Northern Ireland (MRSA plus MSSA bacteraemias) increased by approximately 7% during July - September 2017 compared to April - June 2017.
- MRSA rates increased by approximately 44% during July - September 2017 compared to April - June 2017.
- MRSA reports during 2016/17 fell by 25% compared to 2015/16.
- MSSA rates increased by approximately 1% during July - September 2017 compared to April - June 2017.
- MSSA reports during 2016/17 increased by 13% compared to 2015/16.

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

S. aureus bacteraemia surveillance

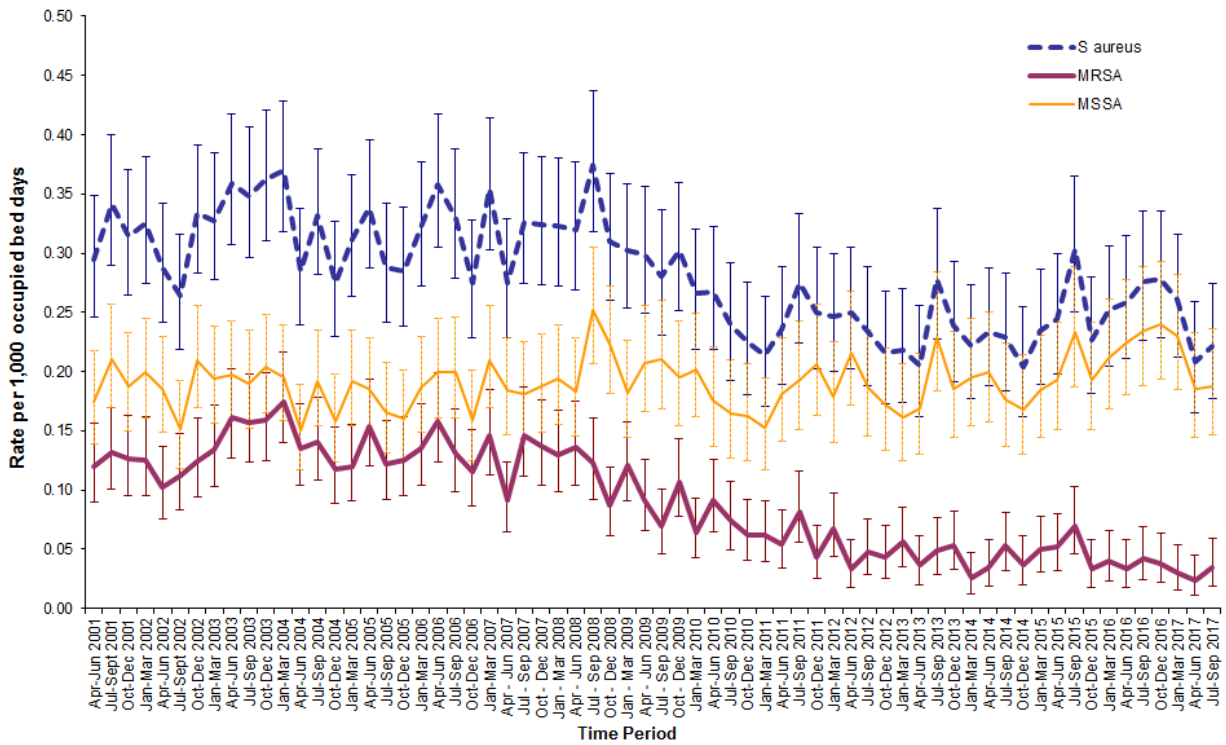


Figure 1: MSSA, MRSA and *S. aureus* rates in Northern Ireland by quarter, with 95% confidence intervals, April 2001 – September 2017 (see Appendix 3)

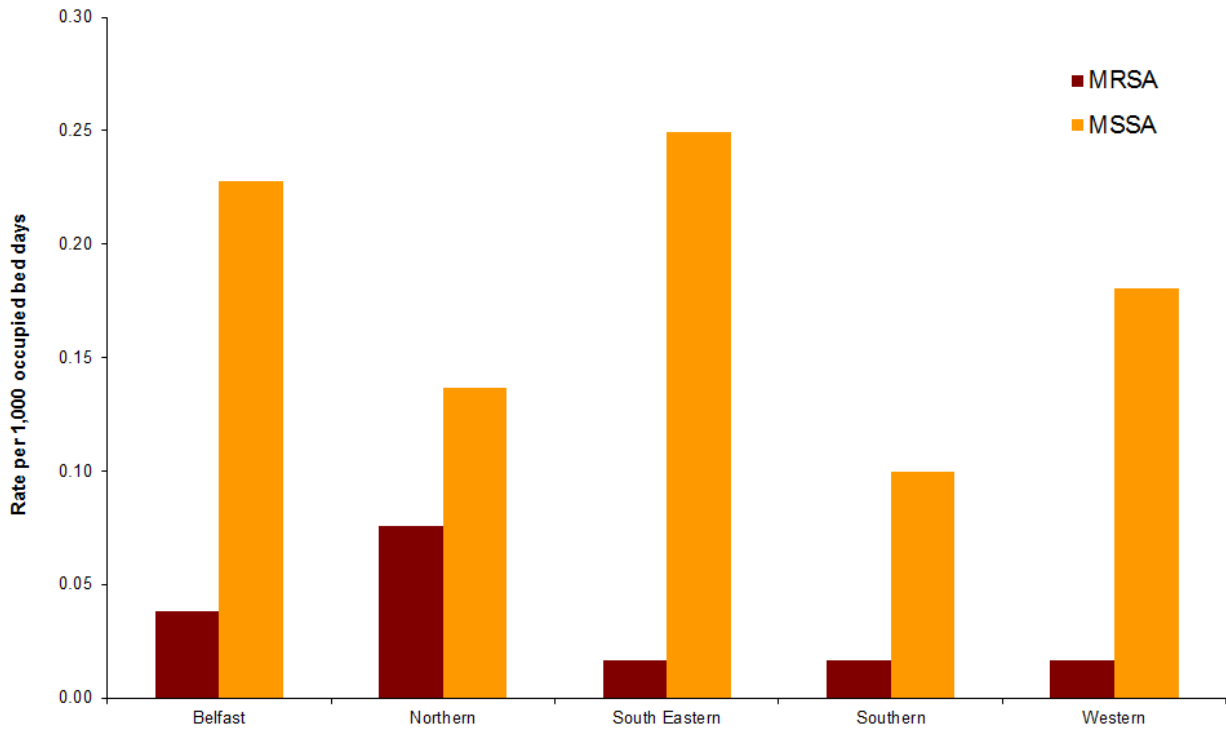


Figure 2: MRSA and MSSA rates per 1,000 occupied bed days, by HSCT, July – September 2017

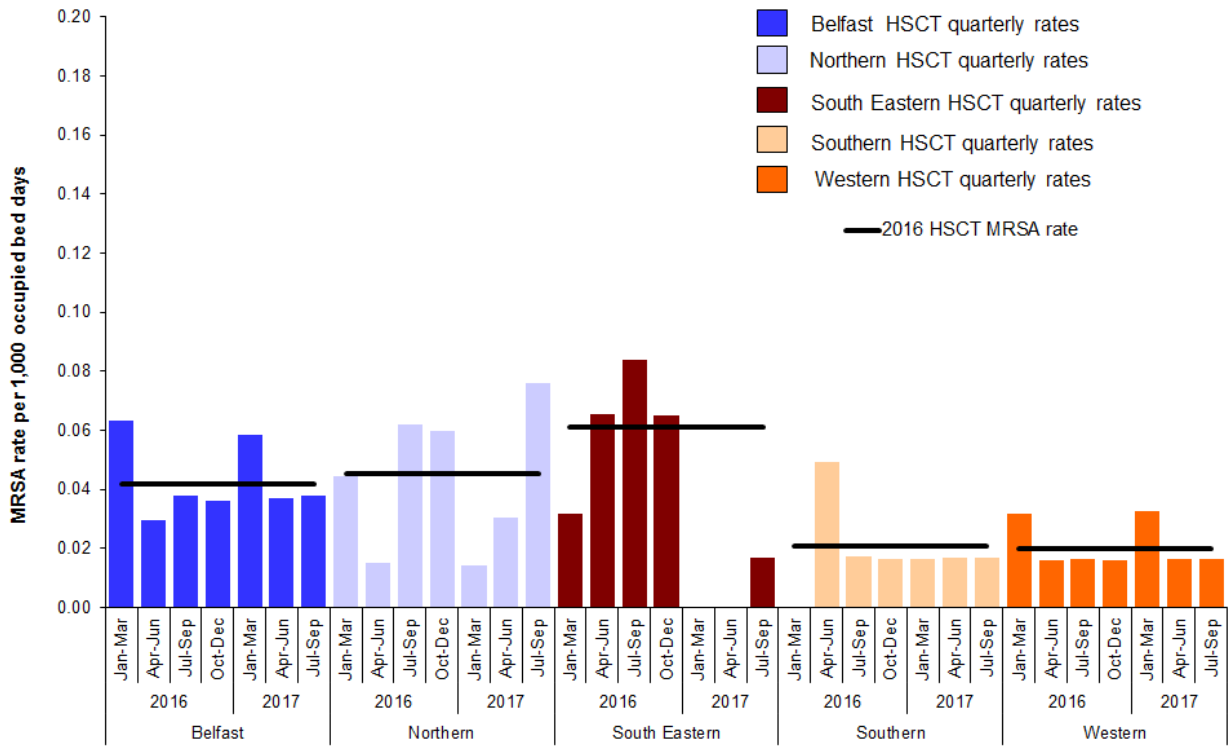


Figure 3: MRSA quarterly rate January 2016 – September 2017, by HSCT, with 2016 HSCT MRSA rate

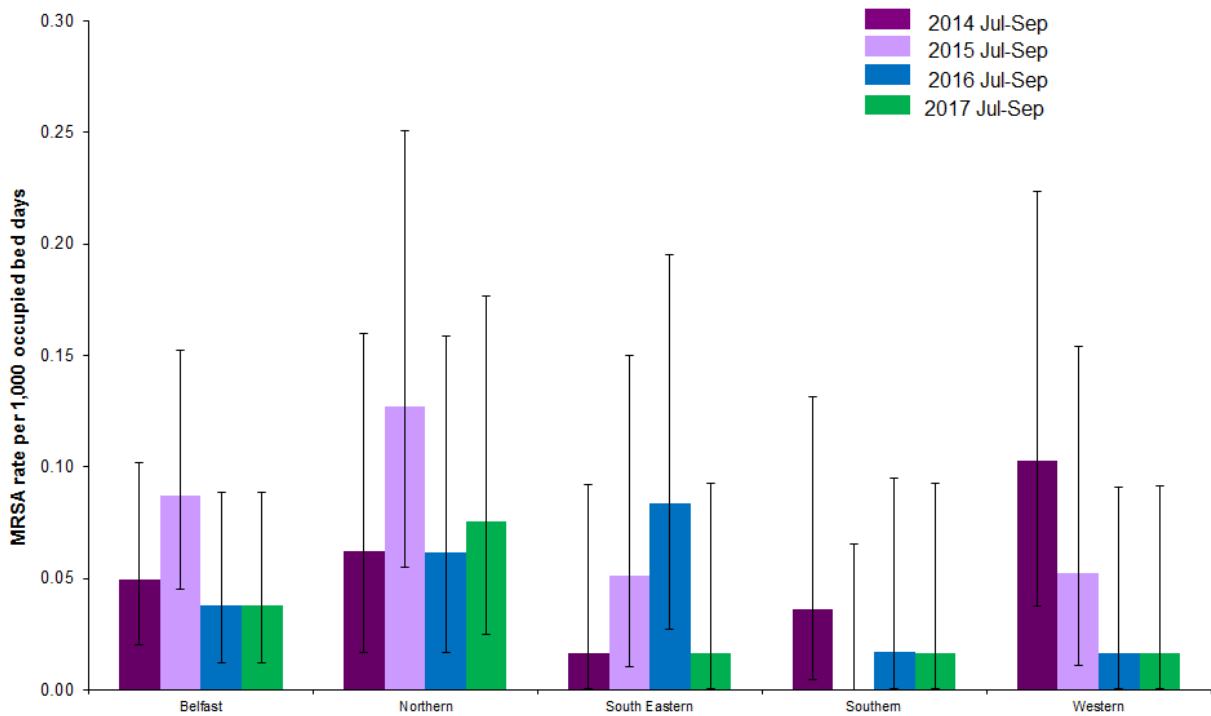


Figure 4: MRSA rate during July-September, by HSCT, from 2014–2017, with 95% confidence intervals

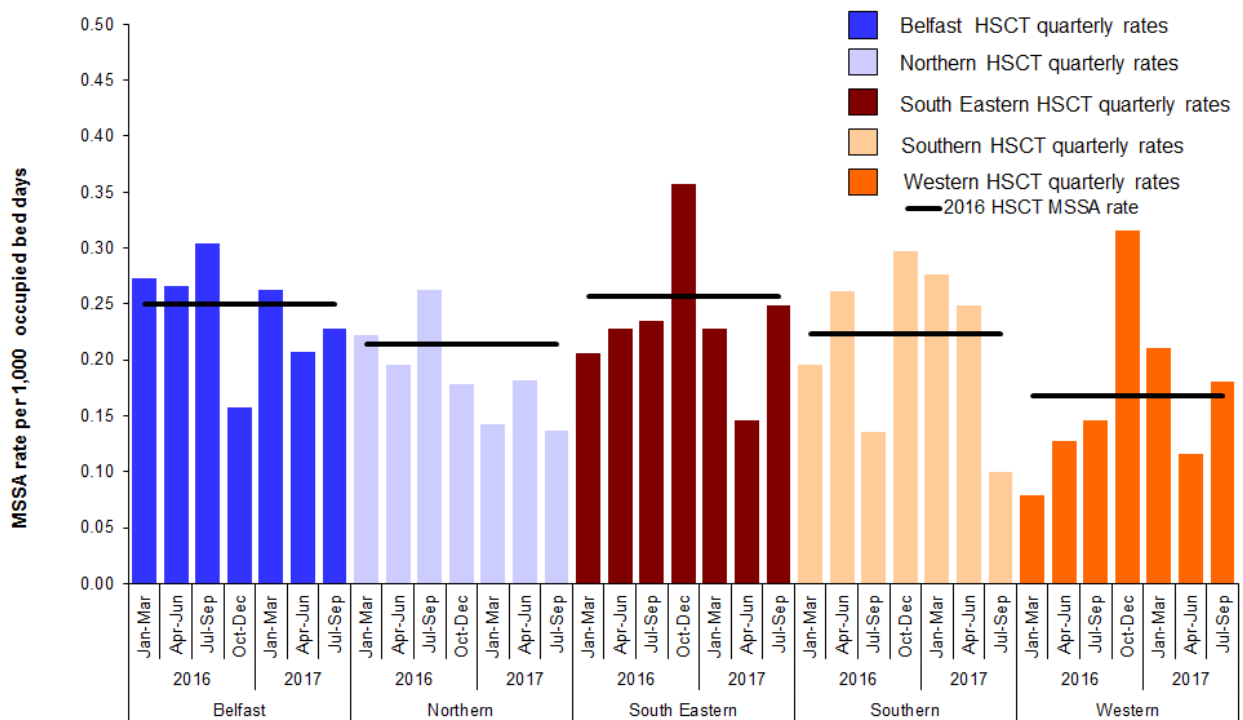


Figure 5: MSSA quarterly rate January 2016 – September 2017, by HSCT, with 2016 HSCT MSSA rate

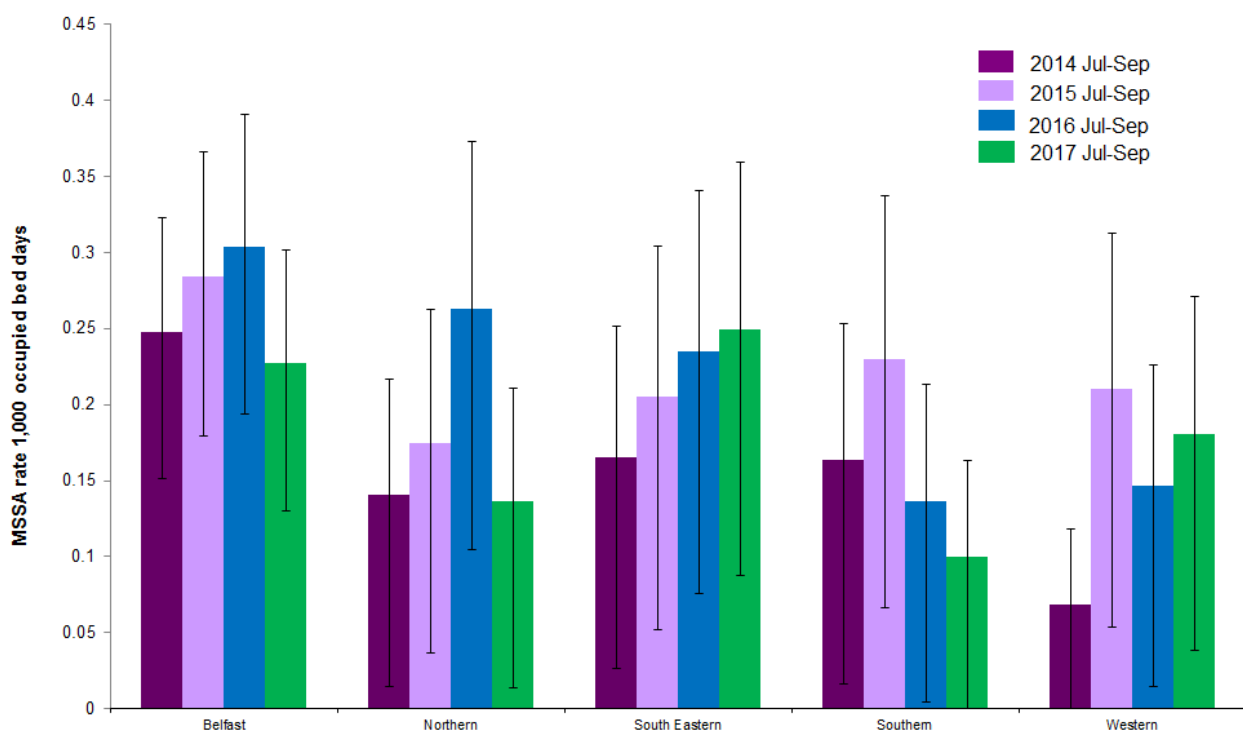


Figure 6: MSSA rate during July - September, by HSCT, from 2014–2017, with 95% confidence intervals

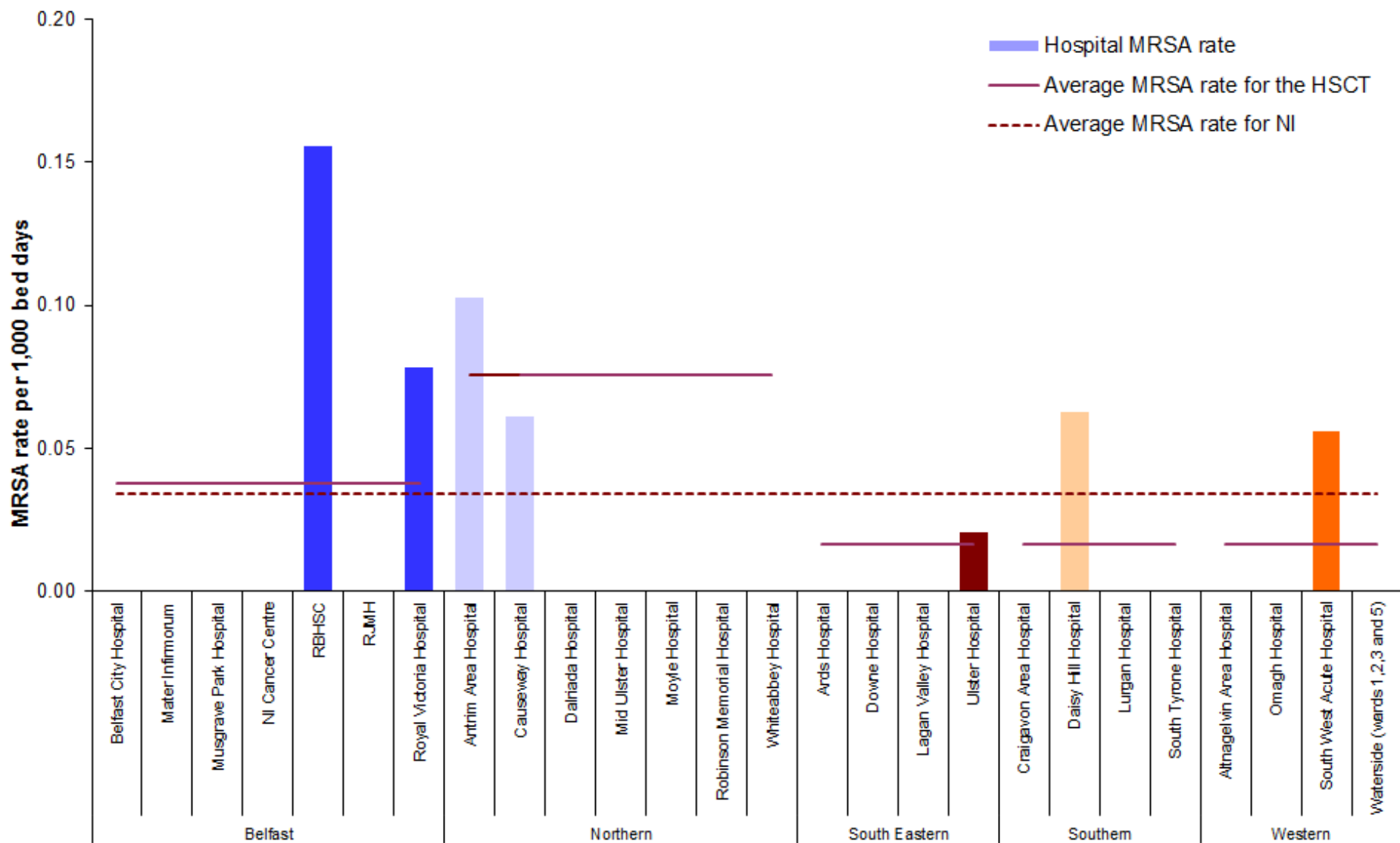


Figure 7: Rates of MRSA, July - September 2017 by individual hospitals, (gaps represent zero episodes), compared to July - September 2017 average rates for Northern Ireland and HSCTs

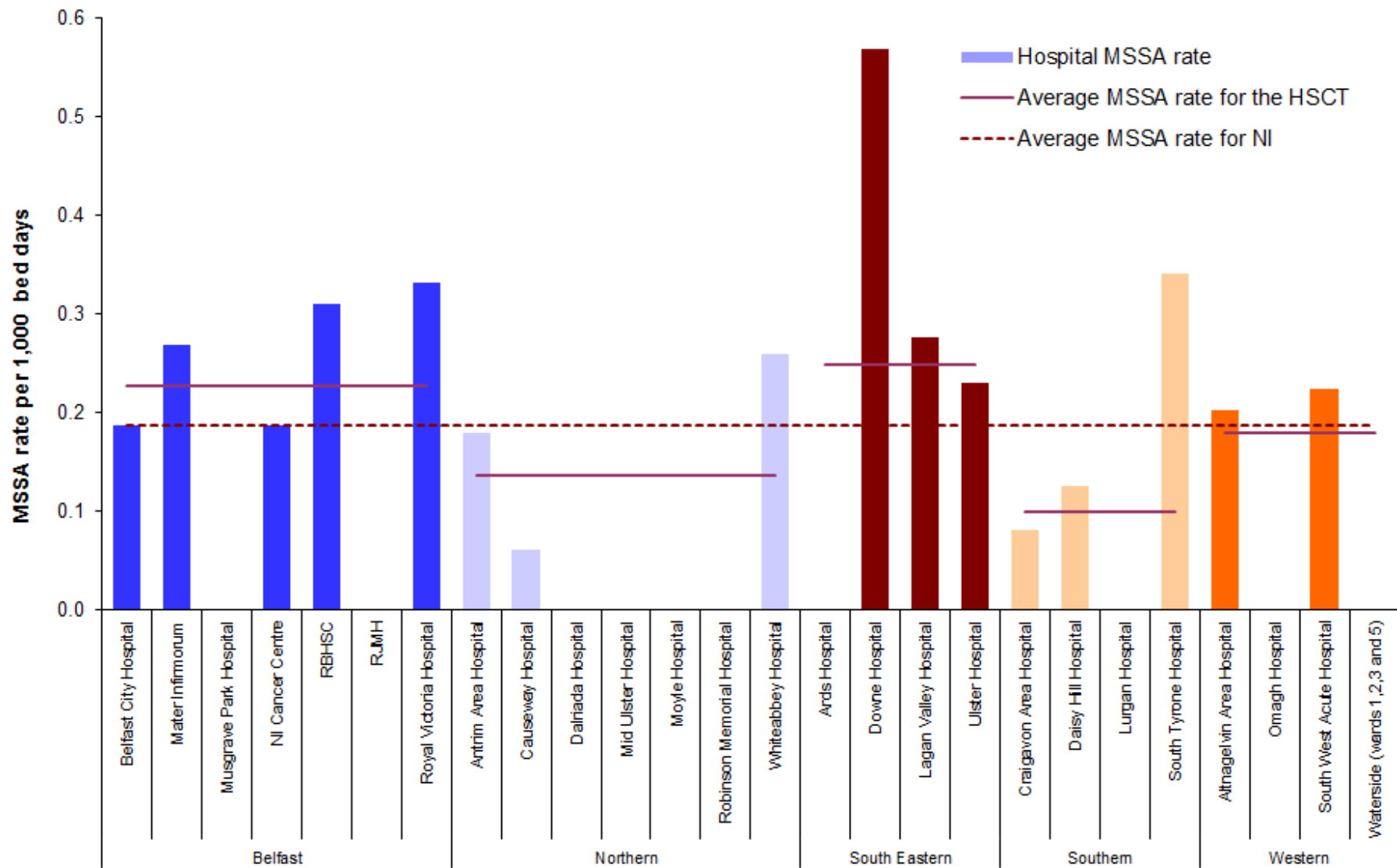


Figure 8: Rates of MSSA, July - September 2017 by individual hospitals, (gaps represent zero episodes), compared to July - September 2017 average rates for Northern Ireland and HSCTs

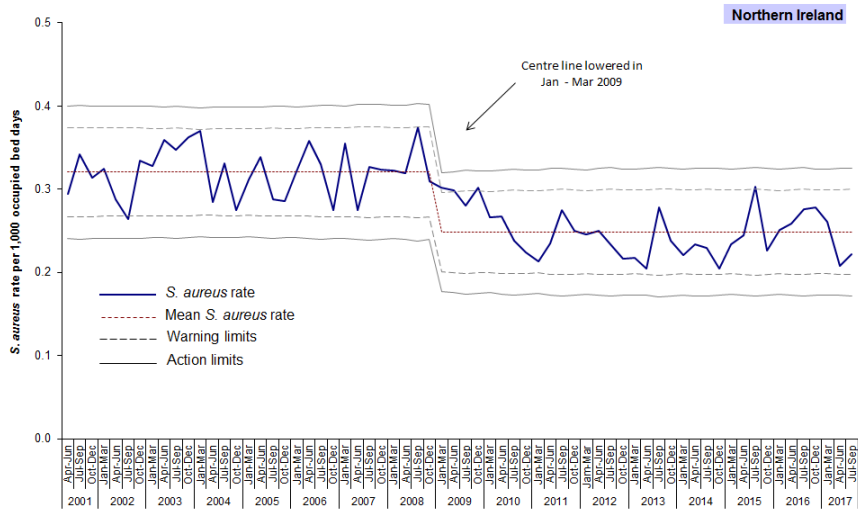


Figure 9a: Statistical process control chart for quarterly *S. aureus* rates in Northern Ireland

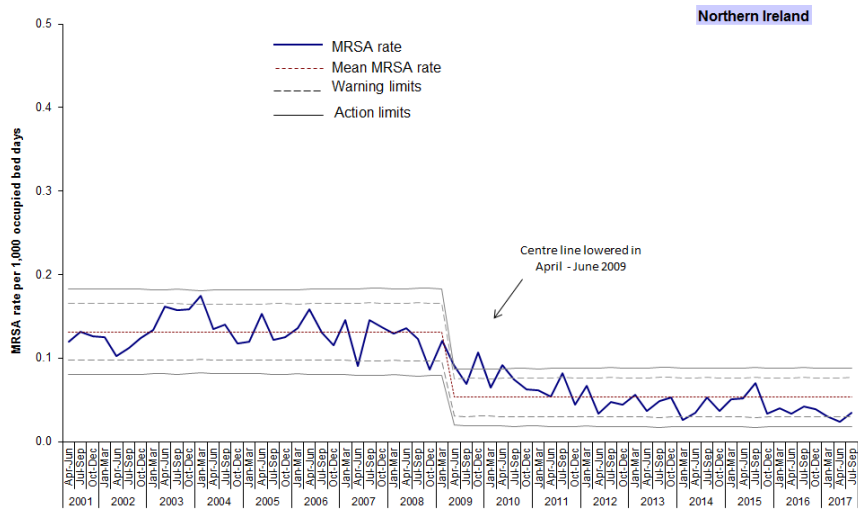


Figure 9b: Statistical process control chart for quarterly MRSA rates in Northern Ireland

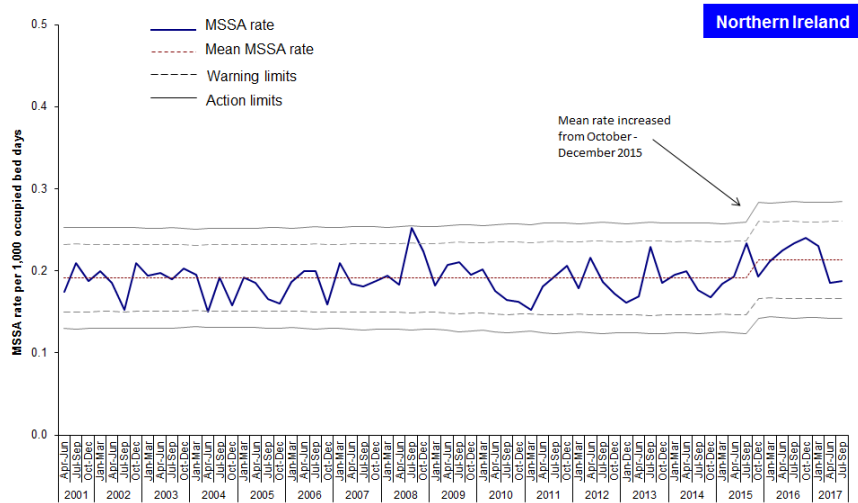


Figure 9c: Statistical process control chart for quarterly MSSA rates in Northern Ireland

Appendix 1

Table 1: Quarterly number and rate of MRSA patient episodes, by hospital, Oct 2016 – Sep 2017

Hospital	Oct - Dec 2016	Jan - Mar 2017	Apr - Jun 2017	Jul - Sep 2017
	Rate	Rate	Rate	Rate
Belfast City Hospital	0.037	0.073	0.000	0.000
Mater Infirmorum	0.052	0.053	0.054	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	0.000	0.000	0.155
RJMH	0.000	0.000	0.000	0.000
Royal Victoria Hospital	0.056	0.092	0.076	0.078
Belfast HSCT	0.036	0.058	0.037	0.038
Antrim Area Hospital	0.075	0.024	0.051	0.103
Causeway Hospital	0.060	0.000	0.000	0.061
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	0.060	0.014	0.030	0.076
Ards Hospital	0.000	0.000	0.000	0.000
Downe Hospital	0.000	0.000	0.000	0.000
Lagan Valley Hospital	0.132	0.000	0.000	0.000
Ulster Hospital	0.062	0.000	0.000	0.021
South Eastern HSCT	0.065	0.000	0.000	0.017
Craigavon Area Hospital	0.027	0.026	0.027	0.000
Daisy Hill Hospital	0.000	0.000	0.000	0.063
Lurgan Hospital	0.000	0.000	0.000	0.000
South Tyrone Hospital	0.000	0.000	0.000	0.000
Southern HSCT	0.016	0.016	0.017	0.017
Altnagelvin Area Hospital	0.028	0.029	0.029	0.000
South West Acute Hospital	0.000	0.055	0.000	0.056
Tyrone County / Omagh Hospital	0.000	0.000	0.000	0.000
Waterside Hospital (Wards 1-3, 5)	0.000	0.000	0.000	0.000
Western HSCT	0.016	0.032	0.017	0.016
Northern Ireland total	0.038	0.031	0.023	0.034

Table 2: Quarterly MRSA patient episodes, by Trust, Oct 2016 – Sep 2017

Trust	Oct - Dec 2016	Jan - Mar 2017	Apr - Jun 2017	Jul - Sep 2017
	Episodes	Episodes	Episodes	Episodes
Belfast Health & Social Care Trust	5	8	5	5
Northern Health & Social Care Trust	4	1	2	5
South Eastern Health & Social Care Trust	4	0	0	1
Southern Health & Social Care Trust	1	1	1	1
Western Health & Social Care Trust	1	2	1	1
NI TOTAL	15	12	9	13

Appendix 1

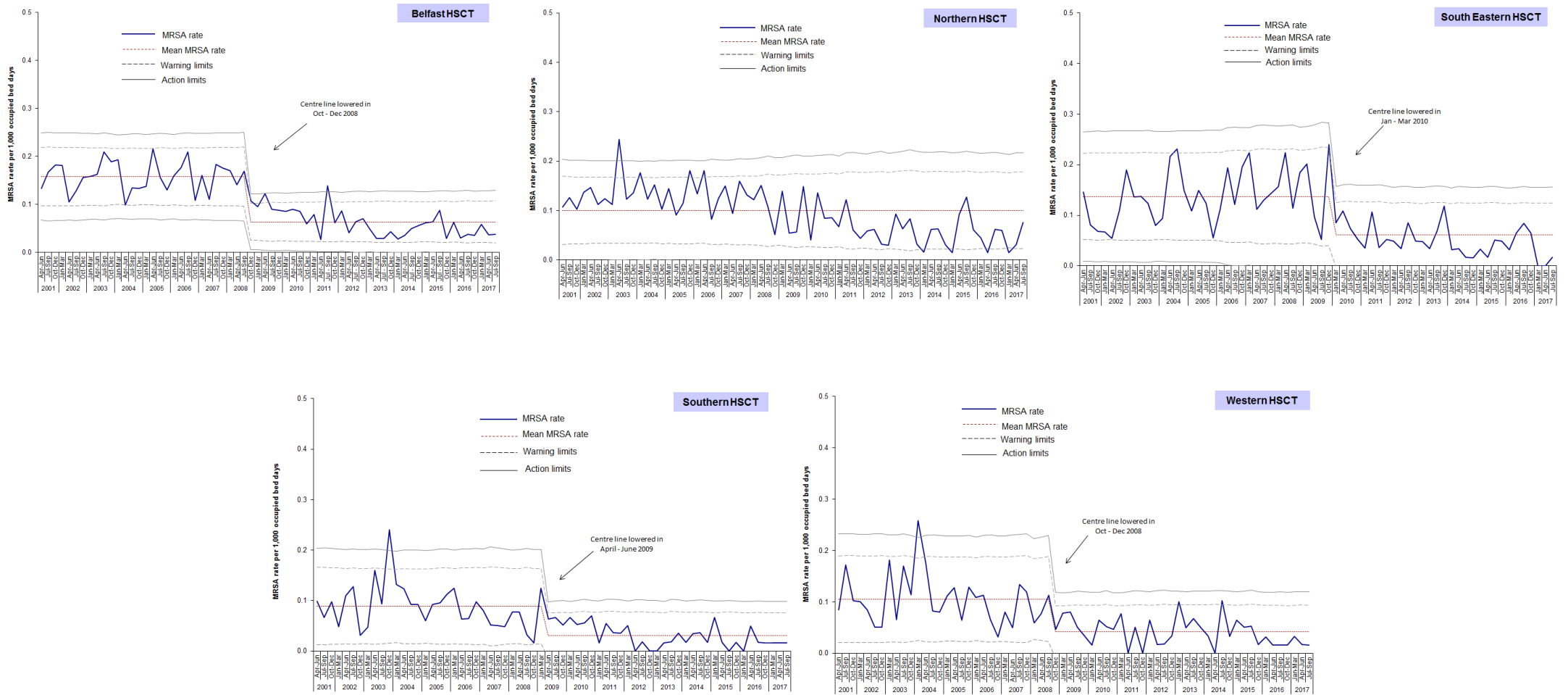
Table 3: Quarterly number and rate of MSSA patient episodes, by hospital, Oct 2016 – Sep 2017

Hospital	Oct - Dec 2016	Jan - Mar 2017	Apr-Jun 2017	Jul-Sep 2017
	Rate	Rate	Rate	Rate
Belfast City Hospital	0.037	0.181	0.108	0.187
Mater Infirmorum	0.104	0.368	0.161	0.270
Musgrave Park Hospital	0.176	0.000	0.126	0.000
NICCO (formerly at Belvoir Park)	0.191	0.000	0.000	0.188
RBHSC	0.559	0.421	0.557	0.311
RJMH	0.105	0.120	0.122	0.000
Royal Victoria Hospital	0.185	0.370	0.285	0.332
Belfast HSCT	0.158	0.260	0.207	0.228
Antrim Area Hospital	0.226	0.245	0.283	0.180
Causeway Hospital	0.181	0.000	0.062	0.061
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	0.260
Northern HSCT	0.179	0.140	0.182	0.136
Ards Hospital	0.000	0.000	0.000	0.000
Downe Hospital	0.271	0.516	0.000	0.568
Lagan Valley Hospital	0.132	0.131	0.265	0.277
Ulster Hospital	0.411	0.229	0.144	0.230
South Eastern HSCT	0.358	0.230	0.146	0.249
Craigavon Area Hospital	0.376	0.286	0.270	0.081
Daisy Hill Hospital	0.248	0.377	0.376	0.126
Lurgan Hospital	0.000	0.000	0.000	0.000
South Tyrone Hospital	0.000	0.000	0.000	0.341
Southern HSCT	0.297	0.280	0.265	0.100
Altnagelvin Area Hospital	0.361	0.286	0.114	0.203
South West Acute Hospital	0.321	0.165	0.117	0.224
Tyrone County / Omagh Hospital	0.345	0.000	0.000	0.000
Waterside Hospital (Wards 1-3, 5)	0.000	0.000	0.000	0.000
Western HSCT	0.316	0.210	0.116	0.180
Northern Ireland total	0.240	0.230	0.185	0.187

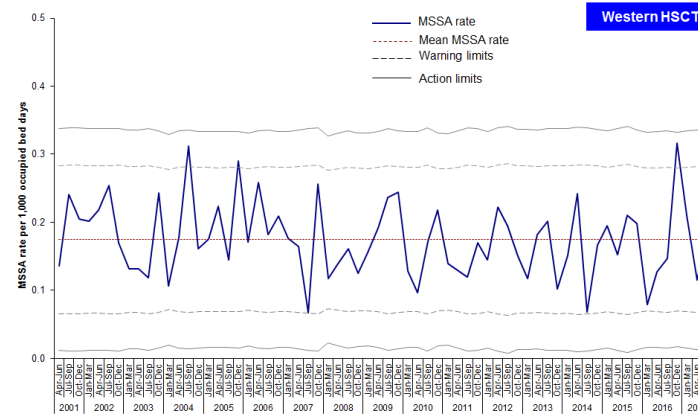
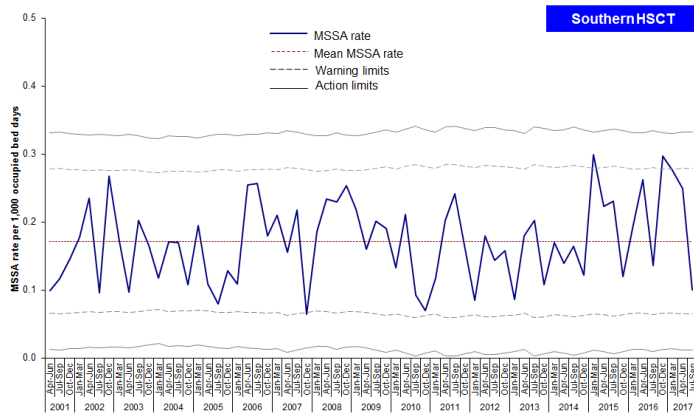
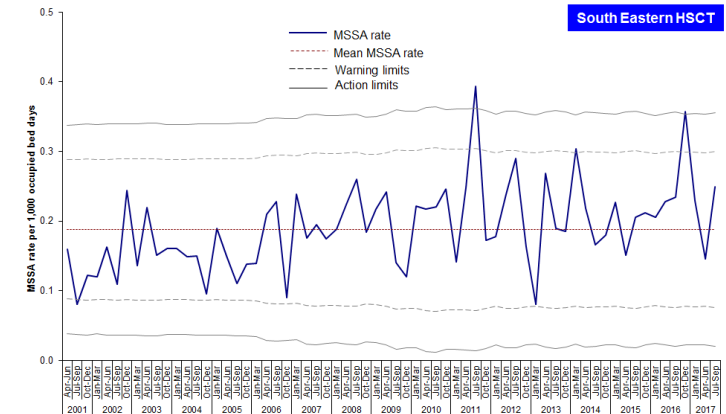
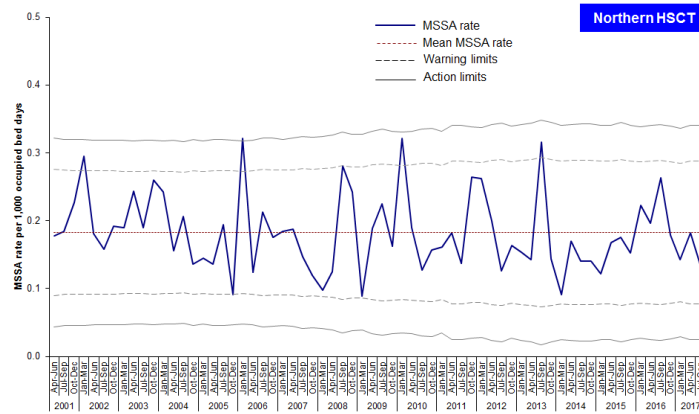
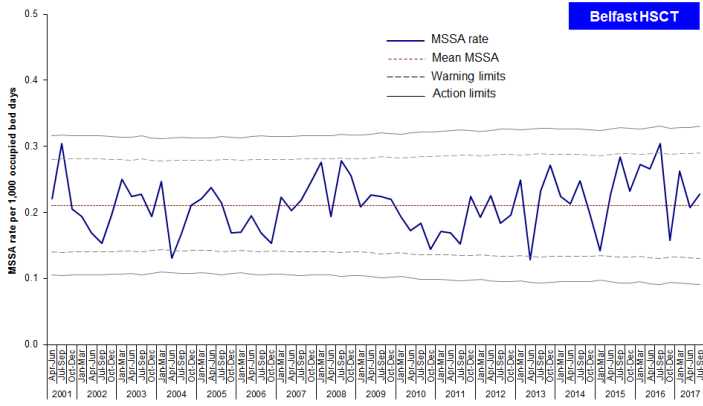
Table 4: Quarterly MSSA patient episodes, by Trust, Oct 2016 – Sep 2017

Trust	Oct - Dec 2016	Jan - Mar 2017	Apr-Jun 2017	Jul-Sep 2017
	Episodes	Episodes	Episodes	Episodes
Belfast Health & Social Care Trust	22	36	27	30
Northern Health & Social Care Trust	12	10	12	9
South Eastern Health & Social Care Trust	22	14	9	15
Southern Health & Social Care Trust	18	17	16	6
Western Health & Social Care Trust	20	13	8	11
NI TOTAL	94	90	72	71

Appendix 2: Trends in MRSA rates, by HSCT and quarter, 2001–2017



Appendix 2: Trends in MSSA rates, by HSCT and quarter, 2001–2017



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, Jul 2007 – Sep 2017

Quarter	MSSA rate	MRSA rate	All <i>S. aureus</i> rate	% MRSA
Jul-Sep 2007	0.181	0.146	0.326	44.8
Oct-Dec 2007	0.187	0.137	0.324	42.3
Jan-Mar 2008	0.194	0.129	0.323	39.9
Apr-Jun 2008	0.184	0.136	0.320	42.5
Jul-Sep 2008	0.252	0.122	0.375	32.5
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

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

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