

S. aureus bacteraemia surveillance

Quarterly report

October 2016 – December 2016

Key points

- Overall *S. aureus* (SA) rates for Northern Ireland (MRSA plus MSSA bacteraemias) increased by approximately 0.4% during October-December 2016 compared to July-September 2016.
- MRSA rates decreased by approximately 12% during October-December 2016 compared to July-September 2016.
- MRSA reports during 2015/16 rose by 12% compared to 2014/15.
- MSSA rates increased by approximately 3% compared to July-September 2016.
- MSSA reports during 2015/16 increased by 14% compared to 2014/15.

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

S. aureus bacteraemia surveillance

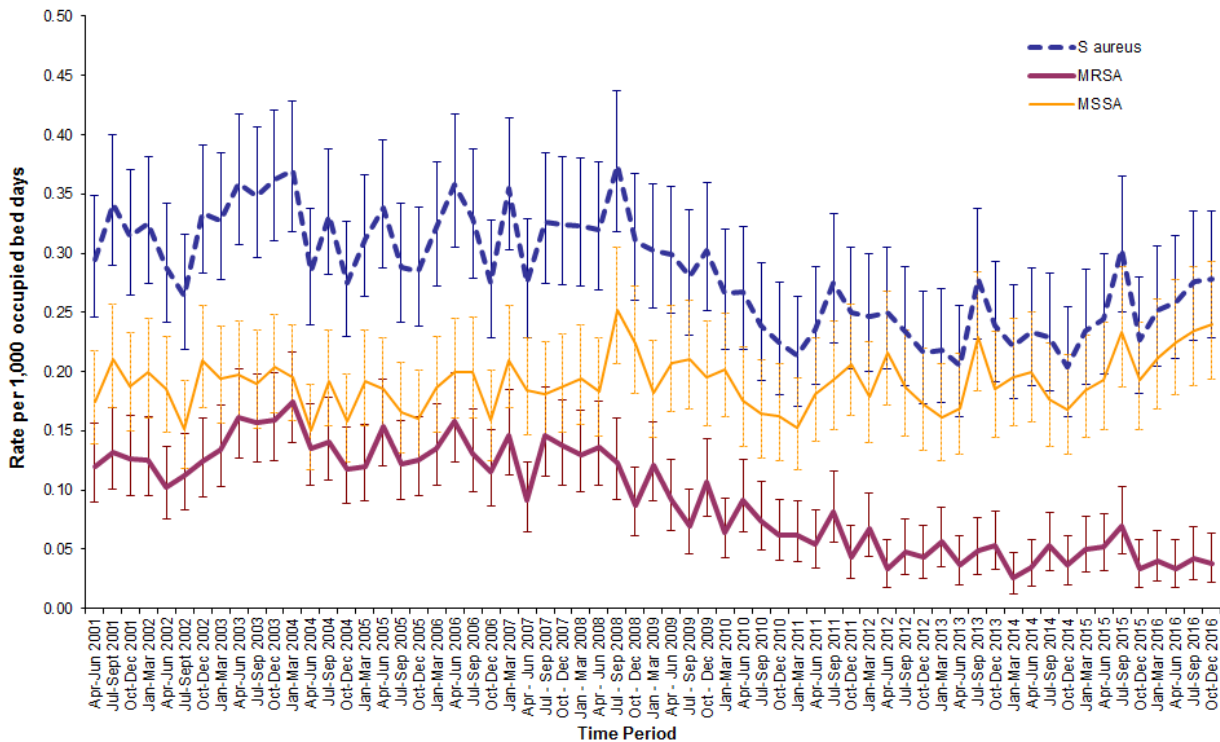


Figure 1: MSSA, MRSA and *S. aureus* rates in Northern Ireland by quarter, with 95% confidence intervals, April 2001 – December 2016 (see Appendix 3)

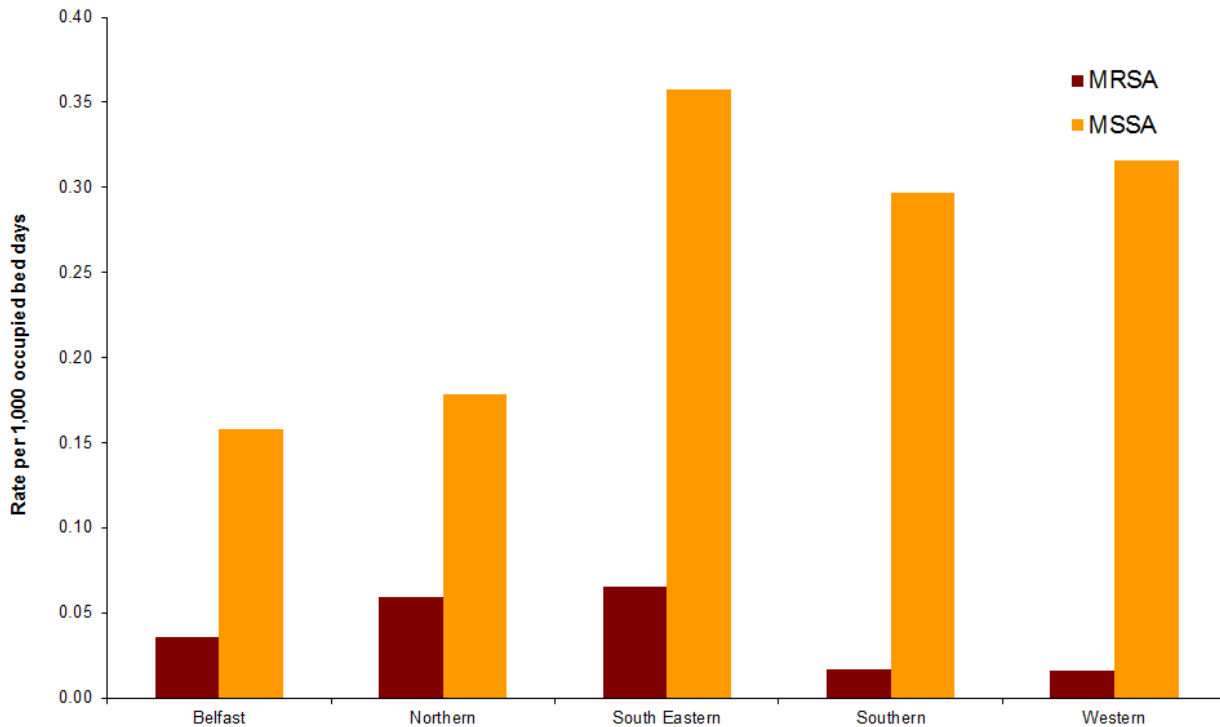


Figure 2: MRSA and MSSA rates per 1,000 occupied bed days, by HSCT, October - December 2016

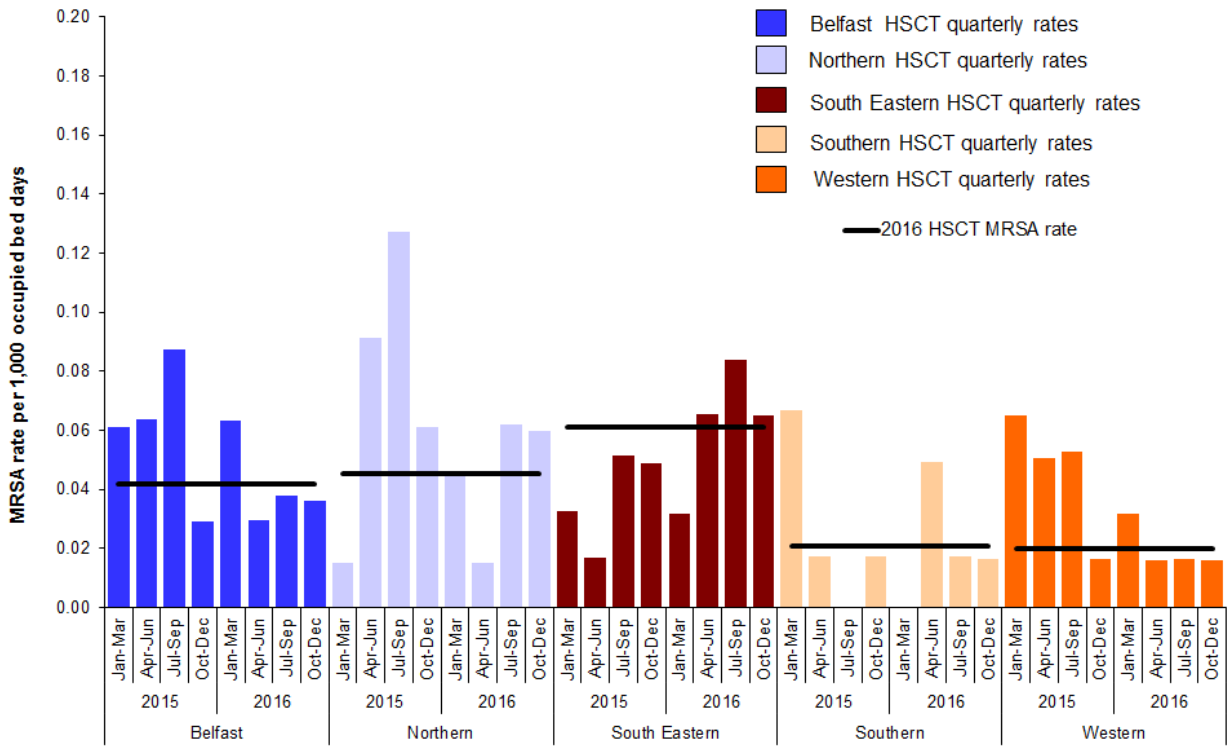


Figure 3: MRSA quarterly rate January 2015 – December 2016, by HSCT, with 2016 HSCT MRSA rate

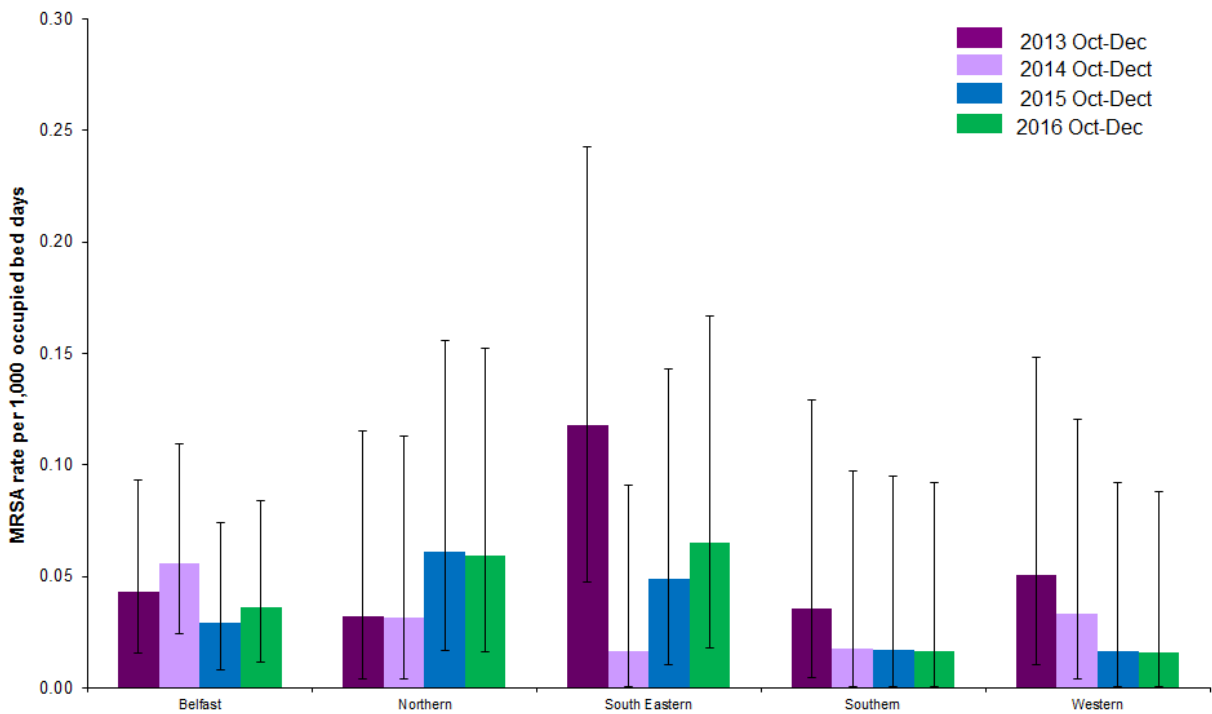


Figure 4: MRSA rate during October-December, by HSCT, from 2013–2016, with 95% confidence intervals

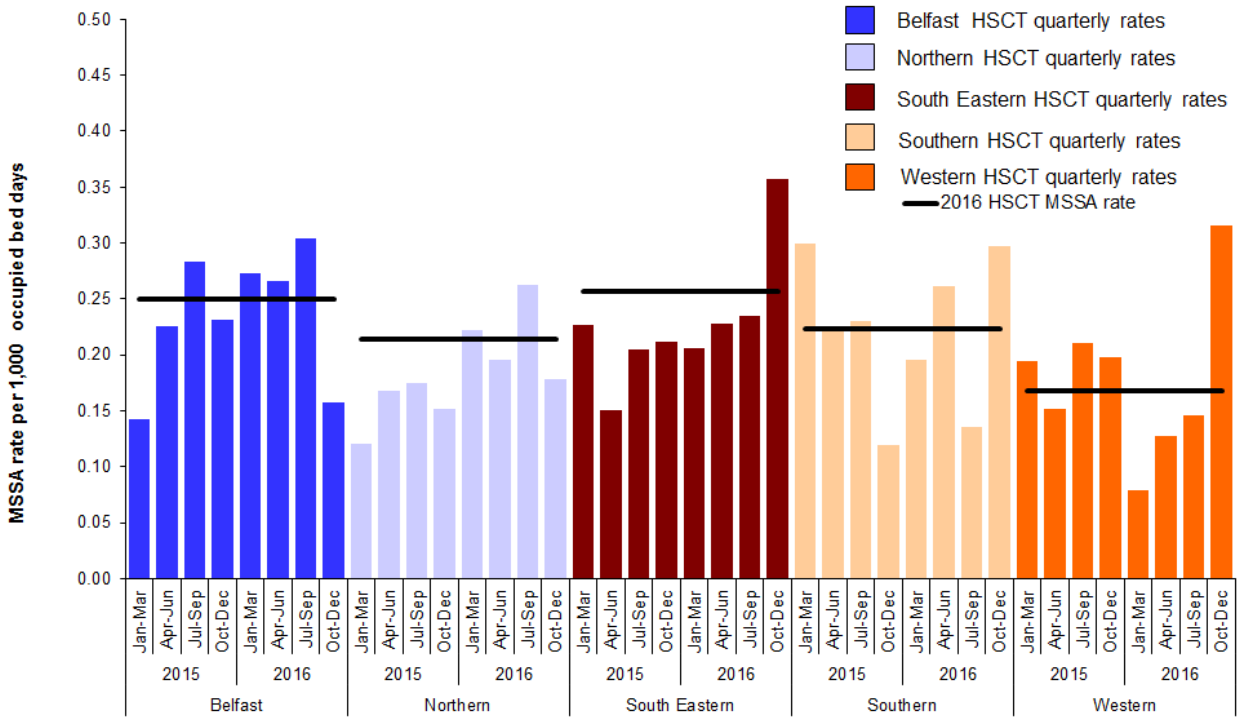


Figure 5: MSSA quarterly rate January 2015 – December 2016, by HSCT, with 2016 HSCT MSSA rate

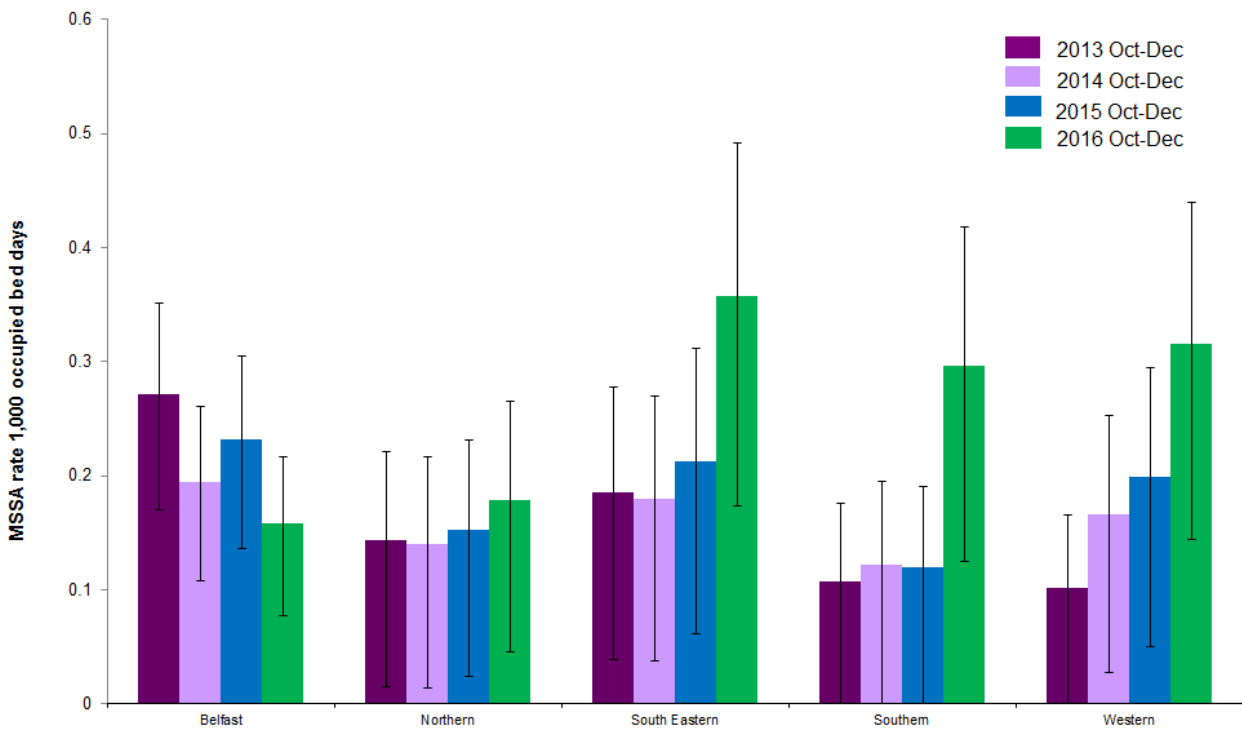


Figure 6: MSSA rate during October - December, by HSCT, from 2013–2016, with 95% confidence intervals

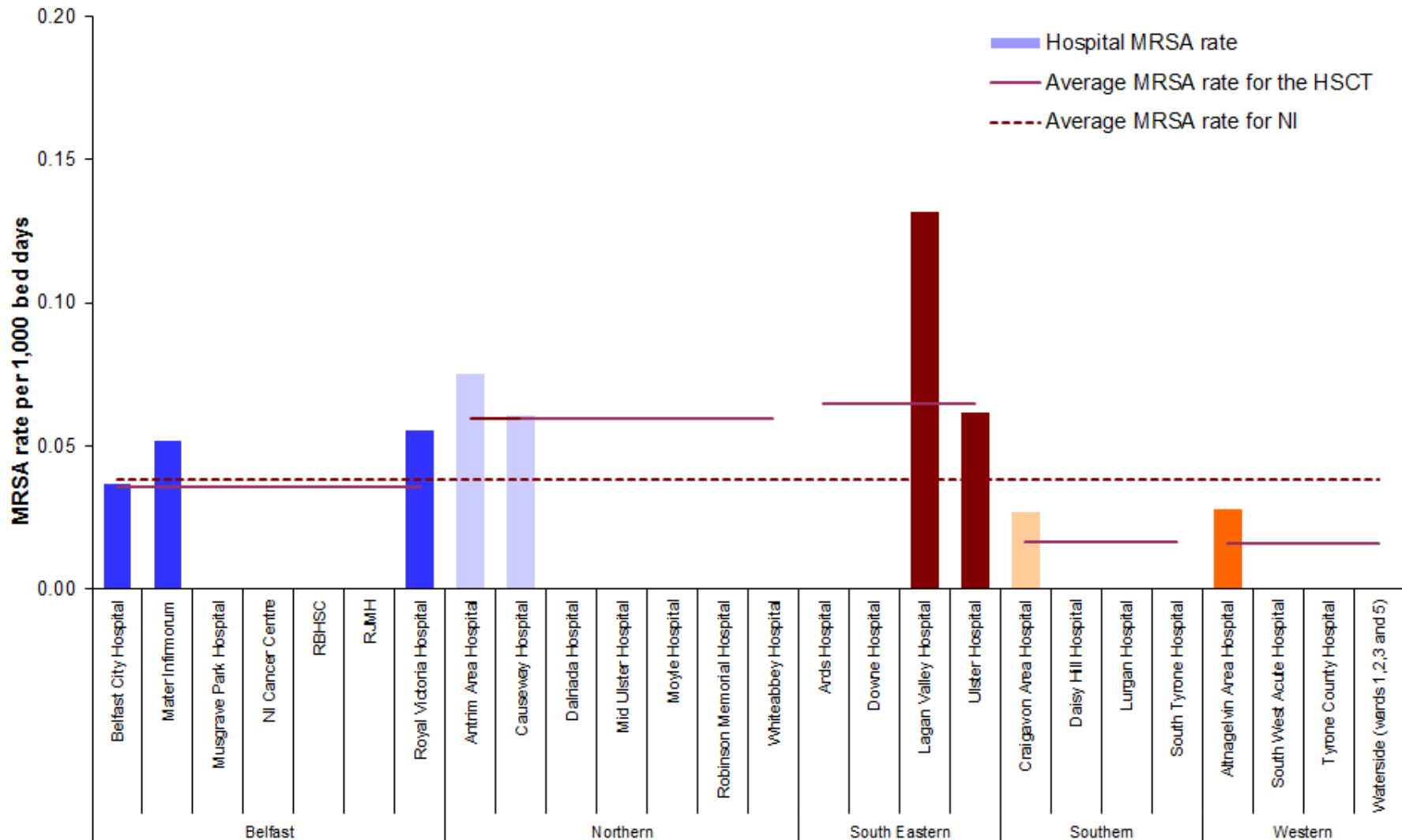


Figure 7: Rates of MRSA, October - December 2016 by individual hospitals, (gaps represent zero episodes), compared to October - December 2016 average rates for Northern Ireland and HSCTs

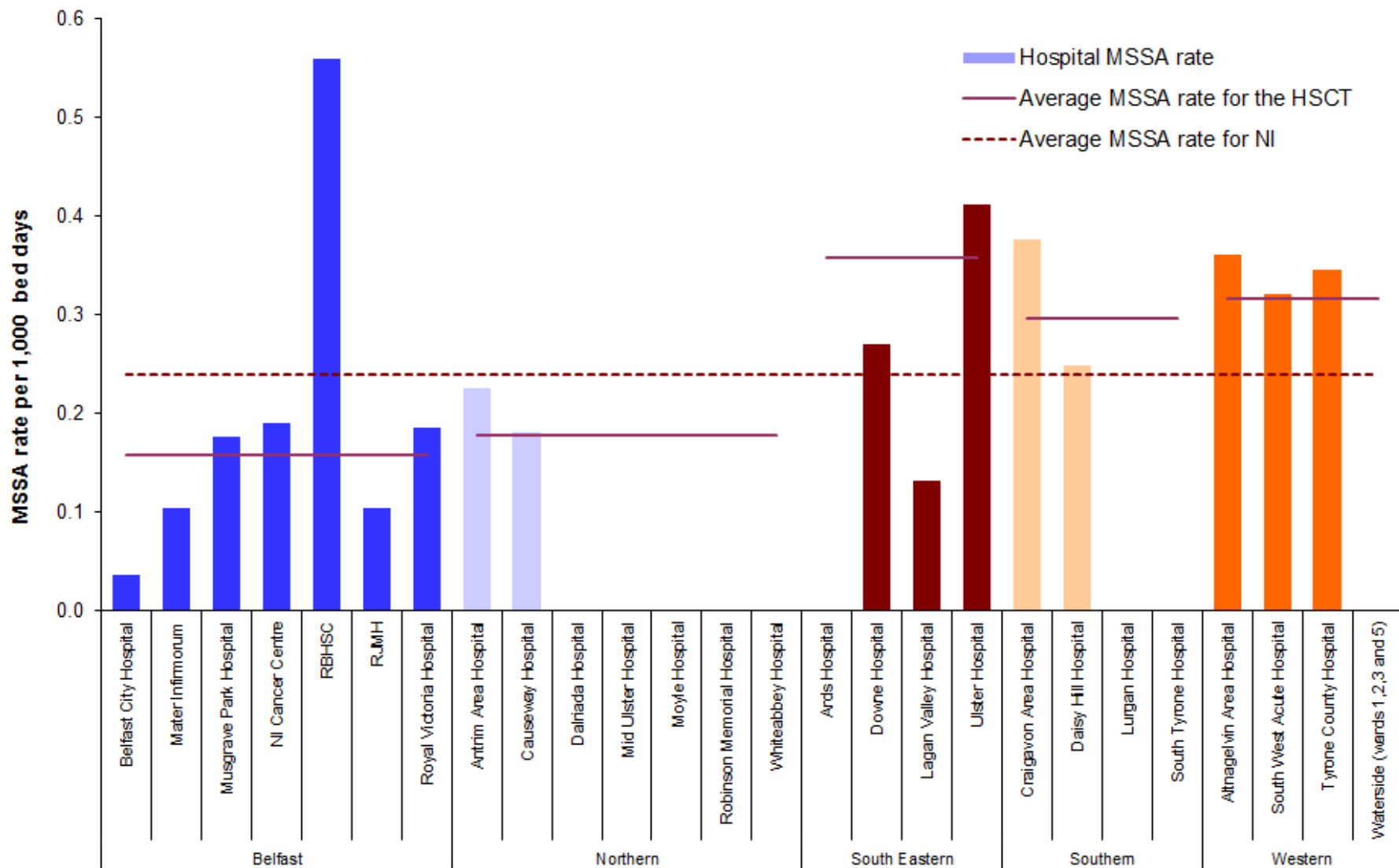


Figure 8: Rates of MSSA, October - December 2016 by individual hospitals, (gaps represent zero episodes), compared to October – December 2016 average rates for Northern Ireland and HSCTs

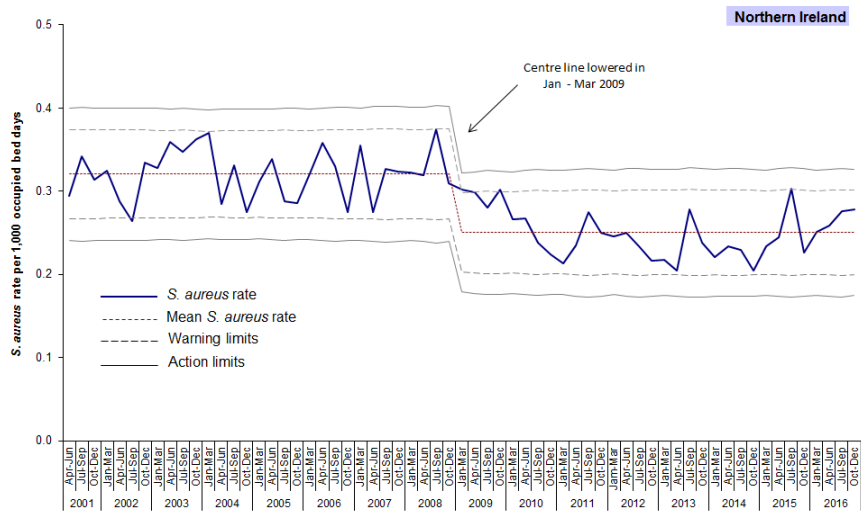


Figure 9a: Statistical process control chart for quarterly *S. aureus* rates in Northern Ireland

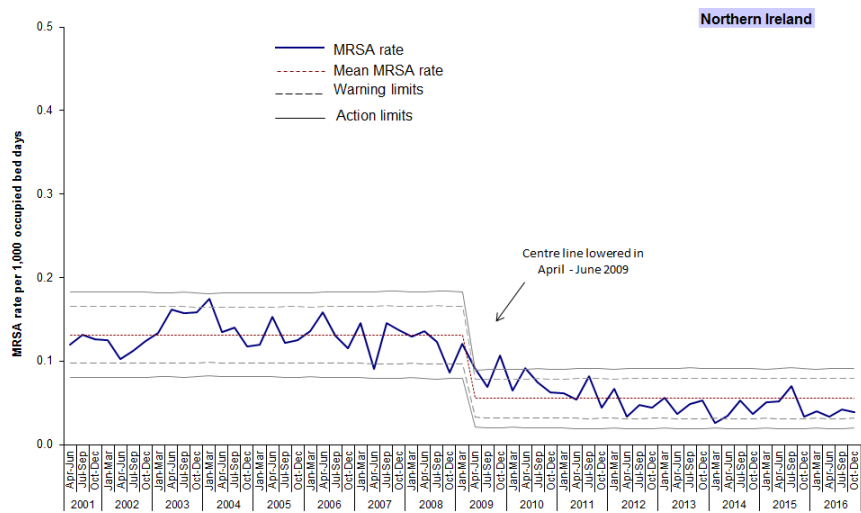


Figure 9b: Statistical process control chart for quarterly MRSA rates in Northern Ireland

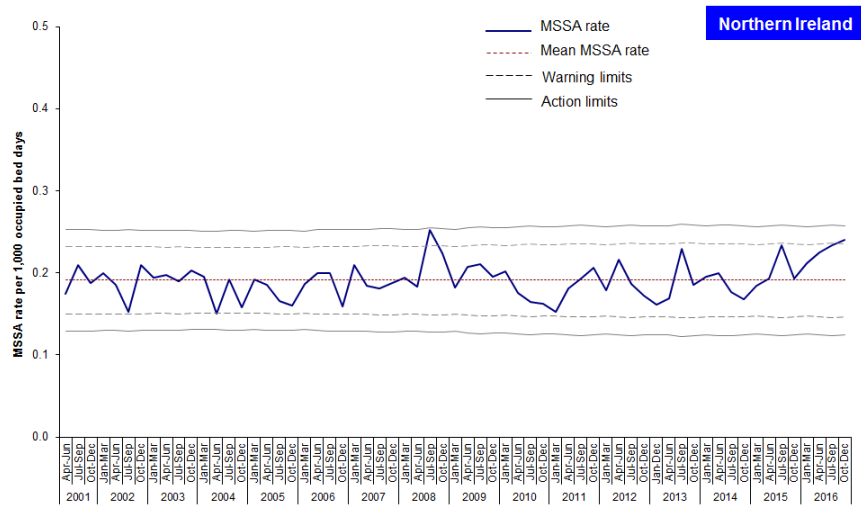


Figure 9c: Statistical process control chart for quarterly MSSA rates in Northern Ireland

Appendix 1

Table 1: Quarterly rate of MRSA patient episodes, by hospital, Jan – Dec 2016

Hospital	Jan - Mar 2016	Apr - Jun 2016	Jul - Sept 2016	Oct - Dec 2016
	Rate	Rate	Rate	Rate
Belfast City Hospital	0.035	0.036	0.075	0.037
Mater Infirmorum	0.050	0.000	0.077	0.052
Musgrave Park Hospital	0.055	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	0.000
RJMH	0.000	0.000	0.000	0.000
Royal Victoria Hospital	0.109	0.054	0.037	0.056
Belfast HSCT	0.063	0.030	0.038	0.036
Antrim Area Hospital	0.076	0.026	0.107	0.075
Causeway Hospital	0.000	0.000	0.000	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 HSCT	0.045	0.015	0.062	0.060
Ards Hospital	0.000	0.000	0.000	0.000
Downe Hospital	0.000	0.276	0.000	0.000
Lagan Valley Hospital	0.000	0.000	0.141	0.132
Ulster Hospital	0.040	0.062	0.084	0.062
South Eastern HSCT	0.032	0.065	0.084	0.065
Craigavon Area Hospital	0.000	0.079	0.027	0.027
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 HSCT	0.000	0.049	0.017	0.016
Altnagelvin Area Hospital	0.000	0.028	0.000	0.028
South West Acute Hospital	0.108	0.000	0.057	0.000
Tyrone County 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	0.032	0.016	0.016	0.016
Northern Ireland total	0.040	0.034	0.043	0.038

Table 2: Quarterly MRSA patient episodes, by Trust, Jan – Dec 2016

Trust	Jan - Mar 2016	Apr - Jun 2016	Jul - Sept 2016	Oct - Dec 2016
	Episodes	Episodes	Episodes	Episodes
Belfast Health & Social Care Trust	9	4	5	5
Northern Health & Social Care Trust	3	1	4	4
South Eastern Health & Social Care Trust	2	4	5	4
Southern Health & Social Care Trust	0	3	1	1
Western Health & Social Care Trust	2	1	1	1
NI TOTAL	16	13	16	15

Appendix 1

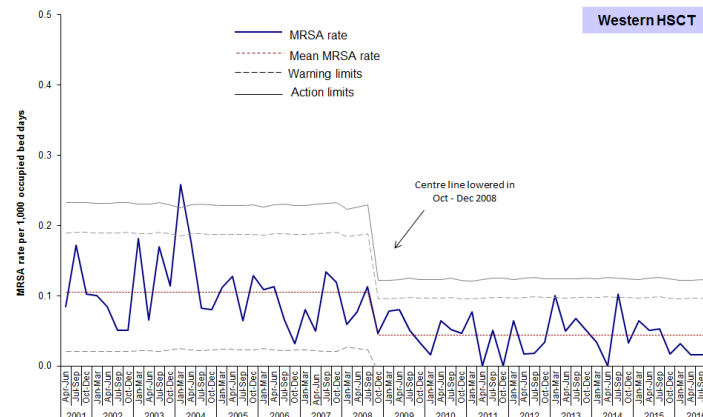
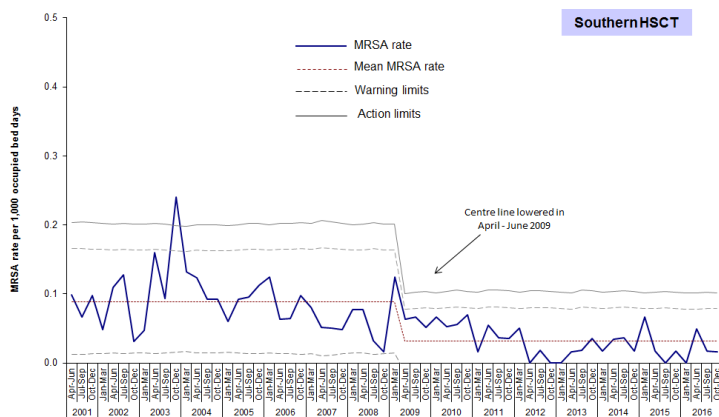
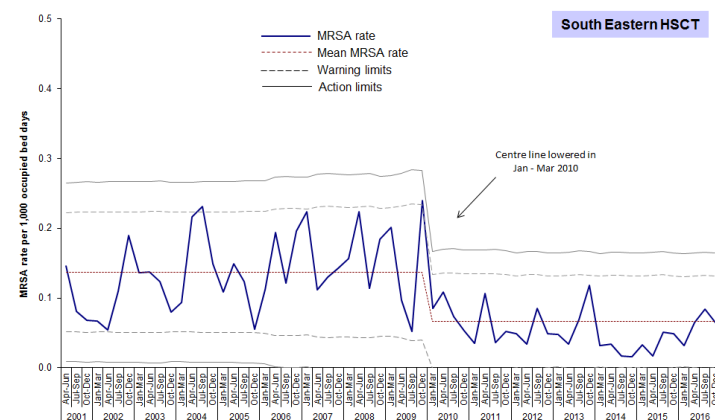
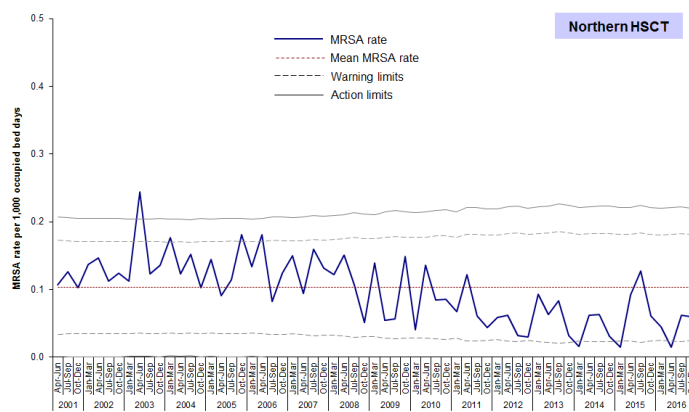
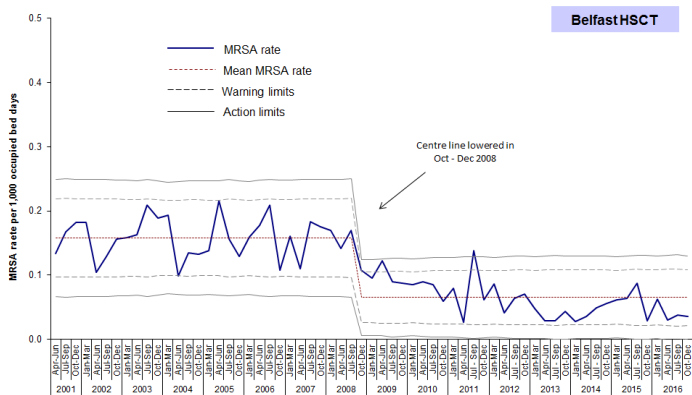
Table 3: Quarterly rate of MSSA patient episodes, by hospital, Jan – Dec 2016

Hospital	Jan - Mar 2016 Rate	Apr - Jun 2016 Rate	Jul - Sep 2016 Rate	Oct - Dec 2016 Rate
Belfast City Hospital	0.317	0.145	0.264	0.037
Mater Infirmorum	0.100	0.301	0.308	0.104
Musgrave Park Hospital	0.000	0.000	0.060	0.176
NICCO (formerly at Belvoir Park)	0.857	0.517	0.177	0.191
RBHSC	0.587	0.591	1.221	0.559
RJMH	0.115	0.115	0.000	0.105
Royal Victoria Hospital	0.327	0.361	0.350	0.185
Belfast HSCT	0.273	0.266	0.304	0.158
Antrim Area Hospital	0.255	0.336	0.348	0.226
Causeway Hospital	0.301	0.000	0.241	0.181
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	0.223	0.196	0.263	0.179
Ards Hospital	0.000	0.000	0.000	0.000
Downe Hospital	0.264	0.276	0.285	0.271
Lagan Valley Hospital	0.000	0.131	0.423	0.132
Ulster Hospital	0.240	0.248	0.211	0.411
South Eastern HSCT	0.206	0.228	0.235	0.358
Craigavon Area Hospital	0.239	0.317	0.082	0.376
Daisy Hill Hospital	0.184	0.190	0.254	0.248
Lurgan Hospital	0.000	0.000	0.000	0.000
South Tyrone Hospital	0.000	0.345	0.357	0.000
Southern HSCT	0.196	0.262	0.136	0.297
Altnagelvin Area Hospital	0.055	0.195	0.170	0.361
South West Acute Hospital	0.162	0.054	0.170	0.321
Tyrone County Hospital	0.000	0.000	0.000	0.345
Waterside Hospital (Wards 1-3, 5)	0.000	0.000	0.000	0.000
Western HSCT	0.080	0.128	0.147	0.316
Northern Ireland total	0.211	0.252	0.234	0.240

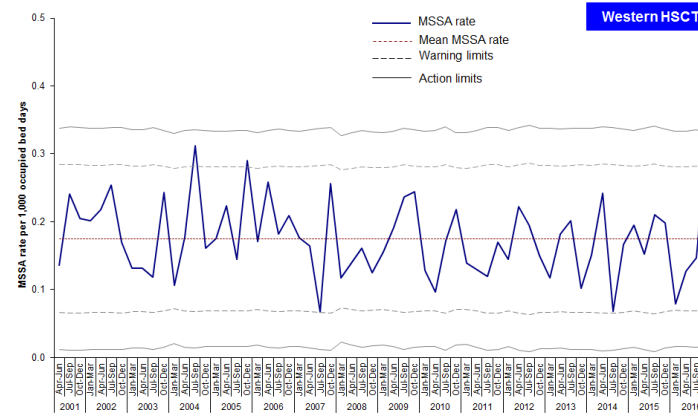
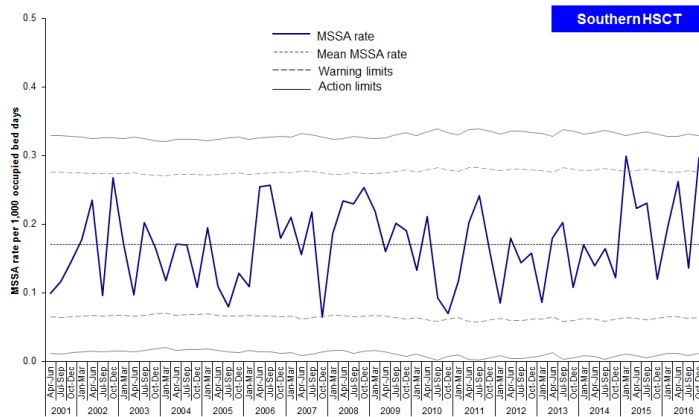
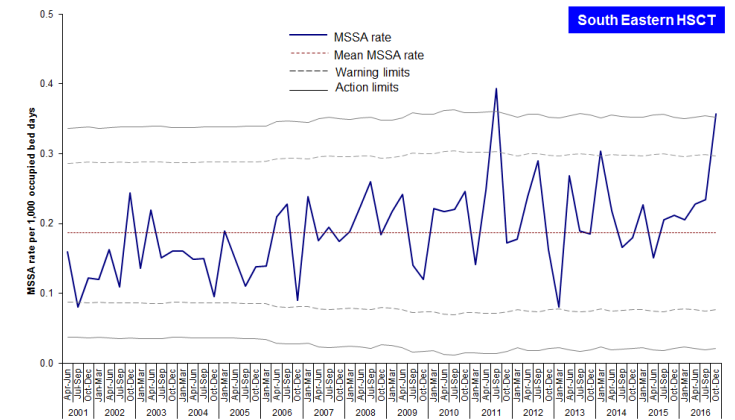
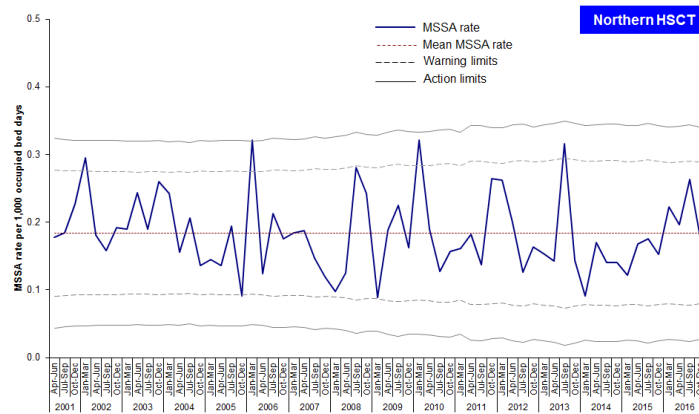
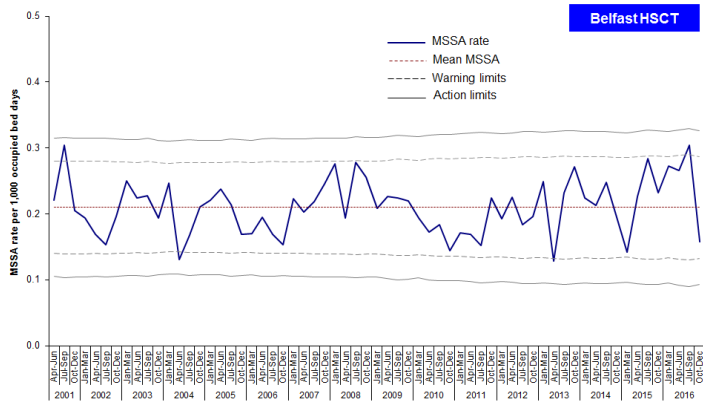
Table 4: Quarterly MSSA patient episodes, by Trust, Jan – Dec 2016

Trust	Jan - Mar 2016 Episodes	Apr - Jun 2016 Episodes	Jul - Sep 2016 Episodes	Oct - Dec 2016 Episodes
Belfast Health & Social Care Trust	39	36	40	22
Northern Health & Social Care Trust	15	13	17	12
South Eastern Health & Social Care Trust	13	14	14	22
Southern Health & Social Care Trust	12	16	8	18
Western Health & Social Care Trust	5	8	9	20
NI TOTAL	84	87	88	94

Appendix 2: Trends in MRSA rates, by HSCT and quarter, 2001–2016



Appendix 2: Trends in MSSA rates, by HSCT and quarter, 2001–2016



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 2007 – Dec 2016

Quarter	MSSA rate	MRSA rate	All <i>S. aureus</i> rate	% MRSA
Jan-Mar 2007	0.208	0.145	0.353	41.1
Apr-Jun 2007	0.183	0.091	0.274	33.2
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

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

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