

S. aureus bacteraemia surveillance

Quarterly report

October - December 2017

Key points

- Overall *S. aureus* (SA) rates for Northern Ireland (MRSA plus MSSA bacteraemias) increased by approximately 55% during October - December 2017 compared to July - September 2017.
- MRSA rates decreased by approximately 18% during October - December 2017 compared to July - September 2017.
- MRSA reports during 2016/17 fell by 25% compared to 2015/16.
- MSSA rates increased by approximately 68% during October - December 2017 compared to July - September 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

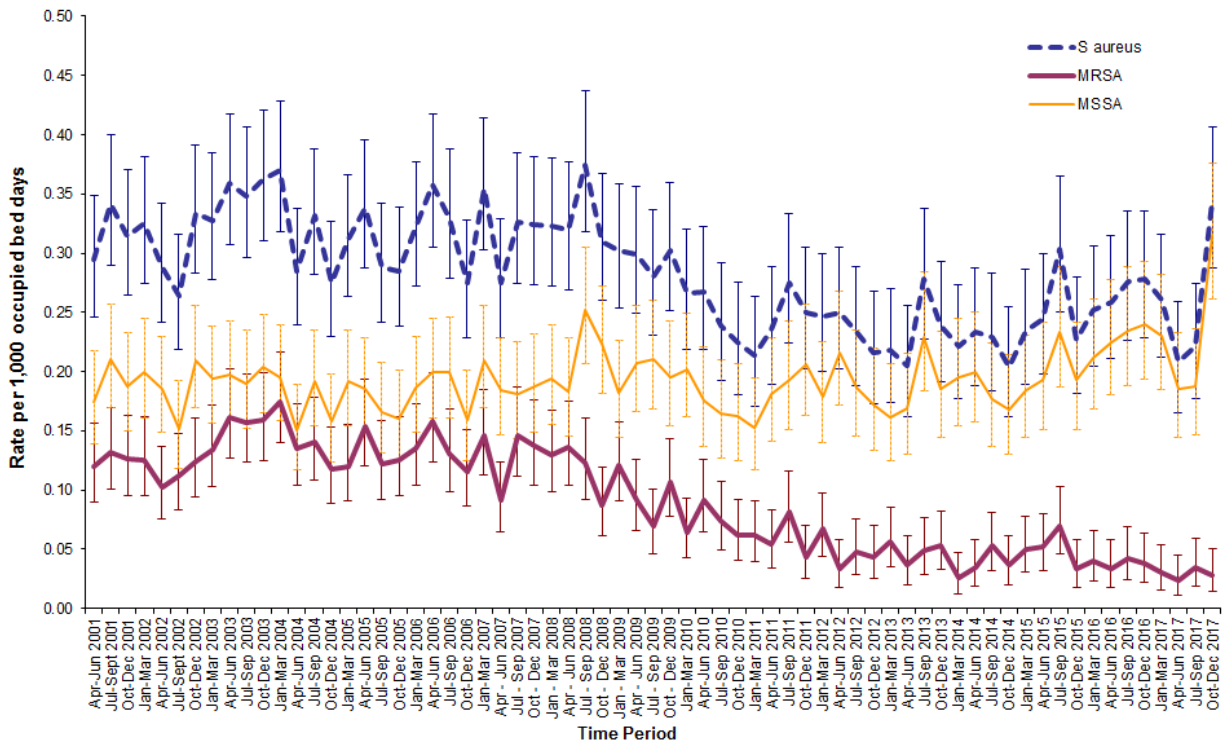


Figure 1: MSSA, MRSA and *S. aureus* rates in Northern Ireland by quarter, with 95% confidence intervals, April 2001 – December 2017 (see Appendix 3)

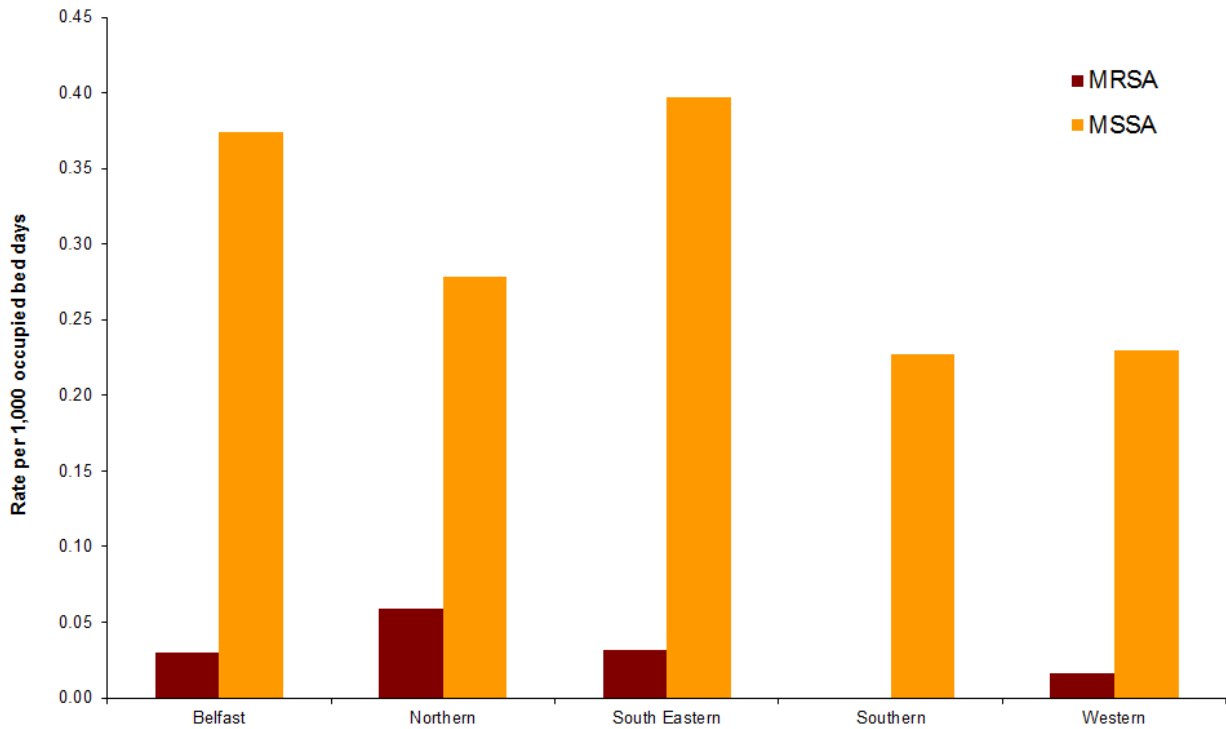


Figure 2: MRSA and MSSA rates per 1,000 occupied bed days, by HSCT, October - December 2017

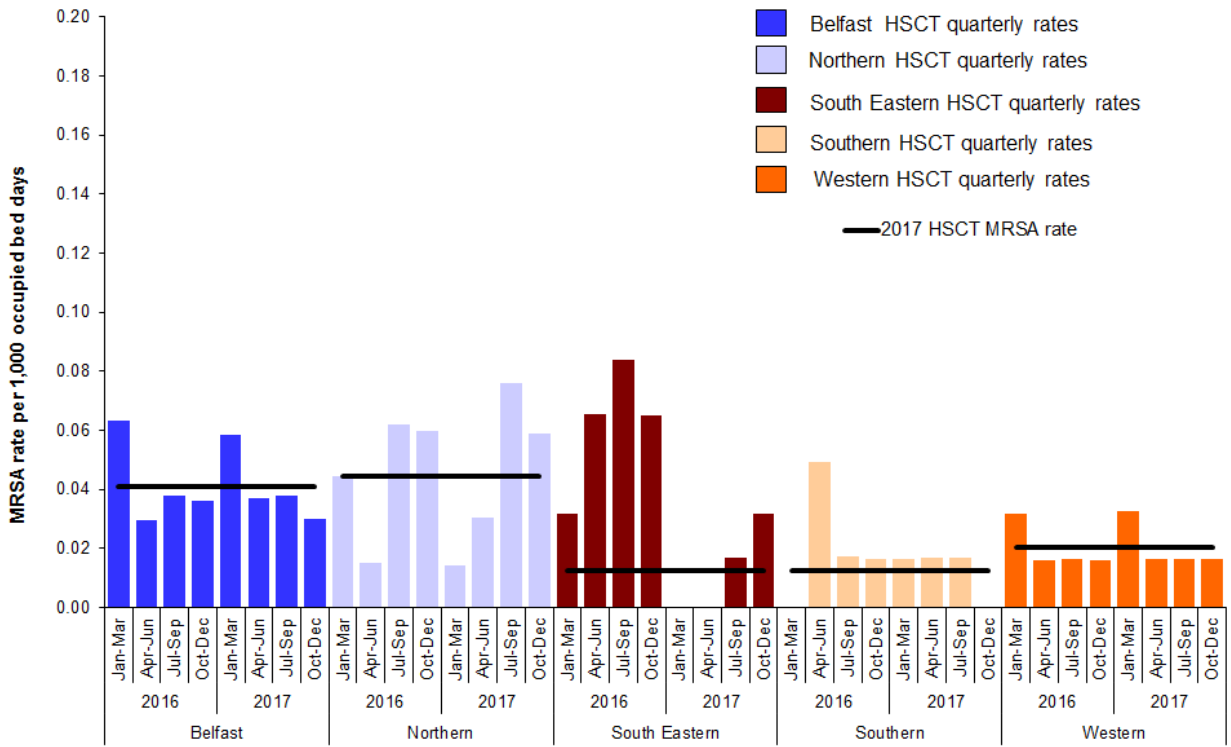


Figure 3: MRSA quarterly rate January 2016 – December 2017, by HSCT, with 2017 HSCT MRSA rate

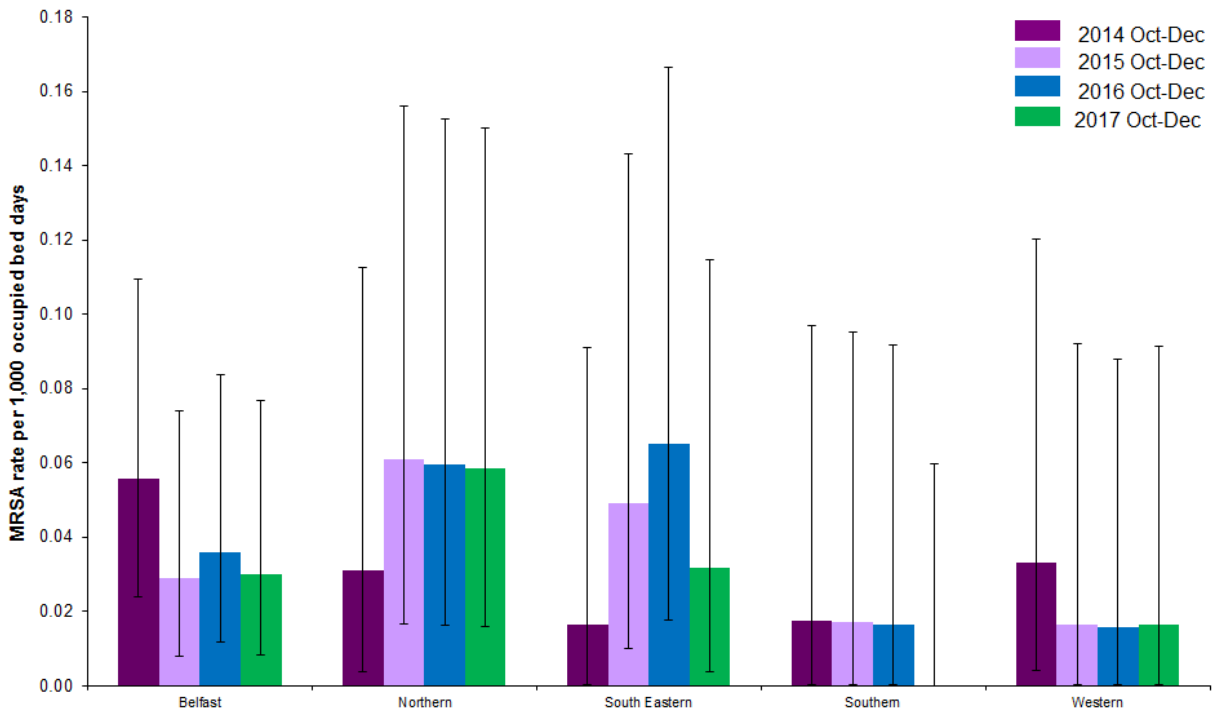


Figure 4: MRSA rate during October - December, by HSCT, from 2014–2017, with 95% confidence intervals

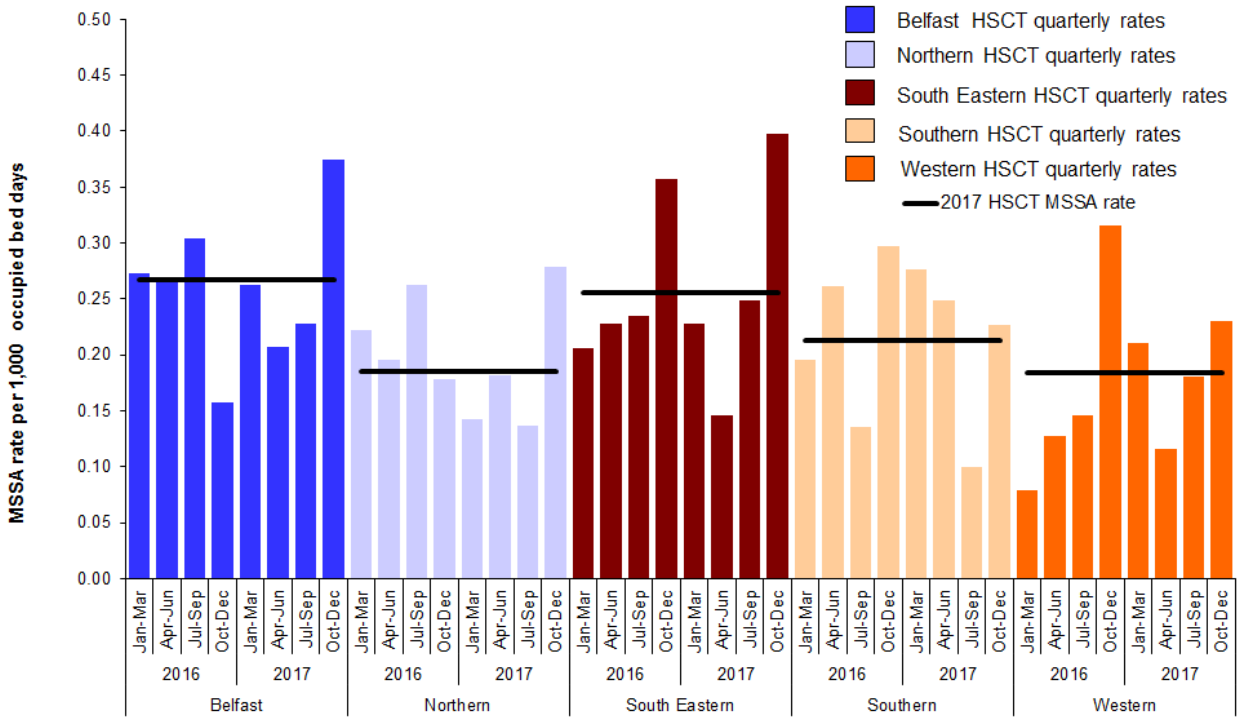


Figure 5: MSSA quarterly rate January 2016 – December 2017, by HSCT, with 2017 HSCT MSSA rate

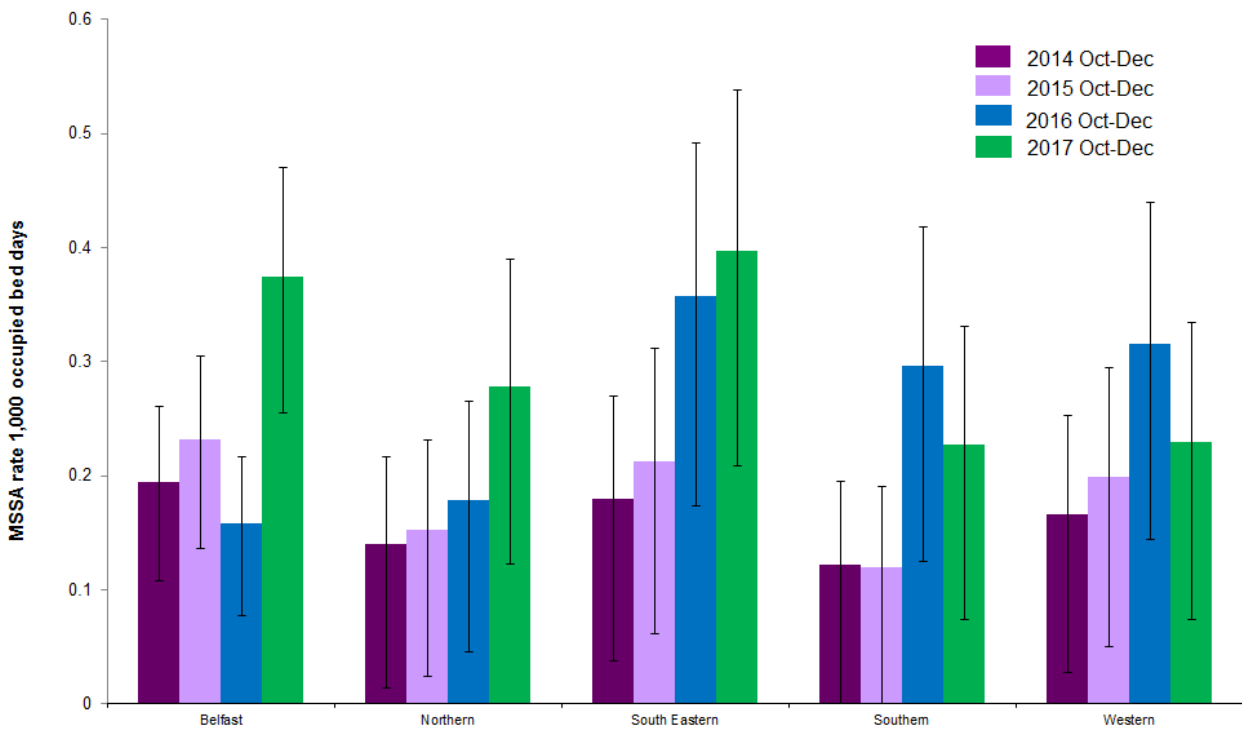


Figure 6: MSSA rate during October - December, by HSCT, from 2014–2017, with 95% confidence intervals

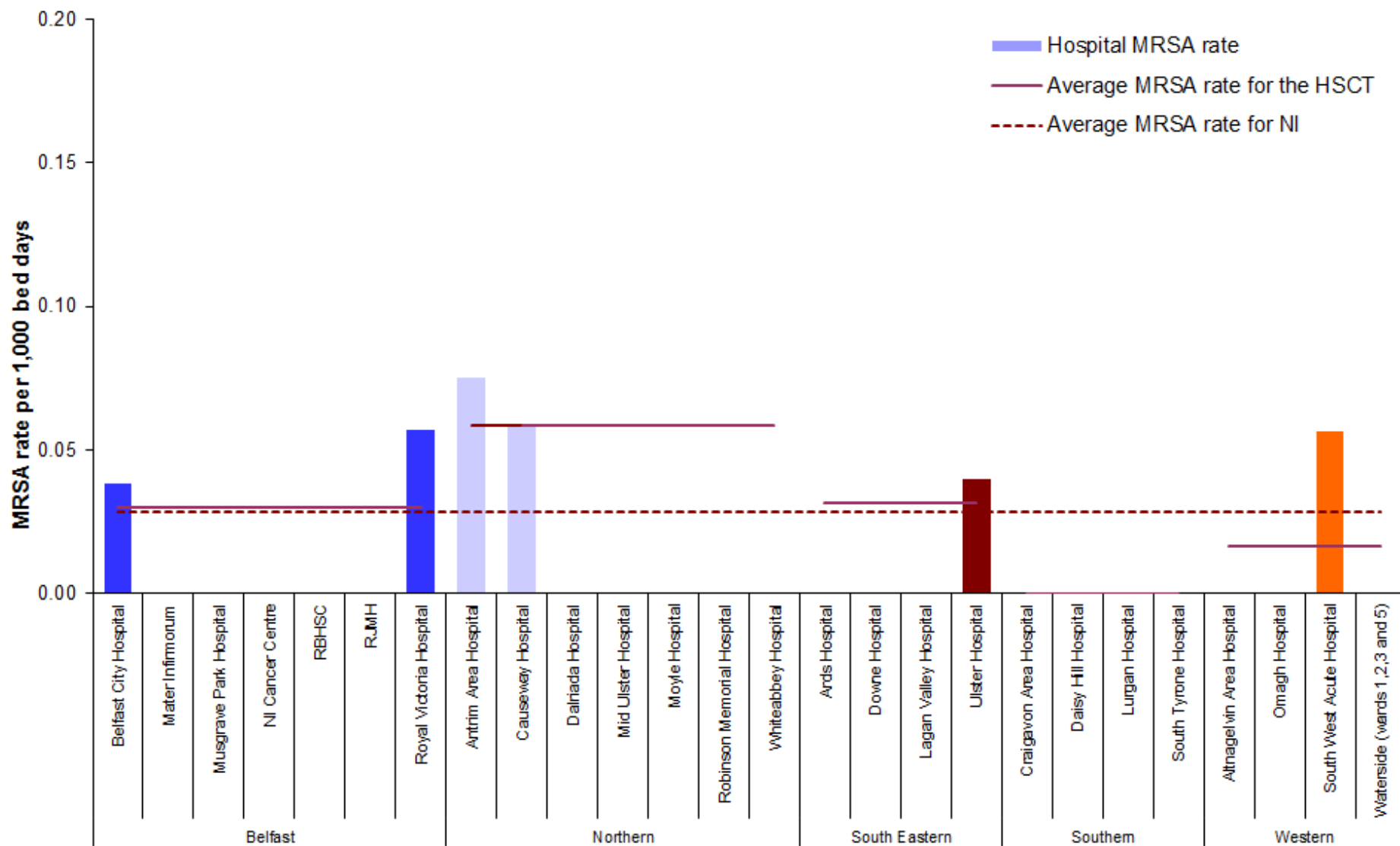


Figure 7: Rates of MRSA, October - December 2017 by individual hospitals, (gaps represent zero episodes), compared to October - December 2017 average rates for Northern Ireland and HSCTs

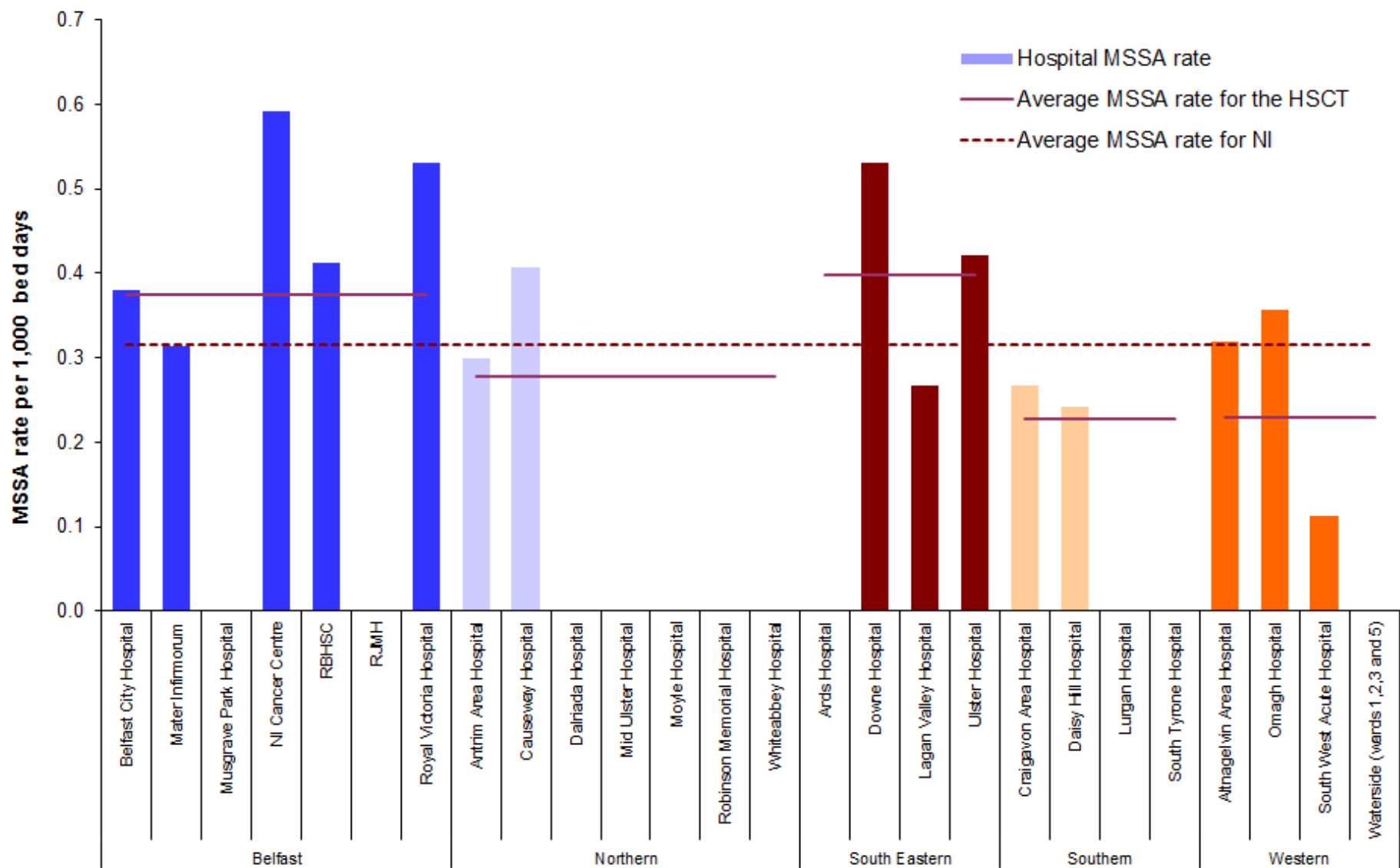


Figure 8: Rates of MSSA, October - December 2017 by individual hospitals, (gaps represent zero episodes), compared to October - December 2017 average rates for Northern Ireland and HSCTs

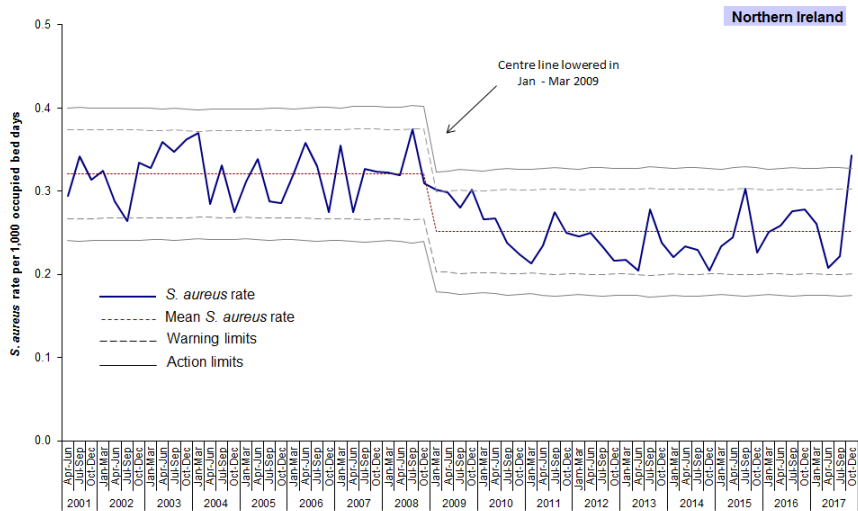


Figure 9a: Statistical process control chart for quarterly *S. aureus* rates in Northern Ireland

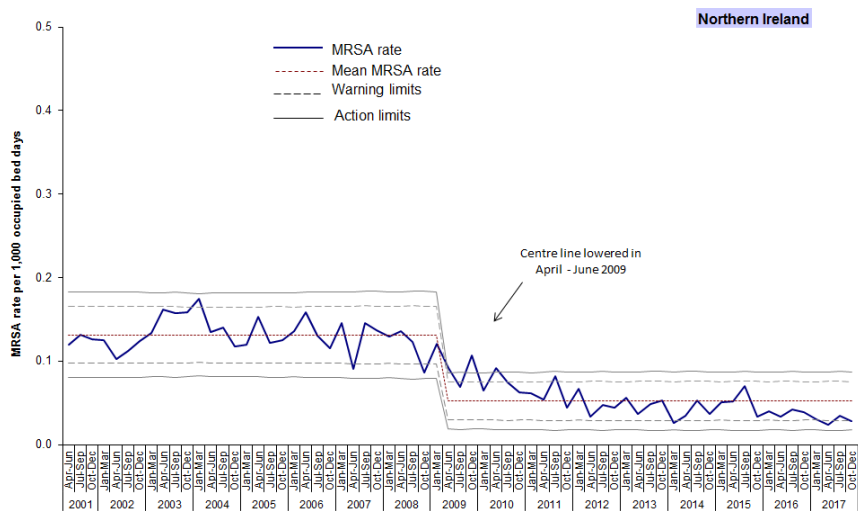


Figure 9b: Statistical process control chart for quarterly MRSA rates in Northern Ireland

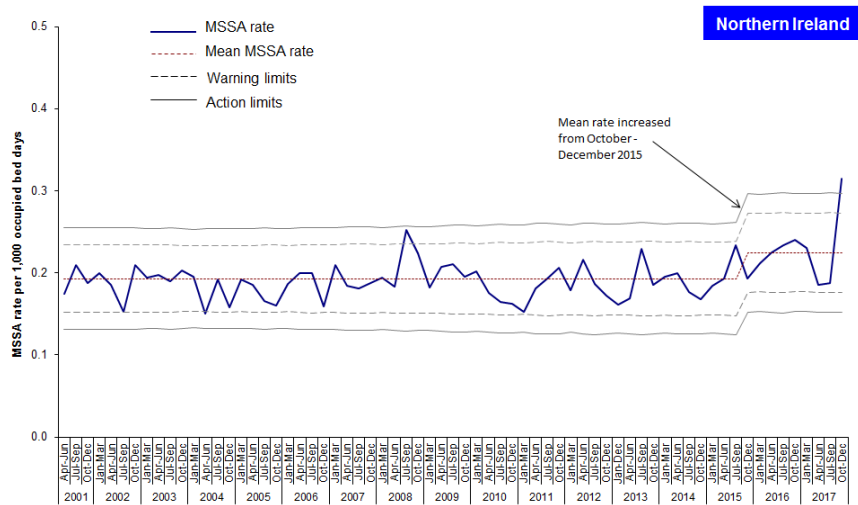


Figure 9c: Statistical process control chart for quarterly MSSA rates in Northern Ireland

Appendix 1

Table 1: Quarterly rate of MRSA patient episodes, by hospital, Jan - Dec 2017

Hospital	Jan - Mar 2017	Apr - Jun 2017	Jul - Sep 2017	Oct - Dec 2017
	Rate	Rate	Rate	Rate
Belfast City Hospital	0.073	0.000	0.000	0.038
Mater Infirmorum	0.053	0.054	0.000	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	0.155	0.000
RJMH	0.000	0.000	0.000	0.000
Royal Victoria Hospital	0.092	0.076	0.078	0.057
Belfast HSCT	0.058	0.037	0.038	0.030
Antrim Area Hospital	0.024	0.051	0.103	0.075
Causeway Hospital	0.000	0.000	0.061	0.058
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	0.014	0.030	0.076	0.059
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	0.000	0.000	0.021	0.040
South Eastern HSCT	0.000	0.000	0.017	0.032
Craigavon Area Hospital	0.026	0.027	0.000	0.000
Daisy Hill Hospital	0.000	0.000	0.063	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	0.016	0.017	0.017	0.000
Altnagelvin Area Hospital	0.029	0.029	0.000	0.000
South West Acute Hospital	0.055	0.000	0.056	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	0.032	0.017	0.016	0.016
Northern Ireland total	0.031	0.023	0.034	0.028

Table 2: Quarterly MRSA patient episodes, by Trust, Jan 2017 – Dec 2017

Trust	Jan - Mar 2017	Apr - Jun 2017	Jul - Sep 2017	Oct - Dec 2017
	Episodes	Episodes	Episodes	Episodes
Belfast Health & Social Care Trust	8	5	5	4
Northern Health & Social Care Trust	1	2	5	4
South Eastern Health & Social Care Trust	0	0	1	2
Southern Health & Social Care Trust	1	1	1	0
Western Health & Social Care Trust	2	1	1	1
NI TOTAL	12	9	13	11

Appendix 1

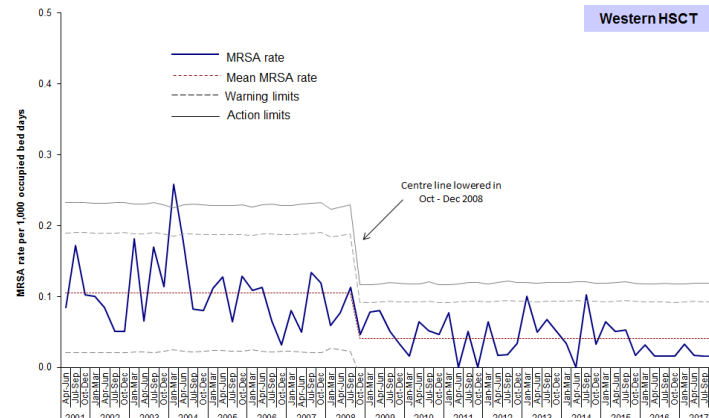
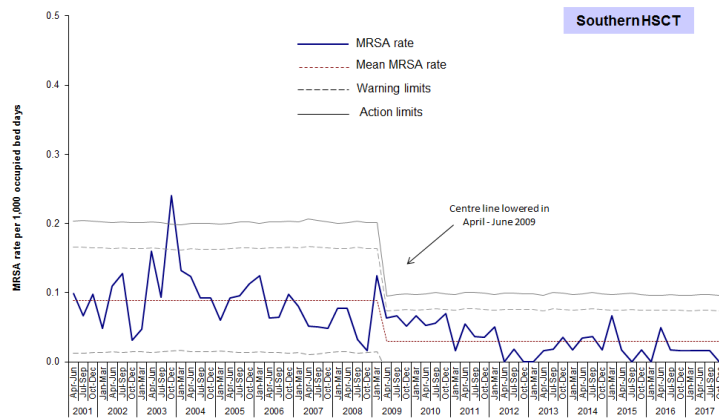
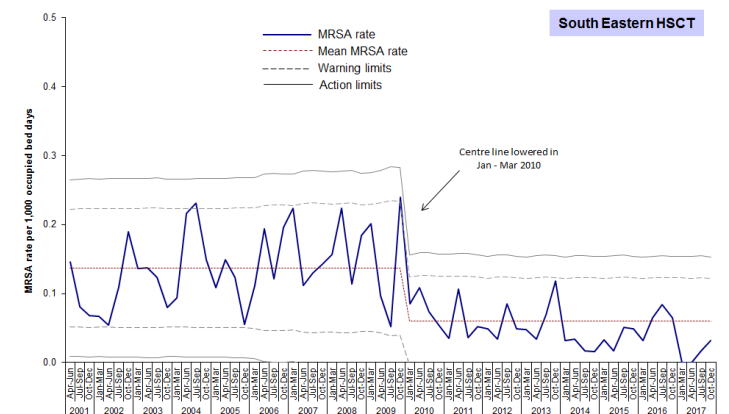
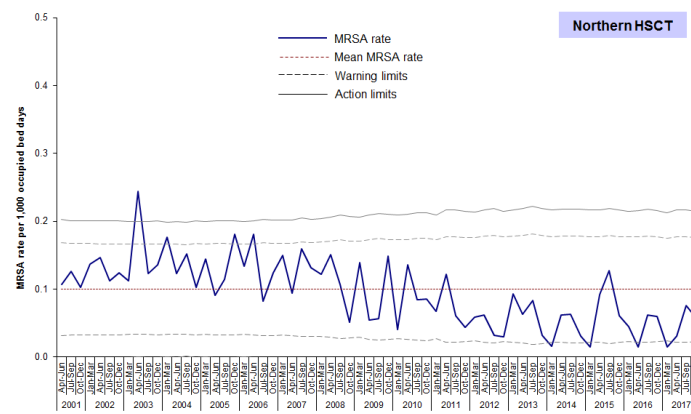
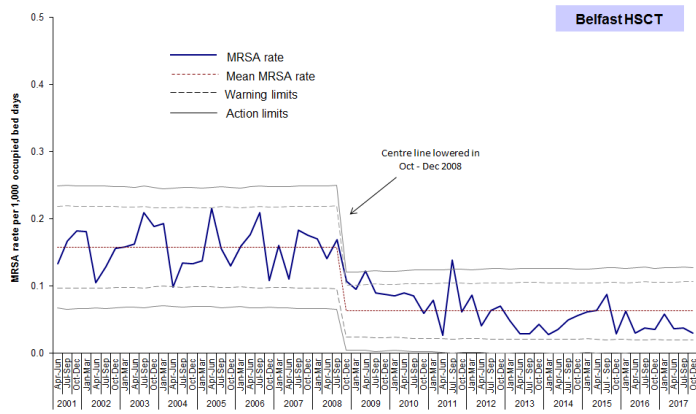
Table 3: Quarterly rate of MSSA patient episodes, by hospital, Jan – Dec 2017

Hospital	Jan - Mar 2017	Apr-Jun 2017	Jul-Sep 2017	Oct - Dec 2017
	Rate	Rate	Rate	Rate
Belfast City Hospital	0.181	0.108	0.187	0.381
Mater Infirmorum	0.368	0.161	0.270	0.313
Musgrave Park Hospital	0.000	0.126	0.000	0.000
NICCO (formerly at Belvoir Park)	0.000	0.000	0.188	0.592
RBHSC	0.421	0.557	0.311	0.412
RJMH	0.120	0.122	0.000	0.000
Royal Victoria Hospital	0.370	0.285	0.332	0.532
Belfast HSCT	0.260	0.207	0.228	0.374
Antrim Area Hospital	0.245	0.283	0.180	0.300
Causeway Hospital	0.000	0.062	0.061	0.406
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	0.260	0.000
Northern HSCT	0.140	0.182	0.136	0.279
Ards Hospital	0.000	0.000	0.000	0.000
Downe Hospital	0.516	0.000	0.568	0.531
Lagan Valley Hospital	0.131	0.265	0.277	0.268
Ulster Hospital	0.229	0.144	0.230	0.421
South Eastern HSCT	0.230	0.146	0.249	0.397
Craigavon Area Hospital	0.286	0.270	0.081	0.266
Daisy Hill Hospital	0.377	0.376	0.126	0.243
Lurgan Hospital	0.000	0.000	0.000	0.000
South Tyrone Hospital	0.000	0.000	0.341	0.000
Southern HSCT	0.280	0.265	0.100	0.227
Altnagelvin Area Hospital	0.286	0.114	0.203	0.320
South West Acute Hospital	0.165	0.117	0.224	0.113
Tyrone County / Omagh Hospital	0.000	0.000	0.000	0.357
Waterside Hospital (Wards 1-3, 5)	0.000	0.000	0.000	0.000
Western HSCT	0.210	0.116	0.180	0.230
Northern Ireland total	0.230	0.185	0.187	0.315

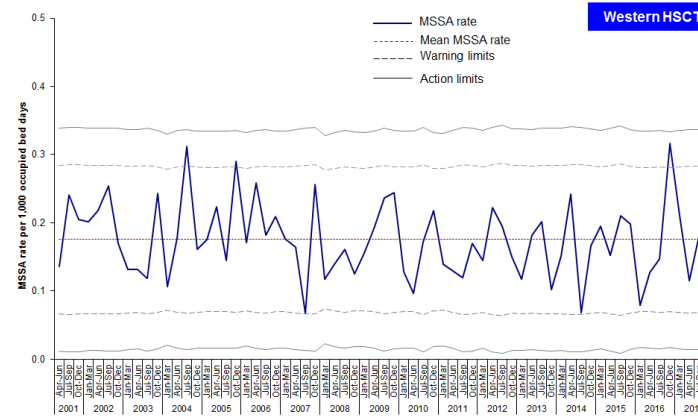
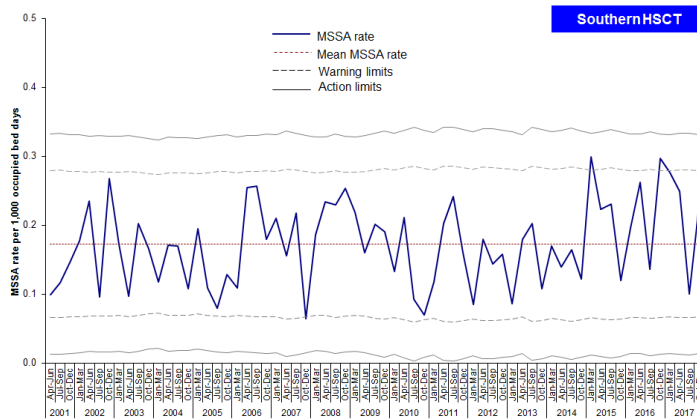
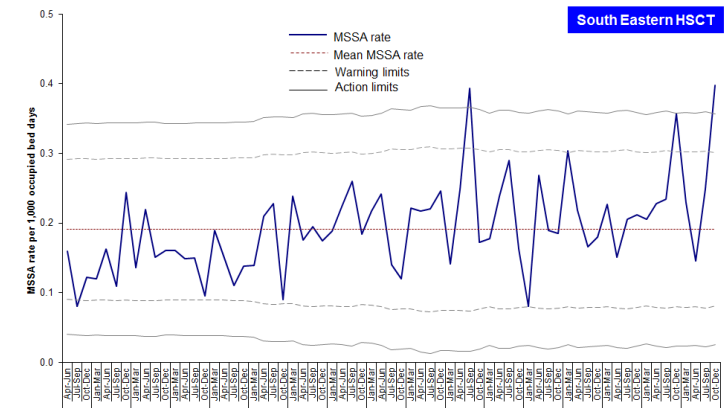
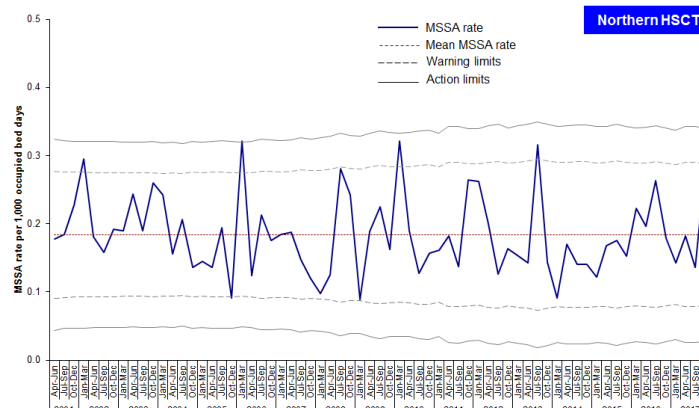
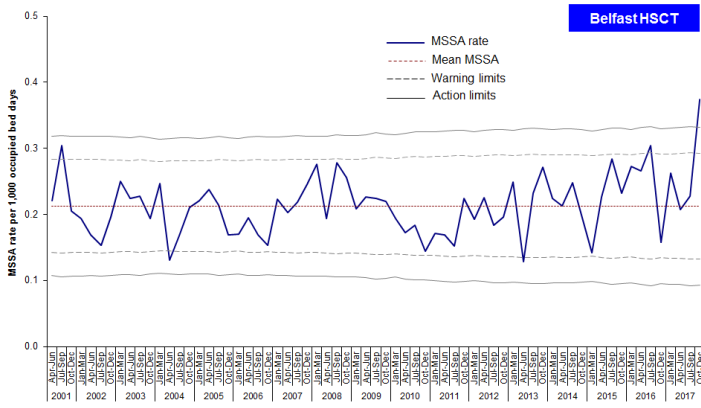
Table 4: Quarterly MSSA patient episodes, by Trust, Jan 2017 – Dec 2017

Trust	Jan - Mar 2017	Apr-Jun 2017	Jul-Sep 2017	Oct-Dec 2017
	Episodes	Episodes	Episodes	Episodes
Belfast Health & Social Care Trust	36	27	30	50
Northern Health & Social Care Trust	10	12	9	19
South Eastern Health & Social Care Trust	14	9	15	25
Southern Health & Social Care Trust	17	16	6	14
Western Health & Social Care Trust	13	8	11	14
NI TOTAL	90	72	71	122

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, Jan 2008 – Dec 2017

Quarter	MSSA rate	MRSA rate	All <i>S. aureus</i> rate	% MRSA
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
Oct-Dec 2017	0.315	0.028	0.343	8.2

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
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