

S. aureus bacteraemia surveillance

Quarterly report

October – December 2012 (Q4 2012)

Key points

- Overall *S. aureus* (SA) rates for Northern Ireland (MRSA plus MSSA bacteraemias) decreased by approximately 8% during quarter four 2012.
- MRSA rates decreased by approximately 8% compared to quarter three 2012 (from 18 to 17 reports).
- MRSA reports during 2011/12 fell 17% compared to 2010/11.
- MSSA rates decreased by approximately 8% compared to quarter three 2012 (from 70 to 66 reports).
- MSSA reports during 2011/12 rose by 13% compared to 2010/11.
- SA rates for quarter four 2012 remain within expected parameters on the SPC chart for Northern Ireland.
- MRSA rates remain within expected parameters on the SPC chart for Northern Ireland.
- MSSA rates remain within expected parameters on the SPC chart for Northern Ireland.

***S. aureus* bacteraemia surveillance**

***S. aureus* (MRSA plus MSSA)**

- The Northern Ireland rate of SA bacteraemia (MRSA plus MSSA) **decreased** from 0.234/1,000 occupied bed days in quarter three 2012 to 0.216/1,000 occupied bed days this quarter (Figure 1 and Table 3).
- In all, 84 SA reports were notified between October to December 2012, a decrease of 4 (5%) on the previous quarter (88 reports).

MRSA

- The number of MRSA bacteraemias **decreased** by 6%, from 18 reports in quarter three to 17 reports this quarter (Table 1).
- The MRSA rate **decreased** by 8%, from 0.048/1,000 occupied bed days in quarter three 2012 to 0.044/1,000 occupied bed days this quarter (Figure 1 and Table 3).
- The overall percentage of SA patient episodes reported as MRSA **decreased** by approximately 0.1%, from 20.5% in quarter three to 20.4% this quarter (Table 3).
- Three of the five Health and Social Care Trusts (HSCTs) saw a decrease in MRSA rates during this quarter (Figure 3). Regarding the HSCTs that saw an increase, when the MRSA rates for this quarter are compared to quarter four in previous years, using 95% confidence intervals, there is no statistically significant change (Figure 4).

MSSA

- The number of MSSA bacteraemias **decreased** by 4%, from 70 reports in quarter three 2012 to 67 reports this quarter (Table 2).
- The MSSA rate **decreased** by 8%, from 0.186/1,000 occupied bed days in quarter three to 0.172/1,000 occupied bed days this quarter (Figure 1 and Table 3). There was no statistically significant change in MSSA rates between the two quarters (Figure 1).
- This quarter, all five HSCTs reported higher MSSA rates than MRSA (Figure 2).
- MSSA rates increased in three of the five HSCTs this quarter (Figure 5). However, when compared to quarter four in previous years, there is no statistically significant change in MSSA rates in any of the Trusts (Figure 6).
- Figures 7 and 8 show the rates of MRSA and MSSA patient episodes in each hospital and HSCT during this quarter (see also Tables 1 and 2).

SPC charts

- Trends in overall SA rates, and in MRSA and MSSA rates, since SA reporting commenced in 2001 are presented for each HSCT in the form of Statistical Process Control (SPC) charts in Figure 9 and Appendix 2. SPC charts allow a distinction to be made between natural variation and 'special cause variation' where something unusual may be occurring. Further details on SPC charts can be found in appendix 4.
- For some of the SPC charts the mean rates have been re-set following a run of 8 consecutive points below the mean. The likelihood of this occurring randomly is very low and therefore the occurrence of 8 consecutive points below the mean is treated as special cause variation. As the run occurs below the mean this is evidence of a significant downward shift in the mean rate. New control limits are established using the data from the first point of the downward trend, that is, the first point in the run of 8 that occurs below the mean. This gives a better estimate of the true rate and therefore a better estimate of the variation which is due to common causes only.
- For Northern Ireland as a whole, SA, MRSA and MSSA rates remain within expected parameters of the regional SPC charts (Figures 9a, 9b & 9c).

Caveats

- The data in this report reflect SA patient episodes that have been validated by diagnostic laboratories in each HSCT and compared to the Northern Ireland healthcare associated infections (HCAI) web-based surveillance system. The data may be subject to change. Any updates will be reflected in the next quarterly surveillance report.
- A number of recent SA reports (for which patient source was known) have been from patients located in accident and emergency departments at the time of blood sampling. Although the actual source of infection may have been external to the accident and emergency department where the specimens were tested, these patients are included in the relevant HSCT's quarterly SA total. Transferred patients and duplicates between HSCTs (within 14 days) are removed from the dataset, as much as possible, using information from the usual laboratory reporting systems, including CoSurv and EARSS. It should be noted that the potential for including duplicates remains.
- Appendix 5 has been added to this report to assist with clarification of definitions relating to *S. aureus* patient episodes.
- KH03a bed day data was not available for the Royal Maternity Hospital; therefore, the figures used are based on an estimate generated using quarter four bed day data for this hospital from previous years. This bed day information will be updated when it becomes available.

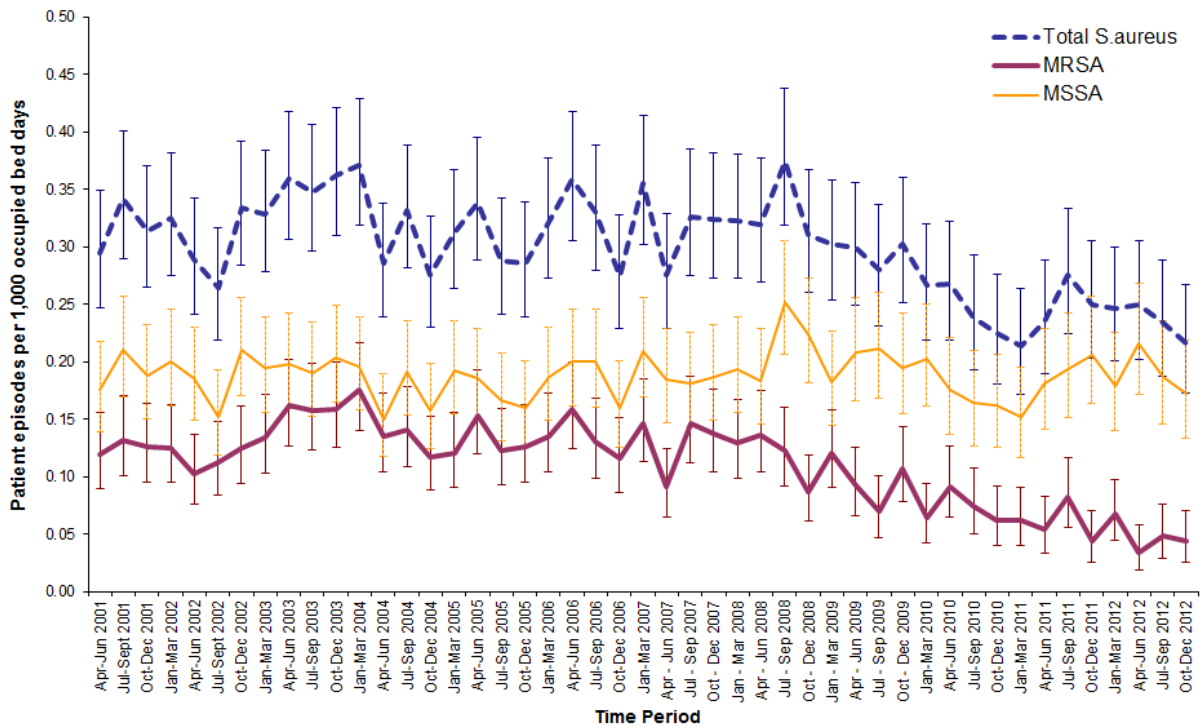


Figure 1: MSSA, MRSA and *S. aureus* patient episode rates in Northern Ireland by quarter, with 95% confidence intervals, April 2001 – Dec 2012 (see Appendix 3)

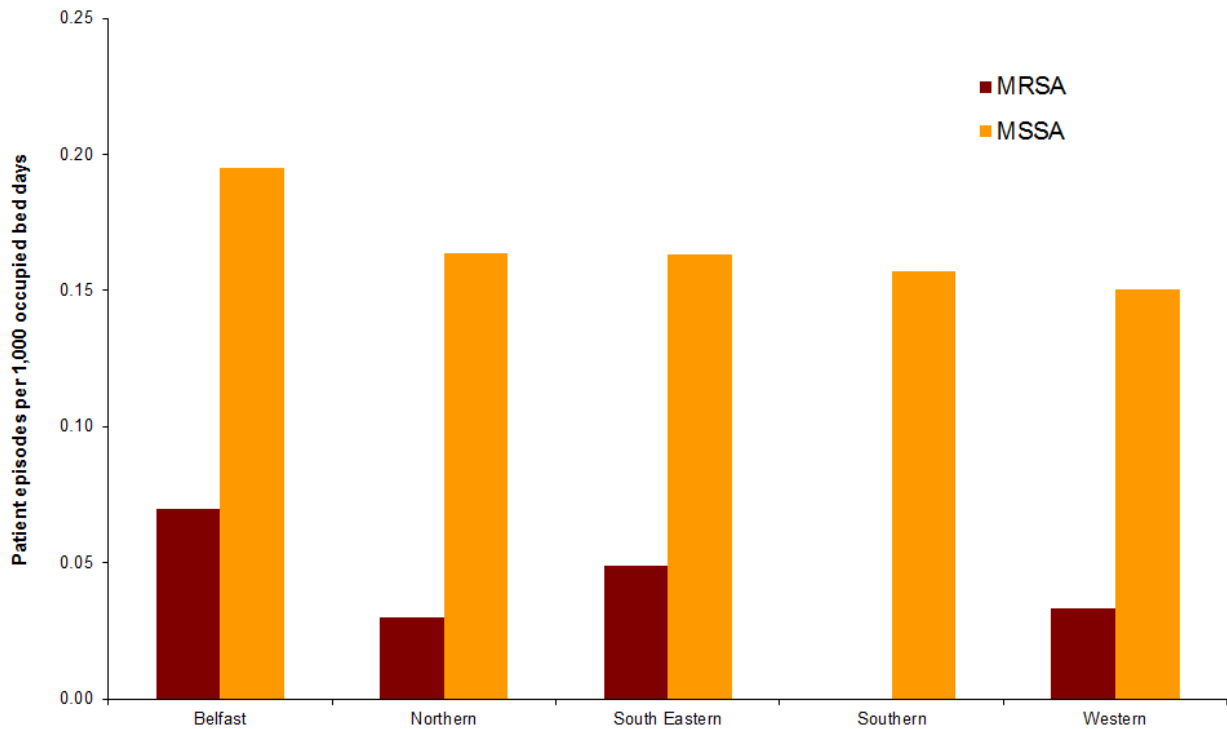


Figure 2: MRSA and MSSA patient episodes per 1,000 occupied bed days, by HST, October – December 2012

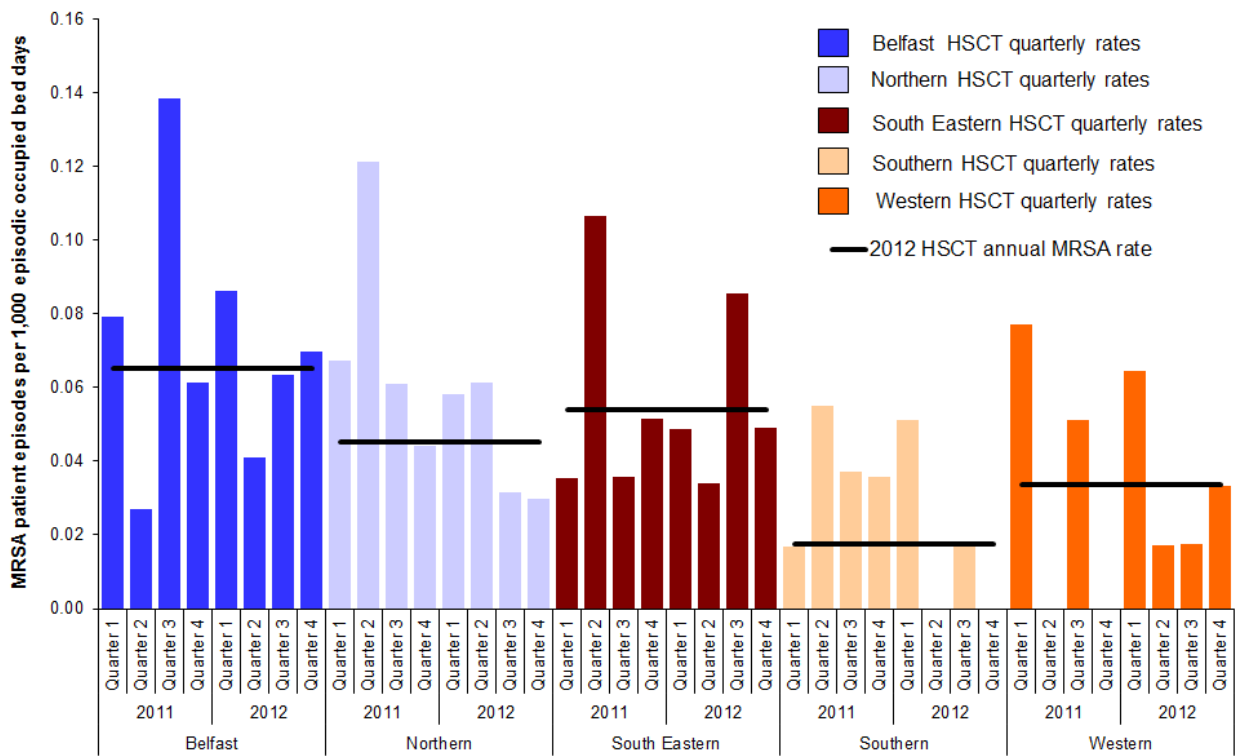


Figure 3: Quarterly rates of MRSA by HSCT, 1 January 2011 - 31 December 2012, with 2012 HSCT annual MRSA rates

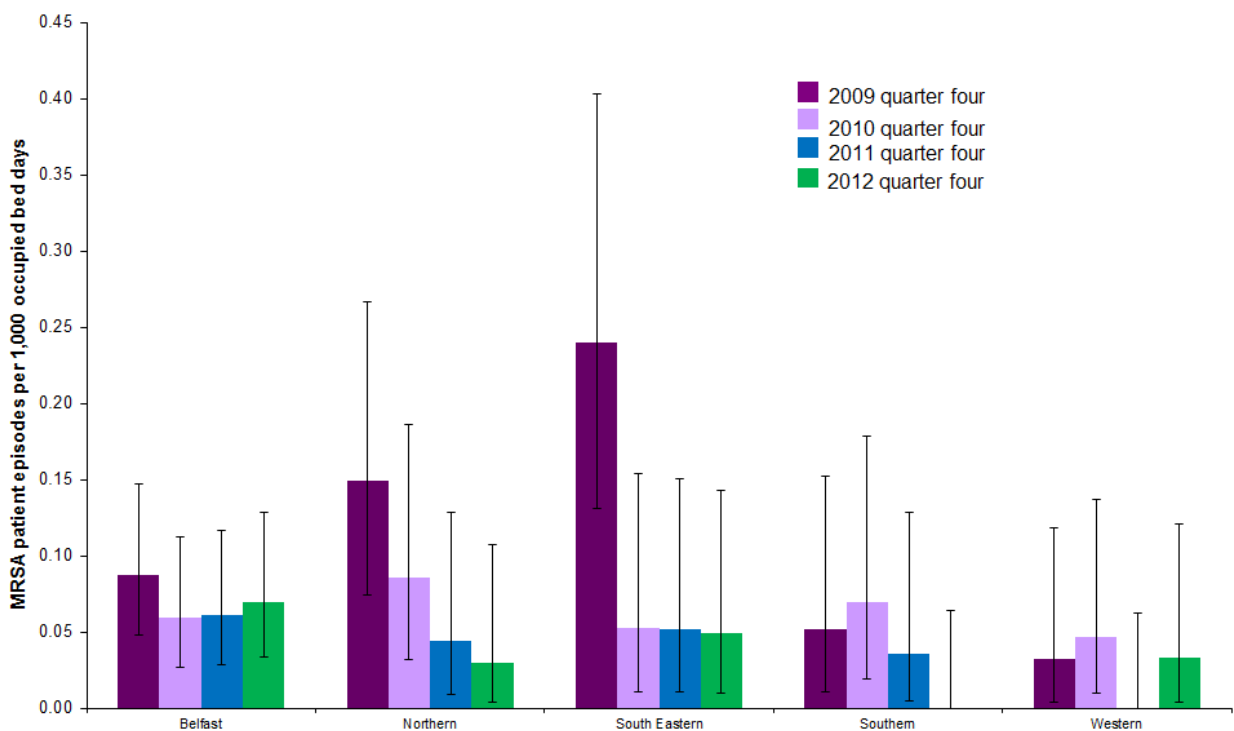


Figure 4: MRSA patient episodes in quarter four, by HSCT, from 2009–2012, with 95% confidence intervals

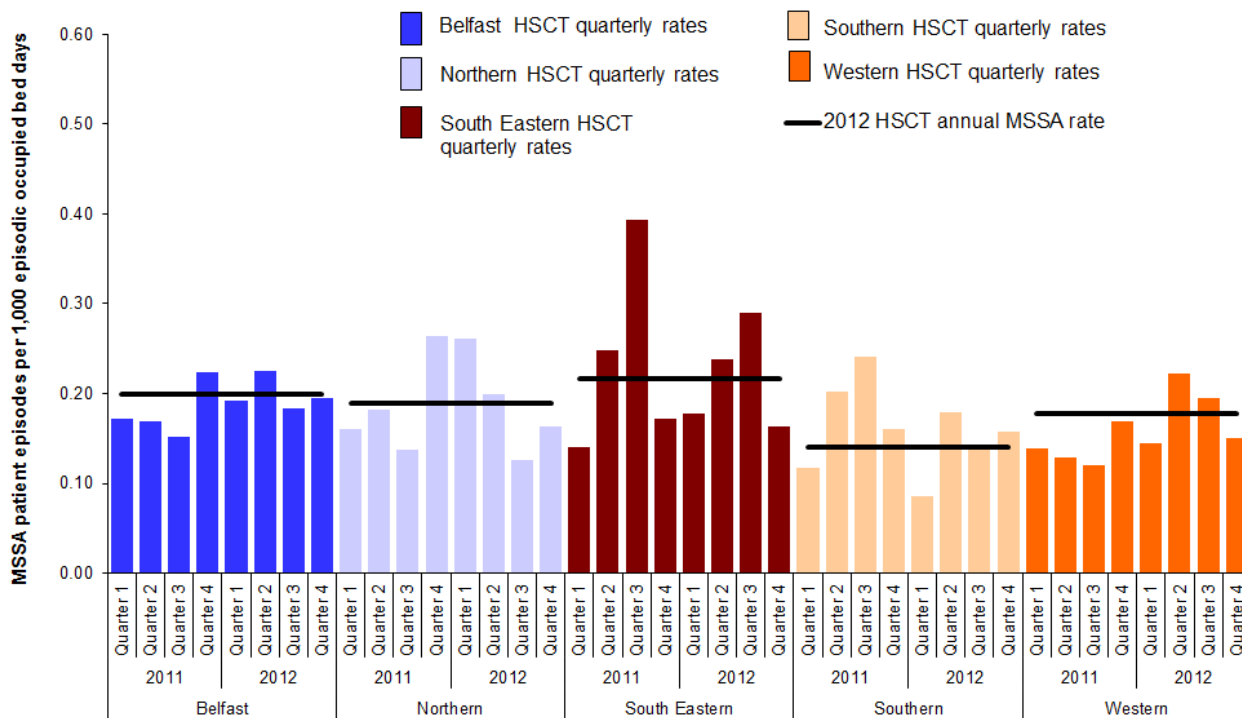


Figure 5: Quarterly rates of MSSA by HSCT, 1 January 2011 – 31 December 2012, with 2012 HSCT annual MSA rates

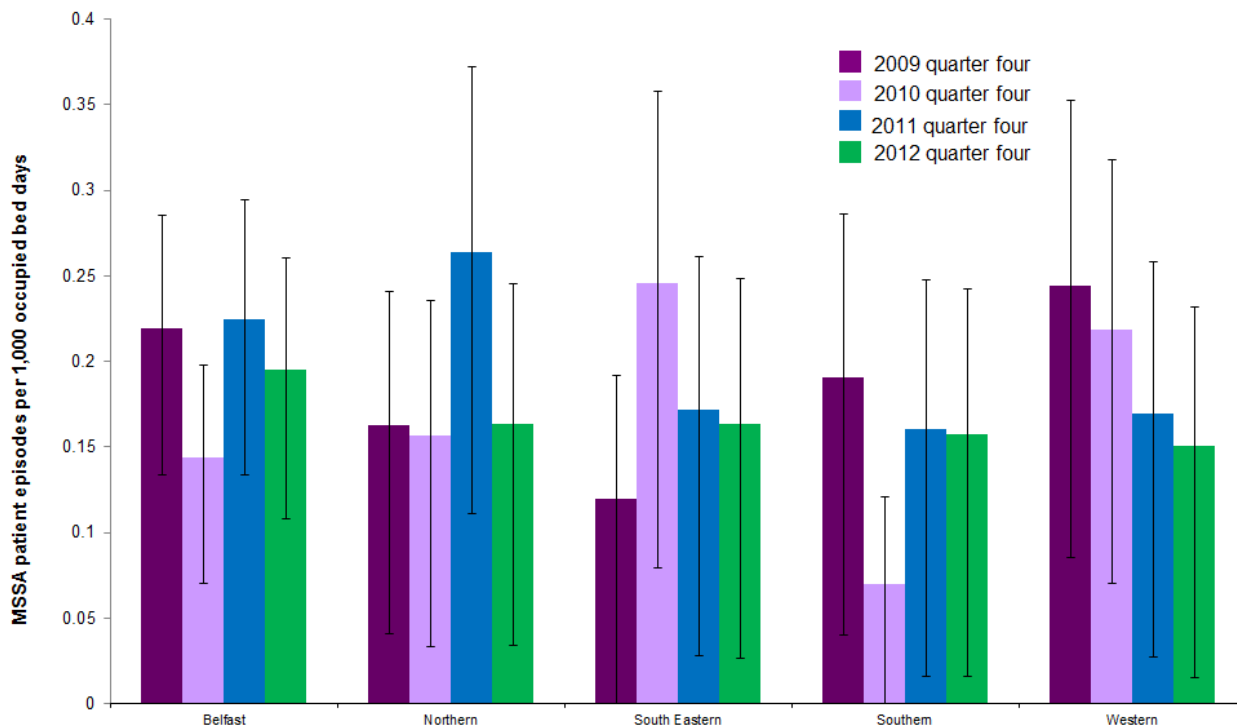


Figure 6: MSSA patient episodes in quarter four, by HSCT, from 2009–2012, with 95% confidence intervals

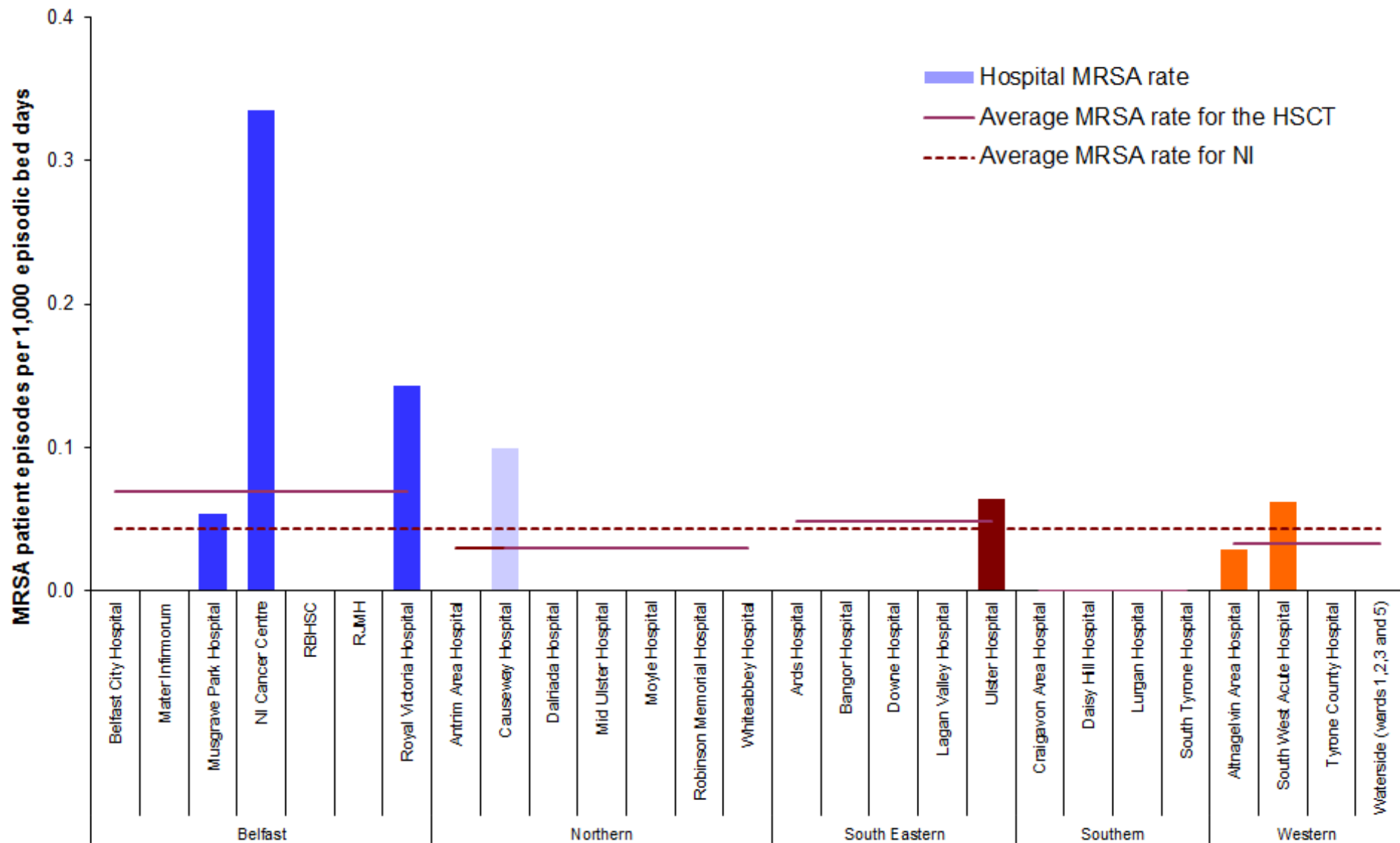


Figure 7: Rates of MRSA, by individual hospitals, for quarter four 2012 (gaps represent zero episodes), compared to quarter four 2012 average rates for Northern Ireland and HSCTs

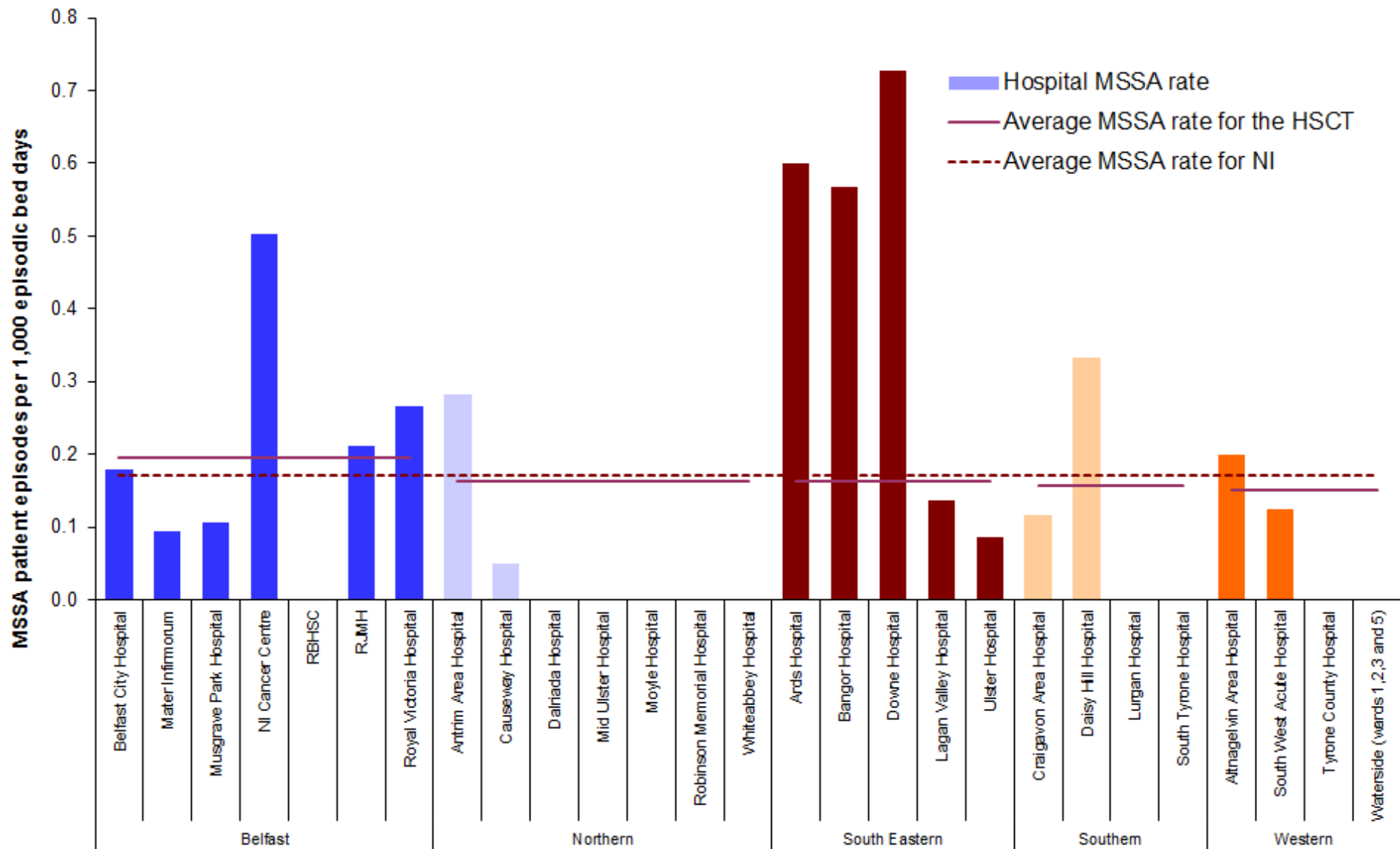


Figure 8: Rates of MSSA, by individual hospitals, for quarter four 2012 (gaps represent zero episodes), compared to quarter four 2012 average rates for Northern Ireland and HSCTs

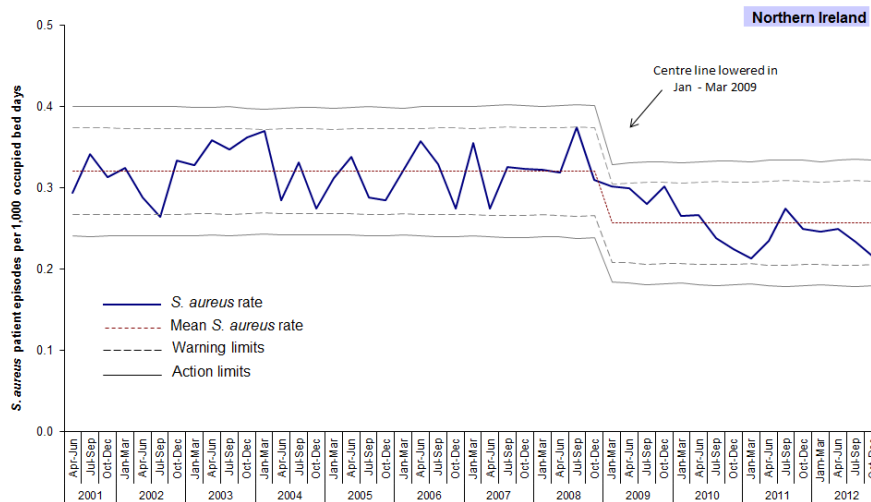


Figure 9a: Statistical process control chart for quarterly *S. aureus* rates in Northern Ireland

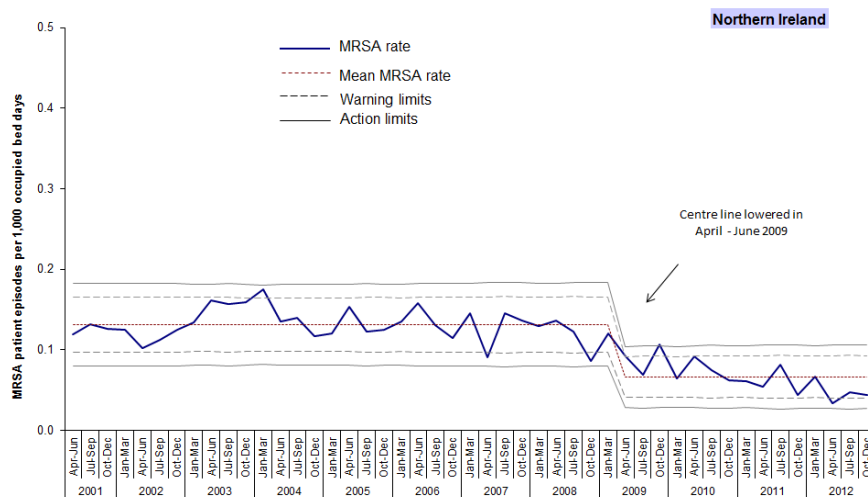


Figure 9b: Statistical process control chart for quarterly MRSA rates in Northern Ireland

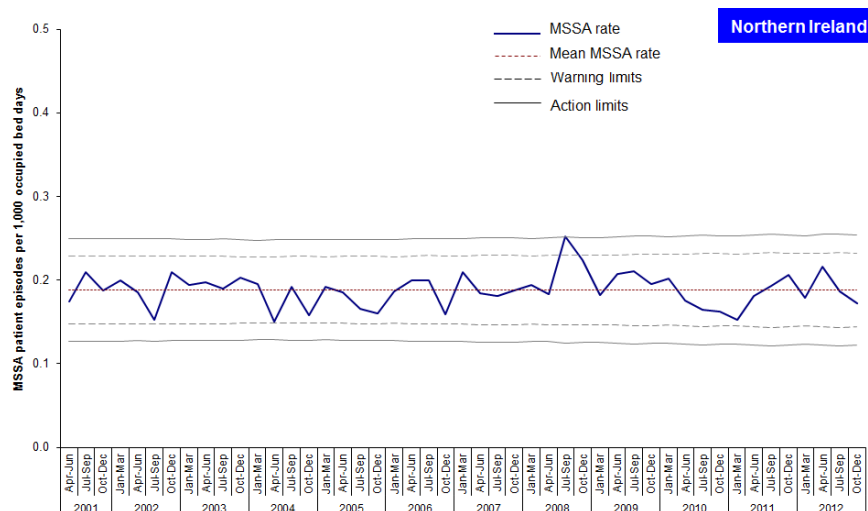


Figure 9c: Statistical process control chart for quarterly MSSA rates in Northern Ireland

Appendix 1

Table 1: Quarterly number and rate of MRSA patient episodes, by hospital, Jan – Dec 2012

| Hospital | Jan-Mar 2012 | | Apr - Jun 2012 | | July - Sept 2012 | | Oct - Dec 2012 | |
|------------------------------------|--------------|--------------|----------------|--------------|------------------|--------------|----------------|--------------|
| | Episodes | Rate | Episodes | Rate | Episodes | Rate | Episodes | Rate |
| Belfast City Hospital | 2 | 0.059 | 1 | 0.030 | 2 | 0.061 | 0 | 0.000 |
| Forster Green Hospital* | 0 | 0.000 | - | - | - | - | - | - |
| Mater Infirmorum | 0 | 0.000 | 1 | 0.046 | 2 | 0.096 | 0 | 0.000 |
| Musgrave Park Hospital | 1 | 0.057 | 0 | 0.000 | 0 | 0.000 | 1 | 0.053 |
| NICCO (formerly at Belvoir Park) | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 2 | 0.335 |
| RBHSC | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| RJMH | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Royal Victoria Hospital | 10 | 0.187 | 4 | 0.079 | 5 | 0.102 | 7 | 0.143 |
| Belfast HSCT | 13 | 0.086 | 6 | 0.041 | 9 | 0.063 | 10 | 0.070 |
| Antrim Area Hospital | 1 | 0.027 | 1 | 0.029 | 1 | 0.030 | 0 | 0.000 |
| Causeway Hospital | 2 | 0.106 | 2 | 0.107 | 1 | 0.051 | 2 | 0.100 |
| Dalriada Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Mid Ulster Hospital | 0 | 0.000 | 1 | 0.394 | 0 | 0.000 | 0 | 0.000 |
| Moyle Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Robinson Memorial Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Whiteabbey Hospital | 1 | 0.235 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Northern HSCT | 4 | 0.058 | 4 | 0.061 | 2 | 0.032 | 2 | 0.030 |
| Ards Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Bangor Hospital | 0 | 0.000 | 0 | 0.000 | 1 | 0.607 | 0 | 0.000 |
| Downe Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Lagan Valley Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Ulster Hospital | 3 | 0.064 | 2 | 0.045 | 4 | 0.089 | 3 | 0.065 |
| South Eastern HSCT | 3 | 0.049 | 2 | 0.034 | 5 | 0.085 | 3 | 0.049 |
| Craigavon Area Hospital | 3 | 0.086 | 0 | 0.000 | 1 | 0.030 | 0 | 0.000 |
| Daisy Hill Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Lurgan Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| South Tyrone Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Southern HSCT | 3 | 0.051 | 0 | 0.000 | 1 | 0.018 | 0 | 0.000 |
| Altnagelvin Area Hospital | 3 | 0.081 | 1 | 0.028 | 1 | 0.030 | 1 | 0.029 |
| Erne / South West Acute Hospital** | 1 | 0.064 | 0 | 0.000 | 0 | 0.000 | 1 | 0.063 |
| Tyrone County Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Waterside Hospital (Wards 1-3, 5) | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Western HSCT | 4 | 0.064 | 1 | 0.017 | 1 | 0.018 | 2 | 0.033 |
| Northern Ireland total | 27 | 0.067 | 13 | 0.034 | 18 | 0.048 | 17 | 0.044 |

*Neurology Unit in Forster Green relocated to Musgrave Park.

**South West Acute Hospital opened 21st June 2012.

Appendix 1

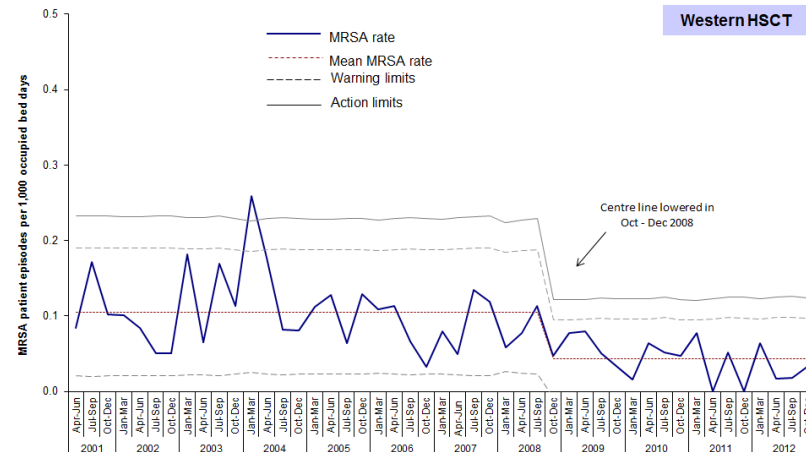
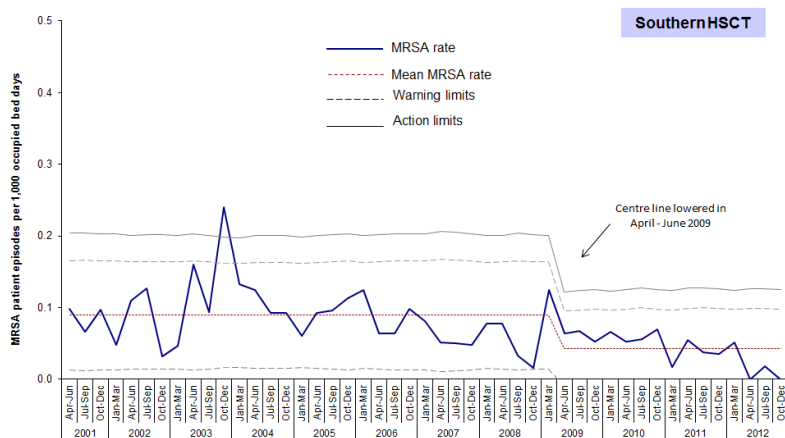
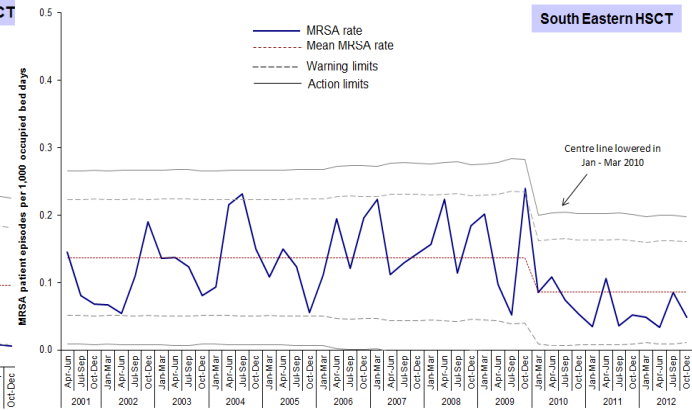
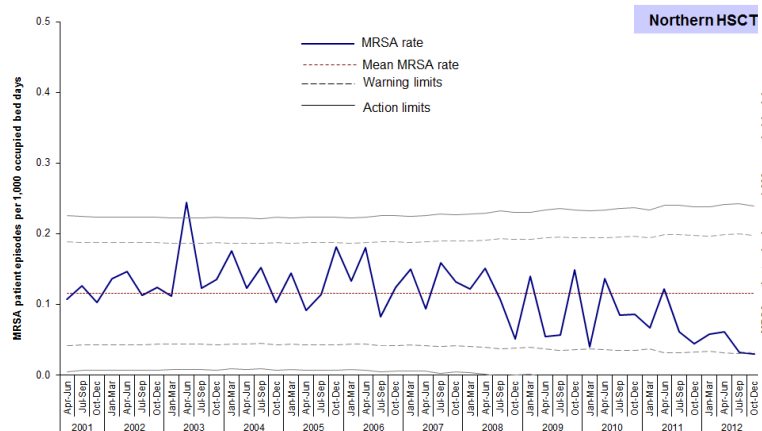
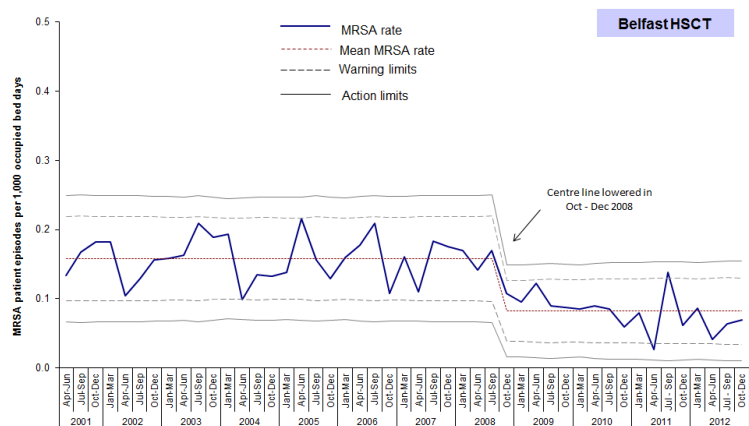
Table 2: Quarterly number and rate of MSSA patient episodes, by hospital, Jan – Dec 2012

| Hospital | Jan-Mar 2012 | | Apr - Jun 2012 | | July - Sept 2012 | | Oct - Dec 2012 | |
|------------------------------------|--------------|--------------|----------------|--------------|------------------|--------------|----------------|--------------|
| | Episodes | Rate | Episodes | Rate | Episodes | Rate | Episodes | Rate |
| Belfast City Hospital | 7 | 0.206 | 7 | 0.207 | 7 | 0.212 | 6 | 0.180 |
| Forster Green Hospital* | 0 | 0.000 | - | - | - | - | - | - |
| Mater Infirmorum | 5 | 0.224 | 6 | 0.275 | 1 | 0.048 | 2 | 0.095 |
| Musgrave Park Hospital | 1 | 0.057 | 2 | 0.106 | 0 | 0.000 | 2 | 0.107 |
| NICCO (formerly at Belvoir Park) | 1 | 0.161 | 0 | 0.000 | 3 | 0.493 | 3 | 0.503 |
| RBHSC | 5 | 0.669 | 1 | 0.141 | 3 | 0.463 | 0 | 0.000 |
| RJMH | 1 | 0.121 | 2 | 0.241 | 0 | 0.000 | 2 | 0.211 |
| Royal Victoria Hospital | 9 | 0.169 | 15 | 0.296 | 12 | 0.244 | 13 | 0.266 |
| Belfast HSC† | 29 | 0.192 | 33 | 0.225 | 26 | 0.183 | 28 | 0.195 |
| Antrim Area Hospital | 13 | 0.352 | 10 | 0.289 | 6 | 0.181 | 10 | 0.283 |
| Causeway Hospital | 5 | 0.265 | 3 | 0.161 | 2 | 0.108 | 1 | 0.050 |
| Dalriada Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Mid Ulster Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Moyle Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Robinson Memorial Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Whiteabbey Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Northern HSC† | 18 | 0.262 | 13 | 0.200 | 8 | 0.126 | 11 | 0.164 |
| Ards Hospital | 0 | 0.000 | 0 | 0.000 | 1 | 0.617 | 1 | 0.600 |
| Bangor Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 1 | 0.567 |
| Downe Hospital | 2 | 0.488 | 2 | 0.495 | 0 | 0.000 | 3 | 0.728 |
| Lagan Valley Hospital | 2 | 0.272 | 3 | 0.433 | 1 | 0.150 | 1 | 0.136 |
| Ulster Hospital | 7 | 0.150 | 9 | 0.203 | 15 | 0.336 | 4 | 0.086 |
| South Eastern HSC† | 11 | 0.178 | 14 | 0.239 | 17 | 0.290 | 10 | 0.163 |
| Craigavon Area Hospital | 3 | 0.086 | 7 | 0.212 | 5 | 0.150 | 4 | 0.117 |
| Daisy Hill Hospital | 1 | 0.064 | 3 | 0.201 | 3 | 0.205 | 5 | 0.334 |
| Lurgan Hospital | 1 | 0.223 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| South Tyrone Hospital | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Southern HSC† | 5 | 0.085 | 10 | 0.180 | 8 | 0.143 | 9 | 0.157 |
| Altnagelvin Area Hospital | 6 | 0.161 | 10 | 0.282 | 7 | 0.209 | 7 | 0.200 |
| Erne / South West Acute Hospital** | 2 | 0.127 | 3 | 0.211 | 3 | 0.199 | 2 | 0.125 |
| Tyrone County Hospital | 1 | 0.320 | 0 | 0.000 | 1 | 0.338 | 0 | 0.000 |
| Waterside Hospital (Wards 1-3, 5) | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 | 0 | 0.000 |
| Western HSC† | 9 | 0.145 | 13 | 0.222 | 11 | 0.195 | 9 | 0.150 |
| Northern Ireland total | 72 | 0.179 | 83 | 0.216 | 70 | 0.186 | 66 | 0.172 |

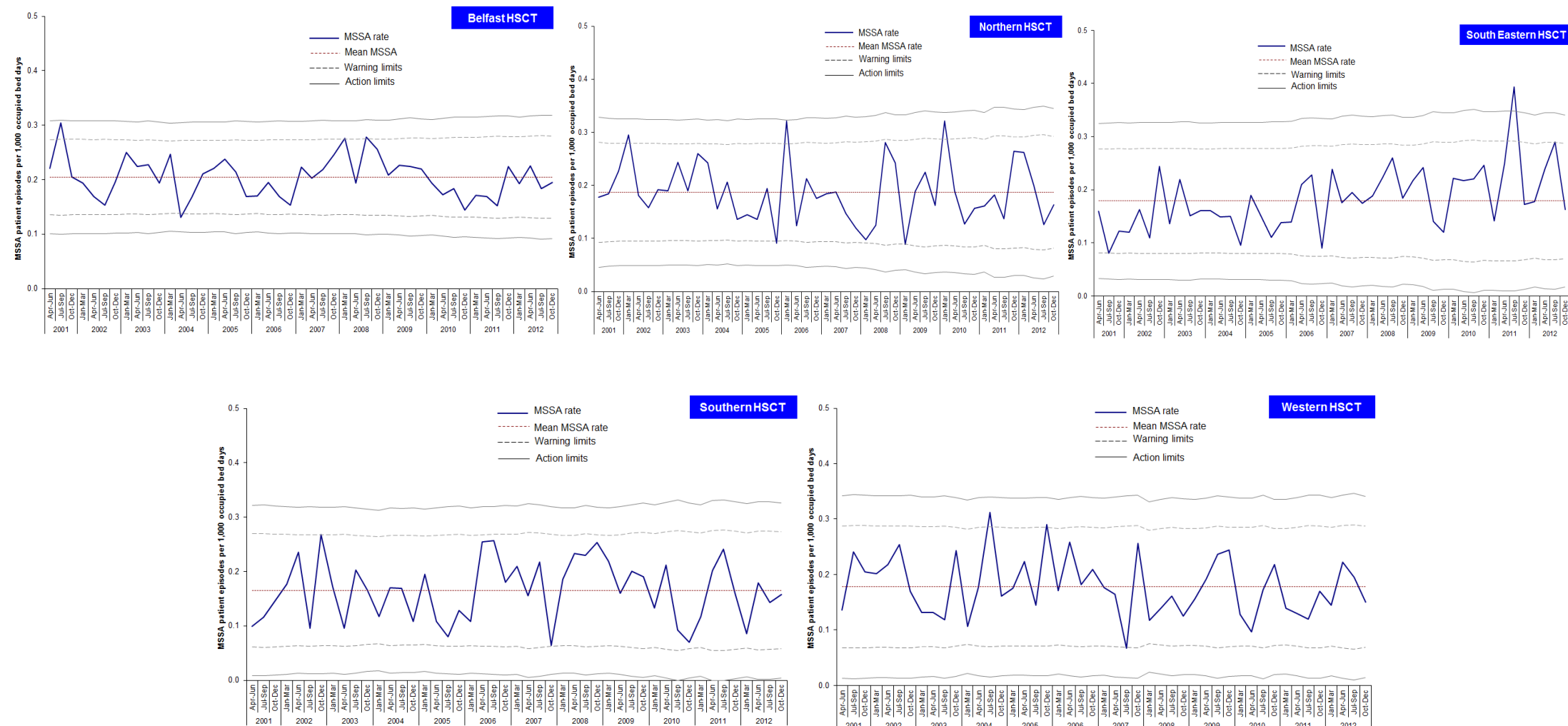
*Neurology Unit in Forster Green relocated to Musgrave Park.

**South West Acute Hospital opened 21st June 2012.

Appendix 2: Trends in MRSA rates, by HSCT and quarter, 2001–2012



Appendix 2: Trends in MSSA rates, by HSCT and quarter, 2001–2012



Appendix 3

Table 3: MSSA, MRSA and total *S. aureus* patient episode rates, and the percentage of *S. aureus* reported as MRSA, in Northern Ireland, Oct 2003 – Sept 2012

| Quarter | MSSA rate | MRSA rate | All <i>S. aureus</i> rate | % MRSA |
|--------------|-----------|-----------|---------------------------|--------|
| Jan-Mar 2004 | 0.195 | 0.175 | 0.37 | 47.3 |
| Apr-Jun 2004 | 0.15 | 0.135 | 0.285 | 47.4 |
| Jul-Sep 2004 | 0.191 | 0.14 | 0.332 | 42.2 |
| Oct-Dec 2004 | 0.158 | 0.117 | 0.275 | 42.5 |
| Jan-Mar 2005 | 0.192 | 0.12 | 0.312 | 38.5 |
| Apr-Jun 2005 | 0.185 | 0.155 | 0.341 | 45.5 |
| Jul-Sep 2005 | 0.166 | 0.122 | 0.29 | 42.1 |
| Oct-Dec 2005 | 0.16 | 0.125 | 0.285 | 43.9 |
| Jan-Mar 2006 | 0.186 | 0.135 | 0.321 | 42.1 |
| Apr-Jun 2006 | 0.199 | 0.157 | 0.356 | 44.1 |
| Jul-Sep 2006 | 0.201 | 0.129 | 0.33 | 39.1 |
| Oct-Dec 2006 | 0.159 | 0.115 | 0.273 | 42.1 |
| 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 | 0.32 | 42.5 |
| Jul-Sep 2008 | 0.252 | 0.122 | 0.375 | 32.5 |
| Oct-Dec 2008 | 0.223 | 0.087 | 0.31 | 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 | 0.162 | 0.062 | 0.224 | 27.7 |
| 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 | 0.172 | 0.044 | 0.216 | 20.4 |

Appendix 4

Statistical process control charts

The statistical process control (SPC) chart is now commonly used for the reporting of MRSA rates throughout the UK. SPC charts assume that rates within a HSCT will be largely similar over time. They present the occurrence of *S. aureus* bacteraemias in a HSCT in relation to what would be expected, based upon the mean rate for the HSCT and calculated statistical process control limits.

The mean for each HSCT has been calculated using data from all quarters since April 2001. Control limits, derived from plus or minus two or three standard deviations from the mean, represent the range of variation in rates that might be expected to occur due to chance alone.

The warning limit is set at two standard deviations from the mean, while the action limit is set at three standard deviations from the mean. The limits vary slightly every quarter because of the varying occupancy in the hospitals within each HSCT. Control limits were set up using the following formulae:

$$\text{Warning Limit} = M \pm 2 \sqrt{\frac{E_i}{(N_i)^2}} \quad \text{Action Limit} = M \pm 3 \sqrt{\frac{E_i}{(N_i)^2}}$$

Where M is the mean, Ni is the number of occupied bed days per quarter and Ei is the expected number of reports calculated as $E_i = M \times N_i$

SPC charts allow the distinction to be made between natural variation and 'special cause variation', where something unusual is occurring in a HSCT. If any of the following criteria are met, there is said to be 'special cause variation', which should be investigated, as this could not statistically have occurred by chance alone:

- One value above the upper action limit, or below the lower action limit.
- Three consecutive values between the upper warning limit and upper action limit (or between lower limits).
- Eight consecutive values on the same side of the mean (either above or below).
- Any 12 of 14 consecutive values on the same side of the mean (either above or below).
- Eight consecutive values either increasing or decreasing.

Trust activity is defined as the number of occupied beds (from KH03A return) and is used to calculate a rate per 1,000 occupied bed days. KH03A data are obtained from the Department of Health, Social Services and Public Safety (DHSSPS) on a quarterly basis.

The number of patient episodes is defined as the total number of patients from whom blood culture set(s) collected during the quarter grew *S. aureus*. If repeat specimens were collected from a single patient, and the patient was considered to have had two episodes of bacteraemia, they should be counted as two patients. As an arbitrary measure, if positive blood culture sets are collected more than 14 days apart, they should be considered as reflecting different episodes.

Appendix 5

Clarification of existing HCAI definitions

Patient transfers

A patient may be an inpatient in a healthcare facility and, at some point, may be transferred to another hospital/HSCT, symptom free. Upon admission to the second facility, if the patient develops the symptoms of *C. diff* or *S. aureus* within two days and a specimen is taken and tested at this point, the episode is attributed to the current stay, ie the receiving hospital. While the infection may have been acquired during their first hospital admission, it is the hospital where the patient is situated **at the time the specimen is taken** that must report the episode. For this reason, PHA ensures there are caveats to state that this does not infer the patient acquired their infection in that hospital. HSCTs should be aware of such circumstances, so they are in a position to clarify any episodes that developed within two days of transfer/admission, and are therefore likely to have been acquired prior to admission to that hospital.

Patient in one hospital and, after discharge, is later admitted to another

A patient may be an inpatient in a healthcare facility and test positive for a healthcare associated infection. Once discharged, the patient may develop new symptoms and be readmitted to the same hospital or to a different hospital and be retested for *S. aureus*. If the new admission is within 14 days of the original positive specimen date, the duplicate rule applies regardless of the change of hospital and the isolate should not be reported.

Specimens taken in hospices

A patient may have a specimen taken whilst resident/attending a hospice. In this instance, the record should be entered onto the HCAI web based surveillance system with a comment indicating that it was taken in a hospice. The record will not be counted towards MRSA reduction targets and will not be included in reports.

Appendix 6

Table 4: MRSA patient episodes for each financial year, by HSCT

| HSCT | Financial Year | | | | | | |
|-------------------------|-----------------------|------------|------------|------------|------------|------------|-----------|
| | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 |
| Belfast | 118 | 115 | 109 | 86 | 62 | 48 | 46 |
| Northern | 46 | 47 | 42 | 35 | 22 | 27 | 19 |
| South Eastern | 32 | 49 | 34 | 46 | 28 | 15 | 14 |
| Southern | 27 | 19 | 14 | 16 | 15 | 11 | 10 |
| Western | 27 | 18 | 22 | 20 | 11 | 15 | 7 |
| Northern Ireland | 250 | 248 | 221 | 203 | 138 | 116 | 96 |

Table 5: MSSA patient episodes for each financial year, by HSCT

| HSCT | Financial Year | | | | | | |
|-------------------------|-----------------------|------------|------------|------------|------------|------------|------------|
| | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 |
| Belfast | 141 | 130 | 161 | 157 | 138 | 103 | 109 |
| Northern | 66 | 60 | 46 | 57 | 66 | 46 | 57 |
| South Eastern | 39 | 51 | 46 | 56 | 43 | 46 | 57 |
| Southern | 27 | 56 | 38 | 59 | 40 | 28 | 38 |
| Western | 52 | 51 | 37 | 37 | 49 | 39 | 34 |
| Northern Ireland | 325 | 348 | 328 | 366 | 336 | 262 | 295 |