



Feidhmeannacht na Seirbhíse Sláinte  
Health Service Executive



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**Data correct as of:  
14<sup>th</sup> December 2011**

## Key Abbreviations used

- AMR** – Antimicrobial resistance
- BLC** – Blood culture
- EARS-Net** – European Antimicrobial Resistance Surveillance Network
- HCAI** – Healthcare-associated infection
- MRSA** – Meticillin-Resistant *Staphylococcus aureus*
- MSSA** – Meticillin-Susceptible *Staphylococcus aureus*
- SAU** – *Staphylococcus aureus*

## December 2011

Report produced by the Irish EARS-Net Steering Group with special thanks to all the participating laboratories for their continued support and commitment to this surveillance system

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# Report on *Staphylococcus aureus* bloodstream isolates in Ireland by acute hospital (public & private), Q3 2011

## Key Results

- ⊙ This is the seventh report presenting the data on *S. aureus* bloodstream isolates by all acute hospitals, **both public and private**, in Ireland. Rates have been calculated only where both numerator (e.g. number of isolates) and denominator (e.g. numbers of bed days used) data are available
- ⊙ In Q3 2011, MRSA accounted for 66 (25.5%) of 259 *S. aureus* bloodstream isolates from all hospitals in Ireland resulting in an MRSA rate of 0.067 episodes per 1,000 bed days used (BDU). This compares with:
  - 22.6% (64 of 283 isolates) and 0.065 episodes per 1,000 BDU in Q2 2011
  - 21.3% (64 of 300 isolates) and 0.067 episodes per 1,000 BDU in Q3 2010

In Q3 2011, the MRSA number and rate are similar to those in Q2 2011, as well as in the equivalent period (Q3 2010) last year. The proportion is higher in Q3 2011 due to lower numbers of *S. aureus* overall and in particular MSSA
- ⊙ For the period Q1-2 2011, MRSA accounted for 140 (24.2%) of 578 *S. aureus* isolates resulting in an MRSA rate of 0.071 episodes per 1,000 BDU. This compares with:
  - 26.2% (177 of 675 isolates) and 0.090 episodes per 1,000 BDU for Q1-2 2010
  - 27.1% (355 of 1,309 isolates) and 0.089 episodes per 1,000 BDU for Q1-4 2010
- ⊙ The annual trends in MRSA proportions and rates were downwards from 2006 to 2010, when they reached their lowest levels since surveillance began. In 2011 (to the end of Q3) the proportion has stabilised, while the rate is still downwards
- ⊙ The number that are MSSA increased from 820 in 2006 (rate, 0.206 episodes per 1,000 BDU) to 946 in 2010 (rate, 0.239 episodes per 1,000 BDU). The MSSA rate in 2010 was the highest since surveillance began. In 2011 (to the end of Q3), there are signs of a decrease in the number and rate of MSSA (634; 0.215 episodes per 1,000 BDU) compared with the equivalent period last year (734; 0.240 episodes per 1,000 BDU)

## Introduction

As part of the HSE strategy for prevention and control of healthcare-associated infection (HCAI), launched in March 2007, the Health Protection Surveillance Centre (HPSC) was asked to coordinate the publication of data relating to HCAI and antimicrobial resistance (AMR) for acute public hospitals in Ireland. The first report on AMR in acute public hospitals was produced in 2007 providing the initial baseline publication of these data. This is the first report presenting the data on *S. aureus* bloodstream isolates by all acute hospitals, both public and private, in Ireland. Isolates from non-acute facilities are also grouped together in the tables and rates have been calculated only where both numerator (e.g. number of isolates) and denominator (e.g. numbers of bed days used) data are available.

Data on *Staphylococcus aureus* bloodstream isolates in Ireland are collected as part of the European Antimicrobial Resistance Surveillance Network (EARS-Net), previously known as the European Antimicrobial Resistance Surveillance System (EARSS). The primary value of this dataset, as with any surveillance data, is to the individual data providers, allowing individual hospitals to monitor trends over time, assess the impact of infection prevention and control interventions, and identify targets for future interventions and resource requirements.

The report presented here provides summaries of the quarterly data by hospital for the 2011 data only (Table 1) and annual data from 2007-2011(Q1-3 only) (Table 2) (**Note: 2011 data are provisional**). Summaries of the overall data, including charts, showing the trends by quarter and by year are also presented (Tables 4 and 5 and Figures 1-4). See the separate Excel file containing appendices with all of these Tables and Charts, as well as the complete data sets by quarter (since Q4 2007) and by year (since 2004).

The data included in this report do not allow direct comparison of results between individual hospitals. This is due to a number of reasons:

2. **Differences in hospital activity:** The data do not take account of differences in patient populations, clinical services provided, inter-hospital patient transfers and other differences in activity between hospitals.

1. **Denominator data used:** Rates have been calculated using data on acute bed-days used either provided directly from the hospitals themselves (private hospitals only) or submitted to the HSE's Acute Service Team in the Business Intelligence Unit, Corporate Planning and Corporate Performance (CPCP) by all acute publicly-funded hospitals on a monthly basis and validated by the reporting hospital before being released. This is based on the average number of available acute in-patient beds during the previous month, and not on the total bed capacity of a hospital. It does not include long-stay or day-case (including dialysis) bed use, but does include acute psychiatric bed use (where the latter are included in the bed compliment of an acute hospital). The use of these denominator data may lead to an overestimate of rates for some hospitals, particularly if a hospital has a large number of non-acute beds, day-case beds and dialysis beds, which may contribute to overall hospital activity. While the CPCP make every effort to ensure the data are validated, there are likely to be small discrepancies in the estimated number of acute bed days used, compared to locally estimated data, due to fluctuations in the number of available acute beds.

## ***Staphylococcus aureus* bloodstream isolates**

### **Background**

Bloodstream infection (or bacteraemia) due to *S. aureus* in general, and meticillin-resistant *S. aureus* (MRSA) in particular, has long been recognised as a major healthcare problem in Ireland. Since 1999, Irish hospitals have been contributing data on a voluntary basis on such infections to EARS-Net. As of September 2010, all 40 microbiology laboratories in Ireland participate in EARS-Net, covering 60 acute hospitals (both public and private) [Note: 3 laboratories no longer process blood cultures]. In Q3 2011, one additional laboratory joined EARS-Net.

### **Definitions**

Under the case definition for EARSS, data are collected on the first bloodstream isolate of *S. aureus* per patient per quarter. The following data, along with details of the reported bed day usage, inpatient admissions and number of blood cultures processed, are included in this report:

- The **number of *S. aureus* isolates**, including the **number of MRSA and MSSA isolates**
- The **percentage MRSA** (i.e. the proportion of *S. aureus* isolates reported that were meticillin-resistant)
- The ***S. aureus*, MRSA and MSSA rates per 1,000 bed days used**
- An indication of the frequency with which MRSA was isolated from blood cultures is provided by the **MRSA rate per 100 blood cultures**
- An indication of the frequency with which blood cultures are taken/examined is provided by the **blood culturing rate per 1,000 admissions**

### **Other limitations**

- EARS-Net is designed to collect national-level data on AMR. Thus, when the data are broken down to individual hospital level the comparisons that can be made at national level may no longer apply
- The EARS-Net case definition does not distinguish between clinically significant and non-significant bloodstream isolates. Thus, some of the *S. aureus* (including MRSA) isolates reported may be contaminants (e.g. from bacteria on the patient's skin), rather than true bloodstream infections
- The EARS-Net case definition only includes bacteria isolated from blood cultures, and does not include other types of infection caused by *S. aureus*, such as wound infections, pneumonia, etc
- The EARS-Net case definition only includes the first isolate of *S. aureus* from each patient in each three month period or quarter. This is a standardised method for surveillance of antimicrobial resistance and allows comparison of data between participating countries. However, this does mean that not all episodes of *S. aureus* bloodstream infection are reported, e.g. a patient may have more than one episode of infection in a three month period, but only the first episode is reported to EARS-Net. If MRSA is isolated subsequent to meticillin-susceptible *S. aureus*, or MSSA, in the same quarter then the MRSA isolate will not be included in the data, and *vice versa* if MSSA is isolated subsequent to MRSA. In addition, some duplicates are also included as *S. aureus* (either MRSA or MSSA) can be isolated from the same patient over two or more quarters during the year
- The fact that a patient is diagnosed with a bloodstream infection at a given hospital does not indicate that that infection was acquired at that hospital. Many bloodstream infections are acquired in the community, but only diagnosed on admission to hospital. Likewise a patient may have acquired a bloodstream infection in one hospital, but the infection may only be diagnosed on transfer to another hospital
- The frequency with which blood cultures are taken depends on the numbers and types of patients being treated at that hospital and access to laboratory services. Hospitals that have a high frequency of taking blood cultures are more likely to diagnose bloodstream infections, but are also more likely to detect contaminated blood cultures
- For any dataset, including the EARS-Net data, it is difficult to know how consistently/uniformly the case definitions have been applied in the absence of a mechanism for auditing the data collection process

**Table 1.** Summary of *S. aureus*/MRSA bloodstream infection data from acute hospitals (public & private) by quarter, 2011: including annual total (data are provisional)

Hospital Name	Quarter												Year			
	Q1 2011				Q2 2011				Q3 2011				2011†			
	SAU number	MRSA number	%MRSA	MRSA rate per 1,000 bed days used	SAU number	MRSA number	%MRSA	MRSA rate per 1,000 bed days used	SAU number	MRSA number	%MRSA	MRSA rate per 1,000 bed days used	SAU number	MRSA number	%MRSA	MRSA rate per 1,000 bed days used
Adelaide, Meath and National Children's Hospital, Tallaght	11	1	9.1%	0.020	12	4	33.3%	0.086	15	1	6.7%	0.022	38	6	15.8%	0.043
Aut Even Hospital, Kilkenny	1	0	0.0%	*	0	0	0.0%	*	0	0	0.0%	*	1	0	0.0%	*
Bantry General Hospital	5	0	0.0%	0.000	3	0	0.0%	0.000	0	0	0.0%	0.000	8	0	0.0%	0.000
Beacon Hospital, Sandford	3	2	66.7%	0.185	3	0	0.0%	0.000	2	1	50.0%	0.094	8	3	37.5%	0.095
Beaumont Hospital	25	6	24.0%	0.110	32	6	18.8%	0.113	26	11	42.3%	0.202	83	23	27.7%	0.142
Blackrock Clinic	3	0	0.0%	0.000	1	0	0.0%	*	0	0	0.0%	0.000	4	0	0.0%	0.000
Bon Secours Hospital, Cork	2	1	50.0%	0.058	3	0	0.0%	0.000	1	0	0.0%	0.000	6	1	16.7%	0.020
Bon Secours Hospital, Galway	0	0	0.0%	*	0	0	0.0%	*	0	0	0.0%	*	0	0	0.0%	*
Bon Secours Hospital, Glasnevin	0	0	0.0%	*	0	0	0.0%	*	0	0	0.0%	*	0	0	0.0%	*
Bon Secours Hospital, Tralee	4	1	25.0%	0.111	0	0	0.0%	0.000	1	0	0.0%	0.000	5	1	20.0%	0.039
Cappagh National Orthopaedic Hospital	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000
Cavan General Hospital	8	1	12.5%	0.054	4	0	0.0%	0.000	3	1	33.3%	0.059	15	2	13.3%	0.038
Children's University Hospital, Temple St	4	0	0.0%	0.000	0	0	0.0%	0.000	2	0	0.0%	0.000	6	0	0.0%	0.000
Connolly Hospital, Blanchardstown	6	3	50.0%	0.138	2	1	50.0%	0.047	3	2	66.7%	0.093	11	6	54.5%	0.093
Coombe Women's and Infant's University Hospital	8	0	0.0%	0.000	2	0	0.0%	0.000	2	0	0.0%	0.000	12	0	0.0%	0.000
Cork University Hospital <sup>1</sup>	19	8	42.1%	0.150	23	9	39.1%	0.170	20	3	15.0%	0.056	62	20	32.3%	0.125
Erinville Hospital, Cork <sup>1</sup>	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Galway Clinic, Doughiska	1	0	0.0%	0.000	1	0	0.0%	0.000	2	0	0.0%	0.000	4	0	0.0%	0.000
Galway University Hospitals <sup>3</sup>	17	6	35.3%	0.113	16	7	43.8%	0.135	12	3	25.0%	0.059	45	16	35.6%	0.102
Hermitage Medical Clinic, Lucan	0	0	0.0%	*	0	0	0.0%	*	1	0	0.0%	*	1	0	0.0%	*
Kerry General Hospital, Tralee	7	1	14.3%	0.055	5	3	60.0%	0.170	2	1	50.0%	0.057	14	5	35.7%	0.094
Kilkeena Orthopaedic Hospital, Co. Kilkenny	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000
Letterkenny General Hospital	12	3	25.0%	0.126	5	0	0.0%	0.000	10	1	10.0%	0.043	27	4	14.8%	0.057
Louth County Hospital, Dundalk	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000
Mallow General Hospital	1	0	0.0%	0.000	1	0	0.0%	0.000	1	1	100.0%	0.197	3	1	33.3%	0.062
Mater Misericordiae University Hospital	19	1	5.3%	0.021	22	1	4.5%	0.021	12	4	33.3%	0.085	53	6	11.3%	0.043
Mater Private Hospital	1	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000	1	0	0.0%	0.000
Mayo General Hospital, Castlebar	3	1	33.3%	0.051	2	1	50.0%	0.051	6	0	0.0%	0.000	11	2	18.2%	0.035
Mercy University Hospital	5	1	20.0%	0.065	5	2	40.0%	0.149	2	0	0.0%	0.000	12	3	25.0%	0.069
Merlin Park University Hospital, Galway <sup>2</sup>	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Midland Regional Hospital, Mullingar	8	3	37.5%	0.186	6	3	50.0%	0.190	4	0	0.0%	0.000	18	6	33.3%	0.124
Midland Regional Hospital, Portlaoise	2	1	0.5	0.083	4	0	0.0%	0.000	0	0	0.0%	0.000	6	1	16.7%	0.029
Midland Regional Hospital, Tullamore	2	1	50.0%	0.059	6	1	16.7%	0.074	6	2	33.3%	0.151	14	4	28.6%	0.091
Mid-Western Regional Hospital, Dooradoyle	14	3	21.4%	0.085	17	4	23.5%	0.116	14	5	35.7%	0.149	45	12	26.7%	0.116
Mid-Western Regional Hospital, Ennis	2	1	50.0%	0.188	1	1	100.0%	0.200	2	0	0.0%	0.000	5	2	40.0%	0.129
Mid-Western Regional Hospital, Nenagh	2	0	0.0%	0.000	1	1	100.0%	0.242	1	0	0.0%	0.000	4	1	25.0%	0.080
Mid-Western Regional Maternity Hospital, Limerick	1	0	0.0%	0.000	3	0	0.0%	0.000	1	0	0.0%	0.000	5	0	0.0%	0.000
Mid-Western Regional Orthopaedic Hospital, Croom	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000
Monaghan General Hospital <sup>3</sup>	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Mount Carmel Hospital, Churchtown	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000
Naas General Hospital	4	1	25.0%	0.051	1	0	0.0%	0.000	3	0	0.0%	0.000	8	1	12.5%	0.018
National Maternity Hospital, Holles Street	0	0	0.0%	0.000	2	0	0.0%	0.000	3	0	0.0%	0.000	5	0	0.0%	0.000
Other non-acute facilities	1	0	0.0%	*	2	1	50.0%	*	3	1	33.3%	*	6	2	33.3%	*
Our Lady of Lourdes Hospital, Drogheda	13	4	30.8%	0.162	2	1	50.0%	0.040	9	3	33.3%	0.117	24	8	33.3%	0.106
Our Lady's Children's Hospital, Crumlin	7	1	14.3%	0.066	6	0	0.0%	0.000	6	2	33.3%	0.133	19	3	15.8%	0.066
Our Lady's Hospital, Cashel <sup>4</sup>	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Our Lady's Hospital, Navan	2	0	0.0%	0.000	1	1	100.0%	0.120	2	0	0.0%	0.000	5	1	20.0%	0.041
Portiuncula Hospital, Ballinasloe	1	0	0.0%	0.000	3	0	0.0%	0.000	2	1	50.0%	0.087	6	1	16.7%	0.028
Roscommon County Hospital	1	0	0.0%	0.000	2	0	0.0%	0.000	1	1	100.0%	0.196	4	1	25.0%	0.052
Rotunda Hospital	2	1	50.0%	0.079	2	1	50.0%	0.072	0	0	0.0%	0.000	4	2	50.0%	0.049
Royal Victoria Eye and Ear Hospital, Dublin	1	1	100.0%	0.570	0	0	0.0%	0.000	0	0	0.0%	0.000	1	1	100.0%	0.200
Sligo General Hospital	3	1	33.3%	0.042	8	1	12.5%	0.042	4	2	50.0%	0.089	15	4	26.7%	0.057
South Infirmary/Victoria University Hospital, Cork	1	0	0.0%	0.000	4	0	0.0%	0.000	3	0	0.0%	0.000	8	0	0.0%	0.000
South Tipperary General Hospital, Clonmel	6	3	50.0%	0.172	6	1	16.7%	0.061	1	0	0.0%	0.000	13	4	30.8%	0.080
St Columcille's Hospital, Loughlinstown	2	0	0.0%	0.000	1	0	0.0%	0.000	3	0	0.0%	0.000	6	0	0.0%	0.000
St Finbarr's Hospital, Cork <sup>1</sup>	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
St James's Hospital	18	7	38.9%	0.097	14	1	7.1%	0.014	16	4	25.0%	0.054	48	12	25.0%	0.055
St John's Hospital, Limerick	0	0	0.0%	0.000	2	1	50.0%	0.194	1	1	100.0%	0.207	3	2	66.7%	0.128
St Luke's Hospital, Kilkenny	3	2	66.7%	0.097	5	0	0.0%	0.000	5	0	0.0%	0.000	13	2	15.4%	0.032
St Luke's Hospital, Rathgar	1	0	0.0%	0.000	0	0	0.0%	0.000	1	0	0.0%	0.000	2	0	0.0%	0.000
St Mary's Orthopaedic Hospital, Gurranebraher	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000
St Michael's Hospital, Dun Laoghaire	3	0	0.0%	0.000	4	1	25.0%	0.173	0	0	0.0%	0.000	7	1	14.3%	0.057
St Vincent's Private Hospital	3	0	0.0%	0.000	2	0	0.0%	0.000	2	0	0.0%	0.000	7	0	0.0%	0.000
St Vincent's University Hospital, Elm Park	16	3	18.8%	0.070	24	7	29.2%	0.172	18	9	50.0%	0.229	58	19	32.8%	0.155
University College Hospital, Galway <sup>2</sup>	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Waterford Regional Hospital	9	7	77.8%	0.201	6	2	33.3%	0.057	20	5	25.0%	0.148	35	14	40.0%	0.135
Wexford General Hospital	5	0	0.0%	0.000	6	2	33.3%	0.122	5	1	20.0%	0.059	16	3	18.8%	0.060
<b>TOTAL ROI</b>	<b>298</b>	<b>76</b>	<b>25.5%</b>	<b>0.077</b>	<b>283</b>	<b>64</b>	<b>22.6%</b>	<b>0.065</b>	<b>259</b>	<b>66</b>	<b>25.5%</b>	<b>0.067</b>	<b>840</b>	<b>206</b>	<b>24.5%</b>	<b>0.070</b>

† Data for 2011 provisional to the end of Q3

\* Denominator data (Activity/BLC numbers) not provided; \*\* No longer classified an acute hospital - see note below; \*\*\* See note below

<sup>1</sup> In 2007, maternity services at Erinville Hospital and St Finbarr's Hospital, Cork transferred to Cork University Maternity Hospital, which together with Cork University Hospital (CUH) compose CUH group. All data for CUH group as of 2007 are presented under Cork UH;

<sup>2</sup> University College Hospital, Galway and Merlin Park University Hospital incorporated as Galway University Hospitals as of January 2008;

<sup>3</sup> In Aug 2009, acute services at Monaghan General Hospital ceased;

<sup>4</sup> In Jan 2007, acute services at Our Lady's Hospital, Cashel transferred to South Tipperary General Hospital, Clonmel

Data in **RED** represent updates from previous reports

**Note: National rates are calculated only where both numerator (e.g. numbers of isolates) and denominator (e.g. numbers of bed days used) data are available**

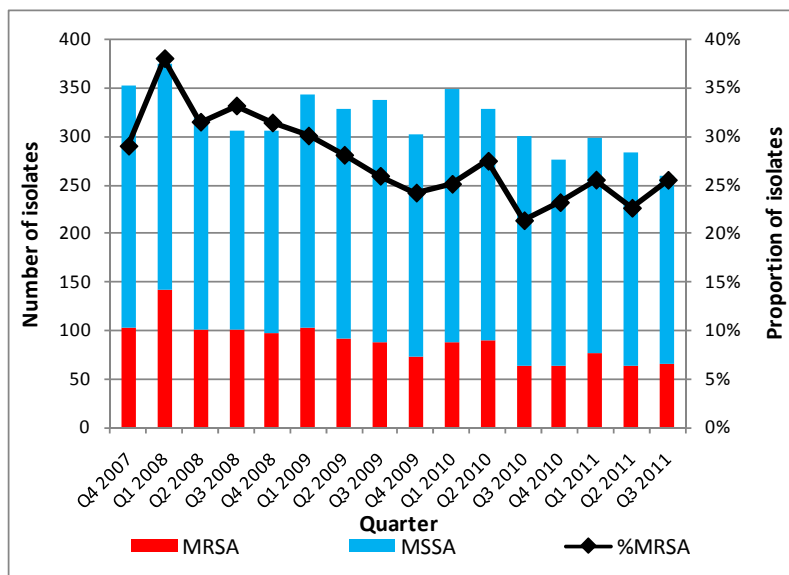
**Hospital Abbreviations:** AMNCH, Adelaide, Meath and National Children's Hospital; CH, County Hospital; GH, General Hospital; OH, Orthopaedic Hospital; OLLH, Our Lady of Lourdes Hospital; OLCH, Our Lady's Children's Hospital; NMH, National Maternity Hospital; RH, Regional Hospital; RMH, Regional Maternity Hospital; ROH, Regional Orthopaedic Hospital; RVEEH, Royal Victoria Eye and Ear Hospital; UH, University Hospital  
ROI, Republic of Ireland

**Table 2.** Summary of *S. aureus*/MRSA bloodstream infection data from acute hospitals (public & private) by year, 2007-2011Q3 (2011 data are provisional)

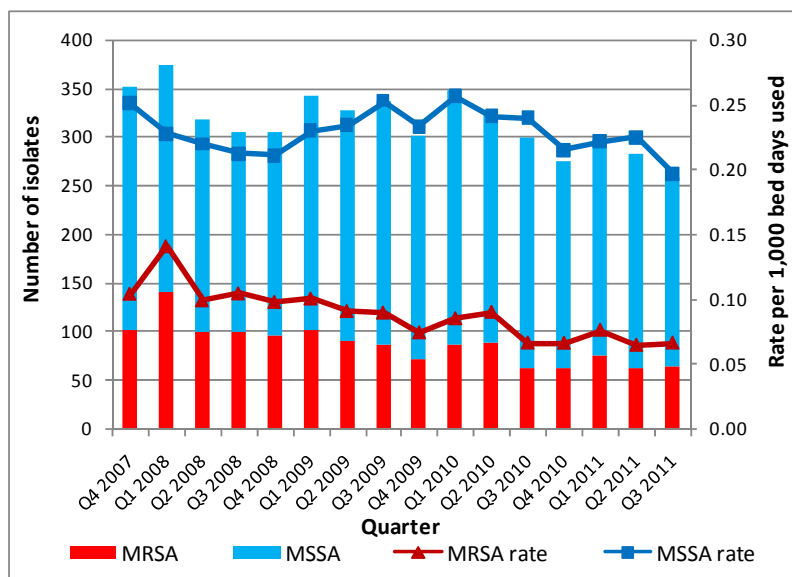
Hospital Name	Year																			
	2007				2008				2009				2010				2011(Q1-3)†			
	SAU number	MRSA number	%MRSA	MRSA rate per 1,000 bed days used	SAU number	MRSA number	%MRSA	MRSA rate per 1,000 bed days used	SAU number	MRSA number	%MRSA	MRSA rate per 1,000 bed days used	SAU number	MRSA number	%MRSA	MRSA rate per 1,000 bed days used	SAU number	MRSA number	%MRSA	MRSA rate per 1,000 bed days used
Adelaide, Meath and National Children's Hospital, Tallaght	61	18	29.5%	0.097	80	27	33.8%	0.141	61	14	23.0%	0.074	62	12	19.4%	0.064	38	6	15.8%	0.043
Aut Even Hospital, Kilkenny	1	0	0.0%	*	2	2	100.0%	*	1	1	100.0%	*	1	0	0.0%	*	1	0	0.0%	*
Bantry General Hospital	11	8	72.7%	0.307	5	1	20.0%	0.037	5	3	60.0%	0.124	11	7	63.6%	0.392	8	0	0.0%	0.000
Beacon Hospital, Sandford	3	0	0.0%	*	0	0	0.0%	*	5	0	0.0%	*	8	2	25.0%	0.055	8	3	37.5%	0.095
Beaumont Hospital	127	50	39.4%	0.222	110	45	40.9%	0.198	103	20	19.4%	0.086	93	22	23.7%	0.097	83	23	27.7%	0.142
Blackrock Clinic	12	3	25.0%	*	6	0	0.0%	*	3	0	0.0%	*	7	0	0.0%	*	4	0	0.0%	0.000
Bon Secours Hospital, Cork	10	0	0.0%	0.000	7	2	28.6%	0.031	12	1	8.3%	0.015	15	3	20.0%	0.045	6	1	16.7%	0.020
Bon Secours Hospital, Galway	2	1	50.0%	0.066	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	*
Bon Secours Hospital, Glasnevin	0	0	0.0%	*	2	0	0.0%	*	0	0	0.0%	*	0	0	0.0%	*	0	0	0.0%	*
Bon Secours Hospital, Tralee	4	3	75.0%	*	2	1	50.0%	*	5	0	0.0%	0.000	4	1	25.0%	0.030	5	1	20.0%	0.039
Cappagh National Orthopaedic Hospital	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000
Cavan General Hospital	24	9	37.5%	0.137	22	3	13.6%	0.046	19	6	31.6%	0.089	17	5	29.4%	0.071	15	2	13.3%	0.038
Children's University Hospital, Temple St	5	0	0.0%	0.000	11	2	18.2%	0.065	8	1	12.5%	0.032	14	0	0.0%	0.000	6	0	0.0%	0.000
Connolly Hospital, Blanchardstown	28	14	50.0%	0.172	32	7	21.9%	0.089	27	8	29.6%	0.100	23	6	26.1%	0.074	11	6	54.5%	0.093
Coombe Women's and Infant's University Hospital	11	2	18.2%	0.034	9	1	11.1%	0.018	15	1	6.7%	0.019	21	0	0.0%	0.000	12	0	0.0%	0.000
Cork University Hospital <sup>1</sup>	128	39	30.5%	0.182	88	25	28.4%	0.116	100	27	27.0%	0.125	73	15	20.5%	0.069	62	20	32.3%	0.125
Erinville Hospital, Cork <sup>1</sup>	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Galway Clinic, Doughiska	3	0	0.0%	*	6	0	0.0%	*	1	0	0.0%	0.000	5	2	40.0%	0.047	4	0	0.0%	0.000
Galway University Hospitals <sup>2</sup>	92	37	40.2%	0.161	89	47	52.8%	0.208	84	35	41.7%	0.158	79	22	27.8%	0.104	45	16	35.6%	0.102
Hermitage Medical Clinic, Lucan	0	0	0.0%	*	1	0	0.0%	*	2	0	0.0%	*	0	0	0.0%	*	1	0	0.0%	*
Kerry General Hospital, Tralee	38	16	42.1%	0.187	21	13	61.9%	0.162	21	9	42.9%	0.119	17	8	47.1%	0.106	14	5	35.7%	0.094
Kilkreene Orthopaedic Hospital, Co. Kilkenny	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000
Letterkenny General Hospital	34	13	38.2%	0.129	42	19	45.2%	0.193	36	14	38.9%	0.145	39	9	23.1%	0.095	27	4	14.8%	0.057
Louth County Hospital, Dundalk	9	1	11.1%	0.028	10	4	40.0%	0.112	7	1	14.3%	0.029	0	0	0.0%	0.000	0	0	0.0%	0.000
Mallow General Hospital	8	4	50.0%	0.139	11	6	54.5%	0.230	10	2	20.0%	0.078	5	3	60.0%	0.116	3	1	33.3%	0.062
Mater Misericordiae University Hospital	97	40	41.2%	0.221	95	34	35.8%	0.199	75	19	25.3%	0.095	92	21	22.8%	0.106	53	6	11.3%	0.043
Mater Private Hospital	5	0	0.0%	0.000	0	0	0.0%	0.000	9	0	0.0%	0.000	5	1	20.0%	0.020	1	0	0.0%	0.000
Mayo General Hospital, Castlebar	39	20	51.3%	0.226	23	8	34.8%	0.092	34	19	55.9%	0.221	26	15	57.7%	0.187	11	2	18.2%	0.035
Mercy University Hospital	27	15	55.6%	0.219	29	12	41.4%	0.192	27	3	11.1%	0.050	19	8	42.1%	0.134	12	3	25.0%	0.069
Merlin Park University Hospital, Galway <sup>2</sup>	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
Midland Regional Hospital, Mullingar	15	5	33.3%	0.091	23	6	26.1%	0.105	21	5	23.8%	0.087	21	4	19.0%	0.066	18	6	33.3%	0.124
Midland Regional Hospital, Portlaoise	9	3	33.3%	0.071	9	1	11.1%	0.024	10	3	30.0%	0.068	9	3	33.3%	0.069	6	1	16.7%	0.029
Midland Regional Hospital, Tullamore <sup>3</sup>	28	13	46.4%	0.207	8	1	12.5%	0.017	18	4	22.2%	0.065	19	8	42.1%	0.120	14	4	28.6%	0.091
Mid-Western Regional Hospital, Dooradoyle	52	16	30.8%	0.117	60	19	31.7%	0.142	54	23	42.6%	0.165	65	19	29.2%	0.138	45	12	26.7%	0.116
Mid-Western Regional Hospital, Ennis	10	3	30.0%	0.095	7	2	28.6%	0.068	2	0	0.0%	0.000	10	0	0.0%	0.000	5	2	40.0%	0.129
Mid-Western Regional Hospital, Nenagh	12	9	75.0%	0.336	4	1	25.0%	0.043	7	2	28.6%	0.101	4	1	25.0%	0.056	4	1	25.0%	0.080
Mid-Western Regional Maternity Hospital, Limerick	2	0	0.0%	0.000	2	0	0.0%	0.000	2	0	0.0%	0.000	3	0	0.0%	0.000	5	0	0.0%	0.000
Mid-Western Regional Orthopaedic Hospital, Croom	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000	1	0	0.0%	0.000	0	0	0.0%	0.000
Monaghan General Hospital <sup>4</sup>	10	3	30.0%	0.143	3	1	33.3%	0.052	2	1	50.0%	0.099	**	**	**	**	**	**	**	**
Mount Carmel Hospital, Churchtown	2	0	0.0%	*	1	0	0.0%	*	0	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000
Naas General Hospital	21	11	52.4%	0.151	18	6	33.3%	0.076	26	14	53.8%	0.177	20	8	40.0%	0.109	8	1	12.5%	0.018
National Maternity Hospital, Holles Street	4	0	0.0%	0.000	13	0	0.0%	0.000	9	0	0.0%	0.000	11	0	0.0%	0.000	5	0	0.0%	0.000
Other non-acute facilities	3	0	0.0%	*	12	7	58.3%	*	8	2	25.0%	*	8	2	25.0%	*	6	2	33.3%	*
Our Lady of Lourdes Hospital, Drogheda <sup>5</sup>	5	1	20.0%	0.042	15	2	13.3%	0.021	26	7	26.9%	0.077	23	1	4.3%	0.011	24	8	33.3%	0.106
Our Lady's Children's Hospital, Crumlin	33	4	12.1%	0.066	37	6	16.2%	0.099	35	1	2.9%	0.017	33	4	12.1%	0.067	19	3	15.8%	0.066
Our Lady's Hospital, Cashel <sup>6</sup>	0	0	0.0%	0.000	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Our Lady's Hospital, Navan	9	6	66.7%	0.143	6	1	16.7%	0.025	11	3	27.3%	0.083	6	1	16.7%	0.028	5	1	20.0%	0.041
Portiuncula Hospital, Ballinasloe	9	3	33.3%	0.060	12	7	58.3%	0.141	9	3	33.3%	0.065	9	4	44.4%	0.085	6	1	16.7%	0.028
Roscommon County Hospital	8	3	37.5%	0.094	11	4	36.4%	0.128	3	0	0.0%	0.000	8	5	62.5%	0.175	4	1	25.0%	0.052
Rotunda Hospital	12	0	0.0%	0.000	14	0	0.0%	0.000	15	0	0.0%	0.000	10	0	0.0%	0.000	4	2	50.0%	0.049
Royal Victoria Eye and Ear Hospital, Dublin	0	0	0.0%	0.000	0	0	0.0%	0.000	1	1	100.0%	0.140	0	0	0.0%	0.000	1	1	100.0%	0.200
Sligo General Hospital	28	13	46.4%	0.147	31	10	32.3%	0.126	21	5	23.8%	0.055	35	7	20.0%	0.073	15	4	26.7%	0.057
South Infirmary/Victoria University Hospital, Cork	6	4	66.7%	0.072	13	4	30.8%	0.078	13	5	38.5%	0.098	17	7	41.2%	0.147	8	0	0.0%	0.000
South Tipperary General Hospital, Clonmel	8	1	12.5%	0.013	17	5	29.4%	0.064	16	6	37.5%	0.082	10	4	40.0%	0.056	13	4	30.8%	0.080
St Columcille's Hospital, Loughlinstown	22	8	36.4%	0.187	14	4	28.6%	0.095	15	5	33.3%	0.119	9	0	0.0%	0.000	6	0	0.0%	0.000
St Finbarr's Hospital, Cork <sup>1</sup>	4	3	75.0%	0.113	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
St James's Hospital	125	61	48.8%	0.203	96	31	32.3%	0.106	93	29	31.2%	0.098	90	22	24.4%	0.077	48	12	25.0%	0.055
St John's Hospital, Limerick	5	2	40.0%	0.078	2	0	0.0%	0.000	6	2	33.3%	0.099	8	2	25.0%	0.093	3	2	66.7%	0.128
St Luke's Hospital, Kilkenny	20	10	50.0%	0.114	12	4	33.3%	0.048	25	4	16.0%	0.048	15	2	13.3%	0.025	13	2	15.4%	0.032
St Luke's Hospital, Rathgar	3	2	66.7%	0.045	7	2	28.6%	0.045	11	2	18.2%	0.049	4	1	25.0%	0.023	2	0	0.0%	0.000
St Mary's Orthopaedic Hospital, Gurranebraher	0	0	0.0%	0.000	1	0	0.0%	0.000	1	0	0.0%	0.000	0	0	0.0%	0.000	0	0	0.0%	0.000
St Michael's Hospital, Dun Laoghaire	4	2	50.0%	0.077	5	0	0.0%	0.000	11	1	9.1%	0.035	5	3	60.0%	0.123	7	1	14.3%	0.057
St Vincent's Private Hospital	9	3	33.3%	0.065	11	4</														

**Table 3.** Summary of *S. aureus*/MRSA bloodstream infection data from acute hospitals (public & private) by quarter (2011 data are provisional), Q4 2007 to Q2 2011

Quarter	SAU number	MRSA number	MSSA number	%MRSA	Bed Days Used	SAU rate per 1,000 bed days used	MRSA rate per 1,000 bed days used	MSSA rate per 1,000 bed days used	BLC number	MRSA rate per 100 BLC	Inpatient Admissions	BLC per 1,000 admissions
Q4 2007	352	102	249	29.0%	977,260	0.355	0.104	0.251	43,680	0.22	160,976	287
Q1 2008	374	142	232	38.0%	993,085	0.369	0.141	0.228	47,713	0.29	160,448	293
Q2 2008	318	100	218	31.4%	977,331	0.319	0.099	0.220	46,649	0.21	162,450	283
Q3 2008	305	101	204	33.1%	936,980	0.317	0.105	0.212	43,414	0.23	156,377	273
Q4 2008	306	96	210	31.4%	958,572	0.309	0.098	0.211	46,878	0.20	155,210	297
Q1 2009	343	103	240	30.0%	1,013,086	0.331	0.101	0.230	47,163	0.22	165,419	282
Q2 2009	328	92	236	28.0%	999,573	0.325	0.091	0.234	46,514	0.20	165,216	278
Q3 2009	336	87	249	25.9%	968,848	0.343	0.090	0.253	44,383	0.20	161,976	272
Q4 2009	302	73	229	24.2%	964,149	0.308	0.075	0.233	47,842	0.15	159,944	294
Q1 2010	347	87	260	25.1%	<b>1,005,805</b>	<b>0.342</b>	<b>0.086</b>	<b>0.257</b>	45,462	0.19	<b>162,773</b>	<b>278</b>
Q2 2010	328	90	238	27.4%	<b>983,810</b>	<b>0.331</b>	<b>0.090</b>	<b>0.241</b>	46,547	0.19	<b>165,692</b>	<b>278</b>
Q3 2010	300	64	236	21.3%	<b>958,855</b>	<b>0.307</b>	<b>0.067</b>	<b>0.240</b>	44,692	0.14	<b>164,355</b>	<b>269</b>
Q4 2010	276	64	212	23.2%	<b>960,953</b>	<b>0.282</b>	<b>0.067</b>	<b>0.215</b>	47,847	0.13	<b>163,734</b>	<b>289</b>
Q1 2011	298	76	222	25.5%	<b>991,788</b>	<b>0.298</b>	<b>0.077</b>	<b>0.222</b>	49,739	0.15	<b>165,019</b>	<b>300</b>
Q2 2011	<b>283</b>	<b>64</b>	<b>219</b>	<b>22.6%</b>	<b>968,755</b>	<b>0.290</b>	<b>0.065</b>	<b>0.225</b>	<b>44,570</b>	<b>0.14</b>	<b>166,395</b>	<b>266</b>
Q3 2011	259	66	193	25.5%	959,073	0.264	0.067	0.197	42,259	0.15	163,529	254



**Figure 1.** Total number of *S. aureus* (MRSA and MSSA) bloodstream isolates and proportion (%) MRSA from acute hospitals (public & private) by quarter, Q4 2007 to Q2 2011

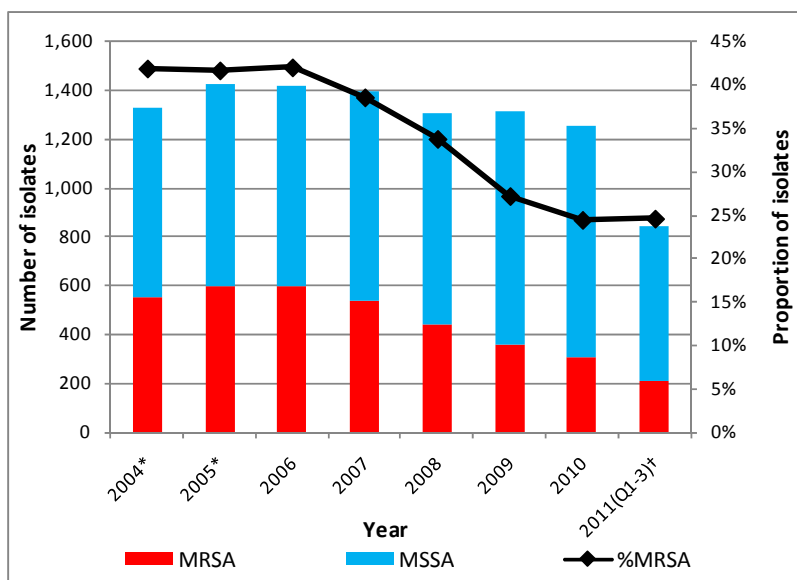


**Figure 2.** Total number of *S. aureus* (MRSA and MSSA) bloodstream isolates, and MRSA and MSSA rates (per 1,000 bed days used) from acute hospitals (public & private) by quarter, Q4 2007 to Q2 2011

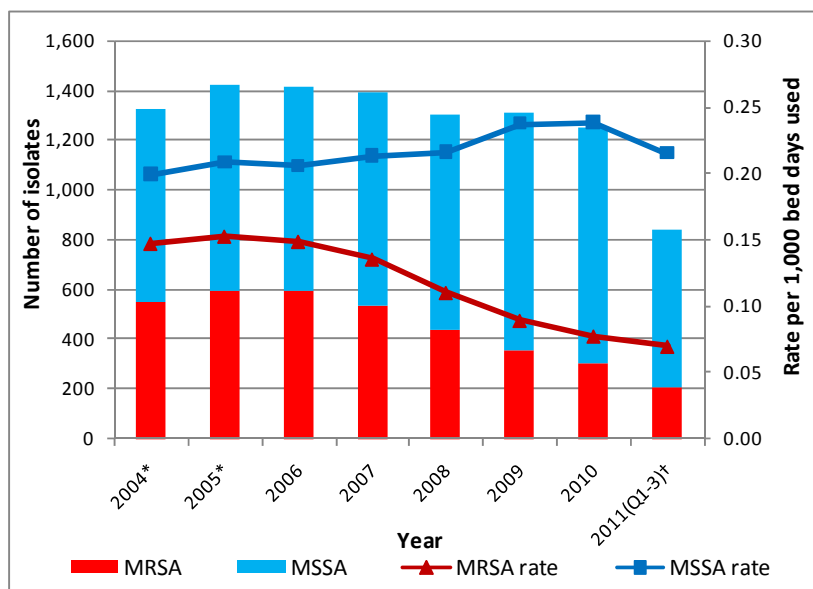
**Table 4.** Summary of *S. aureus*/MRSA bloodstream infection data from acute hospitals (public & private) by year, 2004-2011Q3 (2011 data are provisional)

Year	SAU number	MRSA number	MSSA number	%MRSA	Bed Days Used	SAU rate per 1,000 bed days used	MRSA rate per 1,000 bed days used	MSSA rate per 1,000 bed days used	BLC number	MRSA rate per 100 BLC	Inpatient Admissions	BLC per 1,000 admissions
2004*	1323	553	770	41.8%	3,722,601	0.346	0.147	0.199	**	**	**	**
2005*	1424	592	832	41.6%	3,808,937	0.360	0.152	0.208	**	**	**	**
2006	1412	592	820	41.9%	3,908,502	0.354	0.148	0.206	173,804	0.33	610,156	289
2007	1393	536	857	38.5%	3,922,083	0.348	0.135	0.213	178,856	0.30	624,549	287
2008	1303	439	864	33.7%	3,896,689	0.326	0.110	0.216	184,654	0.23	638,766	284
2009	1309	355	954	27.1%	3,945,656	0.327	0.089	0.237	188,758	0.19	652,595	285
2010	1251	305	946	24.4%	<b>3,909,425</b>	<b>0.316</b>	<b>0.078</b>	<b>0.238</b>	184,548	0.16	<b>656,554</b>	<b>278</b>
2011(Q1-3)†	840	206	634	24.5%	2,919,616	0.285	0.070	0.215	136,568	0.15	494,943	274

\* Rates calculated for acute public hospitals only; \*\* Data not available



**Figure 3.** Total number of *S. aureus* (MRSA and MSSA) bloodstream isolates and proportion (%) MRSA from acute hospitals (public & private) by year, 2004 to 2011Q3



**Figure 4.** Total number of *S. aureus* (MRSA and MSSA) bloodstream isolates, and MRSA and MSSA rates (per 1,000 bed days used) from acute hospitals (public & private) by year, 2004 to 2011Q3