

Voluntary reporting of *Staphylococcus aureus* bacteraemia in England, Wales, and Northern Ireland January-December 2007

This report covers *Staphylococcus aureus* bacteraemia for the period January to December 2007 under the voluntary laboratory reporting schemes in England, Wales, and Northern Ireland. These reports comprise bacteria isolated from blood cultures.

Some data from the mandatory reporting scheme in England (established in April 2001) are also included here for comparison. Northern Ireland and Wales have their own mandatory meticillin resistant *Staphylococcus aureus* (MRSA) bacteraemia reporting schemes, which are not covered in this report.

Rates were calculated using 2007 resident population denominators. Age- and sex-specific population denominators for England were calculated using tables of mid-year resident population estimates published by the Office for National Statistics (ONS) (<http://www.statistics.gov.uk>).

A total of 14,116 cases of *Staphylococcus aureus* bacteraemia were reported in England (12,873), Wales (687), and Northern Ireland (556) through the voluntary reporting scheme in 2007. This total represents a decrease of 5% compared to voluntary data from 2006. Reports for 2007 are provisional as of 10th February 2009 and may increase due to late reporting.

Acknowledgements

We are grateful to microbiology colleagues in NHS acute trusts for their contributions to this reporting scheme, as well as efforts from colleagues in the regional offices of the Health Protection Agency.

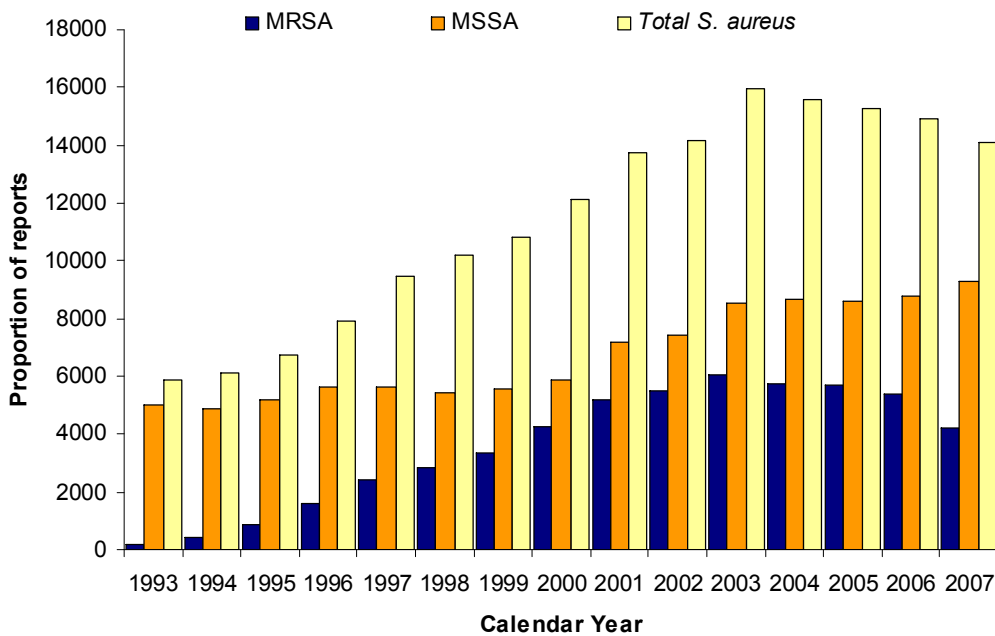
Staphylococcus aureus bacteraemia laboratory reports according meticillin susceptibility (voluntary reporting scheme): England, Wales and Northern Ireland 1993 - 2007

Year	Meticillin susceptibility			Total
	Sensitive	Resistance (% resistant*)	No information	
1993	4990	213 (4)	651	5854
1994	4895	460 (8)	740	6095
1995	5190	858 (13)	688	6736
1996	5605	1620 (20)	712	7937
1997	5609	2437 (26)	1433	9479
1998	5445	2858 (28)	1930	10233
1999	5584	3331 (31)	1885	10800
2000	5862	4283 (35)	1965	12110
2001	7168	5209 (38)	1377	13754
2002	7437	5529 (39)	1177	14143
2003	8527	6060 (38)	1382	15969
2004	8687	5737 (37)	1191	15615
2005	8622	5692 (37)	959	15273
2006	8825	5393 (36)	696	14914
2007	9292	4233 (30)	591	14116

*based on reports with resistance given

For the period January-December 2007, 30% of the *S. aureus* isolated from blood cultures were reported as meticillin resistant. This figure represents a 6% decrease on reports from 2006. Both the absolute number and proportion of *S. aureus* blood culture isolates reported as meticillin resistance decreased between 2005 and 2007.

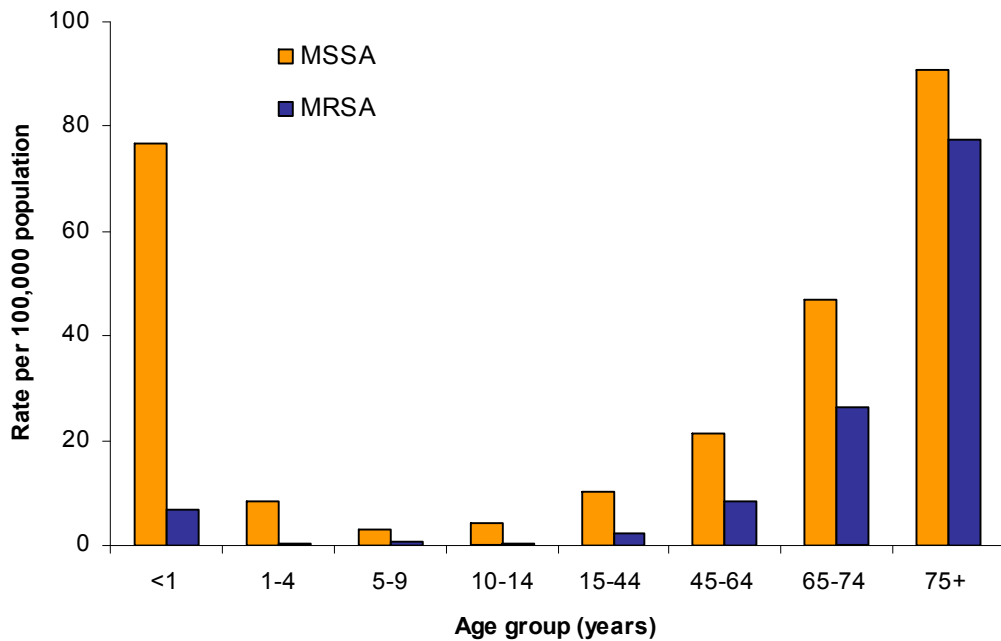
Trend in *Staphylococcus aureus* bacteraemia laboratory reports and meticillin susceptibility (voluntary reporting scheme): England, Wales and Northern Ireland 1993-2007



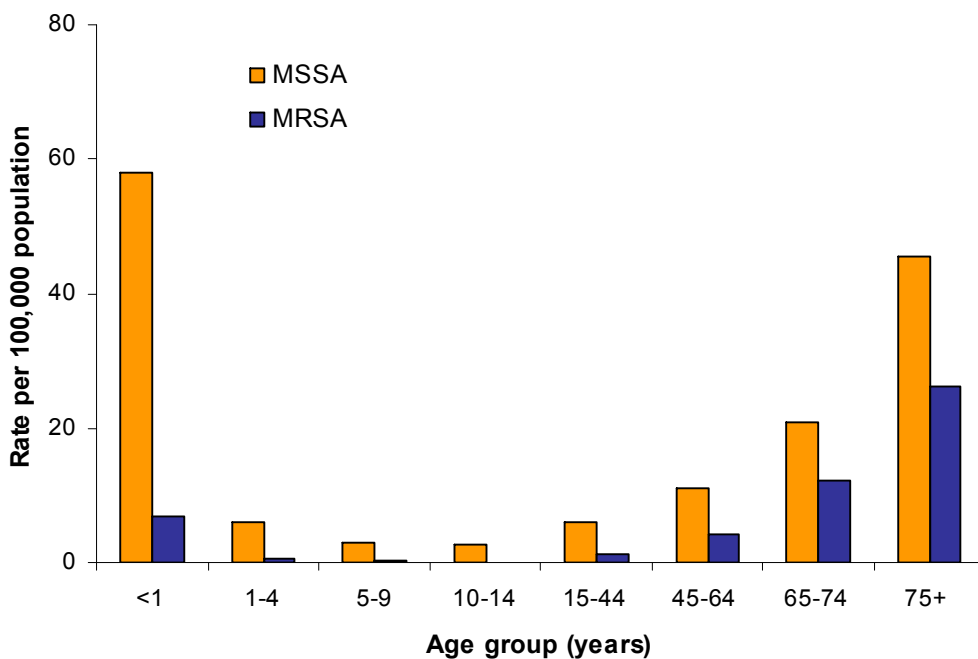
Age and sex -specific *Staphylococcus aureus* bacteraemia voluntary reporting rates: England, Wales and Northern Ireland: January to December 2007

Rates of *S. aureus* bacteraemia were higher in males than females across most age groups. In males, the highest rates for both meticillin-resistant *S. aureus* (MRSA) and meticillin-sensitive *S. aureus* (MSSA) bacteraemia were in the 75 years and over age group. In females, the MRSA bacteraemia rate was also highest in the 75 years and over age group; however, the highest MSSA bacteraemia rate in females occurs in those aged under 1 year.

Male age-specific *Staphylococcus aureus* bacteraemia voluntary reporting rates and meticillin susceptibility per 100,000 population: England, Wales and Northern Ireland: January to December 2007

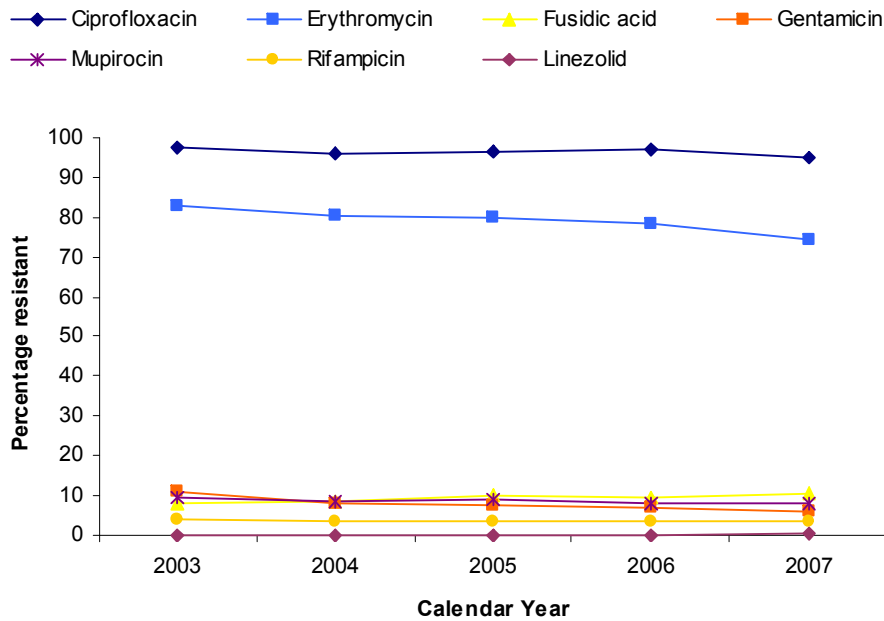


Female age-specific *Staphylococcus aureus* bacteraemia voluntary reporting rates and meticillin susceptibility per 100,000 population: England, Wales and Northern Ireland: January to December 2007

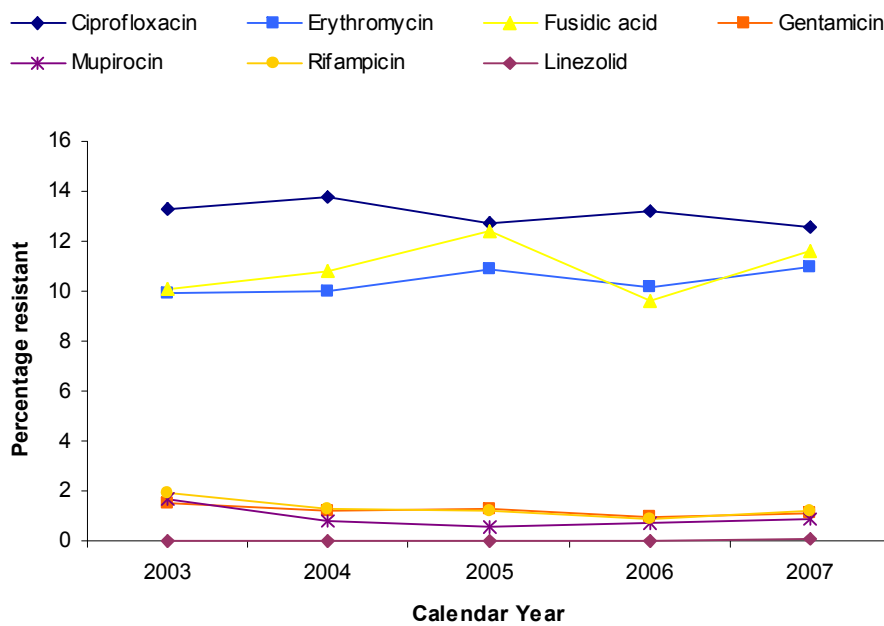


Rates were calculated using 2007 resident population denominators.

Reported resistance of MRSA bacteraemia isolates to additional antimicrobial agents (voluntary reporting scheme): England, Wales and Northern Ireland 2003-2007



Reported resistance of MSSA bacteraemia isolates to additional antimicrobial agents (voluntary reporting scheme): England, Wales and Northern Ireland 2003-2007

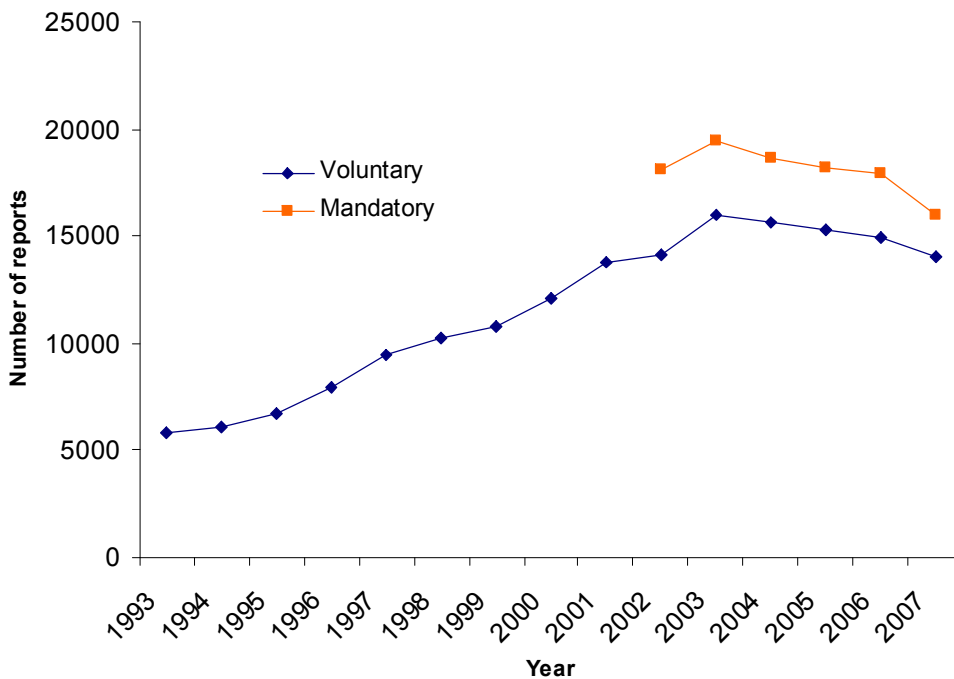


Laboratories are asked to send any isolates suspected to have full or intermediate glycopeptide resistance, or resistance to newer anti-staphylococcal agents, to the HPA's [Antibiotic Resistance Monitoring and Reference Laboratory \(ARMRL\)](#), Colindale. Suspect isolates will also be typed at the HPA's [Laboratory of Healthcare Associated Infection \(LHCAI\)](#) to explore the evolution and spread of new strains.

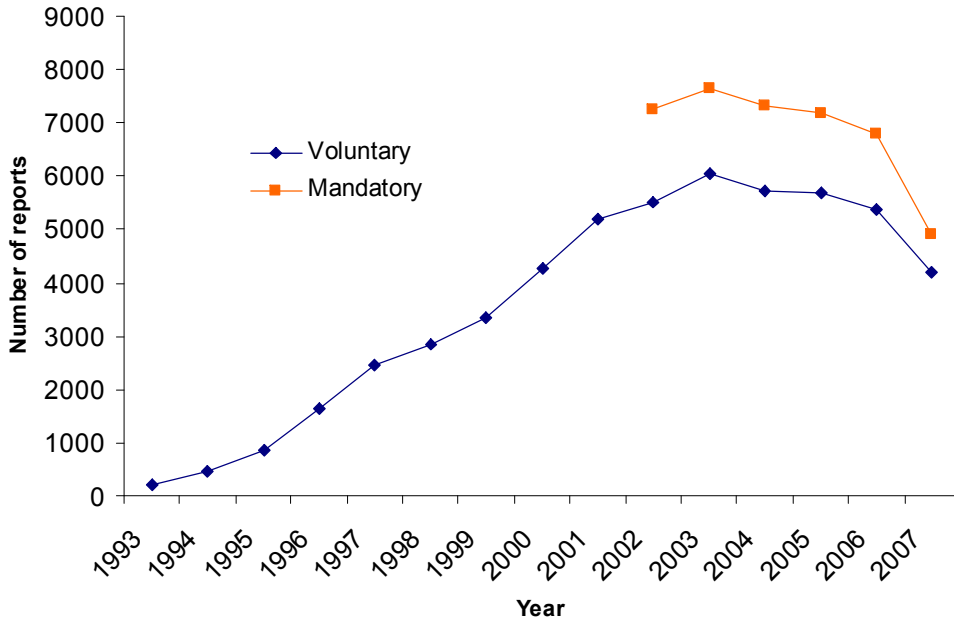
Completeness of reporting through the voluntary reporting scheme

NHS acute Trusts in England are required to report *S. aureus* bacteraemia via a mandatory surveillance system which runs in parallel to the voluntary system. Considering the data from England only, in the last five years the number of *S. aureus* reports received under the voluntary system has been approximately 70-75% of the total received through mandatory surveillance. However, this varies extensively between regions.

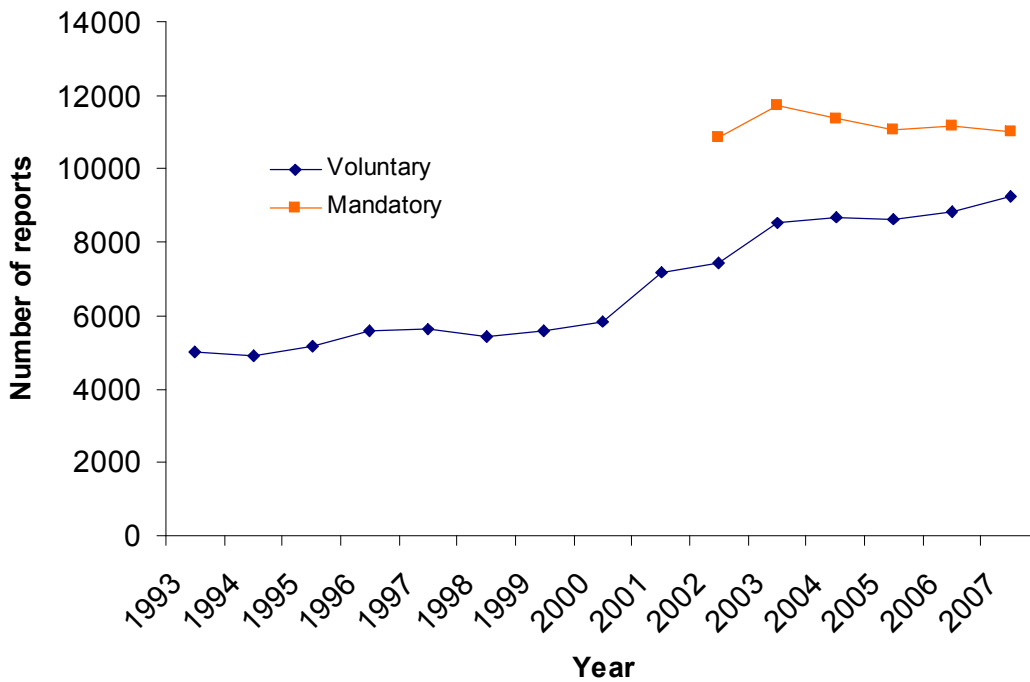
Annual number of *Staphylococcus aureus* bacteraemia reports received via the voluntary and mandatory surveillance schemes in England



Annual number of MRSA bacteraemia reports received via the voluntary and mandatory surveillance schemes in England



Annual number of MSSA bacteraemia reports received via the voluntary and mandatory surveillance schemes in England



Note: Wales and Northern Ireland do not take part in the English mandatory surveillance scheme