

## A crude comparison of MRSA bacteraemia data from countries reporting to European Antimicrobial Resistance Surveillance System (EARSS) in 2003

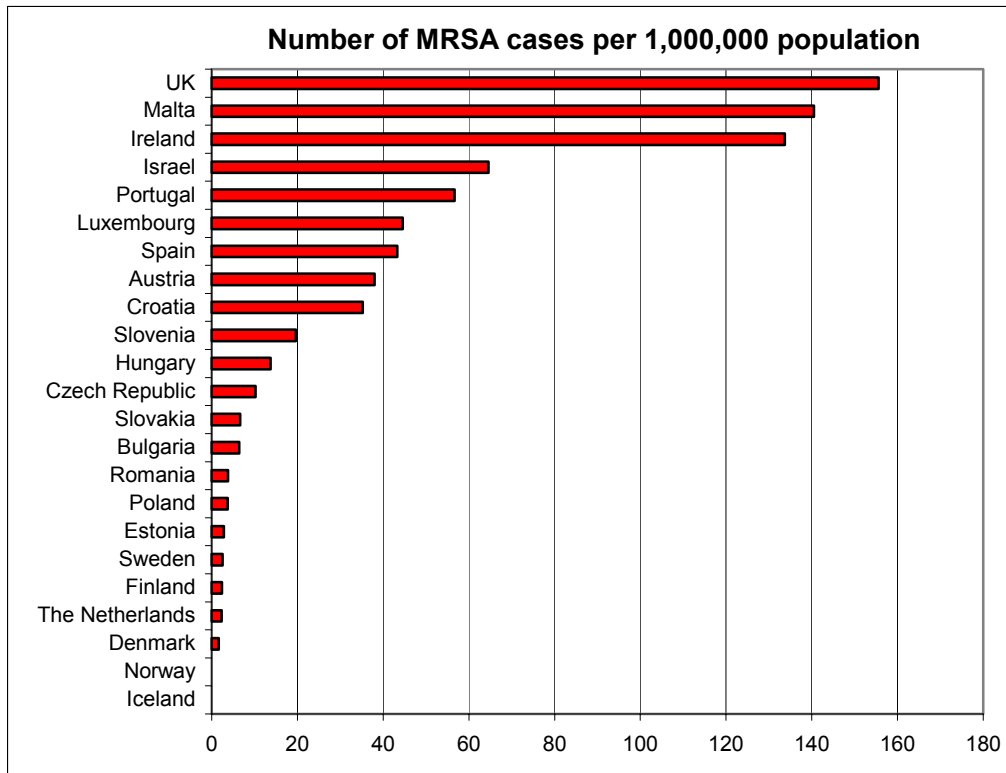
In response to recent media and public interest, the following data (Table 1 and Figure 1) present a more accurate but still crude estimate of the burden of MRSA bacteraemia (“bloodstream infection”) in countries reporting to the European Antimicrobial Resistance Surveillance System (EARSS) in 2003. The data show that MRSA is a significant problem in Ireland, but that this problem is shared by a number of other European countries. It is important to stress that care should be taken when interpreting these data as it would be possible to under- or over- estimate the problem in some countries if the relevant population coverage were not considered. It is also important to note that the MRSA bacteraemia rate per 1,000,000 population cannot be calculated for those countries for whom data on population coverage were not available.

**Table 1.** Total numbers and proportions of MRSA bacteraemia reported to the European Antimicrobial Resistance Surveillance System (EARSS) from countries participating in 2003, with population covered in each country, proportion of the total population covered and the number of cases of MRSA per 1,000,000 population.

	No. MRSA*	%MRSA**	Population covered by EARSS	% Population covered by EARSS	No. MRSA bacteraemia cases per 1,000,000 population***
UK	1507	43	9685000	16	155.6
Malta	52	43	370000	93	140.5
Ireland	468	42	3500000	90	133.7
Israel	157	43	2430000	40	64.6
Portugal	470	45	8285600	78	56.7
Luxembourg	20	21	449000	100	44.5
Spain	334	24	7714000	19	43.3
Austria	133	14	3500000	43	38.0
Croatia	133	37	3775000	86	35.2
Slovenia	38	13	1933000	100	19.7
Hungary	128	15	9312000	92	13.7
Czech Republic	85	6	8283000	81	10.3
Slovakia	34	12	5117000	94	6.6
Bulgaria	49	31	7621000	100	6.4
Poland	32	19	8508000	22	3.8
Romania	39	46	10243000	46	3.8
Estonia	4	4	1416000	100	2.8
Sweden	16	<1	6276000	71	2.5
Finland	10	1	4242000	82	2.4
The Netherlands	14	<1	5989000	37	2.3
Denmark	4	<1	2490000	46	1.6
Iceland	0	<1	279000	100	0.0
Norway	0	<1	4552000	100	0.0
Belgium	1133	29	N/A	N/A	N/A
France	493	29	N/A	N/A	N/A
Germany	128	18	N/A	N/A	N/A
Greece	298	51	N/A	N/A	N/A
Italy	148	38	N/A	N/A	N/A

\*Number of MRSA bacteraemia cases reported in 2003; \*\*Percentage of *Staphylococcus aureus* bacteraemia caused by MRSA; \*\*\* Based on the actual population coverage for each country participating in EARSS in 2002 and not the total population of that country; N/A, not available

**Figure 1.** Numbers of MRSA bacteraemia cases per 1,000,000 population reported by country\* to the European Antimicrobial Resistance Surveillance System (EARSS) in 2003.



\* The numbers of MRSA cases per 1,000,000 population are not shown for Belgium, France, Germany, Greece and Italy as data on the population coverage for these countries were not available

### **Additional comments and considerations**

The estimated population coverage in EARSS countries is based on the catchment populations reported by each hospital participating in EARSS in 2002 (denominator data is collected every second year only). In Ireland, the coverage in 2002 was a very rough estimate as hospitals here do not have discrete catchment areas. Subsequently, it has been possible to calculate a more accurate estimate based on Acute Public Hospital Activity Data from the Department of Health and Children.

For some countries, the population coverage in 2003 (corresponding to the data analysed) may have changed if more (or fewer) laboratories and hospitals reported to EARSS compared with 2002. This could result in a bias in the numbers of cases per 1,000,000 population for these countries. In Ireland, 28 laboratories participated by the end of 2003 compared with 23 by the end of 2002.

For other countries, the coverage may be underestimated if the catchment populations were not provided for all EARSS hospitals (which would lead to an overestimation of the numbers of cases per 1,000,000 population).

For countries with low EARSS coverage, the participating laboratories may not be fully representative of all laboratories in that country and thus the estimate of the number of MRSA cases per 1,000,000 population may not accurately reflect the actual situation in those countries. Blood-culturing (sampling) frequencies may be lower in some countries, due to lack of resources, and may therefore result in lower numbers of cases per 1,000,000 population.

In conclusion, the analysis presented here is not a frequently employed means of presenting this kind of antimicrobial resistance data for some of the reasons outlined above and provides only a very crude estimate of the burden of MRSA bacteraemia in Europe.