

**Trends in *Enterococcus faecium*/VREfm bacteraemia in Ireland,
2002 to the end of Q1 2011
(data correct as of 1st July 2011)**

The Health Protection Surveillance Centre (HPSC) collects data on invasive isolates of *Staphylococcus aureus* as part of the European Antimicrobial Resistance Surveillance Network (EARS-Net), previously known as the European Antimicrobial Resistance Surveillance System (EARSS), from microbiology laboratories in hospitals throughout Ireland. Data are collected on the first isolate from blood per patient per quarter (i.e. no duplicates or second strains are included) in accordance with the EARS-Net case definition. The data collected include demographic data on patients (e.g. age and sex) and susceptibility of the isolates to important antibiotics (e.g. vancomycin). From the latter, we determine the proportion of *E. faecium* isolates that are resistant to vancomycin (**Vancomycin-Resistant *E. faecium* or VREfm**).

The number of Irish laboratories reporting to EARS-Net at HPSC has grown over the years: from 21 in 2002 [representing approximately ~61% coverage of the Irish population], when surveillance of this pathogen commenced here, to 43 by 2009 (100% coverage). As of Q3 2010, blood cultures are no longer processed by 3 laboratories hence the number of participating laboratories is now 40 (but still 100% coverage). It is important to note that the total numbers of both *E. faecium* and VREfm have increased over the nine years that surveillance has been undertaken as a result of more laboratories participating, therefore the proportion of VREfm (%VREfm) gives the best indication as to what is happening over time in the data presented here.

The raw data are presented in Table 1 and the *E. faecium*/VREfm trends over time in Figure 1. The proportion of *E. faecium* that is VREfm (%VREfm) increased from 11% in 2002 to 39% in 2010, the highest proportion to date. In 2011 (to the end of Q1), the trend appears to be downwards with a decrease to 35%. It should be stressed that the numbers reported to EARS-Net represent only a proportion of the total number of people infected and/or colonized with VREfm in Ireland.

In 2009, Ireland had the highest proportion (38%, n=386; lower number than HPSC report as EARS-Net de-duplicates over the year) of VREfm among the 28 countries reporting to EARS-Net (median, 5.3%) (Figure 2). Only two other countries reported VREfm proportions greater than 25%: Luxembourg (36%; n=14) and Greece (29%; n=435). Six countries reported proportions between 10 and 25%, while the majority (n=19) reported proportions of less than 10%. Between 2006 and 2009, a significant increase was reported only from Austria, while significant decreases were reported from France, Germany, Greece and Italy. Ireland has had the highest proportion of VREfm since 2008.

For more information/FAQs on *E. faecium* and VREfm, see: <http://www.hpsc.ie/hpsc/A-Z/MicrobiologyAntimicrobialResistance/EuropeanAntimicrobialResistanceSurveillanceSystemEARSS/ReferenceandEducationalResourceMaterial/EnterococciVRE/Factsheet/>

For more information on antimicrobial resistance/EARS-Net (EARSS) in Ireland, including the latest quarterly reports, see: <http://www.hpsc.ie/hpsc/A-Z/MicrobiologyAntimicrobialResistance/EuropeanAntimicrobialResistanceSurveillanceSystemEARSS/>

For more information on antimicrobial resistance/EARS-Net in Europe, see: <http://www.ecdc.europa.eu/en/activities/surveillance/EARS-Net/Pages/Database.aspx>

Table 1. Total number of episodes of *Enterococcus faecium* bacteraemia, numbers of vancomycin-susceptible and vancomycin-resistant *E. faecium*, and proportion (%) VREfm reported to the Health Protection Surveillance Centre (HPSC) as part of the European Antimicrobial Resistance Surveillance Network (EARS-Net) over the period 1999-2011*

Year	No. Laboratories	Estimated % Pop/n Coverage	Total <i>E. faecium</i>	Total VAN tested**	VSEfm**	VREfm**	%VREfm
2002	21	61	85	81	72	9	11.1%
2003	27	82	135	134	108	26	19.4%
2004	40	94	187	185	142	43	23.2%
2005	41	98	224	224	153	71	31.7%
2006	42	98	265	264	166	98	37.1%
2007	44	98	332	331	220	111	33.5%
2008	42	97	406	406	261	145	35.7%
2009	43	100	397	397	245	152	38.3%
2010	40	100	392	390	237	153	39.2%
2011*	40	100	95	95	61	34	35.8%

Pop/n, Population; VAN, vancomycin; VSEfm, Vancomycin-Susceptible *E. faecium*; VREfm, Vancomycin-Resistant *E. faecium*

* Data for 2011 (to the end of Q1) are provisional (data correct as of 01/07/2011); ** Increasing numbers over the earlier years are due to more laboratories participating in the surveillance system; %VREfm gives the best indication of what is happening over all years

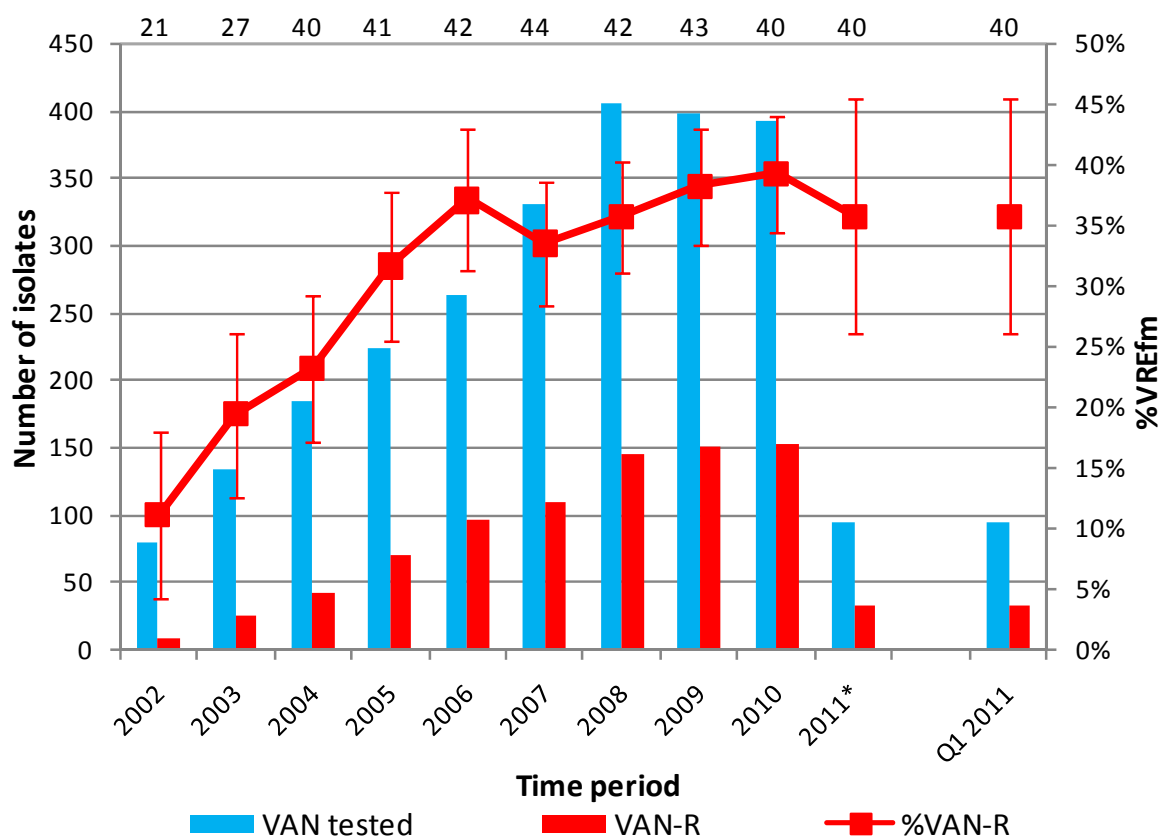


Figure 1. Trends for *E. faecium* by time period: by year for 2002–2011*: total numbers of *E. faecium*/VREfm and percentage VREfm with 95% confidence intervals. The number of participating laboratories is indicated above the bar for each year

VAN, vancomycin; VREfm, vancomycin-resistant *E. faecium*

* Data for 2011 (provisional to the end of Q1) are provisional (data correct as of 01/07/2010)

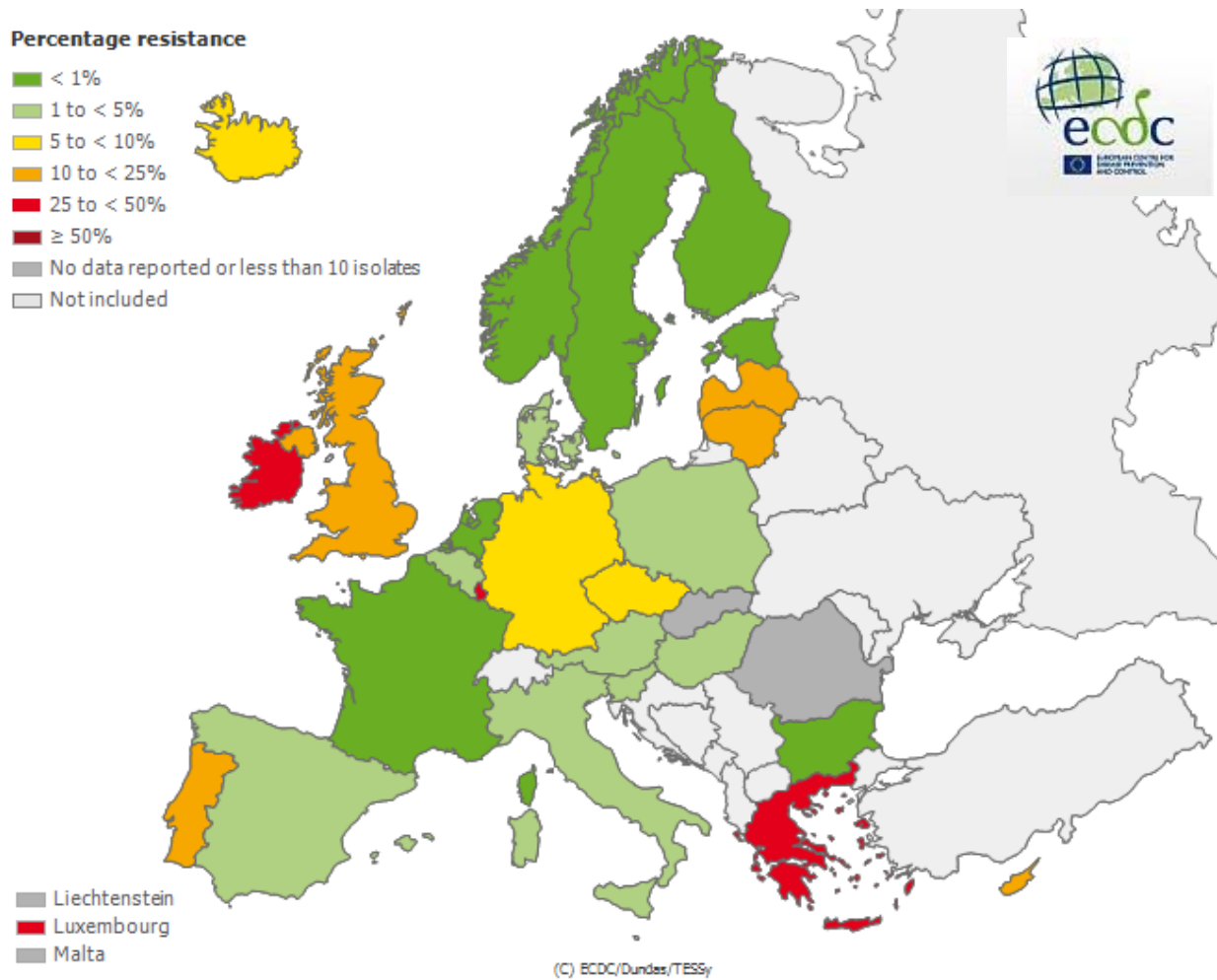


Figure 2. Distribution of VREfm in EARSS countries in 2009

Map downloaded from <http://ecdc.europa.eu/en/activities/surveillance/EARS-Net/Pages/Database.aspx> on 21/12/2010