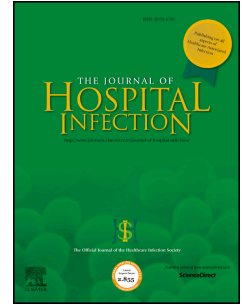


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Vancomycin-resistant enterococci carriage in an acute Irish hospital

E. Whelton, C. Lynch, B. O'Reilly, D. Corcoran, B. Cryan, S.M. Keane, R.D. Sleator, B. Lucey



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E. Whelton *et al.*

### **Vancomycin-resistant enterococci carriage in an acute Irish hospital**

E. Whelton<sup>a</sup>, C. Lynch<sup>b</sup>, B. O'Reilly<sup>c</sup>, D. Corcoran<sup>a</sup>, B. Cryan<sup>a</sup>, S.M. Keane<sup>b</sup>, R.D. Sleator<sup>b</sup>, B. Lucey<sup>b,\*</sup>

<sup>a</sup>*Department of Medical Microbiology, Cork University Hospital, Cork, Ireland*

<sup>b</sup>*Department of Biological Sciences, Cork Institute of Technology, Cork, Ireland*

<sup>c</sup>*Department of Pathology, Cork University Hospital, Cork, Ireland*

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\*Corresponding author. Address: Department of Biological Sciences, Cork Institute of Technology, Cork, Ireland. Tel.: +353 21 433 5484.

*E-mail address:* Brigid.lucey@cit.ie (B. Lucey).

#### **SUMMARY**

**Background:** Ireland has been shown to have the highest rate of vancomycin-resistant enterococci (VRE) in cases of bacteraemia in Europe, according to a report in 2014 from the European Antimicrobial Resistance Surveillance System Network.

**Aim:** To investigate the prevalence of VRE gut colonization in a cohort of patients in 2014 at Cork University Hospital (CUH) by performing a cross-sectional study using faecal samples submitted to the microbiology laboratory for routine investigation from both hospital inpatients and community-based patients.

**Methods:** Faeces were examined for VRE colonization using selective cultivation, antimicrobial susceptibility testing, and speciation using matrix-assisted laser desorption ionization time-of-flight mass spectrometry. All VRE isolates were evaluated by molecular means for resistance determinants, type, and Insertion Sequence 16 as an indicator of Clonal Complex 17 (CC17).

**Findings:** From the 350 specimens investigated, 67 (19.1%) specimens were positive for VRE, [95% confidence interval (CI): 14.1–24.1]. The prevalence of VRE colonization among CUH patients tested in this study ( $N = 194$ ) was 31.4% (95% CI: 23.4–39.4). By contrast, the general practitioner patient samples ( $N = 29$ ) showed a prevalence of 0%, whereas 22.2% of samples from other hospitals ( $N = 27$ ) were positive for VRE. All isolates were *Enterococcus faecium* (VRE<sub>fm</sub>) and were indicated to contain CC17, though with considerable heterogeneity among the isolates.

**Conclusion:** This high prevalence goes some way towards providing an explanation for the current high rates of VRE bacteraemia in Ireland, as well as highlighting the benefits of screening

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