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Epidemiology of a Dominant Clonal Strain of VRE at Two Hospitals in Boston

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Dr. Scott Fridkin and colleagues from the Massachusetts General Hospital in Boston recently reported on a strain of vancomycin-resistant *Enterococcus faecium* in two hospitals. In 1996, the dominant (43%) strain of vancomycin-resistant enterococci (VRE; type A) at Massachusetts General Hospital was identified at Brigham and Women's Hospital (BWH).

To characterize the epidemiology of infection with type A isolates of VRE at BWH, the investigators collected demographic and clinical data for all patients from whom VRE were isolated from a clinical specimen through September 1996. The first clinical isolates from all BWH patients were typed by pulsed-field gel electrophoresis of *Sma*I digests of chro-

mosomal DNA. Among patients hospitalized after the first patient at BWH infected with a type A isolate of VRE was identified, exposures were compared between patients who acquired type A isolates of VRE and those who acquired other types of VRE.

Three months after the index patient arrived at BWH and at a time when at least 12 strains of VRE were present, type A isolates of VRE became dominant; 39 (52%) of 75 of the study cohort had acquired type A isolates of VRE. They found no association between the acquisition of type A isolates of VRE and transfer from another institution or temporal overlap by service, ward, or floor with patients known to have type A isolates. By multivariate analysis, only residence in the medical intensive-care unit (adjusted odds ratio [OR], 3.2; 95% confidence interval [CI₉₅], 1.4-107) and the receipt of two or more antibiotics per

patient day (adjusted OR, 12.2; CI₉₅, 1.2-9.0) were associated with the acquisition of strain A.

This strain of VRE, dominant at two Boston hospitals, was associated with intensity of antibiotic exposures (ie, two or more antibiotics per patient day). The authors hypothesize that this strain may have unidentified properties providing a mechanism favoring its spread and dominance over other existing isolates, and further studies are needed to define these properties.

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