Regional and Source Variations in Vancomycin-resistant Enterococci (VRE) Rates in US Hospitals 2015

Background: We sought to evaluate the regional differences on vancomycin-resistant enterococci (VRE) across blood, urine, and wound sources.

Methods: We analyzed an electronic research dataset of Becton, Dickinson & Company from 346 USA hospitals in 2015. All non-duplicate enterococci isolates (first isolate of a species per 30 day period) from blood, urine, and wound were categorized as VRE if confirmed as intermediate-resistant or resistant to vancomycin.

Positive isolates were categorized by specimen collection location as:

- Ambiental: if collected in non-inpatient setting.
- Inpatient: if collected during an inpatient stay.

Geographic regions were classified into 10 NHSN categories:

1. AL, FL, GA, KY, MS, NC, SC, TN
2. IL, IN, MI, MN, OH, WI
3. AZ, CA, HI, Pacific Islands
4. AR, LA, NM, OK, TX
5. AZ, CA, HI, Pacific Islands
6. AK, LA, NV, OK, TX
7-10 Other

Overall

Overall

Results:

- The overall VRE rate was 15.2% (19,650/129,407).
- The setting-specific VRE rates were 9.7% (7,116/73,732) and 22.5% (12,534/55,675) for ambiental and inpatient, respectively.
- For regional differences in the ambiental setting, all were significant when compared to Region 10, except for wound source Regions 5 and Other. For regional differences in the inpatient setting all were significant except for blood Regions 3, 4, and Other.

Conclusions: The VRE rate was more than twice as high in the inpatient setting as in ambiental setting. The majority of regions showed significant differences within sources.

Introduction

- Enterococci currently represent the second most common pathogen isolated from healthcare-associated infections (HAIs) in the USA, and are associated with high morbidity and mortality.

Limitations:

- These data were collected from the laboratory information system feeds provided by participating hospitals and relied on interpretive results at each facility.

Conclusions

The VRE rate was more than twice as high in the inpatient setting as in ambiental setting. The majority of regions showed significant differences within sources and across settings.

Table 1: Hospital characteristics

Table 2: VRE rates for blood, urine, and wound by setting

References:


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