Changes of Susceptibility Patterns for Tigecycline and Comparators in Western Europe from 2004-2006

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Background: Tigecycline, the first member of the glycyclines, was marketed in mid 2005 and has demonstrated success against multiply-resistant species and phenotypes. Due to its chemical structure, resistance to tigecycline is reportedly difficult to produce even in the laboratory. The T.E.S.T. program is an ongoing global surveillance with the first post-marketing prospective report of tigecycline and comparator in vitro activity for the years 2004 through 2006. Methods: 12,454 clinical isolates were collected from 65 investigational sites in 15 countries in Western Europe. MICs were determined by broth microdilution according to CLSI guidelines using identical panels. Results: Results are given by year for all pathogens and antimicrobials. Summary data for tigecycline and key species are as follows:

### MATERIALS & METHODS

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<tbody>
<tr>
<td><em>Staphylococcus aureus</em></td>
<td>0.5 (529)</td>
<td>0.5 (529)</td>
<td>0.5 (314)</td>
<td>0.5 (314)</td>
<td>0.5 (91)</td>
<td>0.5 (91)</td>
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<tr>
<td><em>Enterococcus faecalis</em></td>
<td>0.06 (503)</td>
<td>0.06 (503)</td>
<td>0.06 (356)</td>
<td>0.06 (356)</td>
<td>0.06 (624)</td>
<td>0.06 (624)</td>
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<tr>
<td><em>Enterococcus faecium</em></td>
<td>0.06 (261)</td>
<td>0.06 (261)</td>
<td>0.06 (105)</td>
<td>0.06 (105)</td>
<td>0.06 (217)</td>
<td>0.06 (217)</td>
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<tr>
<td><em>Streptococcus pneumoniae</em></td>
<td>0.5 (n=118)</td>
<td>0.5 (n=118)</td>
<td>0.5 (n=60)</td>
<td>0.5 (n=60)</td>
<td>0.5 (n=71)</td>
<td>0.5 (n=71)</td>
</tr>
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### RESULTS

### CONCLUSIONS

- No tigecycline MIC50 or MIC90 values for any organism group differed by more than a single dilution when comparing 2004, 2005, and 2006 results, demonstrating consistently good in vitro activity (except for *P. aeruginosa*).
- *S. pneumoniae* showed an interesting decrease in MIC50 values for the beta-lactams, perhaps consequent to widespread use of pneumococcal vaccines which have diminished the prevalence of penicillin-resistant strains.
- Except for the decline in beta-lactam MIC50 for *S. pneumoniae* mentioned above, all other antimicrobials in this study showed similar in vitro activity in Western Europe.
- During the 3 years covered by this analysis, tigecycline has retained its excellent activity against a broad spectrum of bacteria, including many strains resistant to various other antimicrobials.