**Supplemental Table S1.** Association between rural residence and suboptimal antibiotic use by region.

| Clinical outcomes | Rural-residing veterans | Urban-residing veterans | Adjusted odds ratio | Lower confidence interval | Upper confidence interval |
|---|---|---|---|---|---|
| Fluoroquinolone exposure[a] | | | | | |
| Northeast | 5,860 (16.4%) | 26,293 (16.5%) | **1.04** | **1.01** | **1.08** |
| South | 31,588 (20.9%) | 95,250 (19.0%) | 1.01 | 0.992 | 1.03 |
| Midwest | 36,040 (16.7%) | 16,714 (18.0%) | **1.06** | **1.04** | **1.09** |
| West | 6,728 (16.5%) | 32,436 (15.5%) | 1.03 | 0.999 | 1.07 |
| Longer antibiotic course[b] | | | | | |
| Northeast | 18,323 (51.2%) | 67,605 (42.4%) | **1.36** | **1.33** | **1.40** |
| South | 79,929 (53%) | 243,863 (48.8%) | **1.15** | **1.13** | **1.16** |
| Midwest | 51,908 (55.9%) | 108,871 (50.3%) | **1.21** | **1.19** | **1.23** |
| West | 22,273 (54.6%) | 106,084 (50.7%) | **1.14** | **1.11** | **1.16** |

The data are n (%) or adjusted odds ratio (95% confidence interval). Bold indicates the $p$-value < 0.05 for the comparison of rural and nonrural residence. The adjusted odds ratios were estimated from generalized linear mixed models with a binary distribution and logit link, accounting for clustering by region and year. Longer antibiotic courses were defined as prescriptions with durations of ten days or greater. [a] Adjusted for age, infection diagnosis, cerebrovascular disease, chronic pulmonary disease, hypertension, liver disease, peripheral vascular disease, malignancy, Charlson comorbidity score higher than the median, sex, race, and year. [b] Adjusted for the following: age, infection diagnosis, atherosclerosis, alcohol disorder, cerebrovascular disease, Elixhauser score higher than the median, depression, hypertension, liver disease, myocardial infarction, obesity, malignancy, Hispanic ethnicity, marital status, sex, race, region, and year.