Appendix

**Supplemental Figure 1**. Balance plot from propensity model showing effects of inverse weighting with as-treated (ATT) propensity weights.



**Supplemental Table 1**. Resistance profile of the most common organisms in blood and respiratory cultures

|  |  |  |
| --- | --- | --- |
| **Source:** | **Blood cultures** | **Respiratory cultures** |
|  Resistance to: | Macrolides+cephalosporin  | Quinolones | Macrolides+cephalosporin  | Quinolones |
| Organisms |  |  |  |  |
| Overall | 144/1246 (11.6) | 108/1190(9.0) | 496/1467 (33.8) | 258/1349(19.1) |
| MRSA | 39/46 (84.8) | 33/41(80.5) | 156/175 (89.1) | 105/124(84.7) |
| MSSA | 11/105 (10.5) | 21/79(26.6) | 29/272 (10.7) | 52/204(25.5) |
| *S pneumoniae* | 25/654 (3.8) | 25/786(3.2) | 41/560 (7.3) | 14/569(2.5) |
| *E coli* | 28/300 (9.3) | 44/295(14.9) | 26/182 (14.3) | 48/184(26.1) |
| *P aeruginosa* | 33/70 (47.1) | 5/59(8.5) | 234/291 (80.4) | 37/285(13.0) |
| *K pneumoniae* | 10/80 (12.5) | 2/76(2.6) | 22/128 (17.2) | 9/124(7.3) |

**Supplemental Table 2: : *Clostridioides difficile* testing, results, and classification by alternative diagnostic criteria, of patients admitted with pneumonia to hospitals contributing to the Premier Healthcare Database, July 2010-June 2015, and treated empirically with either macrolide + cephalosporin or quinolone** **tested day 3 or later**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 177 Premier/SafetySurveillor hospitals | Total (N=58,884) | Marcolides+ce-phalosporins (N=37,358) | Quinolones(N=21,526) | p-value |
| Positive test and 008.45 ICD9 code or readmit with *C.difficile* within coming 2 months, No. (%) | 220(0.37) | 143(0.38) | 77(0.36) | 0.63 |
| Positive test or 008.45 ICD9 code or readmit with *C.difficile* within coming 2 months, No. (%) | 302(0.51) | 199(0.53) | 103(0.48) | 0.38 |
| 008.45 ICD9 code only, No. (%) | 169(0.29) | 114(0.31) | 55(0.26) | 0.28 |

**Supplemental Table 3:** ***Clostridioides difficile* testing, results, and classification by alternative diagnostic criteria, of patients admitted with pneumonia to hospitals contributing to the Premier Healthcare Database, July 2010-June 2015, and treated empirically with either macrolide + cephalosporin or quinolone** **tested day 4 or later per 10,000 patient days.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 177 Premier/SafetySurveillor hospitals | TotalN=58,060 |

|  |
| --- |
| Macrolide +Cephalosporin |
| (N=36,796) |

 | QuinolonesN=21,264 | **p-value** |
| Positive test and 008.45 ICD9 code or readmit with *C.difficile* within coming 2 months, No. (%) | 6.2 | 6.4 | 5.8 | 0.47 |
| Positive test or 008.45 ICD9 code or readmit with *C.difficile* within coming 2 months, No. (%) | 8.5 | 8.8 | 7.9 | 0.50 |
| 008.45 ICD9 code only, No. (%) | 4.6 | 4.9 | 4.0 | 0.25 |