Supplemental Table 2: Univariable and multivariable analysis of patient-, infection- and treatment-related characteristics associated with acceptance of stewardship suggestions

|  |  |  |
| --- | --- | --- |
|  | **Unadjusted** | **Adjusted** |
|  | **Total (n=2826)** | **Accepted stewardship suggestion (n=1895)** | **Rejected stewardship suggestion (n=931)** | **Odds Ratio (95% CI)** | **p-value** | **Odds Ratio (95% CI)** | **p-value** |
| **Demographics** |  |
| Males, N(%) – Ref | 1790 (63) | 1191 (67) | 599 (33) | 1.07 (0.91 – 1.26) | 0.440 | 1.01 (0.84 – 1.21) | 0.924 |
| Females, N(%) | 1036 (37) | 704 (33) | 332 (67) |
| Year of intervention |  |  |  | 0.97 (0.94 – 1.00) | 0.057 | 0.97 (0.94 – 1.00) | 0.089 |
| Age, mean (SD)Increase by 10 years | 63.7 (19.4) | 63.7 (19.4) | 63.5 (19.5) | 1.00 (0.97 – 1.05) | 0.817 | 0.98 (0.93 – 1.03) | 0.435 |
| ICU length of stay prior to assessment, median (IQR)*a* | 5 (3-10) | 5 (3 – 9) | 5 (3 – 11) | **1.20 (1.02 – 1.40)** | **0.025** | 1.07 (0.85 – 1.35) | 0.552 |
| Hospital length of stay prior to assessment, median (IQR)*b* | 9 (4-17) | 8 (4 – 17) | 9 (4 – 18) | **1.25 (1.07 – 1.46)** | **0.006** | 1.23 (0.98 – 1.54) | 0.068 |
|  |
| **ICU Distribution, N (%)** |  |
| Level 2 ICU – Ref | 1016 (36) | 676 (36) | 340 (37) | 1.04 (0.88 – 1.22) | 0.659 | **1.50 (1.14 – 1.97)** | **0.003** |
| Level 3 ICU | 1810 (64) | 1219 (64) | 591 (63) |
|  |
| **Patient Service, N (%)**  |
| General Medicine – Ref | 1099 (39) | 769 (41) | 330 (35) | - | - | - | - |
| Cardiology | 56 (2) | 33 (2) | 23 (3) | 0.62 (0.36 – 1.07) | 0.083 | 0.59 (0.31 – 1.13) | 0.113 |
| Cardiovascular surgery | 158 (6) | 103 (5) | 55 (6) | 0.80 (0.57 – 1.14) | 0.223 | 0.73 (0.48 – 1.10) | 0.133 |
| General surgery | 719 (25) | 479 (25) | 240 (26) | 0.86 (0.70 – 1.05) | 0.132 | 0.86 (0.67 – 1.11) | 0.254 |
| Neurosurgery | 161 (6) | 118 (6) | 43 (5) | 1.18 (0.81 – 1.71) | 0.390 | 1.15 (0.74 – 1.78) | 0.538 |
| Oncology | 90 (3) | 63 (3) | 27 (3) | 1.00 (0.63 – 1.60) | 0.996 | 0.98 (0.58 – 1.64) | 0.929 |
| Burn service | 424 (15) | 248 (13) | 176 (19) | **0.61 (0.48 – 0.76)** | **<0.001** | **0.64 (0.45 – 0.91)** | **0.012** |
| Uro/gynecology | 19 (1) | 15 (1) | 4 (0) | 1.61 (0.53 – 4.88) | 0.402 | 1.22 (0.39 – 3.86) | 0.73 |
| Other surgery | 100 (4) | 67 (4) | 33 (4) | 0.87 (0.56 – 1.35) | 0.536 | 0.89 (0.54 – 1.46) | 0.641 |
|  |
| **Patient Variables, N (%)** |
| Arterial line, N(%) | 1501 (53) | 988 (52) | 513 (55) | 0.89 (0.76 – 1.04) | 0.138 | **0.71 (0.58 – 0.88)** | **0.002** |
| Central venous line, N(%) | 1792 (63) | 1179 (62) | 613 (66) | 0.85 (0.73 – 1.01) | 0.06 | 0.85 (0.68 – 1.06) | 0.152 |
| Dialysis, N(%) | 203 (7) | 127 (7) | 76 (8) | 0.81 (0.60 – 1.09) | 0.158 | 0.82 (0.57 – 1.19) | 0.298 |
| Intracranial pressure monitor, N(%) | 71 (3) | 53 (3) | 18 (2) | 1.46 (0.85 – 2.51) | 0.171 | 1.49 (0.78 – 2.85) | 0.223 |
| Mechanical ventilation, N(%) | 1313 (46) | 904 (48) | 409 (44) | 1.13 (0.96 – 1.32) | 0.138 | 1.04 (0.82 – 1.31) | 0.760 |
| Vasopressors, N(%) | 737 (26) | 501 (26) | 236 (25) | 1.06 (0.88 – 1.27) | 0.537 | 0.99 (0.79 – 1.24) | 0.929 |
| Multi-Organ Dysfunction Score (SD) | 4.13 (2.74) | 4.18 (2.74) | 4.01 (2.74) | 1.02 (1.00 – 1.05) | 0.109 | 1.01 (0.97 – 1.05) | 0.647 |
| White blood cell Count on day of suggestion, Median (IQR) |  | 11.7 (8.5 – 15.8) | 11.5 (8.2 – 15.3) | 1.01 (1.00 – 1.02) | 0.292 |  |  |
| White blood cell count change, Median (IQR) |  | -0.6 (-2.5 – 1.2) | -0.3 (-2.3 – 1.5) | 0.99 (0.97 – 1.01) | 0.264 |  |  |
| Median platelet count day of suggestion (IQR) |  | 222 (141 – 332) | 236 (150 – 349) | 0.99 (0.96 – 1.01) | 0.19 |  |  |
| Median platelet count change (IQR)*c* |  | 8 (-15 – 37) | 4 (-18 – 30) | 0.96 (0.90 – 1.03) | 0.235 |  |  |
| Median lactate day of suggestion (IQR) |  | 1.3 (0.9 – 1.8) | 1.3 (1.0 – 1.8) | 0.96 (0.91 – 1.01) | 0.145 |  |  |
| Median lactate change (IQR) |  | 0.0 (-1.0 – 0.0) | 0.0 (-1.0 – 0.0) | 1.04 (0.97 – 1.11) | 0.311 |  |  |
|  |
| **Indication, N (%)** |
| Bacteremia – Ref  | 273 (10) | 198 (10) | 75 (8) | - | - | - | - |
| CNS Infection | 56 (2) | 41 (2) | 15 (2) | 1.04 (0.54 – 1.98) | 0.916 | 0.69 (0.32 – 1.47) | 0.333 |
| Intra-abdominal | 258 (9) | 169 (9) | 89 (10) | 0.72 (0.50 – 1.04) | 0.081 | 0.66 (0.43 – 1.01) | 0.054 |
| Pneumonia (Community-acquired) | 433 (15) | 300 (16) | 133 (14) | 0.85 (0.61 – 1.20) | 0.358 | **0.64 (0.42 – 0.97)** | **0.034** |
| Pneumonia (Hospital-acquired) | 371 (13) | 242 (13) | 129 (14) | **0.71 (0.51 – 1.00)** | **0.0496** | **0.67 (0.46 – 0.96)** | **0.027** |
| Pneumonia (Ventilator-acquired) | 315 (11) | 206 (11) | 109 (12) | 0.72 (0.50 – 1.02) | 0.063 | **0.65 (0.44 – 0.94)** | **0.023** |
| Respiratory – Other | 42 (2) | 28 (2) | 14 (2) | 0.76 (0.38 – 1.52) | 0.433 | 0.72 (0.35 – 1.49) | 0.372 |
| Skin/soft tissue | 212 (8) | 125 (7) | 87 (9) | **0.54 (0.37 – 0.80)** | **<0.001** | **0.58 (0.37 – 0.91)** | **0.018** |
| Unknown | 652 (23) | 437 (23) | 215 (23) | 0.77 (0.57 – 1.05) | 0.100 | **0.67 (0.48 – 0.93)** | **0.016** |
| Urogenital | 170 (6) | 114 (6) | 56 (6) | 0.77 (0.51 – 1.17) | 0.221 | 0.73 (0.47 – 1.13) | 0.159 |
| Other infections | 44 (2) | 35 (2) | 9 (1) | 1.47 (0.68 – 3.21) | 0.330 | 1.41 (0.65 – 3.05) | 0.380 |
|  |
| **Antibiotic Variables**, N (%) |
| Ceftriaxone – Ref | 456 (16) | 309 (16) | 147 (16) | - | - | - | - |
| Aminoglycosides | 46 (2) | 32 (2) | 14 (2) | 1.09 (0.56 – 2.10) | 0.803 | 1.03 (0.55 – 1.94) | 0.928 |
| Azithromycin | 251 (9) | 181 (10) | 70 (8) | 1.23 (0.88 – 1.73) | 0.231 | 1.08 (0.75 – 1.56) | 0.672 |
| Carbapenems | 287 (10) | 171 (9) | 116 (12) | **0.70 (0.52 – 0.95)** | **0.023** | 0.79 (0.57 – 1.11) | 0.182 |
| Ceftazidime | 46 (2) | 29 (2) | 17 (2) | 0.81 (0.43 – 1.52) | 0.516 | 0.83 (0.44 – 1.55) | 0.558 |
| Floroquinolones | 364 (13) | 229 (12) | 135 (15) | 0.81 (0.60 – 1.08) | 0.147 | 0.85 (0.62 – 1.15) | 0.280 |
| Metronidazole | 124 (4) | 83 (4) | 41 (4) | 0.96 (0.63 – 1.47) | 0.861 | 1.04 (0.71 – 1.54) | 0.840 |
| Piperacillin-Tazobactum | 693 (25) | 485 (26) | 208 (22) | 1.11 (0.86 – 1.43) | 0.425 | 1.11 (0.85 – 1.46) | 0.441 |
| Vancomycin IV | 367 (13) | 256 (14) | 111 (12) | 1.10 (0.82 – 1.48) | 0.541 | 1.05 (0.76 – 1.45) | 0.784 |
| Other Antibiotics | 192 (7) | 120 (6) | 79 (9) | 0.79 (0.56 – 1.13) | 0.196 | 0.77 (0.54 – 1.11) | 0.160 |
|  |
| **Suggestion Type**, N (%) |
| Change dose – Ref | 264 (9) | 193 (10) | 71 (8) | - | - | - | - |
| Broaden | 58 (2) | 45 (2) | 13 (1) | 1.27 (0.65 – 2.50) | 0.484 | 1.32 (0.63 – 2.75) | 0.458 |
| Change agent | 157 (6) | 102 (5) | 55 (6) | 0.68 (0.45 – 1.05) | 0.079 | **0.63 (0.40 – 0.97)** | **0.038** |
| Change formulation | 202 (7) | 111 (6) | 91 (10) | **0.45 (0.30 – 0.66)** | **<0.001** | **0.42 (0.27 – 0.64)** | **<0.001** |
| Discontinue | 1771 (63) | 1200 (63) | 571 (61) | 0.77 (0.58 – 1.03) | 0.082 | 0.75 (0.55 – 1.02) | 0.065 |
| Narrow | 374 (13) | 244 (13) | 130 (14) | **0.69 (0.49 – 0.98)** | **0.036** | **0.65 (0.45 – 0.94)** | **0.024** |
|  |  |  |  |  |  |  |  |
| Antibiotic duration >5 days at time of suggestiond | 274 (10 | 178 (9) | 96 (10) | 0.90 (0.69 – 1.17) | 0.438 | 1.06 (0.79 – 1.42) | 0.688 |

1. Comparison of ≤5 days ICU length of stay vs. >5 days ICU length of stay
2. Comparison of ≤8 days hospital length of stay vs >8 days hospital length of stay
3. Odds ratio of every 50 x 109rise in platelet count
4. Comparison of >5 days of antibiotics vs. ≤5 days of antibiotics