Supplemental Table 1: Univariable and multivariable analysis of patient- , infection- and treatment-related characteristics associated with receiving a stewardship suggestion

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| --- | --- | --- |
|  | **Unadjusted** | **Adjusted** |
|  | **Total (n=7749)** | **Received stewardship suggestion (n=2826)** | **Received “Continue Unchanged” Suggestion (n=4923)** | **Odds Ratio (95% CI)** | **p-value** | **Odds Ratio (95% CI)** | **p-value** |
| **Demographics** |  |
| Males, N(%) – Ref | 5027 (65) | 1790 (63) | 3237 (66) | **1.11 (1.00 – 1.22)** | **0.034** | 1.09 (0.97 – 1.22) | 0.141 |
| Females, N(%) | 2722 (35) | 1036 (37) | 1686 (34) |
| Year of intervention |  |  |  | **1.07 (1.05 – 1.08)**  | **<0.001** | **1.05 (1.03 – 1.08)** | **<0.001** |
| Age, mean (SD)Increase by 10 years | 63.2 (19.6) | 63.7 (19.4) | 63.0 (19.6) | 1.02 (0.99 – 1.04) | 0.137 | 1.02 (0.99 – 1.05) | 0.159 |
| ICU length of stay prior to assessment, median (IQR)*a* | 5 (3-10) | 5 (3-10) | 5 (3-10) | 0.95 (0.86 – 1.04) | 0.237 | 1.02 (0.89 – 1.17) | 0.825 |
| Hospital length of stay prior to assessment, median (IQR)*b* | 8 (4-18) | 8.5 (4-17) | 8.0 (4-18) | 0.99 (0.90 – 1.09) | 0.816 | **1.15 (1.01 – 1.32)** | **0.041** |
|  |
| **ICU Distribution, N(%)** |  |
| Level 2 ICU – Ref  | 2446 (32) | 1016 (36) | 1430 (29) | **0.73 (0.66 – 0.81)** | **<0.001** | **0.79 (0.67 – 0.93)** | **0.005** |
| Level 3 ICU | 5303 (68) | 1810 (64) | 3493 (71) |
|  |
| **Patient Service, N(%)**  |  |
| General Medicine – Ref  | 2958 (38) | 1099 (39) | 1859 (38) | - | - | - | - |
| Cardiology | 147 (2) | 56 (2) | 91 (2) | 1.04 (0.74 – 1.46) | 0.818 | 1.24 (0.84 – 1.84) | 0.273 |
| Cardiovascular surgery | 389 (5) | 158 (6) | 231 (5) | 1.16 (0.93 – 1.44) | 0.185 | **1.37 (1.07 – 1.77)** | **0.014** |
| General Surgery | 2329 (30) | 719 (25) | 1610 (33) | **0.76 (0.67 – 0.85)** | **<0.001** | 0.93 (0.80 – 1.09) | 0.379 |
| Neurosurgery | 445 (6) | 161 (6) | 284 (6) | 0.96 (0.78 – 1.18) | 0.692 | 1.01 (0.78 – 1.30) | 0.963 |
| Oncology | 287 (4) | 90 (3) | 197 (4) | 0.77 (0.60 – 1.00) | 0.052 | 0.94 (0.68 – 1.30) | 0.722 |
| Burn service | 838 (11) | 424 (15) | 414 (8) | **1.73 (1.48 – 2.02)** | **<0.001** | **1.89 (1.50 – 2.37)** | **<0.001** |
| Uro/gynecology | 90 (1) | 19 (1) | 71 (1) | **0.45 (0.27 – 0.76)** | **0.002** | 0.59 (0.34 – 1.02) | 0.06 |
| Other surgery | 266 (3) | 100 (4) | 166 (3) | 1.02 (0.79 – 1.32) | 0.887 | 1.13 (0.83 – 1.53) | 0.443 |
|  |
| **Patient Variables** |  |
| Arterial line, N(%) | 4419 (57) | 1501 (53) | 2918 (59) | **0.78 (0.71 – 0.85)** | **<0.001** | 1.00 (0.88 – 1.14) | 0.974 |
| Central venous line, N(%) | 5117 (66) | 1792 (63) | 3325 (68) | **0.83 (0.76 – 0.92)** | **<0.001** | 0.98 (0.86 – 1.13) | 0.824 |
| Dialysis, N(%) | 548 (7) | 203 (7) | 345 (7) | 1.03 (0.86 – 1.23) | 0.771 | 1.15 (0.92 – 1.42) | 0.216 |
| Intracranial pressure monitor, N(%) | 213 (3) | 71 (3) | 142 (3) | 0.87 (0.65 – 1.16) | 0.335 | 1.05 (0.73 – 1.50)  | 0.799 |
| Mechanical ventilation, N(%) | 4536 (59) | 1021 (36) | 3044 (62) | **0.69 (0.63 – 0.76)**  | **<0.001** | **0.85 (0.74 – 0.98)** | **0.023** |
| Vasopressors, N(%) | 2328 (30) | 737 (26) | 1591 (32) | **0.74 (0.67 – 0.82)** | **<0.001** | **0.84 (0.73 – 0.96)** | **0.01** |
| Multi-Organ Dysfunction Score (SD) | 4.43 (2.77) | 4.43 (2.77) | 4.60 (2.77) | **0.94 (0.92 – 0.96)** | **<0.001** | **0.97 (0.95 – 0.99)** | **0.009** |
| White blood cell Count on day of suggestion, Median (IQR) |  | 11.6 (8.4 – 15.6) | 11.8 (8.5 – 16.3) | 1.00 (0.99 – 1.00) | 0.136 |  |  |
| White blood cell count change, Median (IQR) |  | -0.5 (-2.3 – 1.4) | -0.3 (-2.4 – 1.5) | 0.99 (0.98 – 1.00) | 0.173 |  |  |
| Median platelet count day of suggestion (IQR) |  | 226 (143 – 340) | 217 (138 – 340) | 1.01 (0.99 – 1.02)  | 0.302 |  |  |
| Median platelet count change (IQR)*c* |  | 5 (-17 – 32) | 4 (-19 – 31) | **1.04 (1.00 – 1.09)** | **0.039** |  |  |
| Median lactate day of suggestion (IQR) |  | 1.3 (0.9 – 1.8) | 1.3 (1.0 – 1.8) | 1.00 (0.97 – 1.04) | 0.885 |  |  |
| Median lactate change (IQR) |  | 0.0 (-1.0 – 0.0) | 0.0 (-1.0 – 0.0) | 1.00 (0.97 – 1.05) | 0.786 |  |  |
|  |
| **Indication, N(%)** |
| Bacteremia – Ref  | 655 (9) | 273 (10) | 382 (8) | - | - | - | - |
| CNS Infection | 189 (2) | 56 (2) | 133 (3) | **0.59 (0.42 – 0.84)** | **0.003** | **0.56 (0.34 – 0.93)** | **0.025** |
| Intra-abdominal | 1152 (15) | 258 (9) | 894 (18) | **0.40 (0.33 – 0.50)** | **<0.001** | **0.54 (0.42 – 0.69)** | **<0.001** |
| Pneumonia (Community-acquired) | 1197 (15) | 433 (15) | 764 (16) | **0.79 (0.65 – 0.96)** | **0.02** | 0.79 (0.61 – 1.02) | 0.070 |
| Pneumonia (Hospital-acquired) | 934 (12) | 371 (13) | 563 (11) | 0.92 (0.75 – 1.13) | 0.434 | 1.07 (0.85 – 1.34) | 0.588 |
| Pneumonia (Ventilator-acquired) | 886 (11) | 315 (11) | 571 (12) | **0.77 (0.63 – 0.95)** | **0.015** | 1.03 (0.82 – 1.29) | 0.797 |
| Respiratory – Other | 112 (1) | 42 (2) | 70 (1) | 0.84 (0.56 – 1.27) | 0.407 | 0.85 (0.52 – 1.39) | 0.519 |
| Skin/soft tissue | 528 (7) | 212 (8) | 316 (6) | 0.94 (0.74 – 1.19) | 0.595 | **0.65 (0.49 – 0.86)** | **0.003** |
| Unknown | 1676 (22) | 652 (23) | 1024 (21) | 0.89 (0.74 – 1.07) | 0.218 | 0.96 (0.78 – 1.18) | 0.679 |
| Urogenital | 319 (4) | 170 (6) | 149 (3) | **1.60 (1.22 – 2.09)** | **<0.001** | **1.61 (1.19 – 2.18)** | **0.002** |
| Other infections | 101 (1) | 44 (2) | 57 (1) | 1.08 (0.71 – 1.65) | 0.721 | 0.87 (0.55 – 1.36) | 0.538 |
|  |
| **Antibiotic Variables, N(%)** |
| Ceftriaxone – Ref  | 1597 (21) | 456 (16) | 1141 (23) | - | - | - | - |
| Aminoglycosides | 84 (1) | 46 (2) | 38 (1) | **3.03 (1.95 – 4.72)** | **<0.001** | **2.90 (1.84 – 4.57)** | **<0.001** |
| Azithromycin | 521 (7) | 251 (9) | 270 (6) | **2.33 (1.90 – 2.85)** | **<0.001** | **2.40 (1.99 – 2.90)** | **<0.001** |
| Carbapenems | 661 (9) | 287 (10) | 374 (8) | **1.92 (1.59 – 2.32)** | **<0.001** | **1.92 (1.54 – 2.40)** | **<0.001** |
| Ceftazidime | 201 (3) | 46 (2) | 155 (3) | 0.74 (0.53 – 1.05) | 0.092 | 0.76 (0.53 – 1.09) | 0.134 |
| Floroquinolones | 962 (12) | 364 (13) | 598 (12) | **1.52 (1.29 – 1.81)** | **<0.001** | **1.32 (1.09 – 1.59)** | **0.004** |
| Metronidazole | 485 (6) | 124 (4) | 361 (7) | 0.86 (0.68 – 1.08) | 0.200 | **1.25 (1.01 – 1.55)** | **0.042** |
| Piperacillin-Tazobactum | 1889 (24) | 693 (25) | 1196 (24) | **1.45 (1.26 – 1.67)** | **<0.001** | **1.39 (1.18 – 1.62)** | **<0.001** |
| Vancomycin IV | 722 (9) | 367 (13) | 355 (7) | **2.59 (2.16 – 3.10)** | **<0.001** | **2.71 (2.19 – 3.35)** | **<0.001** |
| Other Antibiotics | 627 (8) | 192 (7) | 435 (9) | 1.10 (0.90 – 1.35) | 0.334 | 1.06 (0.85 – 1.32) | 0.612 |
|  |  |
| Antibiotic duration >5 days at time of suggestion*d* | 712 (9) | 274 (10) | 438 (9) | 1.10 (0.94 – 1.29) | 0.242 | **1.33 (1.10 – 1.60)** | **0.003** |

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