**Supplement**

**Table 1.** Summary of changes made to Standardized Antimicrobial Administration Ratio (SAAR) agent categories from 2014 baseline to 2017 baseline.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2014 baseline SAAR agent category title** |  | **2017 baseline SAAR agent category title** |  | **Change made from 2014 baseline to 2017 baseline** |  | **Reason(s) for change** |  | **Antimicrobial(s) affected** |
| Broad-spectrum antibacterial agents predominantly used for hospital-onset/multi-drug resistant infections |  | Broad-spectrum antibacterial agents predominantly used for hospital-onset infections |  | Removed antibacterial agents used to treat extensively antibiotic-resistant infections |  | Stewards suggested a separate SAAR for these agents, however, reported 2017 use rates were low so they were included in a Rate Table instead |  | Ceftazidime with avibactam, ceftolozane with tazobactam, colistimethate, polymyxin B, tigecycline |
|  |  | Removed antimicrobial agents that were not commercially available in 2017 |  | No longer commercially available in 2017 |  | Piperacillin, ticarcillin with clavulanate |
|  |  | For pediatrics, fluoroquinolones and ertapenem were moved from the community-acquired to the hospital-onset category |  | Selected agents are more commonly used for pediatric hospital-onset infections than pediatric community-acquired infections |  | Ciprofloxacin, ertapenem, gemifloxacin, levofloxacin, moxifloxacin |
|  |  |  |  | Limited the route of administration to intravenous for aminoglycosides and aztreonam |  | Intravenous administration is optimal stewardship target |  | Amikacin, gentamicin, tobramycin, aztreonam |
| Broad-spectrum antibacterial agents predominantly used for community-acquired infections |  | Broad-spectrum antibacterial agents predominantly used for community-acquired infections |  | Added select 2nd and 3rd generation cephalosporins |  | Important stewardship target |  | Cefaclor, cefdinir, cefixime, cefpodoxime, cefprozil, cefuroxime |
|  |  | For pediatrics, added amoxicillin with clavulanate and ampicillin with sulbactam (for adults, these are in the narrow-spectrum beta-lactam group) |  | Community-acquired pneumonia is an important pediatric stewardship target |  | Amoxicillin with clavulanate, ampicillin with sulbactam |
| Anti-MRSA antibacterial agents |  | Antibacterial agents predominantly used for resistant Gram-positive infections (e.g., MRSA) |  | Renamed |  | To reflect broad-spectrum gram-positive activity |  | N/A |
|  |  | Clindamycin added to the pediatric SAAR agent category |  | Reflects use of clindamycin in pediatric patients |  | Clindamycin |
| Antibacterial agents predominantly used for SSIa prophylaxis |  | N/A |  | Removed |  | To avoid misinterpretation of high SAARs as an indicator of failures to stop SSI prophylaxis |  | Cefazolin, cefotetan, cefoxitin, cefuroxime, cephalexin |
| N/A |  | Narrow-spectrum beta-lactam agents |  | Added |  | Enable evaluation of de-escalation efforts |  | Amoxicillin, amoxicillin with clavulanate (adults), ampicillin, ampicillin with clavulanate (adults), cefadroxil, cefazolin, cefotetan, cefoxitin, cephalexin, dicloxacillin, nafcillin, oxacillin, penicillin G, penicillin V |
| N/A |  | Azithromycin (pediatrics) |  | Added |  | Important pediatric stewardship target |  | Azithromycin |
| N/A |  | Antifungal agents predominantly used for invasive candidiasis |  | Added |  | Important stewardship target |  | Fluconazole, anidulafungin, caspofungin, micafungin |
| N/A |  | Antibacterial agents posing the highest risk for CDIb |  | Added |  | Enables tracking of antimicrobials associated with increased risk of CDI |  | Clindamycin, ciprofloxacin, gemifloxacin, levofloxacin, moxifloxacin, cefotaxime, ceftriaxone, ceftazidime, cefepime, cefdinir, cefpodoxime, cefixime |

aSurgical site infection

b*Clostridioides difficile* infection

**Table 2.** Adult and pediatric 2017 baseline Standardized Antimicrobial Administration Ratio (SAAR) risk models, by SAAR antimicrobial agent category.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Adult: Broad-spectrum antibacterial agents predominantly used for hospital-onset infections** | | | | | | | | | | | | |
| **Parameter** | **Estimate** | | **SE¹** | | **Wald 95% CLs²** | | | | **Wald χ2** | | **χ2 *P* value** | |
| Intercept | -2.336 | | 0.05 | | -2.43 | | -2.24 | | 2260.98 | | <0.001 | |
| Location type |  | |  | |  | |  | |  | |  | |
| Medical ICU | 1.008 | | 0.04 | | 0.92 | | 1.09 | | 531.59 | | <0.001 | |
| Medical-surgical ICU, surgical ICU | 0.883 | | 0.03 | | 0.83 | | 0.94 | | 982.03 | | <0.001 | |
| General hematology-oncology ward | 0.380 | | 0.06 | | 0.27 | | 0.49 | | 43.13 | | <0.001 | |
| Step-down unit | 0.220 | | 0.03 | | 0.16 | | 0.28 | | 49.33 | | <0.001 | |
| Medical ward | 0.078 | | 0.03 | | 0.02 | | 0.13 | | 8.25 | | 0.004 | |
| Medical-surgical ward, surgical ward | REF | | . | | . | | . | | . | | . | |
| Facility type |  | |  | |  | |  | |  | |  | |
| Veterans Affairs (VA) | -0.182 | | 0.03 | | -0.24 | | -0.12 | | 37.96 | | <0.001 | |
| Critical access | -0.247 | | 0.09 | | -0.42 | | -0.07 | | 7.92 | | 0.005 | |
| Military | -0.628 | | 0.06 | | -0.75 | | -0.50 | | 99.86 | | <0.001 | |
| Women's | -1.192 | | 0.33 | | -1.83 | | -0.55 | | 13.25 | | <0.001 | |
| General acute, oncology, surgical, women's & children's | REF | | . | | . | | . | | . | | . | |
| Number of ICU beds, facility-wide |  | |  | |  | |  | |  | |  | |
| ≥8 | 0.173 | | 0.05 | | 0.08 | | 0.27 | | 13.07 | | <0.001 | |
| <8 | REF | | . | | . | | . | | . | | . | |
| Average length of hospital stay, facility-wide (in days) |  | |  | |  | |  | |  | |  | |
| ≥3.6 | 0.109 | | 0.03 | | 0.06 | | 0.16 | | 18.02 | | <0.001 | |
| <3.6 | REF | | . | | . | | . | | . | | . | |
| Teaching Status |  | |  | |  | |  | |  | |  | |
| Undergraduate only | 0.139 | | 0.03 | | 0.08 | | 0.20 | | 22.09 | | <0.001 | |
| None, Graduate, Major | REF | | . | | . | | . | | . | | . | |
|  |  | |  | |  | |  | |  | |  | |
| **Adult: Broad-spectrum antibacterial agents predominantly used for community-acquired infections** | | | | | | | | | | | | |
| **Parameter** | **Estimate** | | **SE¹** | | **Wald 95% CLs²** | | | | **Wald χ2** | | **χ2 *P* value** | |
| Intercept | -3.949 | | 0.18 | | -4.31 | | -3.59 | | 472.89 | | <0.001 | |
| Location type |  | |  | |  | |  | |  | |  | |
| Medical ICU, medical ward, general hem-onc ward | 0.360 | | 0.03 | | 0.31 | | 0.41 | | 197.15 | | <0.001 | |
| Medical-surgical ICU, medical-surgical ward | 0.294 | | 0.03 | | 0.24 | | 0.34 | | 136.88 | | <0.001 | |
| Step-down unit | 0.208 | | 0.03 | | 0.15 | | 0.27 | | 46.93 | | <0.001 | |
| Surgical ICU, surgical ward | REF | | . | | . | | . | | . | | . | |
| Facility type |  | |  | |  | |  | |  | |  | |
| Critical access, general acute care, oncology | 1.538 | | 0.18 | | 1.19 | | 1.89 | | 73.19 | | <0.001 | |
| Surgical, Veterans Affairs | 1.281 | | 0.18 | | 0.92 | | 1.64 | | 49.42 | | <0.001 | |
| Military | 1.078 | | 0.19 | | 0.71 | | 1.44 | | 33.36 | | <0.001 | |
| Women's, women's & children's | REF | | . | | . | | . | | . | | . | |
| Average length of hospital stay, facility-wide (in days) |  | |  | |  | |  | |  | |  | |
| <4.5 | 0.171 | | 0.02 | | 0.13 | | 0.21 | | 63.64 | | <0.001 | |
| 4.5 - 5.1 | 0.113 | | 0.02 | | 0.07 | | 0.16 | | 23.95 | | <0.001 | |
| ≥5.2 | REF | | . | | . | | . | | . | | . | |
| Number of hospital beds, facility-wide |  | |  | |  | |  | |  | |  | |
| <135 | 0.251 | | 0.03 | | 0.20 | | 0.30 | | 99.39 | | <0.001 | |
| 135 - 330 | 0.155 | | 0.02 | | 0.12 | | 0.19 | | 65.90 | | <0.001 | |
| ≥331 | REF | | . | | . | | . | | . | | . | |
| ICU beds (as a percentage of total beds) |  | |  | |  | |  | |  | |  | |
| <7.6% | 0.120 | | 0.02 | | 0.07 | | 0.17 | | 23.20 | | <0.001 | |
| ≥7.6% | REF | | . | | . | | . | | . | | . | |
|  |  | |  | |  | |  | |  | |  | |
| **Adult: Antibacterial agents predominantly used for resistant gram-positive infections (e.g., MRSA)** | | | | | | | | | | | | |
| **Parameter** | **Estimate** | | **SE¹** | | **Wald 95% CLs²** | | | | **Wald χ2** | | **χ2 *P* value** | |
| Intercept | -4.002 | | 0.20 | | -4.39 | | -3.61 | | 402.38 | | <0.001 | |
| Location type |  | |  | |  | |  | |  | |  | |
| Medical ICU, medical-surgical ICU, surgical ICU | 0.838 | | 0.03 | | 0.77 | | 0.90 | | 667.29 | | <0.001 | |
| Med ward, med-surg ward, hem-onc ward, step-down | 0.144 | | 0.03 | | 0.09 | | 0.20 | | 24.78 | | <0.001 | |
| Surgical ward | REF | | . | | . | | . | | . | | . | |
| Facility type |  | |  | |  | |  | |  | |  | |
| Critical access, general acute care, oncology, surgical, VA | 1.129 | | 0.19 | | 0.75 | | 1.51 | | 33.69 | | <0.001 | |
| Military | 0.701 | | 0.20 | | 0.30 | | 1.10 | | 12.02 | | <0.001 | |
| Women's, women's & children's | REF | | . | | . | | . | | . | | . | |
| Number of hospital beds, facility-wide |  | |  | |  | |  | |  | |  | |
| ≥66 | 0.162 | | 0.04 | | 0.09 | | 0.23 | | 19.98 | | <0.001 | |
| <66 | REF | | . | | . | | . | | . | | . | |
| Average length of hospital stay, facility-wide (in days) |  | |  | |  | |  | |  | |  | |
| ≥3.3 | 0.191 | | 0.03 | | 0.14 | | 0.24 | | 51.19 | | <0.001 | |
| <3.3 | REF | | . | | . | | . | | . | | . | |
|  |  | |  | |  | |  | |  | |  | |
| **Adult: Narrow-spectrum beta-lactam agents** | | | | | | | | | | | | |
| **Parameter** | **Estimate** | | **SE¹** | | **Wald 95% CLs²** | | | | **Wald χ2** | | **χ2 *P* value** | |
| Intercept | -3.223 | | 0.07 | | -3.36 | | -3.09 | | 2101.80 | | <0.001 | |
| Location type |  | |  | |  | |  | |  | |  | |
| Surgical ICU, surgical ward | 1.129 | | 0.07 | | 1.00 | | 1.26 | | 276.13 | | <0.001 | |
| Medical-surgical ICU, medical-surgical ward | 0.500 | | 0.06 | | 0.37 | | 0.63 | | 60.55 | | <0.001 | |
| Step-down unit | 0.286 | | 0.07 | | 0.15 | | 0.42 | | 17.51 | | <0.001 | |
| Medical ICU, medical ward | 0.215 | | 0.07 | | 0.09 | | 0.34 | | 10.85 | | 0.001 | |
| General hematology-oncology ward | REF | | . | | . | | . | | . | | . | |
| Average length of hospital stay, facility-wide (in days) |  | |  | |  | |  | |  | |  | |
| <3.5 | 0.261 | | 0.03 | | 0.20 | | 0.32 | | 75.22 | | <0.001 | |
| ≥5.8 | 0.173 | | 0.03 | | 0.11 | | 0.24 | | 26.40 | | <0.001 | |
| 3.5 - 5.7 | REF | | . | | . | | . | | . | | . | |
| ICU beds (as a percentage of total beds) |  | |  | |  | |  | |  | |  | |
| ≥8.6% | 0.163 | | 0.03 | | 0.11 | | 0.22 | | 30.48 | | <0.001 | |
| <8.6% | REF | | . | | . | | . | | . | | . | |
| Number of hospital beds, facility-wide |  | |  | |  | |  | |  | |  | |
| ≥222 | 0.111 | | 0.02 | | 0.07 | | 0.16 | | 23.37 | | <0.001 | |
| <222 | REF | | . | | . | | . | | . | | . | |
|  |  | |  | |  | |  | |  | |  | |
| **Adult: Antifungal agents predominantly used for invasive candidiasis** | | | | | | | | | | | | |
| **Parameter** | **Estimate** | | **SE¹** | | **Wald 95% CLs²** | | | | **Wald χ2** | | **χ2 *P* value** | |
| Intercept | -6.739 | | 0.36 | | -7.44 | | -6.04 | | 352.37 | | <0.001 | |
| Location type |  | |  | |  | |  | |  | |  | |
| Surgical ICU, general hematology-oncology ward | 1.264 | | 0.06 | | 1.15 | | 1.38 | | 440.72 | | <0.001 | |
| Medical ICU, medical-surgical ICU | 0.899 | | 0.04 | | 0.83 | | 0.97 | | 609.34 | | <0.001 | |
| Step-down unit | 0.164 | | 0.04 | | 0.08 | | 0.25 | | 14.45 | | <0.001 | |
| Medical ward, medical-surgical ward, surgical ward | REF | | . | | . | | . | | . | | . | |
| Number of ICU beds, facility-wide |  | |  | |  | |  | |  | |  | |
| ≥78 | 0.761 | | 0.07 | | 0.62 | | 0.90 | | 113.16 | | <0.001 | |
| 15 - 77 | 0.480 | | 0.07 | | 0.35 | | 0.61 | | 53.60 | | <0.001 | |
| 8 - 14 | 0.331 | | 0.07 | | 0.19 | | 0.47 | | 21.62 | | <0.001 | |
| <8 | REF | | . | | . | | . | | . | | . | |
| Number of hospital beds, facility-wide |  | |  | |  | |  | |  | |  | |
| 176 - 306 | 0.161 | | 0.04 | | 0.09 | | 0.23 | | 20.69 | | <0.001 | |
| <176 or ≥307 | REF | | . | | . | | . | | . | | . | |
| Facility type |  | |  | |  | |  | |  | |  | |
| Oncology | 3.537 | | 0.59 | | 2.38 | | 4.70 | | 35.74 | | <0.001 | |
| Critical access, general acute care, surgical | 1.924 | | 0.35 | | 1.23 | | 2.62 | | 29.42 | | <0.001 | |
| Military, Veterans Affairs | 1.539 | | 0.36 | | 0.84 | | 2.24 | | 18.53 | | <0.001 | |
| Women's, women's & children's | REF | | . | | . | | . | | . | | . | |
| Average length of hospital stay, facility-wide (in days) |  | |  | |  | |  | |  | |  | |
| ≥5.2 | 0.384 | | 0.06 | | 0.28 | | 0.49 | | 48.45 | | <0.001 | |
| 4.5 - 5.1 | 0.255 | | 0.05 | | 0.15 | | 0.36 | | 21.86 | | <0.001 | |
| 3.0 - 4.4 | 0.169 | | 0.05 | | 0.07 | | 0.27 | | 10.56 | | 0.001 | |
| <3.0 | REF | | . | | . | | . | | . | | . | |
|  |  | |  | |  | |  | |  | |  | |
| **Adult: Complementary group of antibacterial agents** | | | | | | | | | | | | |
| **Parameter** | **Estimate** | | **SE¹** | | **Wald 95% CLs²** | | | | **Wald χ2** | | **χ2 *P* value** | |
| Intercept | -2.555 | | 0.05 | | -2.66 | | -2.45 | | 2343.21 | | <0.001 | |
| Location type |  | |  | |  | |  | |  | |  | |
| Medical ICU | 0.498 | | 0.04 | | 0.42 | | 0.57 | | 163.19 | | <0.001 | |
| Medical-surgical ICU | 0.332 | | 0.03 | | 0.27 | | 0.39 | | 120.09 | | <0.001 | |
| Surgical ICU, medical ward, medical-surgical ward | 0.215 | | 0.03 | | 0.17 | | 0.26 | | 73.30 | | <0.001 | |
| General hematology-oncology ward, step-down unit | 0.148 | | 0.03 | | 0.09 | | 0.21 | | 25.14 | | <0.001 | |
| Surgical Ward | REF | | . | | . | | . | | . | | . | |
| Average length of hospital stay, facility-wide (in days) |  | |  | |  | |  | |  | |  | |
| <3 | 0.185 | | 0.03 | | 0.14 | | 0.23 | | 54.60 | | <0.001 | |
| ≥3 | REF | | . | | . | | . | | . | | . | |
| Facility type |  | |  | |  | |  | |  | |  | |
| Critical access, general acute care, oncology, surgical, | 0.376 | | 0.05 | | 0.28 | | 0.47 | | 59.71 | | <0.001 | |
| women's, women's & children's |  | |  | |  | |  | |  | |  | |
| Veterans Affairs | 0.271 | | 0.05 | | 0.17 | | 0.37 | | 26.75 | | <0.001 | |
| Military | REF | | . | | . | | . | | . | | . | |
|  |  | |  | |  | |  | |  | |  | |
| **Adult: Antibacterial agents posing the highest risk for CDI** | | | | | | | | | | | | |
| **Parameter** | **Estimate** | | **SE¹** | | **Wald 95% CLs²** | | | | **Wald χ2** | | **χ2 *P* value** | |
| Intercept | -2.675 | | 0.06 | | -2.78 | | -2.57 | | 2323.70 | | <0.001 | |
| Location type |  | |  | |  | |  | |  | |  | |
| Medical ICU, med-surg ICU, general hem-onc ward | 0.492 | | 0.03 | | 0.44 | | 0.55 | | 309.10 | | <0.001 | |
| Medical ward | 0.339 | | 0.03 | | 0.28 | | 0.40 | | 141.54 | | <0.001 | |
| Surgical ICU, medical-surgical ward, step-down unit | 0.269 | | 0.03 | | 0.22 | | 0.32 | | 107.26 | | <0.001 | |
| Surgical ward | REF | | . | | . | | . | | . | | . | |
| Facility type |  | |  | |  | |  | |  | |  | |
| Critical access, general acute care, oncology, surgical | 0.501 | | 0.05 | | 0.41 | | 0.59 | | 109.63 | | <0.001 | |
| Veterans Affairs | 0.243 | | 0.05 | | 0.14 | | 0.34 | | 21.85 | | <0.001 | |
| Military, women's, women's & children's | REF | | . | | . | | . | | . | | . | |
| Teaching status |  | |  | |  | |  | |  | |  | |
| None, undergraduate, graduate | 0.081 | | 0.02 | | 0.05 | | 0.12 | | 21.04 | | <0.001 | |
| Major | REF | | . | | . | | . | | . | | . | |
| Average length of hospital stay, facility-wide (in days) |  | |  | |  | |  | |  | |  | |
| <5.2 | 0.077 | | 0.02 | | 0.04 | | 0.12 | | 15.87 | | <0.001 | |
| ≥5.2 | REF | | . | | . | | . | | . | | . | |
| Number of hospital beds, facility-wide |  | |  | |  | |  | |  | |  | |
| <442 | 0.147 | | 0.02 | | 0.10 | | 0.19 | | 46.73 | | <0.001 | |
| ≥442 | REF | | . | | . | | . | | . | | . | |
| Number of ICU beds, facility-wide |  | |  | |  | |  | |  | |  | |
| <15 | 0.063 | | 0.02 | | 0.02 | | 0.10 | | 9.60 | | 0.002 | |
| ≥15 | REF | | . | | . | | . | | . | | . | |
|  |  | |  | |  | |  | |  | |  | |
| **Pediatric: Broad-spectrum antibacterial agents predominantly used for hospital-onset infections** | | | | | | | | | | | | | |
| **Parameter** | | **Estimate** | | **SE¹** | | **Wald 95% CLs²** | | | | **Wald χ2** | | **χ2 *P* value** | |
| Intercept | | -3.004 | | 0.16 | | -3.32 | | -2.69 | | 354.40 | | <0.001 | |
| ICU beds (as a percentage of total beds) | |  | |  | |  | |  | |  | |  | |
| ≥16.6% | | 0.295 | | 0.12 | | 0.06 | | 0.53 | | 5.99 | | 0.014 | |
| <16.6% | | REF | | . | | . | | . | | . | | . | |
| Location/Facility type combination | |  | |  | |  | |  | |  | |  | |
| Med-surg ICU in children's, general acute, military, women's | | 0.756 | | 0.18 | | 0.40 | | 1.11 | | 17.30 | | <0.001 | |
| & children's hospitals **;** Med ward in children's hospitals | |
| Med-surg ward in children's, general acute care, military, | | 0.406 | | 0.16 | | 0.08 | | 0.73 | | 6.11 | | 0.013 | |
| women's & children's hospitals | |  | |  | |  | |  | |  | |  | |
| Med ICU in general acute care hospitals **;** Med ward in | | REF | | . | | . | | . | | . | | . | |
| general acute, military, women's & children's hospitals **;** | |
| Surg ward in children's, general acute care hospitals | |  | |  | |  | |  | |  | |  | |
|  | |  | |  | |  | |  | |  | |  | |
| **Pediatric: Broad-spectrum antibacterial agents predominantly used for community-acquired infections** | | | | | | | | | | | | | |
| **Parameter** | | **Estimate** | | **SE¹** | | **Wald 95% CLs²** | | | | **Wald χ2** | | **χ2 *P* value** | |
| Intercept | | -2.886 | | 0.12 | | -3.12 | | -2.65 | | 596.67 | | <0.001 | |
| Number of hospital beds, facility-wide | |  | |  | |  | |  | |  | |  | |
| <450 | | 0.476 | | 0.08 | | 0.32 | | 0.63 | | 34.87 | | <0.001 | |
| ≥450 | | REF | | . | | . | | . | | . | | . | |
| Facility Type | |  | |  | |  | |  | |  | |  | |
| General acute care, women's & children's | | 0.548 | | 0.09 | | 0.37 | | 0.73 | | 36.23 | | <0.001 | |
| Children's, military | | REF | | . | | . | | . | | . | | . | |
| Location type | |  | |  | |  | |  | |  | |  | |
| Medical-surgical ICU, medical ICU | | 0.263 | | 0.08 | | 0.12 | | 0.41 | | 12.28 | | <0.001 | |
| Medical-surgical ward, medical ward, surgical ward | | REF | | . | | . | | . | | . | | . | |
|  | |  | |  | |  | |  | |  | |  | |
| **Pediatric: Narrow-spectrum beta-lactam agents** | | | | | | | | | | | | | |
| **Parameter** | | **Estimate** | | **SE¹** | | **Wald 95% CLs²** | | | | **Wald χ2** | | **χ2 *P* value** | |
| Intercept | | -2.470 | | 0.04 | | -2.56 | | -2.39 | | 3261.86 | | <0.001 | |
| Location/Facility type combination | |  | |  | |  | |  | |  | |  | |
| Med-surg ICU in children's hospitals **;** Surg ward in | | 0.657 | | 0.13 | | 0.40 | | 0.91 | | 24.98 | | <0.001 | |
| children's, general acute care hospitals | |  | |  | |  | |  | |  | |  | |
| Med and med-surg wards in children's, general acute care, | | REF | | . | | . | | . | | . | | . | |
| military, women's & children's hospitals **;** Med-surg ICU | |  | |  | |  | |  | |  | |  | |
| in general acute, military, women's & children's hospitals **;** | |  | |  | |  | |  | |  | |  | |
| Med ICU in general acute care hospitals | |  | |  | |  | |  | |  | |  | |
| Number of hospital beds, facility-wide | |  | |  | |  | |  | |  | |  | |
| <204 or ≥450 | | 0.316 | | 0.06 | | 0.19 | | 0.44 | | 25.19 | | <0.001 | |
| 204 - 449 | | REF | | . | | . | | . | | . | | . | |
|  | |  | |  | |  | |  | |  | |  | |
| **Pediatric: Antibacterial agents predominantly used for resistant gram-positive infections (e.g., MRSA)** | | | | | | | | | | | | | |
| **Parameter** | | **Estimate** | | **SE¹** | | **Wald 95% CLs²** | | | | **Wald χ2** | | **χ2 *P* value** | |
| Intercept | | -2.552 | | 0.05 | | -2.65 | | -2.45 | | 2436.92 | | <0.001 | |
| ICU location | | 0.461 | | 0.10 | | 0.27 | | 0.65 | | 23.35 | | <0.001 | |
|  | |  | |  | |  | |  | |  | |  | |
| **Pediatric: Azithromycin** | | | | | | | | | | | | | |
| **Parameter** | | **Estimate** | | **SE¹** | | **Wald 95% CLs²** | | | | **Wald χ2** | | **χ2 *P* value** | |
| Intercept | | -6.232 | | 0.39 | | -6.99 | | -5.47 | | 258.24 | | <0.001 | |
| Location type | |  | |  | |  | |  | |  | |  | |
| Medical-surgical ICU, medical ICU | | 2.350 | | 0.39 | | 1.59 | | 3.11 | | 36.79 | | <0.001 | |
| Medical-surgical ward, medical ward | | 1.969 | | 0.38 | | 1.22 | | 2.71 | | 26.82 | | <0.001 | |
| Surgical ward | | REF | | . | | . | | . | | . | | . | |
| Number of hospital beds, facility-wide | |  | |  | |  | |  | |  | |  | |
| <204 | | 0.383 | | 0.19 | | 0.02 | | 0.75 | | 4.28 | | 0.039 | |
| 204 - 276 | | 1.346 | | 0.19 | | 0.98 | | 1.71 | | 51.91 | | <0.001 | |
| 277 - 449 | | 0.803 | | 0.15 | | 0.51 | | 1.09 | | 29.23 | | <0.001 | |
| ≥450 | | REF | | . | | . | | . | | . | | . | |
|  | |  | |  | |  | |  | |  | |  | |
| **Pediatric: Antifungal agents predominantly used for invasive candidiasis** | | | | | | | | | | | | | |
| **Parameter** | | **Estimate** | | **SE¹** | | **Wald 95% CLs²** | | | | **Wald χ2** | | **χ2 *P* value** | |
| Intercept | | -5.579 | | 0.14 | | -5.85 | | -5.31 | | 1608.54 | | <0.001 | |
| ICU beds (as a percentage of total beds) | |  | |  | |  | |  | |  | |  | |
| ≥16.6% | | 0.957 | | 0.17 | | 0.62 | | 1.29 | | 31.25 | | <0.001 | |
| <16.6% | | REF | | . | | . | | . | | . | | . | |
| Location type | |  | |  | |  | |  | |  | |  | |
| Medical-surgical ICU, medical ICU | | 1.136 | | 0.17 | | 0.80 | | 1.48 | | 42.61 | | <0.001 | |
| Medical-surgical ward, medical ward, surgical ward | | REF | | . | | . | | . | | . | | . | |
|  | |  | |  | |  | |  | |  | |  | |
| **Pediatric: Complementary group of antibacterial agents** | | | | | | | | | | | | | |
| **Parameter** | | **Estimate** | | **SE¹** | | **Wald 95% CLs²** | | | | **Wald χ2** | | **χ2 *P* value** | |
| Intercept | | -3.338 | | 0.09 | | -3.51 | | -3.17 | | 1467.30 | | <0.001 | |
| ICU beds (as a percentage of total beds) | |  | |  | |  | |  | |  | |  | |
| ≥16.6% | | 0.638 | | 0.09 | | 0.47 | | 0.81 | | 54.01 | | <0.001 | |
| <16.6% | | REF | | . | | . | | . | | . | | . | |
| Average length of hospital stay, facility-wide (in days) | |  | |  | |  | |  | |  | |  | |
| ≥4.5 | | 0.238 | | 0.09 | | 0.07 | | 0.41 | | 7.49 | | 0.006 | |
| <4.5 | | REF | | . | | . | | . | | . | | . | |
| Number of hospital beds, facility-wide | |  | |  | |  | |  | |  | |  | |
| ≥450 | | 0.237 | | 0.10 | | 0.05 | | 0.43 | | 5.99 | | 0.014 | |
| <450 | | REF | | . | | . | | . | | . | | . | |
|  | |  | |  | |  | |  | |  | |  | |
| **Pediatric: Antibacterial agents posing the highest risk for CDI** | | | | | | | | | | | | | |
| **Parameter** | | **Estimate** | | **SE¹** | | **Wald 95% CLs²** | | | | **Wald χ2** | | **χ2 *P* value** | |
| Intercept | | -2.275 | | 0.12 | | -2.51 | | -2.04 | | 371.36 | | <0.001 | |
| Location type | |  | |  | |  | |  | |  | |  | |
| Medical-surgical ICU, medical ICU | | 0.271 | | 0.08 | | 0.11 | | 0.43 | | 11.33 | | <0.001 | |
| Medical-surgical ward, medical ward, surgical ward | | REF | | . | | . | | . | | . | | . | |
| Number of hospital beds, facility-wide | |  | |  | |  | |  | |  | |  | |
| <386 | | 0.315 | | 0.08 | | 0.16 | | 0.47 | | 15.72 | | <0.001 | |
| ≥386 | | REF | | . | | . | | . | | . | | . | |
| Average length of stay, facility-wide (in days) | |  | |  | |  | |  | |  | |  | |
| 4.1 - 4.7 | | 0.214 | | 0.08 | | 0.05 | | 0.38 | | 6.65 | | 0.01 | |
| <4.1 or ≥4.8 | | REF | | . | | . | | . | | . | | . | |
| Facility type | |  | |  | |  | |  | |  | |  | |
| General acute care, women's & children's | | 0.366 | | 0.10 | | 0.17 | | 0.56 | | 13.36 | | <0.001 | |
| Children's, military | | REF | | . | | . | | . | | . | | . | |
|  | |  | |  | |  | |  | |  | |  | |

Abbreviations:

1SE=standard error

2CLs=confidence limits