**Table 1. Risk for antibiotic prescription within 24 hours of admission**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Univariate** | | **Multivariate** | |
|  | OR | 95% CI | OR | 95% CI |
| **Demographics** |  |  |  |  |
| Age (months) | 1.03 | (0.98, 1.08) | 1.03 | (0.98, 1.09) |
| Comorbidities (ref: no)\* | 1.27 | (0.67, 2.34) | 1.13 | (0.57, 2.19) |
| Hospital site (ref: MCH) |  |  |  |  |
| CHUSJ | 1.32 | (0.77, 2.31) | 0.65 | (0.28, 1.48) |
| CHEO | 1.45 | (0.61, 3.38) | 2.64 | (0.88, 8.1) |
| ASP present (ref: no) | 0.68 | (0.38, 1.20) | **0.25** | **(0.08, 0.77)** |
| **Clinical factors at admission** |  |  |  |  |
| Chest X-ray (ref: none performed) |  |  |  |  |
| Normal results | 1.42 | (0.62, 3.74) | 1.39 | (0.55, 3.55) |
| Abnormality | 0.98 | (0.53, 1.85) | 0.84 | (0.44, 1.64) |
| **Severity** |  |  |  |  |
| PRISM III score | **1.07** | **(0.98, 1.17)** | 1.07 | (0.98, 1.18) |
| **Time** |  |  |  |  |
| Winter season (ref: season 1) | 1.13 | (0.68, 1.86) | 1.75 | (0.91, 3.41) |

OR = odds ratio; CI = confidence interval; MCH = Montreal Children’s Hospital; CHUSJ = Centre Hospitalier Universitaire Sainte-Justine; CHEO = Children’s Hospital of Eastern Ontario; ASP = Antimicrobial Stewardship Program; PRISM = Pediatric risk of mortality

\* Comorbidities include cardiac congenital malformations, prematurity, cystic fibrosis, chronic lung disease/bronchopulmonary dysplasia, tracheostomy, use of respiratory support at home, immunodeficiency, and use of systemic steroids

**Table 2. Predictors of antibiotic duration**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Univariate** | | **Multivariate** | |
|  | ß | 95% CI | ß | 95% CI |
| **Demographics** |  |  |  |  |
| Age (months) | 0.01 | (-0.11, 0.14) | -0.03 | (-0.17, 0.11) |
| Comorbidities (ref: no)\* | -0.09 | (-1.81, 1.63) | -0.03 | (-1.8, 1.74) |
| Hospital site (ref: MCH) |  |  |  |  |
| CHUSJ | **1.80** | **(0.25, 3.36)** | 0.19 | (-2.35, 2.74) |
| CHEO | -0.10 | (-2.43, 2.23) | 2.76 | (-0.61, 6.13) |
| ASP present (ref: no) | **-2.18** | **(-3.81, -0.54)** | -3.22 | (-6.66, 0.21) |
| **Clinical factors at admission** |  |  |  |  |
| Fever present (ref: no)\*\* | **2.10** | **(0.55, 3.64)** | 1.38 | (-0.27, 3.02) |
| Chest X-ray (ref: none performed) |  |  |  |  |
| Normal results | -1.58 | (-3.95, 0.79) | -1.24 | (-3.8, 1.32) |
| Abnormality | 0.96 | (-0.78, 2.70) | 0.88 | (-0.98, 2.73) |
| **Ancillary tests** |  |  |  |  |
| Positive NPA result (ref: no) | -0.59 | (-2.25, 1.06) | -0.06 | (-1.71, 1.59) |
| **Severity** |  |  |  |  |
| PRISM III score | **0.27** | **(0.04, 0.50)** | **0.24** | **(0.01, 0.47)** |
| **Time** |  |  |  |  |
| Winter season (ref: season 1) | 1.17 | (-0.24, 2.59) | 1.59 | (-0.41, 3.6) |

CI = confidence interval; MCH = Montreal Children’s Hospital; CHUSJ = Centre Hospitalier Universitaire Sainte-Justine; CHEO = Children’s Hospital of Eastern Ontario; ASP = Antimicrobial Stewardship Program; NPA = nasopharyngeal aspirate; PRISM = Pediatric risk of mortality

\* Comorbidities include cardiac congenital malformations, prematurity, cystic fibrosis, chronic lung disease/bronchopulmonary dysplasia, tracheostomy, use of respiratory support at home, immunodeficiency, and use of systemic steroids

\*\* Fever defined as >38ºC (oral) or >38.5ºC (rectal/axillary)

**Table 3. Risk for stopping antibiotics within 72 hours of admission**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Univariate** | | **Multivariate** | |
|  | OR | 95% CI | OR | 95% CI |
| **Demographics** |  |  |  |  |
| Age (months) | 0.96 | (0.91, 1.02) | 0.94 | (0.86, 1.01) |
| Comorbidities (ref: no)\* | 0.92 | (0.39, 2.20) | 1.27 | (0.46, 3.61) |
| Hospital site (ref: MCH) |  |  |  |  |
| CHUSJ | 0.58 | (0.25, 1.31) | 1.39 | (0.34, 5.76) |
| CHEO | 0.83 | (0.23, 3.28) | **0.07** | **(0.01, 0.63)** |
| ASP present (ref: no) | **2.58** | **(1.04, 7.08)** | **17.35** | **(2.16, 198.6)** |
| **Clinical factors at admission** |  |  |  |  |
| Chest X-ray (ref: none performed) |  |  |  |  |
| Normal results | 2.86 | (0.69, 15.00) | 2.96 | (0.6, 17.91) |
| Abnormal | 0.80 | (0.31, 1.99) | 0.96 | (0.35, 2.63) |
| **Ancillary tests** |  |  |  |  |
| Positive NPA result (ref: no) | 1.38 | (0.59, 3.22) | 1.19 | (0.46, 3.06) |
| **Severity** |  |  |  |  |
| PELOD day 3 score | 0.93 | (0.80, 1.07) | **0.83** | **(0.68, 0.99)** |
| **Time** |  |  |  |  |
| Winter season (ref: season 1) | 0.70 | (0.34, 1.42) | 0.4 | (0.13, 1.15) |

OR = odds ratio; CI = confidence interval; MCH = Montreal Children’s Hospital; CHUSJ = Centre Hospitalier Universitaire Sainte-Justine; CHEO = Children’s Hospital of Eastern Ontario; ASP = Antimicrobial Stewardship Program; NPA = nasopharyngeal aspirate; PELOD = Pediatric Logistic Organ Dysfunction score

\* Comorbidities include cardiac congenital malformations, prematurity, cystic fibrosis, chronic lung disease/bronchopulmonary dysplasia, tracheostomy, use of respiratory support at home, immunodeficiency, and use of systemic steroids