**Supplementary Table 1:** CURB-65, CRB-65, Classification Tree Analysis (CTA) severity scores

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Score** | **Predictors** | **Score** | **Risk Classification** | **Predicted morality, %** |
| CURB-65 | Confusion  Urea >7 mmol/l  Respiratory Rate ≥30/min  Blood Pressure (SBP <90 mmHg or DBP ≤60mmHg)  Age ≥65 years | 0 | Low risk | 1.5 |
| 1 |
| 2 | Intermediate risk | 9.2 |
| 3 | High risk | 22.0 |
| 4 |
| 5 |
| CRB-65 | Confusion  Urea >7 mmol/l  Respiratory Rate ≥30/min  Blood Pressure (SBP <90 mmHg or DBP ≤60mmHg) | 0 | Low risk | 1.2 |
| 1 | Intermediate risk | 8.2 |
| 2 |
| 3 | High risk | 31.0 |
| 4 |
| CTA | Neurologic symptoms  Respiratory rate ≥ 25/min  Creatinine >1.2 mg/dl | 1 | Stage 1  (No symptoms) | 2.3 |
| 2 | Stage 2  (Respiratory rate) | 5.8 |
| 3 | Stage 3  (Neurologic symptoms) | 12.9 |
| 4 | Stage 4  (Respiratory rate and creatinine) | 22.0 |
| 5 | Stage 5  (Neurologic symptoms and respiratory rate) | 40.5 |

Legend: The CURB-65 and CRB-65 scores predict 30-day mortality risk. The Classification Tree Analysis predicts in-hospital mortality risk for HIV-infected patients.

**Supplementary Table 2**: Predicted and observed risk of mortality based on CURB-65, CRB-65, Classification Tree Analysis (CTA), and CURB-45 severity scores among hospitalized adults with lower respiratory tract infections, South Africa, 2010–2011

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CURB-65 Score (N=1011) | Predicted mortality (%) | N | Died | Discharged |
| 0 | 0 | 497 | 15 (3.0) | 482 (97.0) |
| 1 | 0 | 351 | 39 (11.1) | 312 (88.9) |
| 2 | 8.3 | 140 | 18 (12.9) | 122 (87.1) |
| 3 | 21.4 | 23 | 8 (34.8) | 15 (65.2) |
| 4 | 26.3 | 0 | 0 (0) | 0 (0) |
| 5 | 33.3 | 0 | 0 (0) | 0 (0) |
| CRB-65 Score (N=1332) |  |  |  |  |
| 0 | 0 | 905 | 59 (6.5) | 846 (93.5) |
| 1 | 5.1 | 374 | 30 (8.0) | 344 (92.0) |
| 2 | 11.3 | 53 | 11 (20.8) | 42 (79.3) |
| 3 | 30.8 | 0 | 0 (0) | 0 (0) |
| 4 | 33.3 | 0 | 0 (0) | 0 (0) |
| CTA Stage (N=1011) |  |  |  |  |
| Stage 1 | 2.3 | 815 | 56 (6.9) | 759 (93.1) |
| Stage 2 | 5.8 | 114 | 8 (7.0) | 106 (93.0) |
| Stage 3 | 12.9 | 25 | 9 (36.0) | 16 (64.0) |
| Stage 4 | 22.0 | 52 | 4 (7.7) | 48 (92.3) |
| Stage 5 | 40.5 | 5 | 3 (60.0) | 2 (40.0) |
| CURB-45 Score (N=1011) |  |  |  |  |
| 0 | - | 361 | 9 (2.5) | 352 (97.5) |
| 1 | - | 390 | 28 (7.2) | 362 (92.8) |
| 2 | - | 204 | 26 (12.8) | 178 (87.3) |
| 3 | - | 47 | 13 (27.7) | 34 (72.3) |
| 4 | - | 9 | 4 (44.4) | 5 (55.6) |
| 5 | - | 0 | 0 | 0 |

Legend: The CURB-65 and CRB-65 scores predict 30-day mortality risk. The Classification Tree Analysis predicts in-hospital mortality risk for HIV-infected patients.

**Supplementary Table 3**: Predicted and observed risk of mortality based by ACHU (Age, confusion, HIV, urea) respiratory severity score among hospitalized adults with lower respiratory tract infections, South Africa, 2010–2011

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ACHU score (N=1011) | Predicted mortality (%) | N | Died | Discharged |
| 0 | 0.1 | 84 | 0 (0) | 84 (100) |
| 1 | 2.7 | 486 | 12 (2.5) | 474 (97.5) |
| 2 | 6.4 | 110 | 7 (6.4) | 103 (93.6) |
| 3 | 11.9 | 230 | 33 (14.4) | 197 (85.7) |
| 4 | 25.0 | 88 | 20 (22.7) | 68 (77.3) |
| 5 | 51.8 | 9 | 2 (22.2) | 7 (77.8) |
| 6 | 75.3 | 4 | 4 (100) | 0 (0) |