**SUPPLEMENTARY TABLE 1.** Normality Test of the Data

| Variates | Shapiro-Wilk normality test (W-value) | Shapiro-Wilk normality test (p value) |
|---|---|---|
| Age | 0.99 | <0.001 |
| Heart rate | 0.99 | <0.001 |
| SBP | 1 | <0.001 |
| DBP | 0.99 | <0.001 |
| Respiratory rate | 0.97 | <0.001 |
| PEEP | 0.44 | <0.001 |
| SOFA | 0.97 | <0.001 |
| GCS | 0.6 | <0.001 |
| CCI | 0.92 | <0.001 |
| Bilirubin | 0.45 | <0.001 |
| Albumin | 1 | <0.001 |
| Platelet | 0.97 | <0.001 |
| WBC | 0.97 | <0.001 |
| Hemoglobin | 0.99 | <0.001 |
| RDW | 0.95 | <0.001 |
| Hematocrit | 1 | <0.001 |
| BUN | 0.9 | <0.001 |
| Glucose | 0.95 | <0.001 |
| Bicarbonate | 0.99 | <0.001 |
| Sodium | 0.99 | <0.001 |
| Potassium | 0.99 | <0.001 |
| Chloride | 0.99 | <0.001 |
| PH | 0.99 | <0.001 |
| $SpO_2$ | 0.58 | <0.001 |
| $PaCO_2$ | 0.99 | <0.001 |
| $PaO_2$ | 0.91 | <0.001 |
| $FiO_2$ | 0.78 | <0.001 |
| INR | 0.91 | <0.001 |
| Survival time | 0.57 | <0.001 |

All the *p* value for all variates listed in above table < 0.05, so these variates were classified as skewed distribution. INR, international normalized ratio; BUN, blood urea nitrogen; WBC, white blood cell count; $PaCO_2$, pressure of alveolar carbon dioxide; RDW, red blood cell distribution width; DBP, diastolic blood pressure; PH, pondus hydrogenii; $PaO_2$, pressure of alveolar oxygen; CCI, charlson comorbidity index; SBP, systolic blood pressure; SOFA, sequential organ failure assessment; $SpO_2$, oxygen saturation.

**SUPPLEMENTARY TABLE 2.** Comparison for the Variables Before and After Data Interpolation.

| Variates | After imputation | Before imputation | Statistics | p |
|---|---|---|---|---|
| INR, ratio, Mean ± SD | 1.3 (1.1, 1.6) | 1.3 (1.1, 1.6) | Z=-0.84 | 0.401 |
| Respiratory rate, BPM, mean ± SD | 18 (15, 22) | 18 (15, 22) | Z=0.122 | 0.903 |
| BUN, mg/dL, M ($Q_1$, $Q_3$) | 18 (13, 29) | 19 (13, 30) | Z=-1.41 | 0.16 |
| Glucose, mg/dL, M ($Q_1$, $Q_3$) | 132 (107, 174) | 133 (107, 174) | Z=-0.283 | 0.777 |
| WBC, k/μL, M ($Q_1$, $Q_3$) | 11.2 (7.5, 15.9) | 11.2 (7.5, 15.9) | Z=-0.065 | 0.948 |
| $PaCO_2$, (%), mean ± SD | 39 (34, 45) | 39 (34, 45) | Z=-0.458 | 0.647 |
| RDW, (%), mean ± SD | 14.6 (13.6, 16.2) | 14.7 (13.6, 16.2) | Z=-0.881 | 0.378 |
| Potassium, mEq/L, Mean ± SD | 4.1 (3.7, 4.6) | 4.1 (3.7, 4.6) | Z=-0.523 | 0.601 |
| Platelet, k/μL, M ($Q_1$, $Q_3$) | 163 (106, 232) | 164 (107, 234) | Z=-0.661 | 0.509 |
| Sodium, mEq/L, mean ± SD | 139 (135, 141) | 139 (135, 141) | Z=0.067 | 0.946 |
| Bicarbonate, mEq/L, mean ± SD | 22 (18, 24) | 22 (18, 24) | Z=0.087 | 0.93 |
| DBP, mmHg, mean ± SD | 66 (56, 78) | 66 (56, 78) | Z=-0.424 | 0.671 |
| Chloride, mEq/L, mean ± SD | 105 (101, 109) | 105 (101, 109) | Z=0.268 | 0.789 |
| PH, Mean ± SD | 7.36 (7.29, 7.42) | 7.36 (7.29, 7.42) | Z=0.465 | 0.642 |
| $PaO_2$, (%), M ($Q_1$, $Q_3$) | 155 (100, 242.25) | 155 (100, 243) | Z=-0.011 | 0.991 |
| CCI, M ($Q_1$, $Q_3$) | 2 (1, 4) | 2 (1, 4) | Z=-0.755 | 0.45 |
| Heart rate, BPM, Mean ± SD | 91 (78, 106) | 91 (78, 106) | Z=-0.096 | 0.923 |
| SBP, mmHg, mean ± SD | 122 (106, 140) | 122 (106, 140) | Z=0.088 | 0.93 |
| Hematocrit, (%), mean ± SD | 31.9 (27.3, 37) | 31.9 (27.3, 37) | Z=-0.024 | 0.981 |
| Hemoglobin, g/dL, mean ± SD | 10.6 (9, 12.3) | 10.6 (9, 12.3) | Z=0.02 | 0.984 |
| SOFA, M ($Q_1$, $Q_3$) | 8 (5, 12) | 8 (5, 12) | Z=-0.046 | 0.963 |
| $SpO_2$, (%), mean ± SD | 99 (97, 100) | 99 (97, 100) | Z=-0.013 | 0.99 |

T, T-test, Z, Wilcoxon-Mann-Whitney test, SD, standard deviation, M, median, Q1, 1st quartile, Q3, 3st quartile. INR, international normalized ratio; BUN, blood urea nitrogen; WBC, white blood cell count; $PaCO_2$, pressure of alveolar carbon dioxide; RDW, red blood cell distribution width; DBP, diastolic blood pressure; PH, pondus hydrogenii; $PaO_2$, pressure of alveolar oxygen; CCI, charlson comorbidity index; SBP, systolic blood pressure; SOFA, sequential organ failure assessment; $SpO_2$, oxygen saturation.

**SUPPLEMENTARY TABLE 3.** Validation of the Assumption of Randomness for Missing Data

| Variates | Select the minimum p value | FDR p value |
|---|---|---|
| INR | <0.001 | <0.001 |
| Respiratory rate | <0.001 | <0.001 |
| BUN | <0.001 | <0.001 |
| Glucose | <0.001 | <0.001 |
| WBC | <0.001 | <0.001 |
| PaCO2 | <0.001 | <0.001 |
| RDW | <0.001 | <0.001 |
| Potassium | <0.001 | <0.001 |
| Platelet | <0.001 | <0.001 |
| Sodium | <0.001 | <0.001 |
| Bicarbonate | <0.001 | <0.001 |
| DBP | <0.001 | <0.001 |
| Chloride | <0.001 | <0.001 |
| PH | <0.001 | <0.001 |
| $PaO_2$ | <0.001 | <0.001 |
| CCI | <0.001 | <0.001 |
| Heart rate | <0.001 | <0.001 |
| SBP | <0.001 | <0.001 |
| Hematocrit | <0.001 | 0.001 |
| Hemoglobin | <0.001 | <0.001 |
| SOFA | <0.001 | <0.001 |
| $SpO_2$ | <0.001 | <0.001 |

FDR, false discovery rates; ICU, intensive care unit; SBP, systolic blood pressure; DBP, diastolic blood pressure; PEEP, positive end-expiratory pressure; GCS, Glasgow coma scale; CCI, charlson comorbidity index; WBC, white blood cell count; RDW, red blood cell distribution width; BUN, blood urea nitrogen; PH, potential of hydrogen; $SpO_2$, oxygen saturation; $PaCO_2$, pressure of alveolar carbon dioxide; $PaO_2$, pressure of alveolar oxygen; $FiO_2$, fraction of inspired oxygen; INR, international normalized ratio; RRT, renal replacement therapy.

**SUPPLEMENTARY TABLE 4.** The Regression Results of Adjusted Covariates.

| Variates | HR (95%CI) | p |
|---|---|---|
| Age | 1.03 (1.02-1.03) | <0.001 |
| **Gender** | | |
| Female | Ref | |
| Male | 0.88 (0.76-1.03) | 0.105 |
| **Race type** | | |
| Other | Ref | |
| Unknown | 1.57 (1.27-1.95) | <0.001 |
| White | 0.83 (0.70-0.99) | 0.050 |
| **ICU type** | | |
| MICU/SICU | Ref | |
| Other | 0.99 (0.84-1.18) | 0.951 |
| **Atrial fibrillation** | | |
| No | Ref | |
| Yes | 0.91 (0.75-1.10) | 0.314 |
| Heart rate | 1.00 (1.00-1.01) | 0.112 |
| SBP | 1.00 (1.00-1.00) | 0.582 |
| DBP | 1.01 (1.01-1.01) | 0.017 |
| Respiratory rate | 1.02 (1.01-1.03) | 0.012 |
| PEEP | 1.14 (1.06-1.22) | <0.001 |
| GCS | 0.95 (0.93-0.97) | <0.001 |
| CCI | 1.07 (1.03-1.11) | <0.001 |
| WBC | 1.02 (1.01-1.03) | 0.013 |
| Hemoglobin | 1.03 (1.00-1.07) | 0.077 |
| RDW | 1.07 (1.03-1.12) | 0.002 |
| BUN | 1.01 (1.01-1.01) | 0.003 |
| Bicarbonate | 0.98 (0.96-1.00) | 0.123 |
| Chloride | 0.98 (0.97-0.99) | 0.008 |
| PH | 0.49 (0.18-1.30) | 0.152 |
| $SpO_2$ | 0.99 (0.98-1.01) | 0.464 |
| $PaCO_2$ | 0.98 (0.97-0.99) | 0.003 |
| $PaO_2$ | 0.99 (0.99-0.99) | 0.018 |
| $FiO_2$ | 1.00 (1.00-1.00) | 0.908 |
| INR | 1.47 (1.16-1.86) | 0.001 |
| **Vasopressor** | | |
| No | Ref | |
| Yes | 2.14 (1.75-2.63) | <0.001 |
| **RRT** | | |
| No | Ref | |
| Yes | 0.98 (0.80-1.21) | 0.870 |

HR, hazard ratio; CI, confidence interval; Ref, reference. ICU, intensive care unit; SBP, systolic blood pressure; DBP, diastolic blood pressure; PEEP, positive end-expiratory pressure; GCS, Glasgow coma scale; CCI, charlson comorbidity index; WBC, white blood cell count; RDW, red blood cell distribution width; BUN, blood urea nitrogen; PH, potential of hydrogen; $SpO_2$, oxygen saturation; $PaCO_2$, pressure of alveolar carbon dioxide; $PaO_2$, pressure of alveolar oxygen; $FiO_2$, fraction of inspired oxygen; INR, international normalized ratio; RRT, renal replacement therapy.