Supplemental Table 5 (a). Univariate logistic regression for time to initiation of cardiopulmonary resuscitation.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Interval | Actual | | | Including values of zero | | | | Excluding values of zero | | | |
|  |  | | |  | | Odds Ratio  95% Confidence Interval | |  | | Odds Ratio  95% Confidence Interval | |
| TTC | N | Survivors | Survival probability | Predicted probability | Odds Ratio | Lower limit | Upper limit | Predicted probability | Odds Ratio | Lower limit | Upper limit |
| 0 | 77231 | 14483 | 0.188 | 0.188 |  |  |  |  |  |  |  |
| 1 | 3492 | 814 | 0.233 | 0.233 | 1.32 | 1.22 | 1.43 | 0.233 |  |  |  |
| 2 | 1503 | 321 | 0.214 | 0.214 | 1.18 | 1.04 | 1.33 | 0.214 | 0.89 | 0.77 | 1.03 |
| 3 | 716 | 155 | 0.216 | 0.216 | 1.20 | 1.00 | 1.43 | 0.216 | 0.91 | 0.75 | 1.10 |
| 4 | 279 | 58 | 0.208 | 0.208 | 1.14 | 0.85 | 1.52 | 0.208 | 0.86 | 0.64 | 1.17 |
| 5 | 479 | 83 | 0.173 | 0.173 | 0.91 | 0.72 | 1.15 | 0.173 | 0.69 | 0.54 | 0.89 |
| 6 | 91 | 16 | 0.176 | 0.176 | 0.92 | 0.54 | 1.59 | 0.176 | 0.70 | 0.41 | 1.21 |

Abbreviation: TTC = Time to initiation of CPR. CPR = cardiopulmonary resuscitation. Increasing TTC was associated with better survival up to TTC=3 as compared to TTC=0 (n=83791, p<0.0005). When zero values were excluded, increasing TTC (n= 6560, p=0.048) was associated with decreased survival, with a significant reduction in survival at TTC=5. Time to CPR values (n=76765 including zero, n=6563 excluding zero) had a non-zero range of 1 to 6 min (median, interquartile range: 1, 1 min). Patients were more likely to have clock times defining time to CPR (i.e., times recorded for both pulselessness and the onset of chest compressions, n=76765) than clock times defining time from the initiation of CPR to treatment (i.e., times recorded for both the onset of chest compressions and the first ACLS intervention, n=13808+60924=74732). Time to CPR had lesser survival for reported values of zero as compared to values reported as one minute (p<0.0005). TTC was strongly skewed toward zero (p<0.0005 by the Kolmogorov-Smirnov test).Supplemental Table 5 (b). Univariate logistic regression for time from cardiopulmonary resuscitation to defibrillation including all available values.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Interval | Actual | | | Including zero | | | | Excluding zero | | | |
|  |  | | |  | | Odds Ratio  95% Confidence Interval | |  | | Odds Ratio  95% Confidence Interval | |
| TFC | N | Survivors | Survival probability | Predicted probability | Odds Ratio | Lower limit | Upper limit | Predicted probability | Odds Ratio | Lower limit | Upper limit |
| 0 | 6763 | 2585 | 0.382 | 0.382 |  |  |  |  |  |  |  |
| 1 | 2081 | 939 | 0.451 | 0.451 | 1.33 | 1.20 | 1.47 | 0.451 |  |  |  |
| 2 | 1604 | 652 | 0.406 | 0.406 | 1.11 | 0.99 | 1.24 | 0.406 | 0.83 | 0.73 | 0.95 |
| 3 | 956 | 321 | 0.336 | 0.336 | 0.82 | 0.71 | 0.94 | 0.336 | 0.62 | 0.52 | 0.72 |
| 4 | 587 | 149 | 0.254 | 0.254 | 0.55 | 0.45 | 0.67 | 0.254 | 0.41 | 0.34 | 0.51 |
| 5 | 753 | 214 | 0.284 | 0.284 | 0.64 | 0.54 | 0.76 | 0.284 | 0.48 | 0.40 | 0.58 |
| 6 | 284 | 61 | 0.215 | 0.215 | 0.44 | 0.33 | 0.59 | 0.215 | 0.33 | 0.25 | 0.45 |
| 7 | 222 | 58 | 0.261 | 0.261 | 0.57 | 0.42 | 0.77 | 0.261 | 0.43 | 0.32 | 0.59 |
| 8 | 179 | 38 | 0.212 | 0.212 | 0.44 | 0.30 | 0.63 | 0.212 | 0.33 | 0.23 | 0.47 |
| 9 | 132 | 31 | 0.235 | 0.235 | 0.50 | 0.33 | 0.74 | 0.235 | 0.37 | 0.25 | 0.56 |
| 10 | 173 | 23 | 0.133 | 0.133 | 0.25 | 0.16 | 0.39 | 0.133 | 0.19 | 0.12 | 0.29 |
| 11 | 74 | 7 | 0.095 | 0.095 | 0.17 | 0.08 | 0.37 | 0.095 | 0.13 | 0.06 | 0.28 |

Abbreviations: TFC = Time from CPR to defibrillation. CPR = cardiopulmonary resuscitation. Increasing TFC with (n=13808, p<0.0005) and without zero values (n=7045, p<0.0005) was associated with decreased survival. Survival was greater at 1 min than at zero (p<0.0005, odds ratio 1.329, confidence interval 1.203-1.468). Non-zero values of time from the initiation of CPR to treatment ranged from 1 to 11 min (median 2 min, IQR 4 min). TFC was strongly skewed toward zero (p<0.0005 by the Kolmogorov-Smirnov test).

Supplemental Table 5 (c). Univariate logistic regression for time from cardiopulmonary resuscitation to epinephrine administration.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Interval | Actual | | | Including zero (p=0.001) | | | | Excluding zero (p=0.003) | | | |
|  |  | | |  | | Odds Ratio  95% Confidence Interval | |  | | Odds Ratio  95% Confidence Interval | |
| TFC | N | Survivors | Survival probability | Predicted probability | Odds Ratio | Lower limit | Upper limit | Predicted probability | Odds Ratio | Lower limit | Upper limit |
| 0 | 25263 | 2968 | 0.118 | 0.118 |  |  |  |  |  |  |  |
| 1 | 9439 | 1239 | 0.131 | 0.131 | 1.14 | 1.06 | 1.22 | 0.131 |  |  |  |
| 2 | 8239 | 1024 | 0.124 | 0.124 | 1.07 | 0.99 | 1.15 | 0.124 | 0.94 | 0.86 | 1.03 |
| 3 | 5508 | 707 | 0.128 | 0.128 | 1.11 | 1.01 | 1.21 | 0.128 | 0.98 | 0.88 | 1.08 |
| 4 | 3380 | 355 | 0.105 | 0.105 | 0.88 | 0.79 | 0.99 | 0.105 | 0.78 | 0.69 | 0.88 |
| 5 | 4601 | 551 | 0.120 | 0.120 | 1.02 | 0.93 | 1.13 | 0.120 | 0.90 | 0.81 | 1.00 |
| 6 | 1621 | 196 | 0.121 | 0.121 | 1.03 | 0.89 | 1.21 | 0.121 | 0.91 | 0.78 | 1.07 |
| 7 | 1300 | 149 | 0.115 | 0.115 | 0.97 | 0.82 | 1.16 | 0.115 | 0.86 | 0.72 | 1.03 |
| 8 | 952 | 99 | 0.104 | 0.104 | 0.87 | 0.71 | 1.08 | 0.104 | 0.77 | 0.62 | 0.95 |
| 9 | 621 | 67 | 0.108 | 0.108 | 0.91 | 0.70 | 1.17 | 0.108 | 0.80 | 0.62 | 1.04 |

Abbreviations: TFC = Time from CPR to treatment with epinephrine. CPR = cardiopulmonary resuscitation. Increasing time from the initiation of CPR to treatment with (n=60924, p=0.001) and without zero values (n=35661, p=0.003) was associated with decreased survival. Time from the initiation of CPR to treatment including values of zero predicted greater survival at 1 and 3 min as compared to zero, but decreased survival at 4 min. Non-zero values of time from the initiation of CPR to treatment ranged from 1 to 9 min (3, 4 min). TFC was strongly skewed toward zero (p<0.0005 by the Kolmogorov-Smirnov test). TFC had lesser survival for reported values of zero as compared to values reported as one min (p<0.0005).