

Supplemental Table 1. Characteristics of Study Sample

| *                         | Total             | Derivation        | Validation        | *        |
|---------------------------|-------------------|-------------------|-------------------|----------|
| *                         | N = 53,922        | n = 37,734        | n = 16,188        | P- value |
| Survived to discharge     | 11,283 (20.9%)    | 7921 (21.0%)      | 3362 (20.8%)      | 0.56     |
| <b>Demographics</b>       | *                 | *                 | *                 | *        |
| Year of arrest            | *                 | *                 | *                 | 0.36     |
| 2020                      | 23,609 (43.8%)    | 16,570 (43.9%)    | 7039 (43.5%)      |          |
| 2021                      | 30,313 (56.2%)    | 21,164 (56.1%)    | 9149 (56.5%)      |          |
| Age                       | *                 | *                 | *                 | 0.005    |
| Mean $\pm$ SD             | 64.7 $\pm$ 15.3   | 64.8 $\pm$ 15.3   | 64.4 $\pm$ 15.3   |          |
| Median (IQR)              | 67.0 (56.0, 76.0) | 67.0 (56.0, 76.0) | 66.0 (56.0, 75.0) |          |
| Age group                 | *                 | *                 | *                 | 0.16     |
| 18 to <50                 | 8622 (16.0%)      | 5967 (15.8%)      | 2655 (16.4%)      |          |
| 50 to <60                 | 8681 (16.1%)      | 6040 (16.0%)      | 2641 (16.3%)      |          |
| 60 to <70                 | 14,134 (26.2%)    | 9871 (26.2%)      | 4263 (26.3%)      |          |
| 70 to <80                 | 13,753 (25.5%)    | 9685 (25.7%)      | 4068 (25.1%)      |          |
| $\geq$ 80                 | 8732 (16.2%)      | 6171 (16.4%)      | 2561 (15.8%)      |          |
| Sex                       | *                 | *                 | *                 | 0.92     |
| Male                      | 32,558 (60.4%)    | 22,789 (60.4%)    | 9769 (60.3%)      |          |
| Female                    | 21,364 (39.6%)    | 14,945 (39.6%)    | 6419 (39.7%)      |          |
| Race                      | *                 | *                 | *                 | 0.47     |
| White                     | 33,745 (62.6%)    | 23,672 (62.7%)    | 10,073 (62.2%)    |          |
| Black                     | 13,218 (24.5%)    | 9246 (24.5%)      | 3972 (24.5%)      |          |
| Asian                     | 1295 (2.4%)       | 916 (2.4%)        | 379 (2.3%)        |          |
| American Indian/Eskimo    | 413 (0.8%)        | 286 (0.8%)        | 127 (0.8%)        |          |
| Unknown                   | 4900 (9.1%)       | 3377 (9.0%)       | 1523 (9.4%)       |          |
| Hawaiian/Pacific Islander | 344 (0.6%)        | 232 (0.6%)        | 112 (0.7%)        |          |

| Missing                               | 7              | 5              | 2            |       |
|---------------------------------------|----------------|----------------|--------------|-------|
| <b><i>Pre-Existing Conditions</i></b> | *              | *              | *            | *     |
| Covid-19                              | 13,148 (24.4%) | 9176 (24.3%)   | 3972 (24.5%) | 0.59  |
| Illness category                      |                |                |              |       |
| Medical-Cardiac                       | 16,068 (29.8%) | 11,339 (30.1%) | 4729 (29.2%) | 0.048 |
| Medical-Noncardiac                    | 29,647 (55.0%) | 20,652 (54.7%) | 8995 (55.6%) |       |
| Surgical-Cardiac                      | 2409 (4.5%)    | 1712 (4.5%)    | 697 (4.3%)   |       |
| Surgical-Noncardiac                   | 3984 (7.4%)    | 2795 (7.4%)    | 1189 (7.3%)  |       |
| Obstetric                             | 62 (0.1%)      | 45 (0.1%)      | 17 (0.1%)    |       |
| Trauma                                | 1698 (3.1%)    | 1149 (3.0%)    | 549 (3.4%)   |       |
| Other (Visitor/Employee)              | 43 (0.1%)      | 35 (0.1%)      | 8 (0.0%)     |       |
| Missing                               | 11             | 7              | 4            |       |
| Respiratory Insufficiency             | 28,952 (53.7%) | 20,202 (53.5%) | 8750 (54.1%) | 0.27  |
| Renal Insufficiency                   | 20,443 (37.9%) | 14,269 (37.8%) | 6174 (38.1%) | 0.48  |
| Diabetes Mellitus                     | 20,515 (38.0%) | 14,322 (38.0%) | 6193 (38.3%) | 0.51  |
| Hypotension/Hypoperfusion             | 17,364 (32.2%) | 12,171 (32.3%) | 5193 (32.1%) | 0.69  |
| Heart Failure this Admission          | 6191 (11.5%)   | 4330 (11.5%)   | 1861 (11.5%) | 0.94  |
| Heart Failure prior to Admission      | 12,438 (23.1%) | 8687 (23.0%)   | 3751 (23.2%) | 0.71  |
| MI this Admission                     | 6362 (11.8%)   | 4515 (12.0%)   | 1847 (11.4%) | 0.07  |
| MI prior to Admission                 | 7067 (13.1%)   | 4949 (13.1%)   | 2118 (13.1%) | 0.92  |
| Metabolic/Electrolyte Abnormality     | 16,528 (30.7%) | 11,540 (30.6%) | 4988 (30.8%) | 0.59  |
| Sepsis                                | 13,375 (24.8%) | 9420 (25.0%)   | 3955 (24.4%) | 0.19  |
| Pneumonia                             | 13,748 (25.5%) | 9604 (25.5%)   | 4144 (25.6%) | 0.72  |
| Metastatic/Hematologic Malignancy     | 5591 (10.4%)   | 3928 (10.4%)   | 1663 (10.3%) | 0.63  |
| Baseline Depression of CNS Function   | 4053 (7.5%)    | 2821 (7.5%)    | 1232 (7.6%)  | 0.59  |
| Hepatic Insufficiency                 | 5628 (10.4%)   | 3910 (10.4%)   | 1718 (10.6%) | 0.38  |
| Acute CNS non-stroke Event            | 7792 (14.5%)   | 5420 (14.4%)   | 2372 (14.7%) | 0.38  |

|                                      |                |                |              |       |
|--------------------------------------|----------------|----------------|--------------|-------|
| Acute Stroke                         | 2051 (3.8%)    | 1491 (4.0%)    | 560 (3.5%)   | 0.006 |
| Major Trauma                         | 2591 (4.8%)    | 1771 (4.7%)    | 820 (5.1%)   | 0.06  |
| <b><i>Interventions in Place</i></b> | *              | *              | *            | *     |
| Invasive assisted ventilation        | 22,013 (40.8%) | 15,361 (40.7%) | 6652 (41.1%) | 0.41  |
| Continuous IV Vasopressor            | 16,883 (31.3%) | 11,778 (31.2%) | 5105 (31.5%) | 0.45  |
| Missing                              | 18             | 11             | 7            |       |
| Dialysis                             | 2228 (4.1%)    | 1551 (4.1%)    | 677 (4.2%)   | 0.70  |
| <b><i>Event Characteristics</i></b>  | *              | *              | *            | *     |
| Weekend arrest                       | 23,200 (43.0%) | 16,186 (42.9%) | 7014 (43.3%) | 0.35  |
| Location                             | *              | *              | *            | 0.66  |
| Intensive care unit                  | 25,717 (47.7%) | 17,962 (47.6%) | 7755 (47.9%) |       |
| Monitored unit                       | 7962 (14.8%)   | 5578 (14.8%)   | 2384 (14.7%) |       |
| Non-Monitored unit                   | 8674 (16.1%)   | 6095 (16.2%)   | 2579 (15.9%) |       |
| Emergency room                       | 6839 (12.7%)   | 4772 (12.6%)   | 2067 (12.8%) |       |
| Procedural unit                      | 3701 (6.9%)    | 2622 (7.0%)    | 1079 (6.7%)  |       |
| Other                                | 1019 (1.9%)    | 697 (1.8%)     | 322 (2.0%)   |       |
| Missing                              | 10             | 8              | 2            |       |
| Initial cardiac arrest rhythm        | *              | *              | *            | 0.89  |
| Asystole                             | 14,387 (26.7%) | 10,089 (26.7%) | 4298 (26.6%) |       |
| Pulseless electrical activity        | 32,070 (59.5%) | 22,407 (59.4%) | 9663 (59.7%) |       |
| Ventricular fibrillation             | 3759 (7.0%)    | 2646 (7.0%)    | 1113 (6.9%)  |       |
| Ventricular tachycardia              | 3706 (6.9%)    | 2592 (6.9%)    | 1114 (6.9%)  |       |

Note: \* indicates cell is intentionally left blank