

# **SUPPLEMENTARY MATERIAL**

**American Heart Association's Get With The Guidelines<sup>®</sup> – Resuscitation (formerly National Registry of Cardiopulmonary Resuscitation) Investigators**

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**eTable 1.** Baseline Characteristics For Patients Matched and Not Matched to Medicare Files

Characteristic	Patients Matched (n = 6972)	Patients Not Matched (n = 3236)	Standardized Difference*
Demographic characteristics			
Age — yr	75.8 ± 7.0	75.2 ± 7.0	9.1
Male sex, no. (%)	3872 (55.5)	1890 (58.4)	5.8
Race, no. (%) <sup>†</sup>			
White	5634 (85.7)	2396 (82.8)	Reference
Black	778 (11.8)	365 (12.6)	2.4
Other	164 (2.5)	132 (4.6)	11.2
Cardiac arrest characteristics, no. (%)			
After hours (11:00 pm–6:59 am)	1763 (25.3)	837 (26.3)	1.4
Weekend	1908 (27.4)	893 (27.6)	0.5
Hospital-wide response activated	5432 (77.9)	2556 (79.0)	2.6
Use of automated external defibrillator	706 (10.1)	340 (10.5)	1.3
Initial cardiac arrest rhythm			
Asystole	1707 (24.5)	865 (26.7)	Reference
Pulseless electrical activity	2031 (29.1)	958 (29.6)	1.0
Pulseless ventricular tachycardia	1109 (15.9)	521 (16.1)	0.5
Ventricular fibrillation	2125 (30.5)	892 (27.6)	6.4
CPC score at discharge, no. (%) <sup>‡</sup>			
1 (mild to no neurological disability)	2943 (48.1)	1277 (46.5)	Reference
2 (moderate neurological disability)	2097 (34.3)	902 (32.9)	3.0
≥3 (severe neurological disability or coma)	1074 (17.6)	565 (20.6)	7.7

Preexisting conditions, no. (%)			
Acute stroke	249 (3.6)	115 (3.6)	0.1
Baseline depression in CNS function	736 (10.6)	293 (9.1)	5.1
Diabetes mellitus	2262 (32.4)	1043 (32.2)	0.5
Heart failure during admission	1625 (23.3)	686 (21.2)	5.1
Heart failure prior to admission	1848 (26.5)	800 (24.7)	4.1
Hepatic insufficiency	143 (2.1)	78 (2.4)	2.4
Hypotension	1313 (18.8)	588 (18.2)	1.7
Major trauma	113 (1.6)	62 (1.9)	2.2
Metabolic or electrolyte abnormality	770 (11.0)	364 (11.2)	0.7
Metastatic or hematologic malignancy	518 (7.4)	222 (6.9)	2.2
Myocardial infarction during admission	1897 (27.2)	842 (26.0)	2.7
Myocardial infarction prior to admission	1805 (25.9)	742 (22.9)	6.9
Pneumonia	725 (10.4)	291 (9.0)	4.8
Renal insufficiency	1836 (26.3)	743 (23.0)	7.8
Respiratory insufficiency	2368 (34.0)	1038 (32.1)	4.0
Septicemia	473 (6.8)	213 (6.6)	0.8
Interventions in place, no. (%)			
Mechanical ventilation	1246 (17.9)	564 (17.4)	1.2
Dialysis	136 (2.0)	58 (1.8)	1.3
Preexisting implantable cardioverter-defibrillator	109 (1.6)	51 (1.6)	0.0

Abbreviations: CNS, central nervous system; and CPC, Cerebral Performance Category.

\* Due to the large sample size, a standardized difference of >10 was used to denote significant differences between groups

† Race was missing for 396 patients who matched and 343 patients who did not match.

‡ CPC score was missing for 858 patients who matched and 492 patients who did not match.

**eTable 2. Summary of Hospital Characteristics.\***

<b>Site Characteristics</b>	<b>Hospitals (N = 383)</b>
<b>Number of Beds</b>	
<250	144 (37.6%)
250-499	162 (42.3%)
≥500	77 (20.1%)
<b>Teaching Status</b>	
Major teaching (fellows and residents)	70 (18.3%)
Minor teaching (residents only)	119 (31.1%)
Non-teaching	194 (50.7%)
<b>Geographical Region</b>	
Northeast	49 (12.8%)
Southeast	100 (26.1%)
North Central	95 (24.8%)
South Central	74 (19.3%)
West	65 (17.0%)
<b>Hospital Ownership</b>	
Non-Profit	277 (72.3%)
Public	48 (12.5%)
Private	58 (15.1%)
Urban Hospital	338 (88.3%)

\* Information on hospital characteristics were obtained from the American Hospital Association and were missing for 18 hospitals.

**eTable 3. Principal Reasons for Index Hospitalization.** The primary diagnosis related groups (DRGs) for the index in-hospital cardiac arrest hospitalization are summarized.

	<b>N = 6972</b>	<b>%</b>
<b>CARDIOVASCULAR</b>		
Heart failure	453	6.5%
Coronary artery disease	647	9.3%
Myocardial infarction	1428	20.5%
Chest pain	62	0.9%
Syncope	13	0.2%
Cardiac arrest	127	1.8%
Other cardiac	1072	15.4%
<b>PULMONARY</b>		
Pneumonia	208	3.0%
Acute Respiratory Failure	336	4.8%
COPD	91	1.3%
Other Pulmonary	226	3.2%
<b>GASTROINTESTINAL</b>		
GI bleed	57	0.8%
PUD, Liver, and Intestinal diseases	143	2.1%
Other GI	190	2.7%
<b>INFECTION</b>		
Sepsis	256	3.7%
Bacteremia and other infections without sepsis	31	0.4%
<b>RENAL DISEASE</b>	142	2.0%
<b>MEDICAL / SURGICAL COMPLICATIONS</b>	212	3.0%
<b>HEMATOLOGY / ONCOLOGY</b>		
Malignant Cancer	253	3.6%
Other cancers	17	0.2%
Anemia and other hematologic	21	0.3%
<b>NEUROLOGICAL</b>		
Stroke	201	2.9%
Other Neurological	46	0.7%
<b>DIABETES AND OTHER ENDOCRINE</b>	66	0.9%
<b>DEHYDRATION AND ELECTROLYTES</b>	55	0.8%
<b>FRACTURE AND OTHER MUSCULOSKELETAL</b>	85	1.2%
<b>INJURY OR POISONING</b>	196	2.8%
<b>PSYCHIATRIC</b>	7	0.1%
<b>ALL OTHER CAUSES</b>	331	4.7%

**eTable 4. Cost of Index Hospitalization for In-Hospital Cardiac Arrest by Subgroups**

	<b>Adjusted Costs</b>	<b>Cost Ratio (95% CI)</b>	<b>P</b>
<b>ALL PATIENTS</b>	\$35,808		
<b>AGE GROUPS</b>			
65 to 74	\$37,072	1.46 (1.33-1.59)	<0.001
75 to 84	\$32,502	1.28 (1.18-1.39)	<0.001
≥ 85	\$25,392	Reference	Reference
<b>SEX</b>			
Men	\$37,392	Reference	Reference
Women	\$34,775	0.93 (0.89-0.98)	0.007
<b>RACE GROUPS</b>			
White	\$35,022	Reference	Reference
Black	\$35,022	1.00 (0.92-1.10)	0.95
Other	\$35,722	1.02 (0.83-1.26)	0.86
<b>INITIAL RHYTHM</b>			
Pulseless electrical activity	\$39,512	Reference	Reference
Asystole	\$40,302	1.02 (0.96-1.09)	0.49
Ventricular fibrillation	\$33,190	0.84 (0.78-0.90)	<0.001
Pulseless ventricular tachycardia	\$34,375	0.87 (0.80-0.94)	<0.001
<b>NEUROLOGICAL STATUS</b>			
Mild to no disability	\$30,735	Reference	Reference
Moderate disability	\$33,194	1.08 (1.02-1.15)	0.008
Severe disability	\$37,804	1.23 (1.13-1.34)	<0.001
Coma or vegetative state	\$39,956	1.30 (1.10-1.54)	0.002