

Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: Sasson C, Magid DJ, Chan P, et al. Association of neighborhood characteristics with bystander-initiated CPR. *N Engl J Med* 2012;367:1607-15. DOI: 10.1056/NEJMoa1110700

SUPPLEMENTARY APPENDIX

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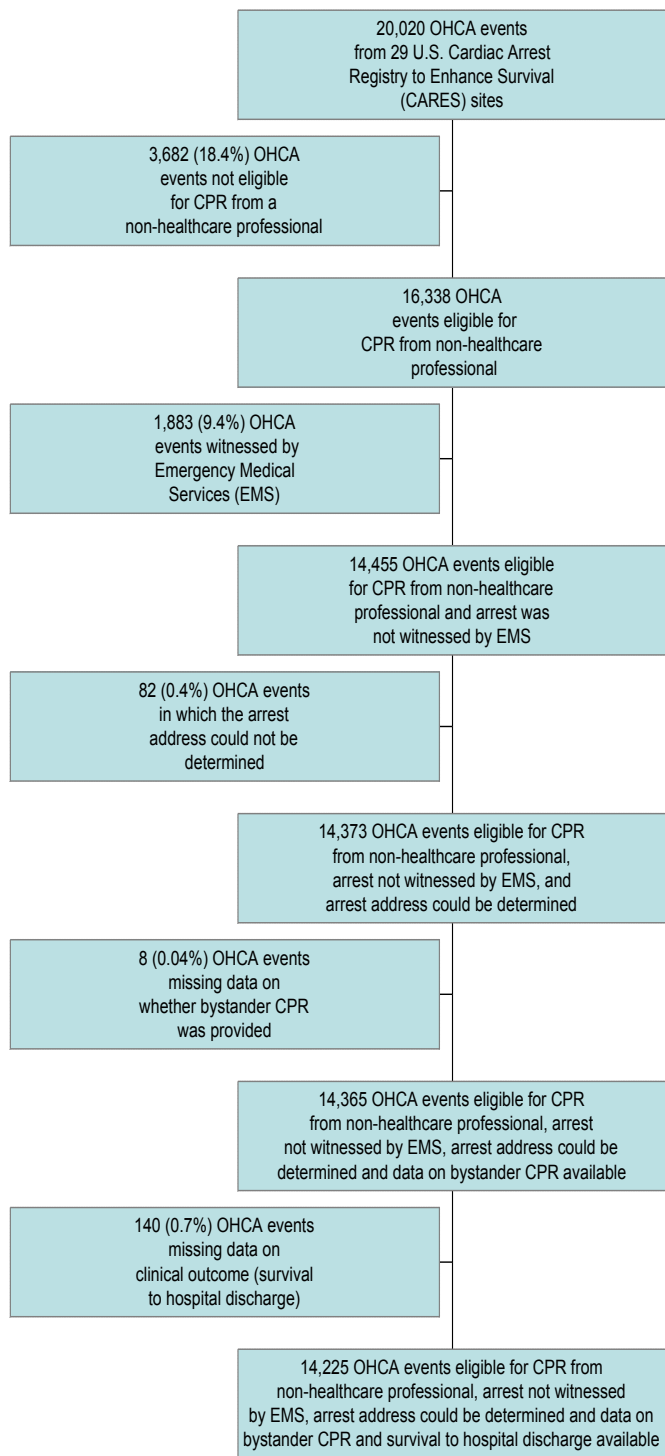
Definition of Out-Of-Hospital Cardiac Arrest.

CARES includes data on persons of any age who have an out-of-hospital cardiac arrest event and who receive resuscitative efforts (e.g., CPR or defibrillation). Patients with obvious signs of death (e.g. rigor mortis or dependent lividity) or for whom a “do not resuscitate” (DNR) order is respected are not included. The event must have occurred as the result of a presumed cardiac etiology on the basis of the clinical judgment of the care providers. Noncardiac etiologies (e.g., trauma, drowning, overdose, asphyxia, electrocution, primary respiratory arrest, or other noncardiac etiologies) are excluded from analyses. A patient would be entered into the registry multiple times if he/she has more than one out-of-hospital cardiac arrest event in which resuscitative efforts are initiated.

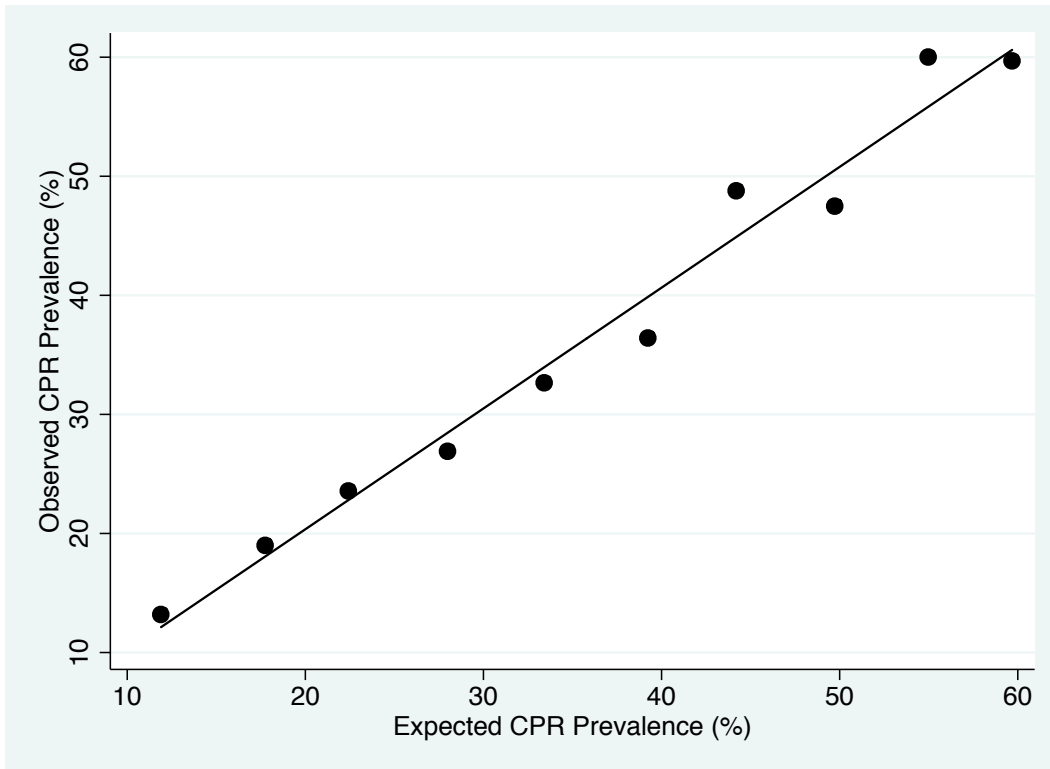
Supplementary Appendix Figure 1S. Map of CARES sites included in analysis.



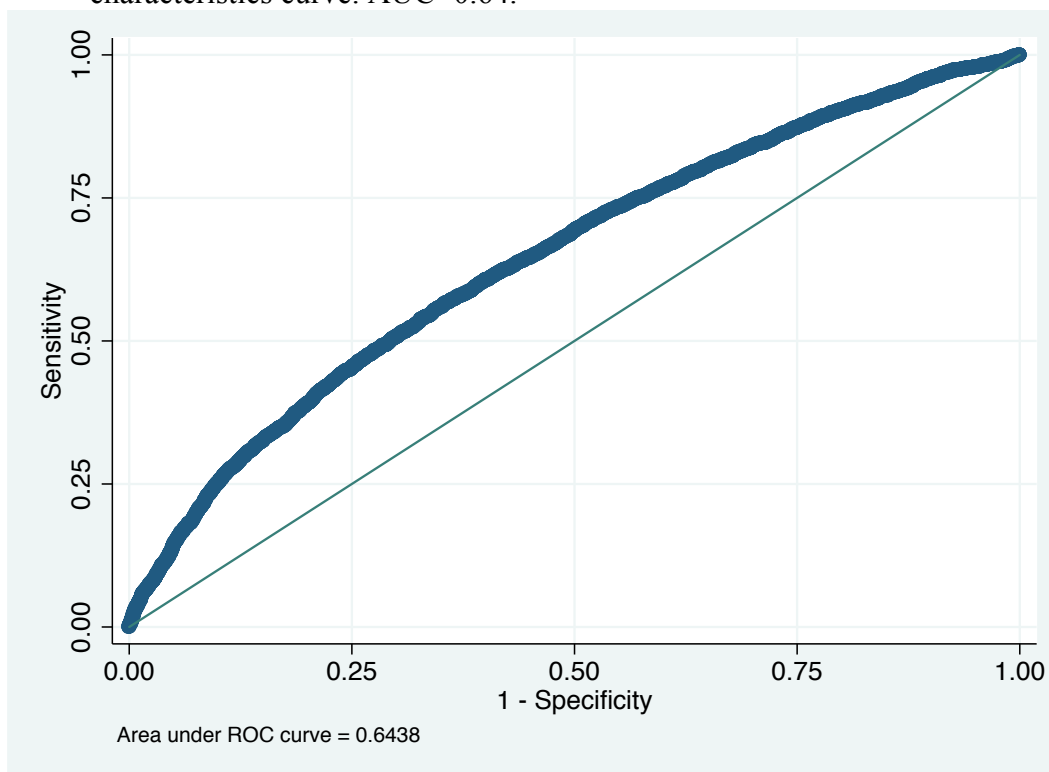
Supplementary Appendix Figure 2S: Flowchart of patients included in study sample.



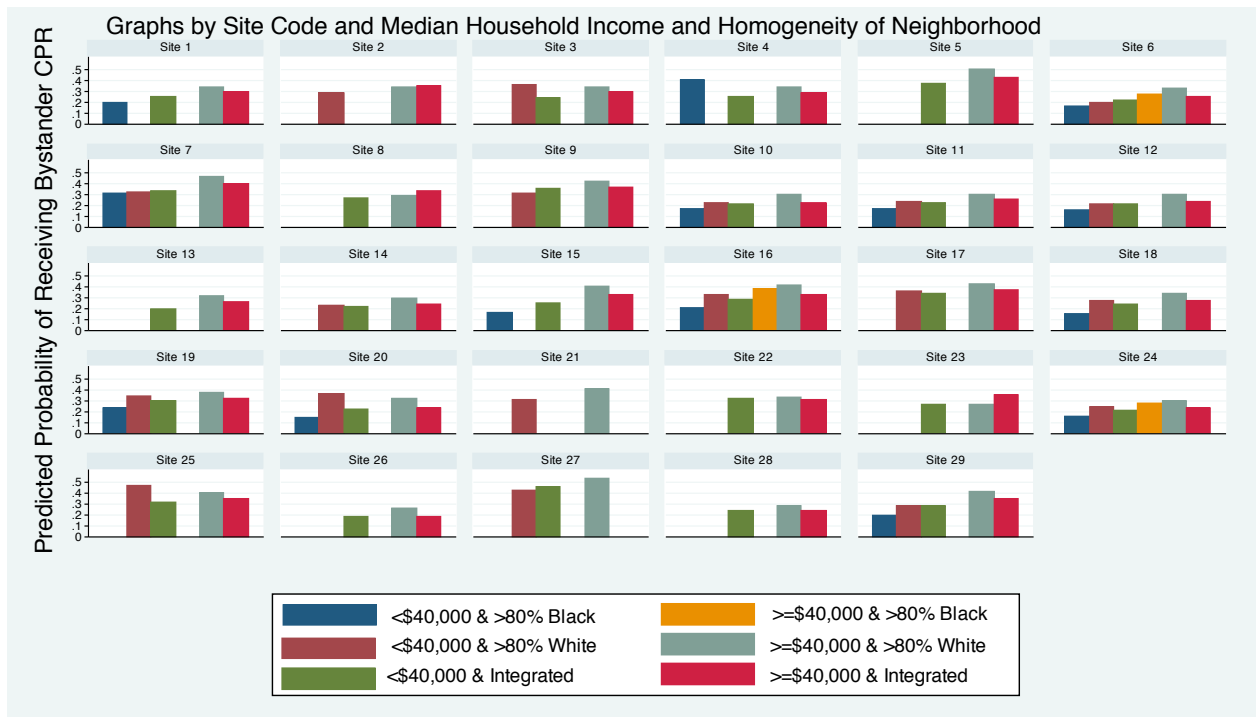
Supplementary Appendix Figure 3AS. 10-fold cross-validation of the final model. Calibration assessed by comparing observed versus expected CPR prevalence. Hosmer-Lemeshow goodness-of-fit $P=0.23$.



Supplementary Appendix Figure 3BS. 10-fold cross-validation of the model. Discrimination assessed using a receiver operating characteristics curve. AUC=0.64.



Supplementary Appendix Figure 4S. Predicted probability of receiving bystander cardiopulmonary resuscitation (CPR) across 29 U.S. CARES Sites.



Supplementary Appendix Table 1S. Additional patient characteristics according to whether or not bystander-initiated CPR was performed.

| | <u>Received Bystander-Initiated CPR (N=4,068)</u> | <u>Did Not Receive Bystander- Initiated CPR (N=10,157)</u> | <u>TOTAL (N=14,225)</u> |
|---|--|---|------------------------------------|
| Was an AED Used | | | |
| Yes | 1,302 (31) | 2,842 (69) | 4,144 |
| No | 2,765 (27) | 7,314 (73) | 10,079 |
| Missing | 1 (50) | 1 (50) | 2 |
| Presenting Rhythm | | | |
| Asystole | 1,745 (26) | 4,995 (74) | 6,740 |
| VF/VT/Unknown Shockable | 1,358 (38) | 2,250 (62) | 3,608 |
| Pulseless Electrical Activity | 510 (23) | 1,747 (77) | 2,257 |
| Unknown Unshockable | 451 (28) | 1,155 (72) | 1,606 |
| Unknown | 4 (29) | 10 (71) | 14 |
| Survival to Hospital Admission§ | 1,138 (28) | 2,314 (23) | 3,452 |
| Survival to Hospital Discharge§ | 482 (12) | 662 (6) | 1,144 |
| Neurological Outcome at Discharge§ | | | |
| CPC 1 | 282 (7) | 305 (3) | 587 |
| CPC 2 | 83 (2) | 132 (1) | 215 |
| CPC 3 | 49 (1) | 77 (1) | 126 |
| CPC 4 | 26 (1) | 60 (1) | 86 |
| CPC Unknown | 42 (1) | 88 (1) | 130 |

Abbreviations: AED (Automated External Defibrillator), VF (Ventricular Fibrillation), VT (Ventricular Tachycardia), CPC (Cerebral Performance Category)

All values reported as N (%).

§ Reported as column proportions (not row proportions).

Supplementary Appendix Table 2S. Adjusted models for provision of bystander CPR (cardiopulmonary resuscitation).

| | Empty Model | Model 1 | Model 2 |
|--|--------------------|---------------------------|---------------------------|
| Variance Neighborhood Level 2 (n=2403) | 0.257 | 0.182 | 0.162 |
| Variance Site Level 3 (n=29) | 0.122 | 0.16 | 0.123 |
| <u>INDIVIDUAL LEVEL VARIABLES</u> | | | |
| Age (Decades) | | 0.94 (0.92-0.96)** | |
| Female | | 0.99 (0.92-1.08) | |
| Race/Ethnicity | | | |
| White | | Ref | |
| Black | | 0.65 (0.59-0.73)** | |
| Latino | | 0.72 (0.61-0.86)** | |
| Other | | 0.93 (0.72-1.19) | |
| Unknown | | 0.77 (0.66-0.89)** | |
| Witnessed Arrest | | 2.03 (1.88-2.20)** | |
| Public Arrest | | 1.66 (1.51-1.84)** | |
| <u>NEIGHBORHOOD LEVEL VARIABLES</u> | | | |
| Median Household Income (per \$10,000) | | | 1.07 (1.04-1.10)** |
| Median Household Income Category | | | |
| <\$25000 | | | |
| \$25001-\$40,000 | | | |
| \$40,001-\$50,000 | | | |
| \$50,001-\$65,000 | | | |
| >\$65,001 | | | |
| Racial Composition of Neighborhood | | | |
| >90% Black | | | 0.80 (0.65-0.97)* |
| Integrated | | | Ref |
| >90% White | | | 1.15 (1.00-1.33) |
| Racial Composition of Neighborhood | | | |
| >80% Black | | | |
| Integrated | | | |
| >80% White | | | |
| SinglePerson Households (per 10% increase) | | | 1.00 (1.00-1.01) |
| Median Age of Census Tract | | | 0.99 (0.98-0.99)* |
| High School Diploma and Above (per 10% increase) | | | 1.07 (1.02-1.12)* |
| Adults Living Below Poverty Line (per 10% increase) | | | 0.95 (0.88-1.02) |

Odds Ratio (95% Confidence Interval)

*P value *<0.05 **<0.001*

| | Model 3 | Model 4 | Model 5 |
|---|--------------------|--------------------|-------------------|
| Variance Neighborhood Level 2 (n=2403) | 0.157 | 0.152 | 0.149 |
| Variance Site Level 3 (n=29) | 0.118 | 0.129 | 0.123 |
| INDIVIDUAL LEVEL VARIABLES | | | |
| Age (Decades) | | | |
| Female | | | |
| Race/Ethnicity | | | |
| White | | | |
| Black | | | |
| Latino | | | |
| Other | | | |
| Unknown | | | |
| Witnessed Arrest | | | |
| Public Arrest | | | |
| NEIGHBORHOOD LEVEL VARIABLES | | | |
| Median Household Income (per \$10,000) | 1.06 (1.03-1.09)** | | |
| Median Household Income Category | | | |
| <\$25000 | | 0.80 (0.59-1.08) | 0.86 (0.63-1.17) |
| \$25001-\$40,000 | | 0.72 (0.60-0.87)** | 0.77 (0.64-0.93)* |
| \$40,001-\$50,000 | | 0.80 (0.69-0.93)* | 0.84 (0.72-0.98)* |
| \$50,001-\$65,000 | | 0.81 (0.71-0.94)* | 0.83 (0.72-0.98)* |
| >\$65,001 | | Ref | Ref |
| Racial Composition of Neighborhood | | | |
| >90% Black | | 0.80 (0.66-0.97)* | |
| Integrated | | Ref | |
| >90% White | | 1.18 (1.02-1.36)* | |
| Racial Composition of Neighborhood | | | |
| >80% Black | 0.75 (0.63-0.88)* | | 0.75 (0.63-0.88)* |
| Integrated | Ref | | Ref |
| >80% White | 1.18 (1.05-1.33)* | | 1.18 (1.05-1.33)* |
| SinglePerson Households (per 10% increase) | 1.00 (1.00-1.01) | 1.00 (1.00-1.01) | 0.99 (1.00-1.01) |
| Median Age of Census Tract | 0.99 (0.98-1.00) | 0.99 (0.98-0.99)* | 0.99 (0.98-1.00) |
| High School Diploma and Above (per 10% increase) | 1.07 (1.02-1.12)* | 1.07 (1.03-1.12)* | 1.07 (1.03-1.12)* |
| Adults Living Below Poverty Line (per 10% increase) | 0.97 (0.90-1.04) | 0.90 (0.82-0.98)* | 0.92 (0.84-1.00) |

Odds Ratio (95% Confidence Interval)

P value *<0.05 **<0.001

| | Model 6 | Model 7 | Model 8 |
|---|--------------------|--------------------|--------------------|
| Variance Neighborhood Level 2 (n=2403) | 0.12 | 0.124 | 0.123 |
| Variance Site Level 3 (n=29) | 0.14 | 0.126 | 0.122 |
| INDIVIDUAL LEVEL VARIABLES | | | |
| Age (Decades) | 0.94 (0.92-0.96)** | 0.94 (0.92-0.96)** | 0.94 (0.92-0.96)** |
| Female | 1.00 (0.92-1.09) | 1.01 (0.93-1.09) | 1.01 (0.93-1.09) |
| Race/Ethnicity | | | |
| White | Ref | Ref | Ref |
| Black | 0.73 (0.65-0.81)** | 0.76 (0.68-0.85)** | 0.79 (0.70-0.88)** |
| Latino | 0.72 (0.61-0.86)** | 0.78 (0.65-0.93)* | 0.78 (0.65-0.94)* |
| Other | 0.94 (0.74-1.25) | 0.96 (0.74-1.23) | 0.97 (0.76-1.25) |
| Unknown | 0.89 (0.81-0.99)* | 0.90 (0.79-1.02) | 0.91 (0.82-1.02) |
| Witnessed Arrest | 1.98 (1.83-2.14)** | 2.00 (1.85-2.17)** | 2.00 (1.85-2.17)** |
| Public Arrest | 1.72 (1.56-1.90)** | 1.69 (1.53-1.87)** | 1.69 (1.53-1.86)** |
| NEIGHBORHOOD LEVEL VARIABLES | | | |
| Median Household Income (per \$10,000) | | | |
| Median Household Income Category | | | |
| <\$25000 | 0.48 (0.41-0.56)** | | |
| \$25001-\$40,000 | 0.57 (0.50-0.65)** | | |
| \$40,001-\$50,000 | 0.74 (0.64-0.84)** | | |
| \$50,001-\$65,000 | 0.79 (0.69-0.90)** | | |
| >\$65,001 | Ref | | |
| Racial Composition of Neighborhood | | | |
| >90% Black | | 0.92 (0.76-1.13) | |
| Integrated | | Ref | |
| >90% White | | 1.18 (1.03-1.36)* | |
| Racial Composition of Neighborhood | | | |
| >80% Black | | | 0.87 (0.73-1.04) |
| Integrated | | | Ref |
| >80% White | | | 1.22 (1.09-1.36)* |
| SinglePerson Households (per 10% increase) | | 1.00 (1.00-1.01) | 1.00 (0.99-1.00) |
| Median Age of Census Tract | | 0.99 (0.98-1.00) | 0.99 (0.98-1.00) |
| High School Diploma and Above (per 10% increase) | | 1.08 (1.03-1.13)* | 1.06 (1.02-1.11)* |
| Adults Living Below Poverty Line (per 10% increase) | | 0.89 (0.83-0.95)* | 0.90 (0.84-0.96)* |

Odds Ratio (95% Confidence Interval)

P value *<0.05 **<0.001

| | Model 9 | Model 10 | Model 11 |
|---|--------------------|--------------------|--------------------|
| Variance Neighborhood Level 2 (n=2403) | 0.14 | 0.138 | 0.151 |
| Variance Site Level 3 (n=29) | 0.122 | 0.128 | 0.11 |
| INDIVIDUAL LEVEL VARIABLES | | | |
| Age (Decades) | 0.94 (0.92-0.96)** | 0.94 (0.92-0.96)** | 0.94 (0.92-0.96)** |
| Female | 1.00 (0.92-1.09) | 1.00 (0.92-1.09) | 1.00 (0.92-1.08) |
| Race/Ethnicity | | | |
| White | Ref | Ref | Ref |
| Black | 0.72 (0.65-0.81)** | 0.74 (0.66-0.82)** | 0.72 (0.64-0.80)** |
| Latino | 0.71 (0.60-0.85)** | 0.72 (0.60-0.86)** | 0.70 (0.59-0.84)** |
| Other | 0.94 (0.74-1.21) | 0.95 (0.74-1.23) | 0.94 (0.73-1.21) |
| Unknown | 0.90 (0.80-1.00) | 0.90 (0.81-1.00) | 0.89 (0.78-1.03) |
| Witnessed Arrest | 2.00 (1.84-2.16)** | 1.99 (1.84-2.16)** | 2.01 (1.85-2.17)** |
| Public Arrest | 1.69 (1.53-1.86)** | 1.70 (1.55-1.88)** | 1.69 (1.53-1.86)** |
| NEIGHBORHOOD LEVEL VARIABLES | | | |
| Median Household Income and Racial Composition | | | |
| \$50,000 & 90% Threshold | | | |
| <\$50,000 & >90% Black | 0.49 (0.39-0.61)** | | |
| <\$50,000 & Integrated | 0.62 (0.54-0.72)** | | |
| <\$50,000 & >90% White | 0.85 (0.65-1.10) | | |
| ≥\$50,000 & >90% Black | 0.69 (0.34-1.44) | | |
| ≥\$50,000 & Integrated | 0.87 (0.75-1.02) | | |
| ≥\$50,000 & >90% White | Ref | | |
| \$40,000 & 90% Threshold | | | |
| <\$40,000 & >90% Black | | 0.48 (0.39-0.60)** | |
| <\$40,000 & Integrated | | 0.59 (0.51-0.68)** | |
| <\$40,000 & >90% White | | 0.85 (0.56-1.30) | |
| ≥\$40,000 & >90% Black | | 0.87 (0.46-1.63) | |
| ≥\$40,000 & Integrated | | 0.84 (0.74-0.97)* | |
| ≥\$40,000 & >90% White | | Ref | |
| \$30,000 & 90% Threshold | | | |
| <\$30,000 & >90% Black | | | 0.50 (0.39-0.63)** |
| <\$30,000 & Integrated | | | 0.58 (0.49-0.68)** |
| <\$30,000 & >90% White | | | 1.36 (0.48-3.86) |
| ≥\$30,000 & >90% Black | | | 0.60 (0.41-0.86)** |
| ≥\$30,000 & Integrated | | | 0.78 (0.69-0.89)** |
| ≥\$30,000 & >90% White | | | Ref |

Odds Ratio (95% Confidence Interval)

P value *<0.05 **<0.001

| | Model 12 | Model 13 | Model 14 |
|---|--------------------|--------------------|--------------------|
| Variance Neighborhood Level 2 (n=2403) | 0.136 | 0.133 | 0.142 |
| Variance Site Level 3 (n=29) | 0.118 | 0.075 | 0.114 |
| INDIVIDUAL LEVEL VARIABLES | | | |
| Age (Decades) | 0.94 (0.92-0.96)** | 0.94 (0.92-0.96)** | 0.94 (0.92-0.96)** |
| Female | 1.00 (0.93-1.09) | 1.01 (0.93-1.09) | 1.00 (0.92-1.09) |
| Race/Ethnicity | | | |
| White | Ref | Ref | Ref |
| Black | 0.76 (0.68-0.85)** | 0.78 (0.70-0.87)** | 0.77 (0.68-0.86)** |
| Latino | 0.72 (0.60-0.86)** | 0.73 (0.61-0.87)* | 0.72 (0.60-0.87)* |
| Other | 0.97 (0.75-1.23) | 0.94 (0.74-1.21) | 0.97 (0.76-1.25) |
| Unknown | 0.90 (0.81-1.00) | 0.80 (0.72-0.89) | 0.90 (0.81-1.01) |
| Witnessed Arrest | 2.00 (1.85-2.16)** | 2.01 (1.85-2.17)** | 2.01 (1.85-2.17)** |
| Public Arrest | 1.69 (1.53-1.86)** | 1.70 (1.54-1.87)** | 1.69 (1.53-1.86)** |
| NEIGHBORHOOD LEVEL VARIABLES | | | |
| Median Household Income and Racial Composition | | | |
| \$50,000 & 80% Threshold | | | |
| <\$50,000 & >80% Black | 0.47 (0.39-0.56)** | | |
| <\$50,000 & Integrated | 0.63 (0.56-0.70)** | | |
| <\$50,000 & >80% White | 0.77 (0.66-0.91)* | | |
| ≥\$50,000 & >80% Black | 0.77 (0.67-0.90)* | | |
| ≥\$50,000 & Integrated | 0.71 (0.38-1.33) | | |
| ≥\$50,000 & >80% White | Ref | | |
| \$40,000 & 80% Threshold | | | |
| <\$40,000 & >80% Black | | 0.49 (0.41-0.58)** | |
| <\$40,000 & Integrated | | 0.62 (0.56-0.70)** | |
| <\$40,000 & >80% White | | 0.65 (0.51-0.82)** | |
| ≥\$40,000 & >80% Black | | 0.77 (0.68-0.86)** | |
| ≥\$40,000 & Integrated | | 1.03 (0.64-1.65) | |
| ≥\$40,000 & >80% White | | Ref | |
| \$30,000 & 80% Threshold | | | |
| <\$30,000 & >80% Black | | | 0.48 (0.39-0.58)** |
| <\$30,000 & Integrated | | | 0.60 (0.52-0.69)** |
| <\$30,000 & >80% White | | | 0.70 (0.45-1.10) |
| ≥\$30,000 & >80% Black | | | 0.59 (0.45-0.76)** |
| ≥\$30,000 & Integrated | | | 0.74 (0.67-0.81)** |
| ≥\$30,000 & >80% White | | | Ref |

Odds Ratio (95% Confidence Interval)

P value *<0.05 **<0.001

| | Model 15 | Model 16 |
|---|--------------------|--------------------|
| Variance Neighborhood Level 2 (n=2403) | 0.115 | 0.121 |
| Variance Site Level 3 (n=29) | 0.14 | 0.135 |
| <u>INDIVIDUAL LEVEL VARIABLES</u> | | |
| Age (Decades) | 0.94 (0.92-0.96)** | 0.94 (0.92-0.96)** |
| Female | 1.01 (0.93-1.09) | 1.00 (0.93-1.09) |
| Race/Ethnicity | | |
| White | Ref | Ref |
| Black | 0.75 (0.63-0.84)** | 0.76 (0.68-0.85)** |
| Latino | 0.77 (0.64-0.92)* | 0.76 (0.64-0.92)* |
| Other | 0.95 (0.74-1.22) | 0.95 (0.74-1.21) |
| Unknown | 0.91 (0.82-1.01) | 0.91 (0.82-1.01) |
| Witnessed Arrest | 1.99 (1.84-2.16)** | 1.99 (1.84-2.15)** |
| Public Arrest | 1.71 (1.55-1.88)** | 1.71 (1.55-1.88)** |
| <u>NEIGHBORHOOD LEVEL VARIABLES</u> | | |
| Median Household Income (per \$10,000) | | 1.07 (1.04-1.10)** |
| Median Household Income Category | | |
| <\$25000 | 0.80 (0.59-1.08) | |
| \$25001-\$40,000 | 0.73 (0.61-0.87)** | |
| \$40,001-\$50,000 | 0.81 (0.70-0.94)* | |
| \$50,001-\$65,000 | 0.82 (0.72-0.94)* | |
| >\$65,001 | Ref | |
| SinglePerson Households (per 10% increase) | 1.00 (0.99-1.01) | 1.00 (0.99-1.02) |
| Median Age of Census Tract | 0.99 (0.98-1.00) | 0.99 (0.98-1.00) |
| High School Diploma and Above (per 10% increase) | 1.05 (1.01-1.10)* | 1.05 (1.00-1.10)* |
| Adults Living Below Poverty Line (per 10% increase) | 0.88 (0.81-0.96)* | 0.93 (0.87-0.99)* |

Odds Ratio (95% Confidence Interval)

*P value *<0.05 **<0.001*

| | Model 17 | Model 18 | Model 19 |
|---|--------------------|--------------------|--------------------|
| Variance Neighborhood Level 2 (n=2403) | 0.122 | 0.123 | 0.121 |
| Variance Site Level 3 (n=29) | 0.131 | 0.131 | 0.125 |
| INDIVIDUAL LEVEL VARIABLES | | | |
| Age (Decades) | 0.94 (0.92-0.96)** | 0.94 (0.92-0.96)** | 0.94 (0.92-0.96)** |
| Female | 1.01 (0.93-1.09) | 1.01 (0.93-1.09) | 1.01 (0.93-1.09) |
| Race/Ethnicity | | | |
| White | Ref | Ref | Ref |
| Black | 0.77 (0.68-0.86)** | 0.76 (0.68-0.85)** | 0.76 (0.68-0.85)** |
| Latino | 0.78 (0.65-0.93)* | 0.78 (0.65-0.93)* | 0.78 (0.65-0.93)* |
| Other | 0.96 (0.74-1.23) | 0.96 (0.75-1.23) | 0.95 (0.74-1.22) |
| Unknown | 0.91 (0.82-1.02) | 0.91 (0.81-1.02) | 0.91 (0.80-1.03) |
| Witnessed Arrest | 1.99 (1.84-2.16)** | 2.00 (1.84-2.16)** | 2.00 (1.85-2.16)** |
| Public Arrest | 1.70 (1.54-1.88)** | 1.70 (1.54-1.88)** | 1.69 (1.53-1.87)** |
| NEIGHBORHOOD LEVEL VARIABLES | | | |
| SinglePerson Households (per 10% increase) | 1.00 (0.99-1.00) | 1.00 (0.99-1.00) | 1.00 (0.99-1.00) |
| Median Age of Census Tract | 0.99 (0.98-1.00) | 0.99 (0.98-1.00) | 0.99 (0.98-1.00) |
| High School Diploma and Above (per 10% increase) | 1.06 (1.00-1.11)* | 1.06 (1.02-1.11)* | 1.08 (1.03-1.13)* |
| Adults Living Below Poverty Line (per 10% increase) | 0.90 (0.84-0.96)* | 0.91 (0.85-0.98)* | 0.86 (0.79-0.93)* |
| Median Household Income and Racial Composition | | | |
| \$50,000 & 90% Threshold | | | |
| <\$50,000 & >90% Black | 0.71 (0.55-0.92)* | | |
| <\$50,000 & Integrated | 0.76 (0.64-0.91)* | | |
| <\$50,000 & >90% White | 0.91 (0.70-1.18) | | |
| ≥\$50,000 & >90% Black | 0.73 (0.36-1.50) | | |
| ≥\$50,000 & Integrated | 0.87 (0.74-1.02) | | |
| ≥\$50,000 & >90% White | Ref | | |
| \$40,000 & 90% Threshold | | | |
| <\$40,000 & >90% Black | | 0.69 (0.53-0.90)* | |
| <\$40,000 & Integrated | | 0.75 (0.62-0.90)* | |
| <\$40,000 & >90% White | | 0.92 (0.60-1.40) | |
| ≥\$40,000 & >90% Black | | 0.87 (0.46-1.63) | |
| ≥\$40,000 & Integrated | | 0.91 (0.49-1.69) | |
| ≥\$40,000 & >90% White | | Ref | |
| \$30,000 & 90% Threshold | | | |
| <\$30,000 & >90% Black | | | 0.89 (0.66-1.20) |
| <\$30,000 & Integrated | | | 0.95 (0.77-1.19) |
| <\$30,000 & >90% White | | | 1.69 (0.55-5.22) |
| ≥\$30,000 & >90% Black | | | 0.75 (0.52-1.08) |
| ≥\$30,000 & Integrated | | | 0.85 (0.74-0.98) |
| ≥\$30,000 & >90% White | | | Ref |

Odds Ratio (95% Confidence Interval)

P value *<0.05 **<0.001

| | Model 20 | Model 21 | Model 22 |
|---|--------------------|--------------------|--------------------|
| Variance Neighborhood Level 2 (n=2403) | 0.121 | 0.12 | 0.12 |
| Variance Site Level 3 (n=29) | 0.125 | 0.129 | 0.122 |
| INDIVIDUAL LEVEL VARIABLES | | | |
| Age (Decades) | 0.94 (0.92-0.96)** | 0.94 (0.92-0.96)** | 0.94 (0.92-0.96)** |
| Female | 1.01 (0.93-1.09) | 1.01 (0.93-1.09) | 1.01 (0.93-1.09) |
| Race/Ethnicity | | | |
| White | Ref | Ref | Ref |
| Black | 0.78 (0.70-0.88)** | 0.78 (0.70-0.88)** | 0.78 (0.70-0.88)** |
| Latino | 0.78 (0.65-0.93)* | 0.78 (0.65-0.93)* | 0.78 (0.65-0.93)* |
| Other | 0.97 (0.75-1.25) | 0.97 (0.76-1.25) | 0.97 (0.75-1.25) |
| Unknown | 0.92 (0.82-1.02) | 0.92 (0.82-1.02) | 0.92 (0.82-1.03) |
| Witnessed Arrest | 2.00 (1.85-2.16)** | 2.00 (1.84-2.16)** | 2.00 (1.85-2.17)** |
| Public Arrest | 1.70 (1.54-1.87)** | 1.70 (1.54-1.87)** | 1.69 (1.53-1.86)** |
| NEIGHBORHOOD LEVEL VARIABLES | | | |
| SinglePerson Households (per 10% increase) | 1.00 (0.99-1.00) | 1.00 (0.99-1.00) | 1.00 (0.99-1.00) |
| Median Age of Census Tract | 0.99 (0.98-1.00) | 0.99 (0.98-1.00) | 0.99 (0.98-1.00) |
| High School Diploma and Above (per 10% increase) | 1.06 (1.01-1.11)* | 1.06 (1.01-1.11)* | 1.07 (1.02-1.11)* |
| Adults Living Below Poverty Line (per 10% increase) | 0.90 (0.84-0.97)* | 0.92 (0.86-0.99)* | 0.87 (0.80-0.95)* |
| Median Household Income and Racial Composition | | | |
| \$50,000 & 80% Threshold | | | |
| <\$50,000 & >80% Black | 0.66 (0.53-0.83)** | | |
| <\$50,000 & Integrated | 0.77 (0.66-0.89)** | | |
| <\$50,000 & >80% White | 0.84 (0.71-0.99)* | | |
| ≥\$50,000 & >80% Black | 0.79 (0.68-0.91)* | | |
| ≥\$50,000 & Integrated | 0.74 (0.40-1.38) | | |
| ≥\$50,000 & >80% White | Ref | | |
| \$40,000 & 80% Threshold | | | |
| <\$40,000 & >80% Black | | 0.62 (0.50-0.78)** | |
| <\$40,000 & Integrated | | 0.75 (0.64-0.88)* | |
| <\$40,000 & >80% White | | 0.74 (0.58-0.95)* | |
| ≥\$40,000 & >80% Black | | 0.79 (0.70-0.89)** | |
| ≥\$40,000 & Integrated | | 1.01 (0.63-1.61) | |
| ≥\$40,000 & >80% White | | Ref | |
| \$30,000 & 80% Threshold | | | |
| <\$30,000 & >80% Black | | | 0.80 (0.61-1.04) |
| <\$30,000 & Integrated | | | 0.92 (0.75-1.14) |
| <\$30,000 & >80% White | | | 0.90 (0.57-1.44) |
| ≥\$30,000 & >80% Black | | | 0.71 (0.54-0.93)* |
| ≥\$30,000 & Integrated | | | 0.82 (0.73-0.92)* |
| ≥\$30,000 & >80% White | | | Ref |

Odds Ratio (95% Confidence Interval)

P value *<0.05 **<0.001

Supplementary Appendix Table 3S: Predicted probability of receiving bystander-initiated cardiopulmonary resuscitation (CPR) stratified by neighborhood income and race or ethnic background, according to type of arrest.

| | Observed Proportion of Patients with Bystander- Initiated CPR | Predicted Probability of Receiving Bystander- Initiated CPR | 95% Confidence Interval |
|--|--|--|--|
| <u>Private Unwitnessed Arrest</u> | | | |
| <\$40,000 & >80% Black | 0.14 | 0.13 | (0.08-0.26) |
| <\$40,000 & Integrated | 0.19 | 0.19 | (0.08-0.37) |
| <\$40,000 & >80% White | 0.16 | 0.20 | (0.11-0.36) |
| ≥\$40,000 & >80% Black | 0.19 | 0.20 | (0.13-0.34) |
| ≥\$40,000 & Integrated | 0.23 | 0.22 | (0.10-0.45) |
| ≥\$40,000 & >80% White | 0.27 | 0.27 | (0.12-0.53) |
| <u>Private Witnessed Arrest</u> | | | |
| <\$40,000 & >80% Black | 0.21 | 0.22 | (0.13-0.36) |
| <\$40,000 & Integrated | 0.30 | 0.30 | (0.17-0.51) |
| <\$40,000 & >80% White | 0.30 | 0.32 | (0.20-0.50) |
| ≥\$40,000 & >80% Black | 0.40 | 0.35 | (0.27-0.49) |
| ≥\$40,000 & Integrated | 0.33 | 0.35 | (0.16-0.60) |
| ≥\$40,000 & >80% White | 0.41 | 0.42 | (0.23-0.70) |
| <u>Public Unwitnessed Arrest</u> | | | |
| <\$40,000 & >80% Black | 0.15 | 0.20 | (0.14-0.31) |
| <\$40,000 & Integrated | 0.24 | 0.28 | (0.15-0.52) |
| <\$40,000 & >80% White | 0.41 | 0.30 | (0.19-0.50) |
| ≥\$40,000 & >80% Black | 0 | N/A | N/A |
| ≥\$40,000 & Integrated | 0.25 | 0.31 | (0.16-0.50) |
| ≥\$40,000 & >80% White | 0.38 | 0.38 | (0.25-0.58) |
| <u>Public Witnessed Arrest</u> | | | |
| <\$40,000 & >80% Black | 0.33 | 0.34 | (0.25-0.50) |
| <\$40,000 & Integrated | 0.44 | 0.43 | (0.23-0.63) |
| <\$40,000 & >80% White | 0.62 | 0.48 | (0.31-0.66) |
| ≥\$40,000 & >80% Black | 0.38 | 0.45 | (0.35-0.61) |
| ≥\$40,000 & Integrated | 0.52 | 0.49 | (0.26-0.70) |
| ≥\$40,000 & >80% White | 0.59 | 0.55 | (0.36-0.76) |

N/A, not applicable

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