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State-Level CPR Education Legislation Associated With Higher Survival After Out-Of-Hospital Cardiac Arrest in Older Adults

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State-Level CPR Education Legislation Associated With Higher Survival After Out-Of-Hospital Cardiac Arrest in Older Adults

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Introduction: State-level legislation requiring CPR education prior to high school graduation is associated with an increased likelihood of community-level CPR training. CPR Legislation has also been shown to be associated with increased bystander CPR. We hypothesized that states with CPR Legislation would be associated with higher survival following out-of-hospital cardiac arrest (OHCA).

Methods: Utilizing 2014 Medicare Claims data for emergency department visits and inpatient stays, we identified OHCA via ICD-9-CM code. CPR Legislation data was collected through online statute review. Exposure to CPR Legislation was assessed using the patient state of residence. All disposition categories were considered survival to discharge except for death/hospice. Associations between categorical variables were assessed by chi-squared test. Multiple logistic regression was used to calculate the odds ratio associated with OHCA survival and CPR Legislation, controlling for patient age and sex.

Results: States that passed CPR Legislation in 2013 had the highest survival compared to states with earlier passage or no CPR Legislation (22.2% vs 20.6% vs. 21.8%, respectively, $p < 0.001$). Results of the multiple logistic regression showed CPR Legislation passed in 2013 was associated with a 12% increase in the odds of survival

to discharge compared to states with CPR Legislation prior to 2013 (OR: 1.12, p <0.001).

Discussion: States with CPR Legislation passed in 2013 were associated with higher survival to discharge and discharge to home, compared to earlier adopters and states with no legislation. Further work is needed to assess the mechanisms underlying this relationship.