

POSTER 042. Response Level Determinants Derived from 9-1-1 Callers Versus On-Scene Paramedics

Brett A. Patterson, NREMT-P*

CareLine of Florida, Largo, Florida USA

Hypothesis: Response determinant level selection by properly trained emergency medical dispatchers after 9-1-1, second-party caller interrogation, are accurate as compared to response determinants derived from the same interrogation sequence of the first-arriving paramedic after personal patient contact.

Methods: Certified emergency medical dispatchers used the Advanced Medical Priority Dispatch System™ to interrogate 9-1-1 callers and assign response determinants to 9-1-1 calls received. The first-arriving paramedics then were interrogated retrospectively using the same interrogation sequence. Field providers were blinded to the response determinants selected by the dispatchers and responded with lights and sirens to all calls. Real-time quality control audits were performed on all interrogations to ensure protocol compliance. The response determinants selected by the original dispatchers then were compared to determinants derived from interrogation of the on-scene paramedics.

Results: Results are illustrated below:

| | <u>Match</u> | <u>Over-Triage</u> | <u>Under-Triage</u> |
|---------|--------------|--------------------|---------------------|
| Volume | 292 | 158 | 22 |
| Percent | 0.617 | 0.336 | 0.047 |

Conclusion: The study results tend to support the use of the priority dispatch reference system to assign response modes, as 0.953 percent of cases were either matched or over-triaged. This assumes that the response levels assigned to the response determinants are appropriate for the patient conditions found on-scene. With regard to resource allocation, an over-triage rate of 0.336 appears conservative and certainly errs on the side of the patient.

POSTER 056. Predicting Survival for Out-of-Hospital Cardiac Arrests

Daniel J. Lindholm, NREMT-P,* Jack P. Campbell, MD, FACEP

Division of EMS, Department of Health, Kansas City, Missouri USA

Purpose: To determine the effect of a return of spontaneous circulation (ROSC) on survival to hospital discharge as compared to other established survival predictors.

Methods: A retrospective case review of all adult out-of-hospital primary cardiac arrests from 1/1/92 to 12/31/94. Survival predictors of age, race, gender, presenting cardiac rhythm, witnessed event, bystander CPR, response intervals, and ROSC were examined from an Utstein template database. Return of spontaneous circulation was defined as ROSC prior to and present on emergency department arrival. Predictors were evaluated for statistical significance using a logistic regression analysis ($p < 0.05$). Odds ratios (OR) and 99% confidence intervals (CI) with positive and negative predictive values (PPV, NPV) were presented.

Results: Of 832 primary cardiac arrest cases, 153 (18.4%) had ROSC as defined and 67 (8.1%) survived to hospital discharge. In comparing survivors to nonsurvivors, the mean age was 64 to 67 years, with 59.7% to 36.1% being witnessed, 35.8% to 23.9% having bystander CPR, 88.1% to 48.4% having ventricular fibrillation (V-fib) and 82.1% to 64.0% having ROSC. Logistic regression analysis revealed V-fib and ROSC to be significant ($p = 0.009$ [OR 2.2, CI 1.2–3.9]; $p < 0.0001$ [OR 5.2, CI 3.6–7.5], respectively). Positive predictive values were 13.8% V-fib and 35.9% ROSC. Negative predictive values were 98.0% V-fib, and 98.2% ROSC.

Conclusion: Presenting V-fib and out-of-hospital ROSC are significant predictors of cardiac arrest survival. Failure to obtain ROSC in the out-of-hospital setting strongly suggests consideration for terminating resuscitation efforts.