

POSTER 509

Automatic External Defibrillators: Are They Cost-Effective in Improving Survival from Out-Of-Hospital Cardiac Arrest in Rural Emergency Medical Service Systems?

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Purpose: To determine if Automatic External Defibrillators (AEDs) are a cost-effective means of improving survival from out-of-hospital cardiac arrests in rural compared with urban Emergency Medical Services (EMS) systems.

Methods: Retrospective record review of all adult, non-traumatic, cardiac arrest victims who had an AED utilized on them over a three-year period in rural and urban areas of Arizona.

Measurements and Main Results: Two groups of adult patients (29 urban and 83 rural) in non-traumatic cardiac arrest were studied. The two groups of patients were similar in age and gender distribution. Survival to admission was correlated significantly with location at the $\alpha = 0.05$ level: 10.26% survival in rural counties, 31.82% in urban counties. Estimated time-to-CPR, time-to-EMT-D arrival, and initial rhythm also were significantly different between urban and rural locations. There were more witnessed arrests than expected in the rural group (70% vs. 63% for urban patients) and a low rate of bystander CPR (22% vs. 44% for urban patients). Utilizing economic sensitivity analysis, the cost/year-of-life potentially saved by the AED program was estimated at [US]\$1,185 for rural and \$452 for urban systems.

Conclusions: AEDs in rural settings result in lower survival rates to hospital admission and higher costs than such devices in urban settings. Further study needs to be undertaken in rural communities before recommending these devices over other interventions such as dispatcher-assisted CPR for the treatment of out-of-hospital cardiac arrest.

POSTER 511

Resident Perspectives of EMS as a Sub-Specialty

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Purpose: Emergency medical services (EMS) frequently is considered to be a sub-specialty of emergency medicine despite the unavailability of sub-specialty certification. An assessment of future interest in EMS sub-specialization and the perceived educational needs of potential EMS physicians was performed in order to provide data useful to leaders responsible for development of this sub-specialty of EMS.

Methods: A survey concerning EMS sub-specialization issues was distributed to 2,464 members of EMRA (Emergency Medicine Residents Association). Questions addressed interest in EMS, demographics, educational needs, and desired credentials. The response rate was 30% ($n = 737$). All surveys were collated and the data analyzed.

Main Results: A moderate to very high interest in EMS medical direction was expressed by 84% of respondents, with 14% interested in full-time EMS positions. Almost 89% felt that EMS physicians should have special preparation prior to participation. Less than half (44%) felt that an emergency medicine residency provided sufficient preparation for a significant role in EMS. Interest in EMS fellowships (24%) would increase to 36% if sub-specialty certification was available. If sub-specialty certification became available, 37% felt it should be required of all EMS Medical Directors.

Conclusions: Emergency medicine residents have an overwhelming interest in active participation in EMS on either a part-time or full-time basis. Most respondents feel EMS is a unique area requiring focused education beyond an emergency medicine residency. Interest in EMS fellowships would increase dramatically if sub-specialty certification was available.