Deployment of Automated External Defibrillators (AEDs) in the District of Dachau: A Strategy to Obtain Coverage of a Whole Rescue Service Area by Using Existing Local Resources

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Sudden cardiac arrest is one of the most common causes of death in industrial countries. Ventricular fibrillation (VF) has been identified as a positive predictor for survival in cardiac arrests. The aim is to provide rapid response defibrillation for out-of-hospital, cardiac arrests to reach more patients still in VF and thus increase survival in these patients.

In a mostly rural area such as the district of Dachau, with an area of 579 square kilometers, the emergency medical service (EMS) often must travel too far to be on-site in time to reach the patient still in VF. The EMS operates from four rescue stations with ambulances and two emergency doctor vehicles around the clock provided by the Bavarian Red Cross. In addition, five first-responder units have been installed by the Bavarian Red Cross and one has been installed by the Technische Hilfswerk (THW) to close the gaps between the rescue stations.

A system of first responders with automated external defibrillators (AEDs) covering the whole district is being established by using existing local resources to cover the time until arrival of the EMS. Therefore, 20 AEDs have been provided with the financial help of two major banks of Dachau, and have been deployed at 20 sporting clubs, thereby covering a great part of the district. More than 500 volunteers in these sporting clubs are being trained in resuscitation and defibrillation with the AED. These volunteers then will provide rapid response defibrillation at all sporting events and many cultural events in the district.

In a next step, these first responders also could be sent to a cardiac arrest in their neighborhood to cover the time until the arrival of the EMS. The problem of alarming the nearest first responder has yet to be solved. The easiest way seems be an alarm by the rescue coordination center (RCC) that also deploys and coordinates the EMS vehicles. Attaching prepaid mobile phones to the AEDs seems to be a simple and cheap possibility for establishing this. To ensure the function of all these first responders, training must be carried out once a year at each one of these sporting clubs, which requires great resources in personnel.

This system is a good addition to the professional provision of defibrillation by the EMS because it is much cheaper and still ensures almost complete coverage of the district. Moreover, there seems to be unlimited numbers of motivated responders.

Keywords: automatic external defibrillator (AED); emergency medical services; first responders; on-site; response; time; volunteers
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Community-based, Emergency Cardiac Care Chain-of-Survival: A Novel Delivery Approach

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It is well-known that the time to defibrillation is related directly to survival rates from cardiopulmonary arrest. More specifically, ventricular fibrillation must be treated immediately. Data suggest that for every minute of untreated ventricular fibrillation, the chance for conversion and return to spontaneous circulation decreases by 10%.

A fully functional model program operating in Kettering, Ohio is described. This novel approach recognizes system delivery limitations and has taken the "community responder approach." The community responder approach enables the delivery of emergency defibrillation to any area in the mid-sized community of 60,000 people within two minutes.

This program can serve as a model to other communities, both large and small, as they attempt to increase the survival rates of out-of-hospital arrest.

Keywords: cardiopulmonary arrest; communities; community responder; defibrillation; Ohio
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Free Papers Theme 11: Education-1 Nursing

Emergency Preparedness Curricula Nursing Schools in the United States

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Introduction: The terrorist attacks on the United States (US) on 11 September 2001 (9/11) attracted attention to potential inadequacies in the abilities of the US healthcare system to respond to mass-casualty events. Nursing leaders began to question the preparedness of the 2.7 million nurses in the US by the organization of the International Nursing Coalition for Mass-Casualty Education (INCMCE). It became important to examine emergency preparedness curricula for nursing prior to the events of 9/11, as well as following the event, in order to plan strategically to address the educational needs for nurses in the United States. This study sought to determine the type and level of disaster preparedness curricula delivered or in development at all levels of nursing educational programs in the US.

Methods: The INCMCE worked in collaboration with the National League for Nursing (NLN) to survey 2,013 deans or directors of nursing schools about their curriculum for emergency preparedness prior to 9/11, and during the following academic years. Initial requests were sent via e-mail and the US Postal Service. Respondents were invited to answer the on-line survey so that the data could be entered directly into a database.

Results: Overwhelmingly, the 378 respondents selected curriculum plans (79.4%) as being of the greatest help, with competency lists (54.5%) selected as the next most useful.