Conclusion: The results of the resuscitation data recorded over three years are similar to the results from other studies. In this analysis, VF and witnessed cardiac arrest appear to be independent predictors for survival (as in other studies). The results suggest that future efforts to improve survival in out-of-hospital, cardiac arrest also should focus on these predictors (e.g., deployment of automated external defibrillators (AEDs)/ public access defibrillators (PADs) to reach more patients while still in VF).

Keywords: 30-day survival; cardiac arrest; out-of-hospital; resuscitation; ventricular fibrillation
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Implementation of Automated External Defibrillation (AED) within the Belgian Prehospital Emergency Medical Services System

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Introduction: In Belgium, about 10,000 people die due to cardiac arrest every year. Ventricular fibrillation (VF) and pulseless ventricular tachycardia (Pulseless VT) are the most frequently witnessed, initial rhythms documented in a cardiac arrest. Defibrillation is the most effective treatment for VF/Pulseless VT. It is an intervention with time-limited success. The probability of successful defibrillation with return of spontaneous circulation decreases about 7–10% for every minute defibrillation is delayed after onset, and VF tends to convert to asystole within a few minutes if left untreated.

Methods: In 2003, the government questioned all prehospital emergency medical services. With this inquiry, the number and type of Automated External Defibrillators (AEDs) in use, their frequency of application, and the percentage of ambulance personnel familiar with the use of AEDs was identifed.

From 2003–2004, instructor sessions (European Resuscitaion Council guidelines) were organized to implement uniform AED-use. A total of 160 instructors were used. The purpose was to educate 9,000 ambulance workers involved in the EMS system using a pyramid system of teaching. Practical problems were discussed, such as uniformity and compatibility of AED devices and the use of mannequins and training equipment for education. The total cost of equipping the ambulances with AEDs is estimated at 908,333 euro (1.178 million USD).

Results: AEDs record the rhythm pattern during cardiac arrest; feedback information allows analysis of the intervention performed by EMS personnel, so the cardiologist possesses an elementary document for the patient's medical file. Registration (Utstein) is a good indicator for measuring the quality of an EMS system. The implementation of the use of AEDs by EMS requires adjustment of current legislation, which refers to the use of manual defibrillators as a delegated medical act.

Conclusion: The chain of survival represents the best approach to the treatment of a cardiac arrest involving: (1) early access (100-112) to EMS system; (2) early bystander resuscitation; (3) early defibrillation; and (4) advanced cardiac life support by medical intervention team. A training program in AED was necessary for the permanent education of EMS personnel.

Keywords: access; automated external defibrillation (AED); Belgium; education; emergency medical services (EMS); legislation; training; Utstein guidelines
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Free Papers Theme 4: Education-1 Educational Courses

Development of Prehospital Emergency Health Curriculum Based on a Themes Approach

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The curriculum models for the new Bachelor of Emergency Health and Graduate Diploma in Emergency Health (MICA) have been influenced by the new Monash University five-year medical curriculum, adapted to the particular practice context of the ambulance paramedic, and expanded to five themes.

The course framework utilizes a number of well-known models to structure each theme. However, in the absence of a paramedic model of professionalism, this course draws heavily on the model of the "Interactive Professional" developed by Higgs and Hunt for undergraduate physiotherapy at the University of Sydney. This model of professionalism has been transferred and contextualized to the practice domain of the ambulance paramedic.

The model particularly focuses on the factors interacting with the beginning practitioner. These factors serve to define the basis for the statement by Higgs and Hunt that professionals of the future are required to "operate effectively within changing local and global context...[and be] situational leaders and managers, competent to deal with changes, challenges and contingencies through the employment of creative, relevant, valid and effective strategies of intervention, development and evaluation."

The themes approach recognizes that a paramedic is primarily a clinical professional who requires knowledge of healthcare and emergency care systems, human development, and common health events. A paramedic is expected to provide clinical, community-based care for acute and emergency conditions for people of all ages, and the profession requires expertise in health transport. A paramedic also is required to respond to mass-casualty incidents in a range of settings within a multidisciplinary emergency healthcare system. This curriculum addresses these relevant attributes and prepares the student for practice within this environment.

Keywords: ambulance; approach; curriculum; health; paramedic; themes; training; transport
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