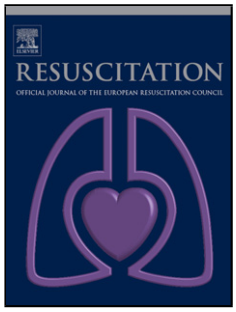

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Editorial for Resuscitation

50 years of prehospital resuscitation: Reflection and celebration

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New data on the epidemiology of myocardial infarction published in 1963 showed that approximately 60% of deaths occur in the first hour after the onset of symptoms.[1] This led Pantridge and Geddes to introduce medically-staffed coronary ambulances that brought care to patients earlier in the course of the illness than was otherwise possible at the time.[2] Over 15 months, ten patients suffered cardiac arrest before or during transit, of whom five survived. The era of prehospital resuscitation had started. We are now at the 50th anniversary of their landmark paper that recorded this achievement. Anniversaries are times to celebrate as well as to reflect.

The Belfast programme was a catalyst for a revolution in pre-hospital emergency care. Pantridge visited the United States by invitation, and within a short while clones of the mobile intensive care unit appeared in New York City started by Grace and Chadbourn out of St Vincent Hospital[3] and in Charlottesville, North Carolina by Crampton.[4] In 1969, Nagle in Miami introduced ambulances staffed by specially trained ambulance personnel replacing physicians (later called paramedics)[5] and this development was quickly followed by similar schemes led by Cobb in Seattle[4], Criley in Los Angeles[6], Rose in Portland[4] Oregon, and Warren in Columbus Ohio.[4] Passing responsibility for advanced ambulance care away from physicians was a development whose time had come. In the United Kingdom, Baskett saw the need for effective pain relief before hospital admission and introduced Entonox, a mixture of nitrous oxide and oxygen, for ambulance use in 1969.[7] Two years later, in Brighton, extended training of crews permitted defibrillation, intubation, and the intravenous administration of four resuscitation drugs.[8] Several years were to pass before this became common in other parts of Britain whilst in most of Europe even defibrillation was restricted to physicians for many more years. Today, prehospital mobile intensive care is extant throughout virtually all resource-rich nations. While there are many variations on the original model it is as much an expectation of life in contemporary society as police and fire services.

Reflecting on five decades of resuscitation reveals a mixture of promise and challenge. The promise lies in the advances in resuscitation science and the ability to train people in the skills of resuscitation. The challenge lies in achieving widespread implementation of successful programs. Despite the occasional high-performing community, overall survival rates are low and widespread disparity exists. It is a regrettable reality that *where* you collapse from sudden death is a major determinant of whether you can live again.

Sudden cardiac arrest is unique among the many modes of death. Most diseases progress slowly with ample opportunity for interventions designed to cure or ameliorate their course. Ventricular fibrillation and other malignant arrhythmias have a rapid and inexorable progression to biological death over an interval as short as 10 minutes. Complex interventions must occur within that time-frame, including some or all of the following: prompt action of bystanders including calling Emergency Services (EMS), recognition of possible cardiac arrest by the dispatcher, delivery of telephone CPR instructions, bystander CPR, retrieval of an automated external defibrillator, arrival of EMS personnel, performance of high-