greater involvement of outflow and inflow tracts compared with RV apex and evidenced a lesser involvement of septal wall compared with free wall. In all patients concordance was noted between EA mapping results and non-invasive morphological-functional RV evaluation.

**Conclusions:** voltage mapping appears to be a promising method to study ARVC.

### 14.4 THE CHANGING LANDSCAPE OF VENTRICULAR FIBRILLATION IN CARDIAC ARREST

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**Objective:** To define the apparent changes in ventricular fibrillation (VF) as cause of out-of-hospital cardiac arrest (OHCA).

**Methods:** Retrospective analysis of prospectively acquired observational data of OHCA in a population-controlled setting with a single emergency medical service (EMS) system between 1991-2004.

**Results:** In the study period there were 338 observed arrests, with 203 (57%) in homes, 85 (24%) in public locations, and 69 (19%) in other locations (hotels, nursing homes). VF incidence during 1991-1997 was 24/100 000/person-y and during 1998-2004 it was 11/100 000/person-y (p<0.001). During 1991-1997, 61/110 (55%) of arrests in homes were in VF and from 1998-2004, 32/93 (34%) were in VF (p=0.003). During 1991-1997 48/51 (94%) of arrests in public places were in VF and from 1998-2004 22/34 (64%) were in VF (p<0.001).

**Conclusion:** VF as the cause of OHCA declined dramatically in both home and public settings, both in absolute numbers and in percentage of initial rhythm. This decreased incidence has obvious implications for potential cost-effective and therapeutic benefit from placement of automated external defibrillators.

### 14.5 TWO YEARS OF EXPERIENCE IN AN EARLY DEFIBRILLATION PROJECT

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Early defibrillation projects have shown their efficacy increasing survival in cases of sudden death. In Fano in 2002 we established “Un Cuore che Rinasce – Città di Fano” (UCR) an early defibrillation project based on first-responder volunteers using semi-automatic external defibrillator (AED). 14 mobile positions were located in police, city police, carabinieri, Italian Red Cross volunteers’ vehicles. 5 AED were placed in bathing establishments during summer and schools during winter. 310 lay volunteers were trained in AED use.

Territorial network of AED is activated by local Emergency Medical System (EMS). During the first 24 months AED was applied in 31 cases. The first cardiac rhythm analysis shows: 9 asystole, 7 pulseless electrical activity (PEA), 11 ventricular fibrillation, 1 ventricular tachycardia, 3 others. 12 “shockable” rhythms were treated with AED, 6 successfully, 6 unsuccessfully. 6 patients were resuscitated using AED, 5 of them were admitted in hospital, 1 died in the ambulance. Of the 5 patients admitted: 3 were discharged from the hospital, 1 of them with severe neurological damage; 2 patients died in hospital.

### 14.6 THE RESUSCITATION OUTCOMES CONSORTIUM (ROC): PURPOSE, PROGRESS & POTENTIAL

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The ROC consists of 10 regional centers in the USA and Canada, funded primarily by NIH for the purpose of conducting definitive trials of resuscitation strategies/therapies for out-of-hospital cardiac arrest and life-threatening trauma. During the 1st year of funding the organizational infrastructure has been maturing (including processes for measuring CPR components) and several protocols developed, including a combined study of hypertonic saline for trauma populations (hypovolemic shock and traumatic brain injury), a study of the Impedence Threshold Device for cardiac arrest patients, and a registry of all serious emergent medical out-of-hospital events. Over the initial 5 years of funding, we estimate the ROC has the potential to improve survival following out-of-hospital cardiac arrest from 5% to 10% and to reduce morbidity and mortality following trauma by 10 to 25%.