**Extract from ESC publication for annual conference 2014**

**Topic area**
Innovations in the management of sudden cardiac death

**SPOTLIGHT**
The FirstAED project - incorporates emergency dispatch, global positioning system technology, first responders with distinct roles, smartphones and an automatic external defibrillator network
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**Purpose**
FirstAED is meant as a supplement to the existing emergency response systems. The purpose is to shorten the first responder response times at emergency calls to below 5 minutes on an island characterized by 13,000 inhabitants, long ambulance response times, and long distances to the nearest hospitals. The FirstAED project defines a new way to dispatch the nearby first responders and organize their roles in the hope of reducing response times and improving survival rates.

**Methods**
First aid and cardiopulmonary resuscitation is provided by 215 trained volunteer first responders who use their rescuer smartphone. The population purchased 95 automated external defibrillators (AEDs) which are available around the clock and placed less than two kilometres apart. FirstAED is an auxiliary to the public services and it enables the emergency dispatcher to send an organized team of first responders with distinct roles to the scene. FirstAED global positioning system (GPS)-track the nearby first responders who can choose to accept or reject the alarm. FirstAED chooses the 3 most optimally located first responders who have accepted the alarm. FirstAED organizes the three first responders in a team with distinct roles: no. 1 reaches the patient to give first aid/cardiopulmonary resuscitation; no. 2 brings the AED; and no. 3 is the onsite coordinator.

**Results**
In April 2012 the FirstAED system was implemented. During the first 22 months the FirstAED alarm system was used 759 times. Three first responders arrived in 90% and two first responders in 6.5% of the cases, they arrived before the ambulance in 95% of the cases. FirstAED entailed a significant reduction in first responder median response time from more than 8 minutes before to 4 minutes 9 seconds after. The first responder was on site in less than 5 minutes in more than 60% of the cases. The AED was on site within a median time of 5 minutes and 58 seconds. During the first 22 months, the first responders were involved in 9 cardiac arrests (3 patients survived), 3 hangings (1 patient survived), 6 patients with serious respiratory arrest (5 patients survived), 2 patients with decompression sickness (both survived) and 1 patient with subarachnoid hemorrhage and respiratory arrest (the patient survived).

**Conclusions**
GPS-tracking reduces the response times, and the quality of the effort improves as all the first responders who accept the FirstAED alarm have distinct roles.