An Italian law requiring citizens to hold a certificate to use a defibrillator must change to improve survival from cardiac arrest, researchers argued today at Acute Cardiovascular Care 2018, a European Society of Cardiology congress.

"Automated external defibrillator (AED) use before the arrival of the emergency medical services (EMS) plays a key role in improving victim survival from out-of-hospital cardiac arrest," said lead author Dr Enrico Baldi, resident physician in cardiology at IRCCS Policlinico San Matteo, Pavia, Italy.

The study included two separate analyses - the first to assess how many times AEDs are used when people have an out-of-hospital cardiac arrest witnessed by a bystander in Pavia Province and the second to assess the impact on survival of the use of AEDs by a layperson before the arrival of the EMS.

The study used the Pavia Cardiac Arrest Registry (Pavia CARE), which was set up in October 2014 and enrolls all out-of-hospital cardiac arrest patients in the province. All patients enrolled in the Registry up to March 2017 were included, with the exception of those whose cardiac arrest was witnessed by EMS.

The researchers calculated the rate of AED use before EMS arrival in the patients whose cardiac arrest was witnessed by a layperson and whose first heart rhythm was shockable. An AED was used by a layperson in just 9 out of 140 patients (6.4%).

"This is an extremely low rate of AED use," said Dr Baldi. "In countries where the 'Good Samaritan' law is in place and all citizens can use an AED, the rate of AED use before EMS arrival is around 15-20%."