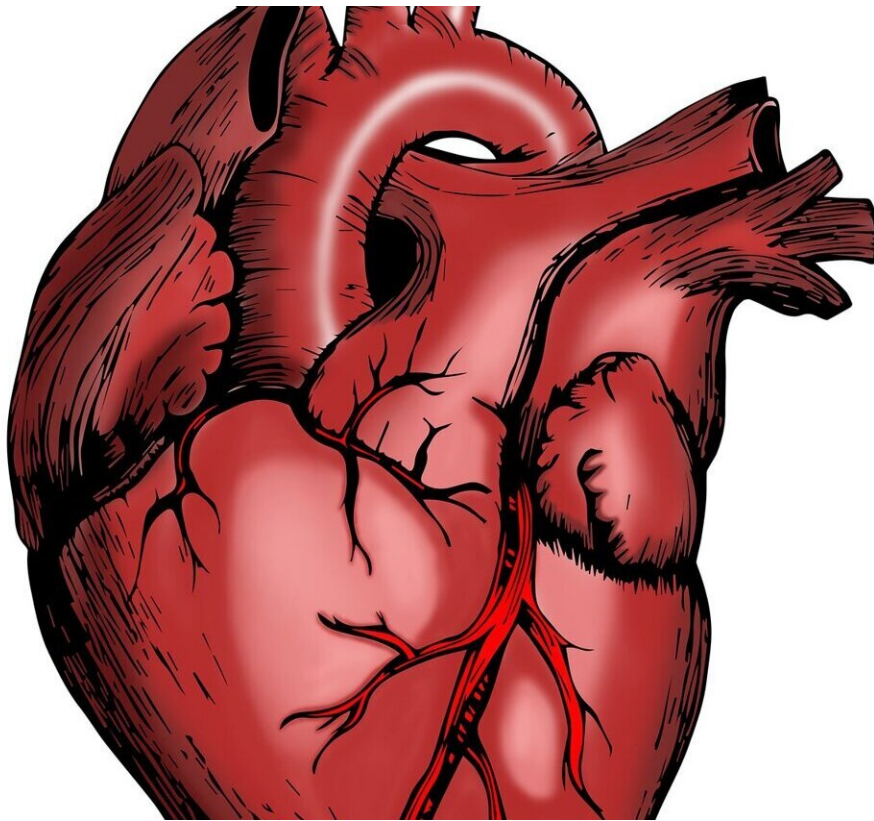


# Warning signs of sudden cardiac arrest provide opportunity for prevention

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Credit: Pixabay/CC0 Public Domain

Primary care visits rise sharply in the weeks immediately preceding a sudden cardiac arrest, according to results from the ESCAPE-NET project. The project is backed by the European Heart Rhythm

Association (EHRA) of the European Society of Cardiology (ESC) and the European Resuscitation Council (ERC).

"Contrary to the general assumption, sudden [cardiac arrest](#) does not strike entirely unheralded, as ESCAPE-NET data have shown that patients attend [primary care](#) more often in the run up to an arrest compared to usual," said Dr. Hanno Tan, ESCAPE-NET project leader and cardiologist, Amsterdam University Medical Centre AMC, the Netherlands. "This insight may provide a lead for efforts to identify individuals at imminent risk of sudden cardiac arrest so that it can be prevented."

Sudden cardiac arrest causes one in five deaths in industrialized countries. Most sudden cardiac arrests occur in the community in people not known to be at risk. A [cardiac arrhythmia](#), called [ventricular fibrillation](#), causes the heart to stop pumping and blood flow ceases. If blood flow is not restored quickly, the individual passes out and dies within 10 to 20 minutes.

ESCAPE-NET was set up to improve both prevention and treatment. During the five-year EU Horizon 2020-funded scientific project, which concludes on 1 January 2023, scientists have investigated the causes of ventricular fibrillation so that it can be prevented and have examined resuscitation strategies in an effort to improve survival rates.

Developing effective prevention and treatment approaches required information on genetic and environmental risk factors from large study cohorts of sudden cardiac arrest patients—which were previously unavailable. The 16 ESCAPE-NET scientific partners joined forces to create a shared harmonized database of more than 100,000 sudden cardiac arrest victims. Dr. Tan said, "This resource can be used by scientists across the world, including researchers outside of the ESCAPE-NET consortium, to conduct studies on sudden cardiac arrest. This

should accelerate knowledge gathering on this condition and ultimately reduce the societal burden of sudden cardiac arrest."

A biobank with DNA samples from 10,000 well-phenotyped sudden cardiac arrest victims has also been created. "This biobank will serve to increase our understanding of the genetic causes of sudden cardiac arrest," said Dr. Tan.

Scientific discoveries include the finding that citizen-rescuers provide less rapid resuscitation care to women than to men, and that women consequently have lower survival chances than men. Dr. Tan said, "This eye-opener must lead to public awareness campaigns aimed at narrowing the gender gap in sudden cardiac arrest management."

Novel data have been collected on the [sudden cardiac arrest](#) risk associated with the use of various commonly used, noncardiac drugs in different European countries. Dr. Tan said, "This information may lead to the safer use of these drugs."

He concluded, "Sudden cardiac arrest is a pressing public health problem that has so far been extremely hard to solve, largely because of the lack of difficult to obtain detailed clinical data and biological samples. ESCAPE-NET has made important steps by establishing a database, biobank and [knowledge base](#) that may be used in future studies to solve this problem."

Provided by European Society of Cardiology

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