

Take Heart Australia



30,000 Australians have a sudden cardiac arrest each year... and 90% of them die!

Deaths from sudden cardiac arrest are three times more common than deaths from major trauma, almost four times more common than deaths from stroke, and equivalent to three quarters of all deaths from cancer. It's not only the elderly or middle-aged either; *4 young people under 35 die of cardiac arrest each week!*

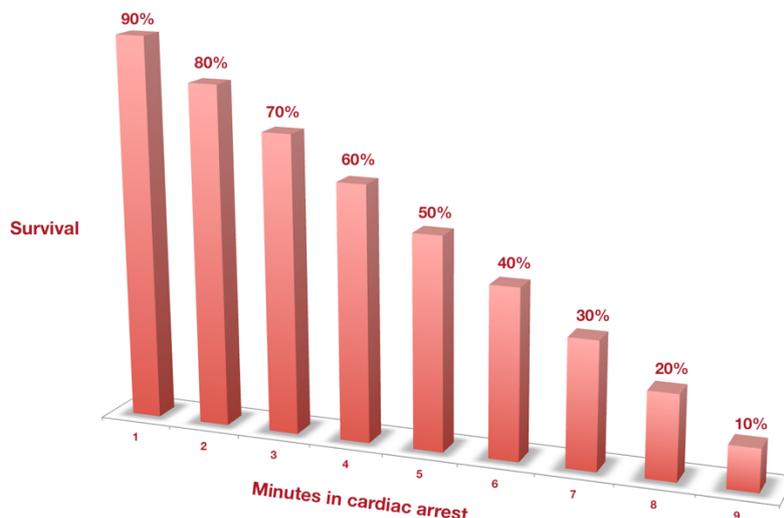
So what is this major killer?

Our bodies need oxygen from the air to function, and the part of us that needs it most is the brain. The brain is the most special part of a human being, with up to 100 billion nerve cells; it accounts for about 2% of body weight but uses 20% of all the oxygen in the blood. The oxygen carrying blood is pumped to the brain by the heart. In an average person, your heart beats 80 times each minute, 4,800 times each hour and a whopping 115,200 times each day. But sometimes the heart just stops...

The problem with a fantastically specialised organ like the brain is that if it is deprived of its vital oxygen supply, it can be quickly destroyed. If the heart stops beating for the time it takes to make a slice of toast or to count to 200, there will be irreversible brain damage. When the heart stops beating, it is called a sudden cardiac arrest, or SCA.

When the heart stops, the rate of death increases by 10% each minute!

From the moment the heart stops beating all the cells and tissues in the body start to die, starting with the brain. The blood stands still and the chances of survival drop with every passing moment. In fact, when the heart has stopped the chances of survival for that person drop by *10% each minute!* Thus means that, except for very unusual circumstances, all cardiac arrest sufferers die within about ten minutes of the heart stopping.



Ambulances take a minimum of 8-9 minutes to arrive

What makes the problem worse? In Australia, ambulances take a minimum of 8-9 minutes to get to a patient; this is not inefficiency, this is geography! And it will never change...

If the brain starts to suffer from brain damage because of the lack of oxygen at 3-4 minutes, and survival decreases at 10% each minute, we can all see that relying solely on emergency services cannot lead to much chance of survival. *But...*

Cost of cardiac arrest

In the USA it has been estimated that each cardiac arrest victim of working age costs their employer 175% of their annual salary, in replacement, increased insurance costs etc. Extrapolated to Australia, it is likely that each Australian that dies of SCA costs their employer \$131,000. Cardiac arrest also costs the USA \$2.2 billion in direct hospital costs; extrapolated to Australia gives us a national annual bill of \$183 million.

In Seattle, up to 64% of cardiac arrest patients live

Why? Over the past thirty years they have developed a system for cardiac arrests based on the Chain of Survival. Every link in the Chain of Survival *has to be there*, or people die. You can see the Chain of Survival below, but the *first four links belong to the community*, because ambulances and paramedics will never get there in time.



Recognition

Access

CPR

Defibrillation

ALS

Definitive Care

75% of Seattle's population are trained to recognise SCA and to perform CPR, they have defibrillators everywhere, and the community and the emergency medical services work together to save the lives of cardiac arrest sufferers. **They have a system!**

Take Heart Australia was formed to save 27,000 Australian lives every year

Take Heart Australia is a new national charity patterned after the US organisations that have been so amazingly successful in transforming their communities into lifesavers. So what can we do?

Eventually, we need all 24,000,000 Australians taught to recognise cardiac arrest, how to do High-Quality CPR, and use the Automated External Defibrillators (AEDs) which need to be *everywhere!* We need initiatives to train the whole community, starting with children in schools, and to change people's opinion of cardiac arrest – it *can* happen to you, and your *only* chance will be if the person standing next to you is trained in, and is not afraid to use, HQ-CPR, and that someone is able to locate and fetch a defibrillator.

This is what has happened in the US, the UK, Japan and other locations, and Take Heart Australia intends to do this for Australia, in planned programs including Young Hearts, Heartsafe Communities and GoodSAM, and including our plans to train thousands of people each Take Heart Australia Day.

Take Heart Australia aims to change the face of Australia, by demystifying cardiac arrest, teaching people that you cannot harm a cardiac arrest victim, but above all by training us all in saving lives, a simple life-skill that *no-one* should be without.

Programs and budget

Take Heart Australia is run on a voluntary basis by the founders, Professor Paul Middleton, Ms Janelle White and Ms Suzanne Davies, and relying on the generosity of friends of Take Heart Australia to provide pro bono services.

GoodSAM

Good SAM is a free mobile phone application, launched in conjunction with multiple other organisations. Good SAM allows a member of the public to raise an alert when an incident has occurred by calling 000, and it then alerts all registered first responders within 0.5 kilometer radius of the incident, and displays a map all of the AEDs in the area.

Young Hearts will deliver blended learning education to schoolchildren from year K onwards, enabling them to recognise and respond to an emergency, call 000, advise an adult, perform HQ-CPR and use an AED, all dependent on age. We have recruited a number of pilot schools to work with us on Young Hearts. The online component will comprise animation and video using our muppet, Resus Andy, and well known figures from sport and the media. This highly effective online learning will then be followed by short face-to-face training within schools by Take Heart Australia trainers and partners. All training metrics will be scientifically studied and analysed, for outcomes such as performance of HQ-CPR, retention of skills, ability to be retrained, ability to train others, and ability of teachers to administer the clinical skills program component.

Heartsafe Communities

Heartsafe Communities is a foundation program designed to engage and encourage communities to become 'heart safe', by engaging and providing strategies to design and implement cardiac arrest awareness and education, including local media planning; put in place strategies for training increasing proportions of the community in HQ-CPR; plan and fundraise for the distribution of AEDs across the community to best effect. Heartsafe communities will work with local ambulance services, hospitals, emergency departments, primary care networks and other clinicians to design and implement a system, based on the Chain of Survival, which incrementally increases survival for the members of that community.

Take Heart Australia will centralise, plan, advise and administer the Heartsafe Communities program, in volunteer locations across Australia. As part of the same program, organisational Heartsafe Communities will be encouraged and implemented. Take Heart Australia will award 'Heartbeats' commensurate with the progress towards Heartsafe Community status, and will ensure comprehensive media and social media awareness of these innovations.

Summary

30,000 people have a cardiac arrest each year in Australia.

When a cardiac arrest occurs...

- The heart stops and no blood flows to the brain and body; death rates increase by **10% every minute** after the heart stops pumping, and irreversible brain damage occurs at 3-4 minutes
- In many areas of Australian very few cardiac arrest victims receive CPR from bystanders

- Ambulances take over 8-9 minutes to arrive, so saving lives must be a *community* responsibility
- Everywhere there is a Chain of Survival system, survival improves
- Take Heart Australia was formed to publicise and promote cardiac arrest awareness, help in organising the community, encourage HQ-CPR training, promote the establishment of a national AED registry and work with professional bodies to increase cardiac arrest survival
- The Young Hearts program will deliver blended HQ-CPR and AED learning in all schools, Heartsafe Communities will promote organisation across Australia, and GoodSAM will coordinate rescuers, victims and AEDs
- Take Heart Australia will investigate and analyse any change in measurable outcomes, for both individual and groups, engendered by all planned programs, and in the longer term in the form of increased patient survival in areas where Take Heart Australia programs are active.

We should all be able to save the life of the person standing next to us!

www.takeheartaustralia.org