

# **Submission to Parliamentary Committee on Automated External Defibrillators**

**Parliament House  
Access via Main entrance at the base of the Beehive  
Molesworth Street  
Select Committee Room 4**

**Professor Harvey White  
8 December 2010  
10:15am – 10:35am**

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I am the Director of the Greenlane Cardiovascular Service Coronary Care Unit (CCU) at Auckland City Hospital, and Professor of Medicine at the Auckland University.

As Director of a CCU, I see the third of patients who survive a heart attack to get to Hospital. Two thirds of patients who have a heart attack die outside hospital and they usually die of ventricular fibrillation - a fast abnormal heart rhythm which is eminently treated with an electric shock.

Eighteen patients die per day in New Zealand from Heart Attacks; 12 per day out of Hospital mostly from cardiac arrest; as most deaths occur in the morning, six will have died this morning. Maori are over represented in these numbers.

A cardiac arrest and a heart attack are not the same thing. A cardiac arrest occurs when the heart either stops – or it goes into ventricular fibrillation, such that insufficient blood is pumped to the brain and the person blacks out. They may either turn blue, or go very pale. A heart attack involves death of heart muscle, due to blockage of a heart artery. Because the two may co-exist, it is best to leave no room for doubt and CPR should be begun immediately, and a defibrillator should be used as soon as possible. A defibrillator will only work if it detects an abnormal heart rhythm, so there is no possibility of harming the victim by using one in error.

Automated External Defibrillators (AEDs) are able to give a short shock across the heart to revert the abnormal heart rhythm to normal. Lay people with no training can use an AED. "These hearts are too good to die" and often there may only be a small heart attack with only minimal damage and following appropriate treatment in hospital many of the individuals suffering a heart attack may return to work and normal activities with normal life expectancies.

AEDs have been made available for many years. In Chicago O'Hare airport 70 AEDs were placed in 1999 and over a two year period survival from cardiac arrest increased from 1.8% to 61%. Between 2000 and 2006 36 lives were saved with automated defibrillators. Heathrow has 96 AEDs and Honolulu has 60.

For every minute lost after a cardiac arrest the chances of survival decrease by 10%. The average ambulance response time to a cardiac arrest is five to eight minutes. These excellent response times are challenging with increased traffic.

AEDs should be available in all Government buildings, transport centres (Airports, Ferry Buildings, Railway stations), and Sports grounds, including "Party Central", Casinos, Highway Patrols, and City Traffic Cars, Gyms, Schools, Churches, Shopping Malls, Banks

and Services Stations. They should be in every major building, General Practices, Dental Surgeries. They should be available more frequently than McDonalds.

The Rugby World Cup will be held in New Zealand next year and with the eyes of the world on us it would be a travesty if people die unnecessarily. There will be cardiac arrests. It would be tragic if lives were lost and the World was to learn that we didn't have automatic defibrillators at our stadiums. All rugby World Cup venues must have automatic defibrillators and they should be installed in other sports grounds that have practice sessions or events when ambulance officers may be not be around and automatic defibrillators may be life saving.

I have an AED in my car. My working life is spent improving treatment for heart disease and treating those with heart disease. It seems sensible to also do this outside of work. With 12 New Zealanders dying each day out of hospital it's likely that there will be an occasion when I might come across someone who has collapsed where a life could be saved.

I am setting up a trust called "Start a Heart". The Cardiac Society of Australia and New Zealand is supporting the development of a national data base of where AEDs are situated. It is hoped that this will be able to be connected to the emergency services to have this information immediately available on a web based system for Rapid Response.

There are eight main approaches that I am employing:

1. To raise public awareness (initially through The Listener)
2. To develop a National Grid of where AEDs are. This is supported by the Cardiac Society of Australia and New Zealand.
3. To develop a National Standard of signage of where AEDs are situated.
4. To ensure standards of training for use of AEDs.
5. To ensure maintenance and standard of equipment.
6. To have a Trust which could co-ordinate a public campaign, raise funds, donations, and advertisements in newspapers and on television.
7. To communicate with the many organisations and individuals who have a stake in this
8. To listen and learn from others and to co-ordinate all efforts to improve the quality of life for New Zealanders.

AEDs can make a big difference every day in saving lives of victims of sudden cardiac arrest. This also impacts on families and New Zealand communities. Too many Kiwi lives are being lost for want of a relatively inexpensive and simple to use piece of equipment.

I am passionate about this.

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