Service Update No: 3-2014
Ambulance Tasmania Cardiac Care Strategy – Early Access to Defibrillation

Many of you would be aware that since 1995 the American Heart Association has been promoting the Chain of Survival as the optimal chance of a successful outcome from out of hospital cardiac arrest. The literature is clear that for every minute of cardiac arrest a person’s chance of survival diminishes by between 7-10%. The rate of deterioration in overall survival rates is improved to 3-4% per minute in the presence of CPR. Essentially this means that in the absence of defibrillation within the first 10 minutes the likelihood of survival is between 5-8% worldwide from out of hospital cardiac arrest.

With over 250,000-300,000 US citizens and 1400 Tasmanians succumbing to out of hospital cardiac arrest each year it is a true public health issue with poor prognosis. Much of the literature recommends partnerships with other emergency service organisations and lay responders to increase the chance of early defibrillation and CPR. Indeed compression only CPR in the first 10 minutes for non-trained lay rescuers has revealing improved outcomes due to the hypothesised need to ensure adequate coronary artery perfusion to enable effective defibrillation.

With this in mind Ambulance Tasmania is seeking funding from UTas for a multi-stakeholder clinical redesign partnership project on Early Access to Defibrillation. AT has partnered with the Australian Heart Foundation, Department of Cardiology THO South and UTas to make the submission which will be considered by the University in March. The program will be formally evaluated and documented.

The EAD Program is a sophisticated version of a Public Access Defibrillation (PAD) program. The significant difference is that due to medico-legal issues they are generally considered “passive” programs where the onus is on the community member to know the location of an AED and fetch it. AT has sought legal advice from the Solicitor General who has devised a novel way of allowing community members, including emergency services such as Tasmania Fire Service rural and remote volunteers to register their defibrillators with AT. In the event of an identified cardiac arrest, as triaged through MPDS, the registered keeper of an AED will be notified if they are determined to be closer to the scene than the nearest available AT resource. The registered keeper can then respond and provide CPR and defibrillation.

The EAD Program is focused on cardiac arrests and is not a general medical first response scheme. It brings all community responders under the one program with a narrow and specific purpose, essentially to operate an AED and provide CPR until an AT resource arrives.

All AEDs registered are kept on a geospatial mapping program held by DPIPWE showing the location of all known devices which are formally entered into the EAD Program. AT currently deploys around 50 defibrillators on any given day. An initial survey of community AEDs has revealed more than an additional 150 held in clubs, airports, universities and corporate premises.
Essentially the EAD Program will improve access to defibrillation four fold, by deploying third-party AEDs in a structured way. Once fully up and running, the EAD Program will require changes to CAD software to automate deployment processes.

There is nowhere in the literature identified where a PAD community responder scheme of registered keepers are being tightly integrated into an EMS response plan on a state-wide scale anywhere in the world.

A formal MOU has been signed between AT and TFS detailing the roles and responsibilities of each organisation in the program. This program will be incrementally rolled out, with nine TFS rural volunteer brigades opting in as of today. AT will not be providing additional training or equipment to these groups, however it is possible that AT staff will come across deployed community members, including emergency services to out of hospital cardiac arrests in the future. It would be appreciated if all AT staff would ensure a notation is made in VACIS or on the PCR that a patient was defibrillated prior to ambulance arrival, and appropriate support is provided to community responders and if necessary referral and follow up. The AT literature “Coping with Trauma for Community Members” which are in ambulance vehicles are a resource worth considering in some circumstances. Additionally for emergency services personnel the opportunity for referral to CISM remains an option.

There is a great deal of interest in the Early Access to Defibrillation Program from all medical, public health and academic quarters and it is terrifically pleasing to see AT undertaking such a novel and innovative clinical program which is highly likely to measurably improve overall survival rates from out of hospital cardiac arrest in Tasmania. A Project Officer position will be advertised in due course, however in the meantime if anyone would like further information on the AT Early Access to Defibrillation Program please contact David Godfrey Smith, Coordinator Volunteer Strategy on (03) 6230 8010.

Dominic Morgan
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