

Executive Summary

In May 2008, the Australian Government Department of Health and Ageing (**the Department**) engaged Campbell Research & Consulting (**CR&C**) to undertake an evaluation of the Public Access Defibrillation Demonstration project (**PAD Demonstration**). The objective of the evaluation was to consider the effectiveness of the trial implementation, identify issues that arose during the trial and lessons that may be relevant to any future possible considerations regarding public access defibrillation.

Background, planning and implementation

Cardiovascular disease is one of the largest causes of premature death in Australia. Investing in strategies to improve cardiovascular health outcomes is one of the Australian Government's National Health Priority Areas.¹ Survival from out-of-hospital cardiac arrest is less than 10%, and access to early defibrillation and CPR offers the best chance of survival. Early defibrillation delivered within a PAD mode can improve survival following cardiac arrest in public settings.

The PAD Demonstration was initiated in 2005 when St John Ambulance Australia (**St John**) was engaged by the Department to design and implement the project. The total budget for the Demonstration was \$869,562. The initial budget for the project was \$569,000 to install AEDs at selected sites and demonstrate the effectiveness of PAD. Additional funding was received in May 2007 and October 2007.

The selection of sites was informed by a review conducted by Prof Ian Jacobs for the Department which identified that:

About half of public places have more than one cardiac arrest within a three to five year period. Within each community where public access defibrillation is to be implemented, specific sites which have higher incidence of cardiac arrest should be identified to guide placement of AEDs. Airports, shopping centres, transit areas and sporting venues are likely to be associated with higher incidence of cardiac arrest (Jacobs 2004, p.16).

Specifically, St John's role was to:

- Establish the PAD Demonstration in Australia;
- Encourage organisations to participate in the project;
- Ensure the appropriate installation of AED devices in host organisations;
- Provide quality training in the use of the AED devices and other valuable first aid skills to selected first responders at host organisations; and
- Monitor the utilisation and efficacy of the devices.

The overall objective of the PAD Demonstration was to adequately assess the feasibility, acceptability and effectiveness of PADs for reducing mortality in Australians who experience sudden cardiac arrest, compared to current emergency care arrangements.

Outcome of activations

A total of 147 AED devices have been installed by St John across 98 different organisations under the PAD Demonstration. Just over half of these devices were installed over the most recent 12 month period (between May 2007 and June 2008). According to available data there have been:

- 20 reported activations of the AEDs;

¹ <http://www.health.gov.au/internet/main/publishing.nsf/Content/pq-ardio-nhpa>

- Of the activations where a shockable rhythm was administered, 10 patients survived to ambulance handover (three later died in hospital);
- **A total of seven lives may have been saved by PAD Demonstration AEDs.**

The data does not identify the extent to which members of the public or untrained staff have activated the devices, although the consultations revealed that it was mostly trained first responders who activated the devices.

The program is operating efficiently, with the proportion of administration costs at 10-15% well within acceptable benchmarks. The cost per life saved at this early establishment stage is approximately \$84,000. This cost can reasonably be expected to reduce over the expected lifespan (ten years) for each Device.

Key findings from the evaluation

CR&C integrated both qualitative and quantitative methodologies for the evaluation including: a literature review to provide policy and evidence context, key stakeholder consultations and face-to-face interviews with personnel at sites where AEDs had been installed. The qualitative research identified the range of specific issues relating to the PAD Demonstration. A quantitative telephone survey identified the extent to which those issues held over the population of the Demonstration sites.

The PAD Demonstration has shown that the appropriate and effective installation of AEDs can save lives – but it has been used by trained first responders rather than untrained staff or members of the public.

St John was found to be well placed to conduct the project and nearly all stakeholders reported a high level of professionalism and commitment. St John has demonstrated that, with appropriate training, installation of AEDs results in a sustainable benefit.

Most host organisations participating in the PAD Demonstration perceived the AED devices to be part of a trained first responder program rather than a public access program, with untrained staff and members of the public unlikely to use the devices. Stakeholders from peak bodies and academic organisations identified that trained first responder programs, which incorporate emergency response training such as CPR, can be more effective and appropriate than public access defibrillation. This view was supported by international literature.

Staff at host organisations clearly stated that they would not be confident in using the device without training. Most untrained staff reported they were likely to wait for a trained first responder or emergency medical services rather than activate an AED without prior training. Training provided individuals with a sense of confidence and reassurance.

All stakeholders, including participating organisations, expressed a strong view that the installation of AEDs should become best practice corporate governance for larger Australian businesses, particularly those with high risk including large numbers of public thoroughfare, staff, students or clients with known risk. Occupational Health and Safety regulatory structures were identified as a key driver for the establishment of best practice. However, because of the focus on public liability, governance and regulatory structures were considered to be broader than Occupational Health and Safety regulations.

While AEDs were considered to be appropriate devices to mitigate public risk, the appropriateness of the role of government in funding the program was questioned by some stakeholders, including those who had successfully installed and activated the devices. This was particularly the case for private sector organisations, some of which had limited public access. Generating awareness of corporate governance practice and responsibility for managing public liability risk and managing Occupational Health and Safety hazards in the workplace were seen to be the responsibility of corporate organisations. The role of government could be limited to ensuring that those with corporate

responsibilities were aware of AEDs as an effective risk management strategy. Clear identification of the distinct role of the Australian government and those in the states and territories is required.

The survey of participating organisations identified that installation of the AED under the demonstration project acted as an incentive for additional purchases. It also identified a stronger commitment to supporting and further investment in AEDs occurred where employers had made a contribution to the purchase, maintenance and training for AEDs.

Litigation issues

Some larger venues, which were identified as some of the most likely sites for out-of-hospital cardiac arrest to occur, were reluctant to participate in the program. A key barrier to participation was fear of litigation. For many organisations, the training provided in the PAD Demonstration was able to overcome this fear. However, a number of large organisations remain reluctant to install AEDs.

Legislative responsibility for emergency personnel and emergency response lies with the individual State and Territory governments. However, there is an opportunity for the Australian Government to provide leadership with the States and Territories to encourage those reluctant organisations through the provision of education/information strategies and legislative provisions in the area of Occupational Health and Safety.

Literature Summary

International literature indicates that in the United States and the United Kingdom where PAD programs have been established, a considerable amount of public funding has been provided. As these programs have evolved the role of the central government has reduced. Responsibility for funding and maintaining AEDs tends to be slowly shifting to jurisdictional governments or the private sector, assisted with regulatory requirements and various forms of Good Samaritan legislation.