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Ambulance Victoria, Australia – PAD

Increasing Utilization of Public Access Defibrillation in Victoria, Australia

BRIEF BACKGROUND

Reducing the time to defibrillation remains one of the most significant barriers to improving survival from out-of-hospital cardiac arrest. Each minute that passes without treatment reduces the likelihood of being found in a shockable rhythm, resulting in lower rates of survival and favorable long-term outcomes. The early use of defibrillation by lay bystanders reduces delays and is associated with improved outcomes after OHCA.

STEPS TAKEN

Since 2002, Ambulance Victoria has implemented several state-wide strategies to improve the distribution and utilization of Public Access Defibrillators (PAD) across the state of Victoria. The team developed a state-wide education program targeting the community's awareness of CPR and defibrillation and involved key community groups. A state-wide campaign to educate the community on the importance of registering their automated external defibrillators (AED) was also implemented.

So far, the program has reached over one million Victorians. There were also over 4,500 AEDs registered within the community, an additional 15,000 unregistered AEDs believed to be in circulation, and 21 PADs in high-incidence public locations maintained by EMS. The Victorian Ambulance Cardiac Arrest Registry (VACAR) also monitored bystander AED use.

CHALLENGES

The AED registry currently lacks integration into the emergency dispatch system, so there is still potential for further improvement in the utilization of PAD by the community.

RESULTS

Between 2000-2002 and 2015-2017, the proportion of shockable cases initially shocked by bystanders increased five-fold from 2% to 11.2% — with 13% being shocked by a PAD AED in 2017-2018. In public locations, the proportion of shockable cases initially shocked by bystanders increased eight-fold, from 2.9% in 2000-2002, to 23.5% in 2015-2017. Compared to cases shocked by paramedics, there was a two-fold increase in the risk-adjusted odds of survival to hospital discharge in cases shocked by bystanders (AOR 2.11, 95% CI: 1.72, 2.59; $p < 0.001$). Increases in bystander AED use has helped improve overall rates of survival from shockable rhythms, which rose from 10.6% in 2000-02 to 32.3% in 2015-2017.

OUTLOOK

In 2018, Ambulance Victoria launched a partnership with the GoodSAM mobile app, aiming to crowdsource CPR and AED use to off-duty emergency service personnel and healthcare professionals. In 2019, the GoodSAM app will be open to suitably-trained members of the public to participate, and integration of the AED registry in the emergency dispatch system will also occur. Emergency call-takers will be trained to provide bystanders and GoodSAM responders with advice on the location of the nearest AED.

CONTACT

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