Poor actual availability of publicly accessible automated external defibrillators limit their value in the treatment of out of hospital cardiac arrest.

M Thalib Mowjood
Tammy Pegg
Nelson Hospital

Epidemiology of OHCA

- 2000 treated OHCA in NZ per year
- 16% survival to hospital discharge
- Median ambulance response time
  - 7 minutes (urban)
  - 11 minutes (rural)

Reference: St John Ambulance Out-of-Hospital Cardiac Arrest Registry 2015/16
Benefits of Bystander Defibrillation

- Doubles survival to hospital discharge vs. CPR alone (NEJM 2004; 351;7)
- Decreases risk of nursing home admission vs. no bystander resuscitation (NEJM 2017 376:18)

Limited Use of AED

- AED used in only 6% of OHCA in public spaces (St John Ambulance Out-of-Hospital Cardiac Arrest Registry 2015/16)
- Limited visibility/accessibility of advertised AEDs anecdotally noted
- Aim: To determine the actual availability of publicly listed AEDs in Nelson
Methods

- Publicly accessible AEDs in Nelson identified via online database
- Each site visited during over 4 consecutive weekdays (0900-1700) in Feb 2017 and categorised according to availability

https://aedlocations.co.nz
Levels of Public Accessibility to AEDs - Definitions

- AED accessible at time of survey?
  - Yes: Accessible 24 h every day?
    - Yes: Visible & within reach?
      - Yes: 1st attendant encountered aware of AED location?
        - Yes: Highly inaccessible (HI)
        - No: Time-limited attendant-dependent delayed access (TD)
    - No: Visible & within reach?
      - Yes: Time-limited attendant-dependent immediate access (TI)
      - No: Time-limited direct public access (TP)
  - No: Time-limited direct public access (TP)

Increasing public accessibility

Results

Levels of public accessibility to AEDs in Nelson (n=108)

- Highly inaccessible (HI)
- Time-limited attendant-dependent delayed access (TD)
- Time-limited attendant-dependent immediate access (TI)
- Time-limited direct public access (TP)
- 24/7 attendant-dependent delayed access (24D)
- 24/7 attendant-dependent immediate access (24I)
- 24/7 direct public access (24P)

Increasing public accessibility
Gold Standard of Availability

Conclusion

• The majority of publicly accessible AEDs in Nelson are not directly accessible to the public at all times
• Poor accessibility even in government-affiliated agencies
  – 13 of 21 devices time-limited and attendant dependent
Barriers & Future Directions

- Private institutions primarily motivated to serve own patronage
- Perceived risk of theft/vandalism

But:

- Fully accessible AEDs by businesses demonstrate contribution to community
  - Awareness to improve access in private sector
- Government agencies have a public duty
  - Public policy to improve access in public sector
New publicly accessible AED for Lake Rotoiti Fire Station

SARA MEU
Last updated 07:36, June 23 2017

A new AED in a custom made box with a heating element was installed outside the Lake Rotoiti Fire Station.

Lake Rotoiti now has not just one, but two AEDs at the fire station after a new one was installed three weeks ago.