Response to the Council Motion relating to the use of phone boxes for defibrillators

Report being considered by:	Health and Wellbeing Board
On:	30 September 2021
Report Author:	Matthew Pearce and Gordon Oliver
Item for:	Decision

1. Purpose of the Report

To provide a response to the motion submitted in the name of Councillor Adrian Abbs at the Council meeting on 8 July 2021, which was referred to Health and Wellbeing Board for further consideration, namely:

This Council notes:

- *That existing telephone boxes are being offered to the council for free or as little as £1.*
- *That telephone boxes make ideal environments to place public access defibrillators due to their existing power and the shelter they offer.*
- *That defibrillators are known to save lives.*
- *That those minutes and seconds are critical to a positive outcome where defibrillators are used.*

This Council, therefore resolves to:

1.1 take a default position where it would adopt any telephone boxes being offered throughout West Berkshire for use as an Open Access Defibrillator location.

1.2 install an Open Access Defibrillator in each adopted box should another defibrillator not be present within 100 metres.

1.3 make residents local to that defibrillator aware of its presence

1.4 provide a "how to use a defibrillator" guide to all residents within 400 metres of the device.

1.5 ensure the location of the device is added to the emergency services register of defibrillators.

1.6 undertake the minimal servicing required to keep the devices active or devolve this to the local parish or town council.

Costs are maximum £1500 per defibrillator including purchase and installation.

2. Initial observations

2.1 In July 2021, following notice of the Motion, Cllr Bridgman (Chairman of the Health and Wellbeing Board) addressed an enquiry to BT which resulted in a response that 34 telephone kiosks had been adopted across the district (but with no details of the uses they have been put to) and that there were (apparently) only two "live" kiosks left within West Berkshire that hadn't been adopted or removed - one outside the Post Office in High Street, Hungerford (RG7 0DP) and the other outside the Telephone Exchange in Newbury Street, Lambourn (RG17 8PD).

2.2 It is considered that this response might underestimate the number of telephone kiosks (suitable for other uses) that exist in the district (whether adopted or not).

2.3 There are several databases of defibrillators available, but most only appear to have partial data sets, and are of limited value, as well as being confusing to members of the public. The Circuit is being promoted as the national data set. This is supported by the British Heart Foundation, St John Ambulance, Resuscitation Council UK and the Association of Ambulance Chief Executives.

3. Recommendations

3.1 That the Health and Wellbeing Board (via the Councils' Public Health Team) undertakes the following research/actions:

- Ask all town/parish councils to confirm the locations of telephone kiosks within the town or parish and whether they are in use or defunct and, if defunct, identify whether they have been adopted via the BT scheme, and if so by whom and for what purpose.
- Ask all town/parish councils to also identify publicly accessible Automated External Defibrillators (AEDs) within their local area and to check these against the locations on the Save a Life App, with any missing devices registered via The Circuit.
- A cost-benefit analysis to assess whether additional defibrillators should be provided and where any new devices would be most effectively deployed.
- Following that analysis, and where additional units are considered likely to be effective, to approach town/parish councils and local communities to identify suitable sites (including phone boxes), and to ask those respondents if they would be willing to take responsibility for the installation and ongoing maintenance of any new AEDs.
- An investigation into all available funding streams for new AEDs.
- Initial publicity to ensure residents are aware of existing AED locations and how to locate them in the event of encountering someone experiencing cardiac arrest.
- Consideration of funding a programme of First Aid training in schools and colleges and the wider community, to include the use of AEDs.

3.2 That following the research and a Report as to findings, the Board considers what recommendations should be made to Council (and possibly to other partners) in response to the Motion and as to how funding and resources can best be used to address the health and wellbeing needs of local residents.

Will the recommendation require the matter to be referred to Council for final determination?	Yes: ☒	No: ☐

4. Introduction/Background

What is a Defibrillator?

4.1 A defibrillator is a device that gives a high energy electric shock to the heart of someone who is in cardiac arrest. This high energy shock is called a defibrillation, and it's an essential part in trying to save the life of someone who is in cardiac arrest. A defibrillator may also be referred to as a 'defib', an AED, or a PAD (Public Access Defibrillator when purchased for public use).

4.2 An AED is an easy to use, portable defibrillator which provides clear step-by- step instructions so it can be used by anyone from a bystander to a trained professional. Once the pads are placed on the patient's chest, the defibrillator checks the heart rhythm, providing voice instructions to guide the rescuer through each step of the rescue, and if needed, provides a shock to the patient either automatically or at the press of a button. Some defibrillators come with additional features, such as an LCD display screen for visual instructions, real time

cardiopulmonary resuscitation (CPR) feedback to let the rescuer know the quality and effectiveness of their CPR, or electrocardiogram (ECG) display for more professional models.

4.3 Defibrillators can be used on adults or children over one year old. By using a defibrillator before an ambulance arrives, you can significantly increase someone's chance of survival.

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5. Supporting Information

National/Charity Guidance

5.1 When considering an AED in a community setting, the Resuscitation Council UK has the following guidance:

- There should be a process in place to ensure all equipment and supplies are in working order.
- All organisations should conduct a risk assessment regarding the provision of an AED.

5.2 To achieve this, organisations should have systems in place to:

- Ensure that emergency equipment is located and signposted appropriately and checked according to manufacturers' guidelines;
- Ensure that training covers the use, location and checking of equipment;
- Monitor the checking of equipment, including record of expiry dates and functionality of equipment, using signed and dated checklists;
- Where owned or leased by the organisation, ensure the AED is registered with the local ambulance service and/or national defibrillator network.

5.3 There are different recommendations in regards to where a defibrillator should be kept, which can vary by different local ambulance trust. Points to consider include:

- Community locations should be accessible 24/7;
- Locations should be highly visible;
- Units should have a heated cabinet when located outside;
- The cabinet should have a keypad lock to prevent theft/vandalism (the ambulance service can provide the keypad code when the user dials 999);
- The cabinet requires a power supply for the heater;
- Lighting and CCTV should be considered to improve security;
- Community guardians should be assigned to carry out weekly maintenance checks and reset units/replenish pads after use.

5.4 It is also recommended by St John's Ambulance, The British Heart Foundation, Resuscitation Council UK and UK Ambulance Services that defibrillators are registered with The Circuit so that they can be easily located and accessed.

How effective are defibrillators?

5.5 If a defibrillator is used within 3 -5 minutes of cardiac arrest, survival rates increase from 6% to 74%. (First Aid for Life).

5.6 The National Institute for Health Research (NIHR) conducted a systematic review of 41 observational studies that compared out-of-hospital cardiac arrest survival according to the

use of a defibrillator. Their study found that following a cardiac arrest, the survival rate was higher following defibrillator attachment from a bystander. The study also highlighted the importance of having defibrillators in the community, saying that, 'providing a shock using a defibrillator to people with out-of-hospital cardiac arrest before the arrival of emergency medical services increases their chance of survival'. Overall the review findings support the need for installation of publicly available defibrillators so that members of the public can assist those experiencing cardiac arrest until emergency services arrive and in turn increase that individual's chances of surviving.

5.7 Figures published by London Ambulance Service also show that when a PAD was used by a bystander and at least one shock was delivered to patients, the survival rate was more than five times higher (57.1%) than conducting CPR.

5.8 Unfortunately, there is a scarcity of literature reporting hospital costs for treating out of hospital cardiac arrest (Petrie et al., 2015). However, the review at a London hospital conducted by Petrie et al (2015), confirmed that high quality survivors of cardiac arrest are less likely to stay in ICU as long and therefore cost less. Whereas, the stay in ICU for low quality survivors of cardiac arrest was significantly longer. This confirms that there is a significant correlation between length of stay and cost.

5.9 Overall, the use of defibrillators has been shown to be effective in increasing survival rates for victims of cardiac arrest, especially if they are used early. Therefore, the use of a defibrillator during cardiac arrest can be attributed to an individual who is a high quality survivor. The use of a defibrillator is likely to help reduce the demand on the NHS, but also the cost, as patients are more likely to be discharged from hospital.

Would having more AEDs in the community prevent more deaths?

5.10 A cardiac arrest can happen to anyone. Every year approximately 55 out of every 100,000 people experience an out-of-hospital cardiac arrest, with most occurring in the home or workplace. In 7 out of 10 cases, CPR is attempted by a bystander. In less than 1 out of 10 cases is an AED reported as being used (St John's Ambulance).

5.11 In the UK per year:

- 12 people under the age of 35 die each week from sudden cardiac arrest;
- 270 children die from sudden cardiac arrest suffered on school premises;
- Of the 30,000 out-of-hospital cardiac arrests, 80% happen at home and 20% occur in public places;
- In the south East of England each year there are 4,500 Cardiac Arrest out of hospital.

5.12 Every minute's delay giving CPR and defibrillation reduces a victim's survival rate by 7-10% and therefore, quick action is absolutely vital, as without immediate treatment, 90-95% of cardiac arrests prove fatal (Online First Aid).

5.13 The British Heart Foundation supports the use of defibrillators in the community and reports that for every minute someone is in cardiac arrest without CPR and access to a defibrillator their chances of survival drops by 10%. Having a public access defibrillator available in an emergency can be lifesaving, especially in rural areas where response times can be longer.

5.14 Ambulance arrival times at life threatening emergencies in West Berkshire vary greatly depending on location and demands. The following statistics were correct as of 16 September 2021 (http://www.ambulanceresponsetimes.co.uk):

- RG17 postcode (Lambourn, Great Shefford, Hungerford, Inkpen area):
  - 18% of life-threatening calls responded to in under 8 minutes
  - Median response time = 12 min 42 sec

- RG7 postcode (Aldermaston, Bradfield Burghfield, Mortimer, Theale):
  - 44% of life-threatening calls responded to in under 8 minutes
  - Median Response time = 8 min 33 sec
- RG14 postcode (Newbury):
  - 85% of life-threatening calls responded to in under 8 minutes
  - Median response time = 5 min 6 sec

5.15 In the UK, survival rate is far lower than in Scandinavian countries where higher importance is placed on the education and training of school children and the general population to ensure that they are sufficiently skilled and equipped to be able to immediately help someone when they collapse.

5.16 A bystander performing CPR and using an AED can increase the chances of survival by two to four-fold. (Resuscitation Council UK).

5.17 When a defibrillator is used correctly in conjunction with good CPR, the odds of someone's survival can increase from around 6% to 74% (First Aid For Life)

5.18 In the population-based cohort study by Petrie et al (2015), application of an AED in communities before the emergency services arrived, was associated with nearly a doubling of survival after out-of-hospital cardiac arrest. These findings supported the expansion of strategically placed community-based AED programs.

5.19 Wide dissemination of AEDs throughout a community increases survival from cardiac arrest when the AED is used; however, the AEDs are utilized in a very small percentage of all out-of-hospital cardiac arrests. AEDs save very few lives in residential units such as private homes or apartment complexes. AEDs are cost effective at sites where there is a high density of both potential victims and resuscitators. (Winkle, RA 2011).

Current defibrillator locations and databases

5.20 Currently, many defibrillators never get used because emergency services don't know where they are or how to access them (British Heart Foundation).

5.21 There are several AED databases available, but most only appear to have partial data sets, and are of limited value, as well as being confusing to members of the public. The Circuit is being promoted as the national data set. This is supported by the British Heart Foundation, St John Ambulance, Resuscitation Council UK and the Association of Ambulance Chief Executives.

5.22 SCAS uses The Circuit and has developed the Save a Life App to show where units are provided in their area. This database shows numerous AEDs across West Berkshire, with multiple units in larger settlements and individual units in many local villages. However, there do appear to be some gaps (eg Upper Lambourn, West Woodhay, East Woodhay, Hamstead Marshall, Upper Basildon, Lower Basildon).

5.23 Locations include town and parish council offices, businesses, churches, village/community halls, sports clubs, schools, leisure centres, health centres and phone boxes.

5.24 The Motion to Council referred specifically to the adoption of phone boxes to accommodate AEDs. In some ways, phone boxes are well-suited for this purpose, since they are publicly accessible and are often in visible locations at the roadside. They also provide shelter, power and lighting. BT currently operates an 'adopt a kiosk' programme where phone boxes can be adopted by the local community for as little as £1.00.

Purchase Costs

5.25 The cost of a defibrillator can vary depending on the model and its features. Typically, defibrillators can cost between £800 and £2,500 (St John's Ambulance). South Central

Ambulance Service (SCAS) quote the cost of an AED at £1,850 including a secure box excluding fitting charges. The cost includes:

- AED
- Ready kit (towel, razor, gloves, pocket mask, scissors)
- Cabinet with heating/alarm
- Theft insurance for the warranty period
- AED Management software and download software
- Warranty of up to 10 years and indemnification policy
- Replacement electrodes within the warranty period
- Replacement battery within the warranty period
- Access to e-learning

5.26 SCAS can also provide AED awareness training to those who purchase one.

5.27 Defibrillators come with varying degrees of protection from dust and water, making some models more suitable in harsher environments than others. St Johns Ambulance has a useful guide on their website showing a range of AED and their costs (https://www.sja.org.uk/get-advice/i-need-to-know/defibrillator-guide-for-first-time-buyers/).

Maintenance

5.28 Some defibrillators self-test on a daily, weekly or monthly basis – so the device would signal with a flashing light or audible alert if there was a problem, for example, pads not correctly connected, or low battery. Defibrillators also run through a self-test when activated, prior to use.

5.29 The defibrillator is required to be inspected regularly to ensure the pads are in date, and the battery hasn't expired. This can be aided through a defibrillator checklist.

5.30 Defibrillator pads and batteries can cost anything from £20 to £300 to replace depending on the model, Pads and batteries will need to be replaced when they expire or when the pads have been used in a rescue (St John's Ambulance).

Funding

5.31 There does not appear to be any source of public funding currently available for AEDs. However, there are some other sources of funding available to organisations wishing to purchase and install AEDs for public use.

5.32 British Heart Foundation (BHF) has an online application system for public access defibrillators. They will part-fund an AED, and the procuring organisation will still need to contribute the remaining funds. A successful application will also need to show that the defibrillator must be freely accessible to the public 24/7 and be placed externally in an unlocked and un-coded cabinet. There must be a clear need for the device (eg a location with high footfall or in a rural area) and there must be a commitment to train the local community in the use of the AED. This funding stream is currently paused due to the Covid 19 pandemic, but it is expected to resume in the future.

5.33 Some town/parish councils have secured funding for AEDs through the National Lottery Community Fund, with grants for individual units to larger programmes.

5.34 The Football Association has recently announced that it will fund the provision of AEDs at grassroots football clubs and facilities. Working in partnership with the Football Foundation and The Football Association, the first phase of the Premier League Defibrillator Fund rollout will have AEDs provided to Football Foundation funded facilities which currently are without a

life-saving device onsite. In the second phase, grassroots clubs that own their facilities will be able to apply for funding for a defibrillator, with more than 2,000 sites benefiting.

6. Options for Consideration

6.1 West Berkshire Council could seek to adopt some/all of the remaining public phone boxes in the district and install additional AEDs in order to increase coverage across the district. In addition to the £1,850 typical purchase cost for the AED, there would be an ongoing cost for electricity usage at each site. Also, there would be a resource implication in terms of undertaking regular checks of all locations in the district.

6.2 Alternatively, town/parish councils and community groups could be encouraged to adopt their local phone boxes and install AEDs, appointing volunteer guardians to carry out regular maintenance inspections.

6.3 However, phone boxes may not always be situated in the most appropriate location for an AED. For example, an AED installed in a rural phone box may never be used because it is away from centres of population where there are likely to be significant concentrations of people experiencing cardiac arrest and passers-by who could act as responders. Similarly, phone boxes may be close to an existing AED location, which would render them obsolete. A wider review considering all potential AED locations within the District (not just phone boxes) would be more appropriate and deliver greater benefits.

6.4 Public awareness is key to the effectiveness of defibrillators. Knowledge of how to and when to use the unit and how to find a defibrillator in the community helps to increase their use and effectiveness. It is important that all units are registered on a database that is available to the emergency services so they can direct people to their nearest unit and provide instructions about how to access and use it.

6.5 Also, knowledge of first aid/CPR can be beneficial in terms of complementing the use of an AED and delivering improved outcomes for the person experiencing cardiac arrest. Online and in person training can help to improve knowledge within the community.

7. Proposal(s)

7.1 As a first step, it is proposed that all town/parish councils be asked to confirm the locations of publicly accessible AEDs within their local area. These should be checked against the locations on the Save a Life App, and any missing devices registered via The Circuit.

7.2 It is proposed that a cost-benefit analysis should be carried out to assess whether additional defibrillators should be provided and where any new devices would be most effectively deployed.

7.3 Where additional units are considered likely to be effective, town/parish councils and local communities should be approached to identify suitable sites (including phone boxes). They would also be asked if they would be willing to take responsibility for the installation and ongoing maintenance of any new AEDs, identifying volunteer guardians to carry out the weekly checks.

7.4 A PR campaign should be linked to any roll-out of defibrillators so residents are aware of their locations and how to locate them in the event of encountering someone experiencing cardiac arrest. This would be likely to utilise a multi-media approach, which may include leaflet drops to residents in the vicinity of each site.

7.5 Consideration should also be given to funding a programme of First Aid training in schools and colleges and the wider community, to include usage of AEDs.

8. Conclusion(s)

8.1 Defibrillators can be effective in saving lives. However, units need to be optimally located in populated areas where there are more likely to be higher number of cardiac arrests and people

available to use the defibrillators. While phone boxes can be utilised to house AEDs, they must be in the correct locations in order to be effective.

8.2 Public awareness is also key to the effectiveness of defibrillators - knowing how and when to use the unit and how to find a defibrillator in the community helps to increase their use and effectiveness. This requires all units to be registered on a database that is accessible to the emergency services, so they can direct people to the nearest unit, provide the access code, and give detailed instructions on how to use it.

8.3 Increased community knowledge of first aid would deliver additional benefits over and above those associated with the increased deployment and use of AEDs.

9. Consultation and Engagement

The report has been informed by a literature review on the effectiveness of AEDs, but no specific consultation and engagement had been undertaken to date

10. Appendices

None

Background Papers:

Ambulance Response Times
http://www.ambulanceresponsetimes.co.uk/

British Heart Foundation
https://www.bhf.org.uk/how-you-can-help/how-to-save-a-life/cpr-training-in-communities/defibrillators-in-communities
https://www.bhf.org.uk/how-you-can-help/how-to-save-a-life/defibrillators/apply-for-a-public-access-defibrillator

BT
https://business.bt.com/campaigns/communities/adopt-a-kiosk

The Circuit
http://www.thecircuit.uk

First Aid For Life
https://firstaidforlife.org.uk/all-about-defibrillators-aeds-what-they-are-and-how-to-use-them/
www.FirstAidforLife.org.uk

Football Foundation
https://footballfoundation.org.uk/grant/premier-league-defibrillator-fund

London Ambulance Service
https://www.londonambulance.nhs.uk/2020/01/29/we-release-new-stats-on-cardiac-arrests-showing-survival-rates-outside-of-hospital-reach-all-time-high/

National Institute of Health Research
https://evidence.nihr.ac.uk/alert/use-of-public-defibrillators-linked-to-out-of-hospital-cardiac-arrest-survival/

Online First Aid
https://onlinefirstaid.com/defibrillators-save-lives/?nowprocket=1

Petrie, J., Easton, S., Naik, V., Lockie, C., Brett, S. and Stumpfle, R., 2015. Hospital costs of out-of-hospital cardiac arrest patients treated in intensive care; a single centre evaluation using the national tariff-based system. *BMJ Open*, 5(4), pp.e005797-e005797.

Resuscitation Council UK
https://www.resus.org.uk/library/2021-resuscitation-guidelines
https://www.resus.org.uk/library/quality-standards-cpr/quality-standards-cpr-and-aed-training-community

St John's Ambulance
https://www.sja.org.uk/get-advice/first-aid-advice/unresponsive-casualty/how-to-do-cpr-on-an-adult/
https://www.sja.org.uk/get-advice/i-need-to-know/defibrillator-guide-for-first-time-buyers/
https://www.sja.org.uk/first-aid-supplies/defibrillators-accessories-and-training-models/
https://www.sja.org.uk/globalassets/checklists/defib_checklist_20213.pdf

South Central Ambulance Service
https://www.scas.nhs.uk/news/campaigns/savealife

Winkle RA. The effectiveness and cost effectiveness of public-access defibrillation. Clin Cardiol. 2010 Jul;33(7):396-9. doi: 10.1002/clc.20790. PMID: 20641115; PMCID: PMC6653549

Health and Wellbeing Priorities 2019/20 Supported:

☐ Give every child the best start in life
☐ Primary Care Networks

Health and Wellbeing Strategic Aims Supported:

The proposals will help achieve the following Health and Wellbeing Strategy aim(s):

☐ Give every child the best start in life
☐ Support mental health and wellbeing throughout life
☒ Reduce premature mortality by helping people lead healthier lives
☐ Build a thriving and sustainable environment in which communities can flourish
☐ Help older people maintain a healthy, independent life for as long as possible

The proposals contained in this report will help to achieve the above Health and Wellbeing Strategy aim by reducing the number of deaths from cardiac arrest.

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