Citizen Participation and Public Petitions Committee

18th Meeting, 2023 (Session 6), Wednesday 6 December 2023

PE1989: Increase defibrillators in public spaces and workplaces

Lodged on	14 December 2022
Petitioner	Mary Montague
Petition summary	Calling on the Scottish Parliament to urge the Scottish Government to support the provision of defibrillators in public spaces and workplaces.
Webpage	**https://petitions.parliament.scot/petitions/PE1989**

Introduction

1. The Committee last considered this petition at its meeting on 8 March 2023. At that meeting, the Committee agreed to write to the Scottish Government, the British Heart Foundation, and the Order of Saint John.

2. The petition summary is included in **Annexe A** and the Official Report of the Committee's last consideration of this petition is at **Annexe B**.

3. The Committee has received new responses from the petitioner, NASUWT, the Scottish Government, St John Scotland and the British Heart Foundation.

4. Every petition collects signatures while it remains under consideration. At the time of writing, 580 signatures have been received.

Action

The Committee is invited to consider what action it wishes to take on this petition.

Clerk to the Committee

Annexe A

PE1989: Increase defibrillators in public spaces and workplaces

Petitioner
Mary Montague

Date Lodged:
16/11/22

Petition summary
Calling on the Scottish Parliament to urge the Scottish Government to support the provision of defibrillators in public spaces and workplaces.

Previous action
I contacted Paul Sweeney MSP to ask about a Petition to widen access to Automated External Defibrillators (AED) and was advised of the Committee route.

Background information
Following the fatal cardiac arrest of a close family member in a large, local supermarket, my request for an Automated External Defibrillator (AED) was refused, despite my highlighting that all other large supermarkets locally provided these.

A bereaved family may be comforted to know that everything that could have been done to save the life of their loved one, was done. The effect on shop staff in such a fatality can be traumatic also.

Sudden cardiac arrest is the leading cause of death in adults over the age of 40. British Heart Foundation say that “Cardiac arrest is a critical medical emergency" and "Unless treated immediately, leads to death within minutes. With around 3,200 out-of-hospital cardiac arrests in Scotland each year, the survival rate is just 1 in 10". An AED increases survival rates but the provision of AEDs is random.

Annexe B
Extract from Official Report of last consideration of PE1989 on 8 March 2023

The Convener: PE1989 is lodged by Mary Montague, who, I suddenly recognise, is the provost of East Renfrewshire Council and a constituent. The petition calls on the Scottish Government to support the provision of defibrillators in public spaces and workplaces.

The SPICe briefing states that people living in Scotland's most deprived areas are twice as likely to experience an out-of-hospital cardiac arrest but that public spaces in those areas are significantly less likely to have defibrillators.

The Scottish Government's response highlights the delivery of the initial out-of-hospital cardiac arrest strategy, noting that survival rates have risen from one in 20 to one in 10. The Scottish Government highlights the refreshed strategy for 2021 to 2026, in particular its aim of increasing the percentage of OHCAs that have a defibrillator applied before the ambulance service arrives from 8 to 20 per cent. The response also highlights work that is being undertaken by the University of Edinburgh resuscitation research group to analyse the placement of defibrillators across Scotland and map it against the areas that have the highest risk of cardiac arrests occurring.

I should note that Mary Montague is the Labour provost of East Renfrewshire, in case anybody thought that I was getting a bit cosy in that respect. She is well respected and regarded.

Do members have any comments or suggestions on how we might proceed?

10:00

David Torrance: It is an important issue. I used an accessible defibrillator for cardiopulmonary resuscitation and it makes a huge difference. It is important for defibrillators to be in the public domain. I would like us to keep the petition open and, in doing so, write to the Scottish Government to ask when the next report on the out-of-hospital cardiac arrest strategy will be published and what percentage of OHCAs in 2023 had a defibrillator applied before the ambulance service arrived. I would also like to write to the British Heart Foundation to seek information about its grant funding of public access defibrillators and, specifically, about demand and the potential barriers and challenges that it faces.

Alexander Stewart: I concur with Mr Torrance's comments. It is vital that we find out where the defibrillators are and their background. I am aware that charitable organisations also do a lot of work on this; they fundraise for local areas and provide defibrillators. It might be useful to find out whether they are doing anything. I know, for example, that the Order of St John is doing a national campaign across Scotland to introduce defibrillators to churches, golf clubs and other appropriate locations. It

would be useful to find out whether anything that they are doing could complement or supplement what will happen through Mr Torrance's suggestions.

Carol Mochan: I support what members have said and I want to make the important point that, in the time that I have been in the Parliament, there have been a number of debates and committee discussions about the issue. Now, it is about us seeing what action is being taken. Getting that information from those organisations would be helpful and allow progression to the next stage, which is important for such urgent matters.

The Convener: I agree. In fact, although this might be for a later stage in our consideration, I recall having a conversation recently about supermarket chains. One or two supermarkets have actively decided to provide defibrillators on their premises, and one or two have actively decided not to. It will be interesting to hear from the British Heart Foundation and others what the potential barriers are to any of this. Perhaps, through the committee, we will be able to acknowledge the good work of all those who provide them. As you said, Carol, it is certainly an issue that has come up in members' business debates and in questions in the Chamber, not least because people have had direct experience of a defibrillator making a meaningful difference and leading to a successful outcome for someone who has been subject to an attack.

Annexe C

Petitioner submission of 30 March 2023

PE1989/B: Increase defibrillators in public spaces and workplaces

Research shows that accessing a defibrillator within 3 to 5 minutes of a cardiac arrest increases the chance of survival by more than 40%".

https://www.independent.co.uk/news/education/education-news/defibrillators-schools-england-oliver-king-b2124924.html

Increasing availability therefore of defibrillators in public spaces and in workplaces would save lives.

1 Scottish Government (SG) Out of Hospital Cardiac Arrest Strategy (OHCA) **lacks a key element of Scottish Government funding for the provision of Public Access Defibrillators (PADs)** despite their being a "crucial stage" in the "Chain of Survival" - the ***crucial elements*** required to save a life when someone is in cardiac arrest and are said "to ensure as many people as possible survive an OHCA".

1.1 Re "SHOCK/Key factors" in OHCA guidance –

"S = Sourcing: Purchasing a PAD and obtaining funding"

(that is, rather than a SG strategy of *providing* PADs).

1.2 SG OHCA refreshed strategy "will continue our efforts to equip as many people as possible with the skills necessary to save the life of someone having a cardiac arrest, but will include a particular focus on reaching communities where we know those inequalities exist" - **but omits the provision of the "crucial element" of SG-provided PADs.**

1.3 In its OHCR Strategy, references to PADs include:

- early defibrillation to restart the heart;
- Public Access Defibrillators will be placed optimally and as accessible as possible.
- 20% of all cardiac arrests will have a defibrillator applied before the arrival of ambulance service.

The SG takes no responsibility however for the existence of said defibrillators for public access and application. SG response to Question S6W-03428 by MSP Liam McArthur 30/9/21 was "the purchasing and placement of defibrillators is the responsibility of individual businesses, local authorities, organisations or community groups".

1.4 A recent survey study "Factors affecting public access defibrillator decisions in the United Kingdom" (by Diane Lac* et al) *Corresponding author at: Resuscitation Research Group, The University of Edinburgh, Queen's Medical Research Institute, Rm. W2.13, Edinburgh EH16 4TJ

https://pubmed.ncbi.nlm.nih.gov/36686326/

made the following points:

1.4.1 Decision-makers want to install PADs in locations that maximise impact and benefit to the community, but ideal locations can be constrained by various social and infrastructural factors including…**limited public funding**…

1.4.2 Prompt bystander-initiated defibrillation before the arrival of emergency medical services can increase survival by up to sevenfold but lack of availability of PADs is a barrier to usage and (*instead*) need to be rapidly accessible in the event of an OHCA.

1.4.3 The typical maximum range that ambulance services in the UK use for directing bystanders to PAD in OHCA is 500 m. Recommendations from the American Heart Association suggest that PADs should be available within 1.5 minutes' "brisk walk" from an OHCA. However, studies show that often no PADs are available, or that they are located far from where OHCAs are likely to occur. PAD inaccessibility leads to lower usage and with poorer survival outcomes.

1.4.4 Respondents indicated that the challenge of securing funding for PADs, etc is a barrier for potential PAD hosts.

Respondents reported a reliance on communities, charities, or local organisations to raise funds for equipment, to overcome this, they expressed a strong desire for public funding to support placement of PADs throughout the community and not only in locations capable of self-raising funds.

2 Health and Safety (First-Aid) Regulations 1981 require employers to provide adequate and appropriate first-aid equipment, facilities and people so that employees can be given immediate help if they are injured or taken ill at work. This will depend on workplace circumstances and first-aid needs should be assessed, but the minimum first-aid provision on any work site is: a suitably stocked first-aid kit and appointed person to take charge of first-aid arrangements; information for employees about first-aid arrangements.

Given that Sudden Cardiac Arrest is one of the main causes of death in UK and can occur anywhere including workplaces, the petition argues that the best route to make legislative changes to widen the provision of life-saving defibrillators is by the First Aid regulations being updated to keep pace with modern, readily available and potentially life-saving equipment costing about £700 which requires no training. The biggest advantage of a PAD in the workplace is simple – it could save a life.

First Aid regulations apply to the workforce. While there is no legal duty to provide first aid for nonemployees, Health and Safety Executive strongly recommends that they are included in first-aid provision. Members of the public therefore would also have access to defibrillators (including in large supermarkets)
https://www.hse.gov.uk/pubns/indg214.pdf

Trades Union Congress (TUC) also advise that risk assessments must cover everyone in the workplace, including visitors.

This petition therefore calls on the Scottish Parliament to urge the Scottish Government to make representations to the UK Government to appropriately update Health and Safety at Work legislation with the inclusion of reasonable defibrillator provision in First Aid requirements therein.

NASUWT submission of 4 April 2023
PE1989/C: Increase defibrillators in public spaces and workplaces

The NASUWT's submission to the Scottish Parliament Citizen Participation and Public Petitions Committee sets out the Union's views on the key issues which should be explored by the Committee in its scrutiny of petition PE1989: Increase defibrillators in public spaces and workplaces.

The NASUWT's evidence is informed directly by serving teacher and headteacher members and also by the work of its representative committees and consultative structures, made up of practising teachers and school leaders working in the education system.

Introduction

The NASUWT fully supports petition PE1989 and calls to the Scottish Parliament to urge the Scottish Government to support the provision of defibrillators in public spaces and workplaces.

The following motion was debated and passed at our NASUWT Scotland Annual Conference on 21 May 2022:

PE TEACHERS AND DEFIBRILLATORS

In light of all the high-profile cardiac arrests in sport, Conference calls upon the Scotland Executive Council to campaign to ensure that every PE teacher is fully trained in defibrillators and that every school has one installed.

The NASUWT Scotland Conference is the main decision-making body of the Union in Scotland. It debates and determines the Union's policies to

address the issues that are critical to the working lives of teachers and school leaders and the future of education in Scotland.

A number NASUWT Scotland Conference delegates pre-recorded their speech to avoid any motion being unable to be passed on the day due to unexpected COVID-related absences. We are therefore able to share the proposing speech by National Executive Member, Scott McGimpsey, in full: https://youtu.be/v3V75J2jLng.

The statistics set out by Scott McGimpsey in his speech provided a context for the Scotland Conference vote in favour. Given only one in ten cardiac arrests survive outwith a clinical setting and given the decreasing odds of survival the longer an individual has to wait to have access to a defibrillator, NASUWT members voted in full support of the Scottish Government's ambition for Scotland to become a world leader in out-of-hospital cardiac arrests and for every school to have a defibrillator installed and for staff to be appropriately trained.

It is worth noting that since this motion passed in 2022, the Oliver King Foundation has successfully campaigned for all schools in England to have defibrillators. The rollout has now started, with the life-saving devices being distributed to state schools who do not already have one. According to the Department for Education, 20,000 defibrillators will be delivered to almost 18,000 state-funded schools by the end of the academic year. The devices in place in schools have already had a substantial impact (as has recently been showcased by the BBC: https://www.bbc.co.uk/news/uk-england-merseyside-65049384).

The NASUWT would be happy to meet with the Committee to discuss all of these issues in more detail.

Scottish Government submission of 18 May 2023

PE1989/D: Increase defibrillators in public spaces and workplaces

Thank you for your email of 26 April 2023 inviting me to provide information on when the next report on the Out-of-Hospital Cardiac Arrest Strategy will be published and what percentage of OHCAs, so far in 2023, had a defibrillator applied before the ambulance service arrived.

As mentioned in our initial petition response, on the 13th of December 2022, the most up-to-date published information on delivery of the Out-of-Hospital Cardiac Arrest Strategy, including statistics on defibrillator application rates, is available here; Scotland's Out-of-Hospital Cardiac Arrest Report 2019-2022. This includes data from April 2019 to 31st March 2022 and reports that the 2021-22 average of worked[1] out of hospital cardiac arrests in which a defibrillator was used before arrival of the ambulance service was 8%.

The next Out-of-Hospital Cardiac Arrest report is due to be published in October 2023 and will include data from April 2022 to March 2023. This will enable a direct comparator to the 2021-22 average figure noted in the paragraph above.

The following information is not published data, and is a rolling average (Dec 2021 – Dec 22). Therefore, while we are sharing this with the committee for information, it should be considered with those caveats. The most recent data available is that as of 31 Dec 2022 the 12 month rolling average of worked out of hospital cardiac arrests in which a defibrillator was used was 9.2%.**PE1989: Increase defibrillators in public spaces and workplaces**

[1] 'Worked arrests' are OHCA that have a cause which does not involve major physical trauma and where resuscitation was attempted by the Scottish Ambulance Service (SAS). This number forms the denominator for all subsequent outcome calculations unless otherwise specified. There are a number of reasons why SAS may not attempt resuscitation including obvious death or the confirmation that resuscitation was not the patient's wish.

St John Scotland submission of 29 May 2023

PE1989/E: Increase defibrillators in public spaces and workplaces

The Order of St John has a presence in more than 40 countries around the world, and delivers its charitable activities through national St John organisations, including St John Scotland (SC047485) in Scotland, St John Ambulance in England, and many others across the world.

Everything we do is about creating a caring Scotland, where more of us will survive a health crisis to live longer, and better. Our volunteers deliver our core services:

- Free Patient Transport for renal and oncology treatment
- Helping communities install Public Access Defibrillators
- Free Bystander CPR training, including how to use a defibrillator
- Community First Responders supporting the Scottish Ambulance Service

Thank you for inviting us to respond to PE1989: Increase defibrillators in public spaces and workplaces. We will outline how our PAD programme works and what drives our decision-making, development and the most frequent challenges.

St John Scotland Community Defibrillators Programme

Every week in Scotland, around 70 people have a cardiac arrest at home, work or in a public place.

Starting CPR as soon as possible will give the person the best chance of survival, but being able to use a defibrillator within the first few minutes of collapse increases that chance even further.

That's why St John Scotland works with communities across Scotland to increase the availability of Public Access Defibrillators. Last year we supported 158 communities throughout Scotland to install an AED in their local area.

The Save A Life For Scotland network and OHCA Strategy greatly inform the principles of our programme.

Through our Community Defibrillator Scheme, we will:

- work with community groups to establish the best location for a defibrillator in their local area
- set community groups a fundraising target of £1,000 for a defibrillator and external storage cabinet, where St John Scotland covers the remaining equipment costs - usually £400-£500
- offer advice and support around the installation
- offer free Bystander CPR and defibrillator training in the community after installation

We have increasingly found businesses coordinating a campaign on behalf of their community and we support this providing the defibrillator is to be Public Access.

When assessing an application for support to install a Public Access Defibrillator, our volunteers work with the community group to identify:

- Nearest PADs
    - Registered on The Circuit – via defibfinder.uk
    - Not yet registered on The Circuit – via local knowledge
- Proposed location, reasoning and accessibility
- SIMD area – simd.scot
- Nearest A&E Dept
- Cabinet requested – unlocked or reason for locked
- Commitment to installation by a qualified electrician
- ongoing ownership and guardianship including regular checks and replacing consumables as required
- Commitment to Bystander CPR training for their wider community
- Pledged fundraising, or request for help to organise a suitable event

24/7 Access

St John Scotland agrees with the Resuscitation Council UK's consensus that external AED cabinets should be unlocked, wherever possible. This

saves vital time when retrieving a defibrillator and does not require a secondary 999 call to be told the access code.

Although some community groups have concerns about vandalism or theft, we cite community engagement as the key to mitigating that risk. The Bystander CPR and Defib awareness session our volunteers offer is advertised to the local community. In these sessions, it is explained that without intervention, someone having a cardiac arrest will not survive. Coupled with high-profile cardiac arrests in the sporting world and beyond, St John Scotland is committed to help educate people that defibs could save your or someone you know's life.

The Circuit

The Circuit is the national defibrillator network and provides the NHS ambulance services with vital information about defibrillators across the UK so 999 call handlers can direct bystanders to the nearest PAD. As part of our application form, we ask all community groups to commit to take guardianship by adding and maintaining their PAD on The Circuit.

We provide literature from The Circuit including a 'Guide to being a Defib Guardian' and 'The Guardian's guide to The Circuit' to help community groups understand what is required, the importance of what they do, and how to do it.

Our volunteers use defibfinder.uk which shows the status of defibs on The Circuit. Our local volunteers are working within their communities to identify defibs which are not on The Circuit yet and looking for optimum locations for new PADs.

Costs – both initial and ongoing

The initial fundraising target of £1000 is unattainable by some community groups. In these instances, St John Scotland provides support to set up online campaigns or with advice on events which can be run at low cost.

SJS provide at least 25% of funding, with the community group raising the remaining 75% of the cost to St John Scotland for equipment. This works out at a 60% saving if the Community Group bought one from a supplier outright. On a case-by-case basis, SJS can donate more to facilitate the installation, including from local Volunteer Committeees' funds.

Ongoing costs are becoming more of a concern to community groups as batteries and replacement pads increase in price. In addition, the electricity cost to maintain the temperature and lighting of the cabinet continues to rise in line with other energy costs.

Training defibrillators are zero-rated for VAT due to their status as medical training equipment, however live defibrillators are still subject to 20% VAT for community groups. With cross-party support of over 50 MSPs from 5 parties, Jenni Minto MSP wrote to the Chancellor in March 2022 calling for VAT on Community Defibrillators to be scrapped and lodged a motion in the Scottish Parliament in November 2022.

Guardianship

The commitment and responsibility of becoming a Guardian to the defib can be challenging for a community group to pin down. With the help of The Circuit's literature, we explain how this could work and that more than one person in the community can be a guardian. St John Scotland resources for primary-aged children can also help to show how the whole community can get involved in making sure their defib is ready to save a life.

If a guardian moves away, or office-holders change within a community group, there is a risk of the defib going unchecked.

Location

Often a community group who have fundraised for a PAD will request it to be installed on or near their premises. We help community groups understand the best location for their PAD with local research into the nearest PADs on The Circuit and the SIMD areas close to them. We will advise if we feel it may be better located elsewhere For example, instead of across the road from another PAD, a few streets away. We offer dual cabinet branding to help connect this to their original fundraising.

The individual or organisation driving the installation of a PAD is not always the most appropriate location to install one.

As a SALFS partner, we are regularly updated on Dr Gareth Clegg's work as part of the University of Edinburgh Resuscitation Research Group which are analysing the instances of OHCA versus the current placement of PADs as part of their PADmap Study. We look forward to

being able to use the tool they are creating to find the optimum location for PADs in local communities, where they are most likely to save a life.

People in the most deprived areas of Scotland are twice as likely to have an out-of-hospital cardiac arrest. Receiving applications or interest from "right" areas, where there isn't already PAD coverage is an ongoing challenge we are seeking to address with local volunteer engagement. When St John Scotland has donations toward the installation of a defibrillator, we identify an area in SIMD Quintile 1 with the help of local volunteers.

Planning

Planning permissions from local authorities differ across the country. Some local authorities are very committed to installing PADs on their premises so they have 24/7 access. Others often refuse and it is hard to have dialogue with them to attempt to address the reasons why.

Community Groups who have fundraised and identified the need for a PAD in their area can have their installation delayed or relocated due to council decisions to approve or deny the installation.

Equipment

There are several defibrillators and cabinets on the market, but we tend to supply the following to our community groups and have a significant discount with our supplier:

- IPAD SP1 Semi Automatic Defibrillator https://www.ipad-aed.com/ipad-sp1/
- DefibSafe 2 secure external defibrillator cabinet https://www.defibsafe.co.uk/

Bystander CPR training

Any CPR is better than no CPR; without intervention, someone suffering a cardiac arrest will die. Our Bystander CPR sessions show members of the public how they can become part of the Chain of Survival in the event of cardiac arrest.

Our volunteers deliver a 30-minute session covering DR ABCD:

Danger – Response – Airway – Breathing – Compressions – Defibrillator

It includes practical hands-only compressions on a manikin, and the application of a training defibrillator. By delivering the message, that the

999 call handler will talk you through what you need to do, and that once you've switched on the defibrillator it will tell you what to do, it gives members of the public the confidence they could help save someone's life.

Bystander CPR training and resources are also offered to community groups who already have a defib installed, increasing confidence and familiarity so they can help.

In Areas of Scotland where we do not have a Volunteer Committee yet, we can provide virtual training.

British Heart Foundation Scotland submission of 24 May 2023

PE1989/F: Increase defibrillators in public spaces and workplaces

I'd like to take this opportunity to firstly thank the petitioner, Mary Montague, for bringing this important issue to the attention of the Petitions Committee and Members of the Scottish Parliament. Her journey to bring this petition forward is one that no one wishes to experience but unfortunately in Scotland is all too common.

Secondly I'd like to thank the Committee for the opportunity to contribute towards the discussion on public access defibrillators in Scotland, their provision and use in incidences of out-of-Hospital cardiac arrest (OHCA).

The British Heart Foundation is fully committed to helping improve survival rates from OHCA across Scotland, and the rest of the UK, through an evidenced based approach. We have worked, and are currently working, collaboratively with a wide range of partners including the Scottish Government, Scottish Ambulance Service and the Save a Life for Scotland partnership.

I hope the attached paper is helpful in the Committee's considerations of this petition and we would welcome any opportunity to discuss with the members of the Committee further.

David McColgan, Head of British Heart Foundation Scotland

BHF Scotland welcomes the consideration of this petition and supports all programmes to increase the number of defibrillators across Scotland. However, a number of issues exist in the current system of automated external defibrillator (AED) placement and consideration of this is crucial to the success of any programme.

British Heart Foundation Public Access Defibrillator Programme

The British Heart Foundation runs a scheme of part funded Public Access Defibrillators[i] where, if a group meets a set of conditions, applicants are able to purchase a defibrillator at a cost of £600.

There are a number of conditions to secure a grant for a part funded defibrillator. To be eligible for a part funded defibrillator:

- The defibrillator must be kept outside in an unlocked and un-coded cabinet, where it can be accessed by anyone 24 hours a day.
- An electricity supply must be provided so that the defibrillator is kept at the right temperature in cold weather to prevent the battery and pads from damage.
- There must be a clear need for the device (e.g. a location with high footfall or in a rural area).
- There must be a commitment to train the local community in CPR using the BHF's free online RevivR training.

Between 2017/18 and 2020/21, this scheme has part funded the purchase of more than 1,300 defibrillators across the UK, more than 300 defibrillators part funded in each year. In this time, applications increased from 545 in 2017 to a high of 918 in 2019/20.

However, due to the impact of the Covid-19 pandemic on the income of the British Heart Foundation, the programme was paused in 2021. These restrictions continued when the programme was reopened in 2022/23, which meant that only 99 applications were able to be approved from 333 applications.

Year	Number of applications	Number of approved applications
2017/18	545	332
2018/19	681	333
2019/20	918	358
2020/21	701	307
2021/22	0	0
2022/23	333	99

Table 1: Applications to the BHF part funded defibrillator programme[2]

The Circuit

The Circuit is a first-of-its-kind national defibrillator network that connects all defibrillators in the UK to a single network. Registering defibrillators on The Circuit allows ambulance services to quickly direct people to their nearest defibrillator.

The Circuit was developed by the British Heart Foundation, Microsoft, and the Scottish Ambulance Service, and co-funded by the Resuscitation Council UK and St John's Ambulance.

As of 2022, all 14 ambulance services across the UK have signed up to use The Circuit.

As of May 2023, there were around 6,400 defibrillators registered on The Circuit in Scotland, and more than 67,000 across the UK. A map of defibrillators registered on The Circuit can be found at defibfinder.uk.

The role of AEDs in improving outcomes from a cardiac arrest

Pollack, Brown et al showed in their 2018 paper *Impact of Bystander Automated External Defibrillator Use on Survival and Functional Outcomes in Shockable Observed Public Cardiac Arrests* that patients shocked by a bystander compared to those shocked by arriving EMS were:

- significantly more likely to survive to discharge (67% versus 43%)
- be discharged with a favourable function outcome (57% versus 33%).

[2] Applications are approved based on meeting of criteria and variable financial constraints. More information about the criteria can be found here

Barriers to the purchase of AEDs

A wide array of reasons for not buying an AED can be found in academic literature including:

- 32-38% citing cost[iiiiiiv]
- 7-51% concerns about liability[v2728]
- 24% never been considered[27]
- 33% local EMS response was good enough[28]
- 11% a hospital was nearby.[27]

Maintenance and replacement plans have also been shown to be a barrier to accessibility of AEDs when an OHCA occurs. In one study 24% of AEDs were not maintained[25], 18% had no formal maintenance plans in place and 24% had no formal plan for replacement.[26]

Placement of AEDs

A crucial aspect of the purchase of a defibrillator is its placement. It is widely held that the general approach to AED placement across the globe is failing. There are very few public programmes for the placement of AEDs and very little guidance available. Research has shown that most AEDs are placed by private citizens fundraising or charities supplying them[vi,vii].

There have been a number of studies, including the Stockholm Study[viii], which have shown that the current approach to AED placement does not correlate to the location in which OHCAs in public locations occur. This has led to an over-provision of AEDs in areas where fewer OHCAs occur, therefore reducing the impact of the AED footprint.

We know for example that the further the distance to an AED from the site of an OHCA, the less likely the AED is to be used and the lower 30-day-survival chances of the patient.

A big part of this in ensuring that AEDs are accessible to the public. One issue that prevents access is the issue of AEDs that are unavailable due to sites being closed during parts of the day. A 2017 study in Denmark of more than 12,00 OHCA's found that neatly 1 in 5 cardiac arrests occurred within the vicinity of an AED that was not accessible due to opening hours of its site[ix].

Government funding of AEDs in the community

Community defibrillator funds have been made available in other parts of the UK. For example, the Welsh Government launched a fund totalling £500,000 for community defibrillators in 2021[x], which has since been increased to £1 million in 2022[xi]. A similar fund was also introduced in England in 2022[xii].

Both programmes have a focus on ensuring that funded defibrillators are placed in areas of need and that all funded AEDs should be registered on The Circuit.

BHF Scotland would support a programme of support from the Scottish Government to increase the number of defibrillators in the community. It is crucial, however, that any such programme of defibrillator investment ensures that they are conditional upon placement being publicly accessible to maximise their effectiveness.

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[i] https://www.bhf.org.uk/how-you-can-help/how-to-save-a-life/defibrillators/apply-for-a-public-access-defibrillator

[ii] Ashimi AO, Cobbe SM, Pell JP. Scottish survey of public place defibrillators. Scott Med J 2010;55:8–10.

[iii] Bartimus HA, Rea TD, Eisenberg MS. Prevalence of automated external defibrillators at cardiac arrest high-risk sites. Prehosp Emerg Care 2004;8:280– 283

[iv] Coris EE, Sahebzamani F, Walz S, Ramirez AM. Automated external defibrillators in National Collegiate Athletic Association Division I Athletics. Am J Sports Med 2004;32:744–754.

[v] Richardson LD, Gunnels MD, Groh WJ, Peberdy MA, Pennington S, Wilets I, Campbell V, Van Ottingham L, McBurnie MA, PAD Trial Investigators. Implementation of community-based public access defibrillation in the PAD trial. Acad Emerg Med 2005;12:688–697.

[vi] Nielsen AM, Folke F, Lippert FK, Rasmussen LS. Use and benefits of public access defibrillation in a nation-wide network. Resuscitation 2013;84:430–434.

[vii] Cronin O, Jordan J, Quigley F, Molloy MG. Prepared for sudden cardiac arrest? A cross-sectional study of automated external defibrillators in amateur sport. Br J Sports Med 2013;47:1171–1174.

[viii] Fredman D, Haas J, Ban Y, et al Use of a geographic information system to identify differences in automated external defibrillator installation in urban areas with similar incidence of public out-of-hospital cardiac arrest: a retrospective registry-based study BMJ Open 2017;7:e014801. doi: 10.1136/bmjopen-2016-014801

[ix] Sondergaard KB, Hansen SM, Pallisgaard JL, Gerds TA, Wissenberg M, Karlsson L, et al. Out-of-Hospital Cardiac Arrest: Probability of Bystander Defibrillation relative to Distance to Nearest Automated External Defibrillator. Resuscitation 2017 Dec 4.

[x] https://www.gov.wales/we-are-committed-improving-community-access-defibrillators-boost-cardiac-arrest-survival-rates-vows

[xi] https://www.gov.wales/new-funding-increase-defibrillator-access-wales

[xii] https://www.gov.uk/government/news/number-of-defibrillators-to-be-increased-with-new-funding