Report of the Chief Executive

DEFIBRILLATORS

1. Purpose of report

To ask the Committee to consider what action to take in relation to provision of defibrillators in the Broxtowe area.

2. Detail

Automatic External Defibrillators (AEDs) in public places for use by non-trained personnel are a relatively recent innovation in this country. They consist of an easy to use, compact, portable piece of equipment which provides a high energy electric shock to restore the heart's normal rhythm. More details of the way they work provided by East Midlands Ambulance service is contained in Appendix 1. They are designed to be used by lay persons; the machines guide the operator through the process by verbal instructions and visual prompts. They are safe and will not allow a shock to be given unless the heart's rhythm requires it. They are designed to be stored for long periods without use and require very little routine maintenance. Several models are available from the manufacturers or through medical equipment. Appendix 2 provides some information on the costs of providing and maintaining these devices.

A number of these devices already exist within Broxtowe and details of these where we have been able to access information is provided at appendix 3. Provision of these devices is not a statutory requirement of this authority.

Opportunities arise from time to time for the appropriation and use of redundant telephone boxes to house these devices. There are financial and logistical risks and risks of setting a precedent associated with this course of action unless the role the Council takes is purely to signify an interest in the telephone box if it is located in an area where AED coverage is poor, and to pass on the opportunity for adoption of the box and the raising of funds to purchase and maintain the necessary equipment to a local voluntary group. Appendix 4 sets out some of the latest places where the council has been consulted on potential removal of telephone boxes.

3. Financial implications

There is no provision in the Council's budget for the acquisition or maintenance of telephone boxes or AEDs, or internal capacity to maintain the devices

Recommendation

The Committee is asked to CONSIDER whether the Council should to play a role (and if so what role) in the acquisition of redundant telephone boxes to house defibrillators or provide any finance for acquisition or maintenance and checking of AED devices and RESOLVE accordingly.

Background papers

Nil

APPENDIX 1

WHAT ARE AEDS?

Sudden cardiac arrest (SCA) is a leading cause of premature death, but with immediate treatment many lives can be saved. SCA occurs because the electrical rhythm that controls the heart is replaced by a chaotic disorganised electrical rhythm called ventricular fibrillation (VF). The quicker VF can be treated by defibrillation the greater the chance of successful resuscitation. Seconds count, and the ambulance service is unlikely to arrive quickly enough to resuscitate most victims.

Many SCA victims can be saved if persons nearby recognise what has happened, summon the ambulance service with the minimum of delay, perform basic cardiopulmonary resuscitation (particularly chest compressions) and use an AED to provide a high energy electric shock to restore the heart's normal rhythm. Each of these stages is a link in a chain of events that provide the best chance of success, but the critical factor is the speed with which the shock is given.

Automatic External Defibrillators (AEDs) are easy to use, compact, portable and very effective. They are designed to be used by lay persons; the machines guide the operator through the process by verbal instructions and visual prompts. They are safe and will not allow a shock to be given unless the heart's rhythm requires it. They are designed to be stored for long periods without use and require very little routine maintenance. Several models are available from the manufacturers or through medical equipment companies.

AEDs have been installed in many busy public places, workplaces, or other areas where the public have access. The intention is to use the machines to restart the heart as soon as possible. This strategy of placing AEDs in locations where they are used by lay persons near the arrest is known as public access defibrillation (PAD). Training to use an AED is an extension of the first aid skills possessed by first aid personnel and appointed persons. AEDs have been used successfully by untrained persons, and lack of training should not be a deterrent to their use.

The important factors to consider when contemplating installing an AED at any location are discussed. The decision should be made in partnership with the local ambulance service who will advise about their purchase, installation and other practical information.

AEDs should be placed or stored where they are most likely to be needed; they must be accessible with the minimum of delay. All persons working at the site need to be aware of their purpose and location, and the steps to be taken should someone collapse. This will include calling the ambulance service and activating the organisation's emergency response plan to get the AED and those best trained to use it.

People who want to install an AED need access to help and guidance, for example on exactly where to place it, how to make sure that it is most likely to save a life, and how to arrange training to support this. The local ambulance service is a ready source of expertise on the provision of resuscitation services and can offer practical

advice about the potential value and effectiveness of an AED in any situation, and about training in CPR and the use of AEDs.

Those responsible for an AED are not expected to carry out any maintenance tasks other than replacing expired batteries, electrode pads, and other consumable items (razor, airway adjuncts, plastic gloves). Even then, the shelf-life of these (unused) is usually 3 - 5 years, so any maintenance tasks are infrequent. In all cases the manufacturer's instructions should be followed.

All currently available AEDs perform regular self-checks and if a problem is detected it will be indicated. In most cases they show this by a warning sign or light visible on the front of the machine. Those with responsibility for an AED should have a process in place for it to be checked regularly and frequently (ideally daily) for such a warning, and for appropriate action to be taken when necessary. If this task is delegated to individuals, allowance must be made to ensure that the checks are not neglected during absence on holidays, sick leave etc. Most manufacturers provide a replacement AED while one is removed for servicing, and the arrangements for this should be clarified and agreed during the process of buying the AED.
The demand for AEDs within communities and businesses is growing. This is fuelled by the stories of successful use, the fall in price and promotion by numerous organisations.

Contact has been made with East Midlands Ambulance Service (EMAS) who have advised that they support the provision of AEDs.

EMAS have produced a Community AED Handbook. https://www.nwleics.gov.uk/files/documents/information_from_emas/Information%20from%20EMAS.pdf

This states: *"The government initially led the way in 1999 by placing AEDs in locations such as railway stations, airports and other public places. The message to the public is that AEDs can and do save lives. However, communities tend to buy one and believe that this is enough - but it is only the start. Many schools, businesses and clubs are raising money to fund one and local authorities have found it difficult to know what to buy and where to put them.*

There is also confusion over governance of the AED and who has on-going responsibility for its upkeep and maintenance. The responsibility of an owner does not end with the buying of a machine. People raise enough money and then are indecisive over what to buy and how best to store it. People are looking generally in the smaller villages looking at phone boxes. Once stored, there are some instances where no-one is taking responsibility for its up-keep."

When EMAS receive an emergency call and it is considered by the call handler that an AED could be used, the caller will be advised of any AEDs which are within 500m and are accessible 24 hours a day. EMAS go on to say in their handbook:

"The provision of the units is only the start of things. Ongoing maintenance is essential. Unfortunately, you can't just buy an AED and place it into the community to use. You have a responsibility to maintain and make sure that the AED is ready

for use – for example, if outside in a cabinet it needs to be at the right temperature. This means that you need to set up a simple process for checking the AED on a regular basis.
You also need to consider the replacement of perishable items, the financial commitment and the process for making sure that the AED is available and ready for use. Users of an AED are not expected to carry out any maintenance tasks other than replacing expired batteries, electrode pads, and other consumable items (e.g. razor, drying towel, scissors etc.). Even then, the shelf-life of these (unused) is usually three to five years, so any maintenance tasks are infrequent. In all cases the manufacturer's instructions should be followed.

All currently available AEDs perform regular self-checks and if a problem is detected it will be indicated. In most cases they show this by a warning sign or light visible on the front of the machine. Those owning an AED should have a process in place for it to be checked regularly and frequently for such a warning, and for appropriate action to be taken when necessary. We would recommend that a check is made weekly and that this is recorded on a simple spread sheet or table for completeness. Each check should review:

1. The batteries are at a suitable level
2. The pads are in date
3. The AED is structurally sound.
4. The cabinet has not been tampered with and is structurally sound.

If the checking task is delegated to individuals, allowance must be made to ensure that the checks are not neglected during absence on holidays, sick leave etc. Most manufacturers provide a replacement AED while one is removed for servicing, and the arrangements for this should be clarified and agreed during the process of buying the AED."

East Midlands Ambulance Service have also recently advised that they have been working with the British Heart Foundation to develop The Circuit – the national defibrillator network, to give cardiac arrest victims the best chance of survival by linking a national network of defibrillators to every Ambulance Service in the UK. Details of this can be seen at https://www.thecircuit.uk/ It goes live on 27th February 2020.

Research findings

Research published in 2017 (The Effects of Public Access Defibrillation on Survival After Out-of-Hospital Cardiac Arrest: A Systematic Review of Observational Studies – J S Baekgaard et al. Circulation, July 2017) states:

*Despite recent advances, the average survival after out-of-hospital cardiac arrest (OHCA) remains below 10%. Early defibrillation by an automated external defibrillator (AED) is the most important intervention for OHCA patients, showing survival proportions above 50%. Accordingly, placement of AEDs in the community as part of a public access defibrillation program (PAD) is recommended by international guidelines. **

Jerry P Nolan, Honorary Professor of Resuscitation Medicine, University of Bristol; Consultant in Anaesthesia and Intensive Care Medicine, Royal United Hospital, Bath, commenting on the research states:

Each minute of delay to defibrillation is estimated to reduce by 10% the probability of long-term survival after ventricular fibrillation cardiac arrest. Non-dispatched lay first responders who use on-site automated external defibrillators (AEDs) can deliver a shock several minutes faster than first responders who are dispatched from elsewhere. The findings of this review support an increase in the number of AEDs placed in cardiac arrest 'hot spots'. Placement of AEDs in well-known businesses such as coffee shops and banks may optimise accessibility. Unfortunately, the impact of public access defibrillator programmes is limited by the fact that only 15% of out-of-hospital cardiac arrests occur in public places.

Professor Tom Quinn, associate Professor for Research and Innovation; Director, Centre for Health and Social Care Research, Kingston University and St George's University of London comments:

Out-of-hospital cardiac arrest results in around 30,000 resuscitation attempts in England each year. Survival rates are low – only 7 to 8% of patients survive to hospital discharge. The potential of simple interventions delivered in the first minutes following collapse – bystander cardiopulmonary resuscitation and defibrillation – to improve survival is promising, but while 'public access defibrillators' (PADs) are increasingly available, they are used in only a minority of cases. This systematic review confirms the value of PADs available for rapid use by bystanders (median survival 53%) and should prompt renewed emphasis by ambulance services, health systems and local communities to raise awareness and encourage usage to help save lives.

*There are a number of documents purporting to be "International Guidelines" including:
International Guidelines for the Proper Deployment of Automated External Defibrillators (AEDs) in Workplaces and Public Spaces
Authored by Dr Don Dingsdag and Dr Graeme Peel. October 2019.
https://irp-cdn.multiscreensite.com/ce7cbe9a/files/uploaded/The%20Defibrillator%20Guidelines%20-%20October%202019.pdf
This is a document produced in Australia and there is no indication in it as to the basis for the term "International Guidelines"

APPENDIX 2

THE COST OF AEDS

The Lifepak CR2 is a type of AED specified by EMAS in their document, but others are available. This is a basic model but more sophisticated units are available, for example those which are Wi Fi enabled which can submit information wirelessly on usage, etc. Based on the Lifepak CR2, an estimate of costs is as follows (all pre-VAT)

- Purchase £1450
- Wall cabinet £207
- Replacement pads (every 4 years assuming no use) £77
- Replacement battery (every 4 years assuming no use) £173

The above does not include costs for fitting, electricity, heating, etc
Training of local groups is also recommended but this has been provided by EMAS free of charge in the past.

The Community Heartbeat Trust will undertake maintenance of AEDs and quote a figure on their website of “from £126 per annum” for a basic maintenance contract.

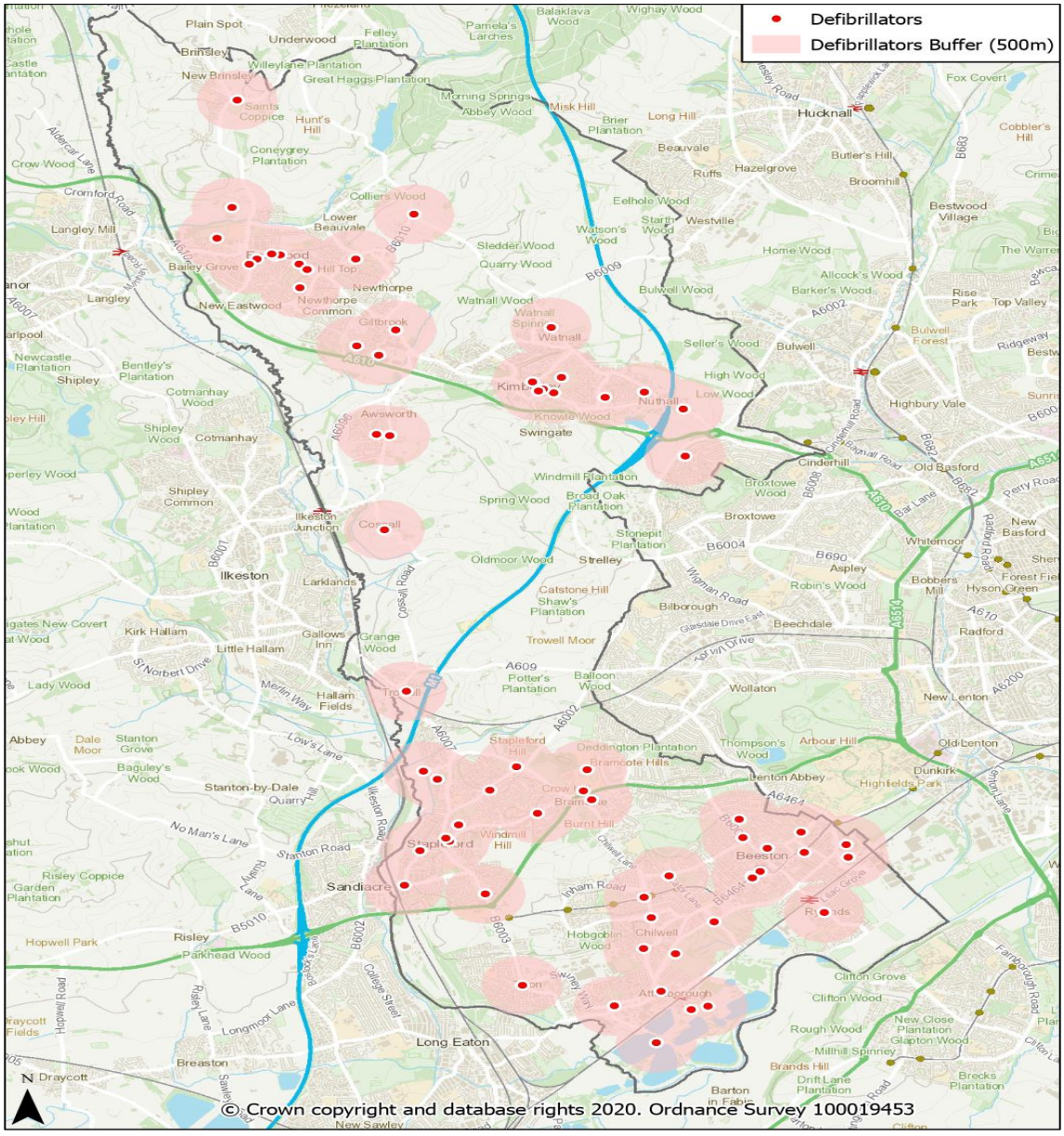
APPENDIX 3

THE LOCATION OF EXISTING AEDS

EMAS has details of 61 such units and they are shown plotted on a map, along with the 500m buffer zones.

As can be seen, good coverage of the borough exists with the current units. However, there are some places where coverage is more patchy. These areas include between Watnall and Giltbrook; east of Nuthall; east of Bramcote Hills; west of Chilwell; north and west of Toton.

As well as the EMAS registered AEDs which are shown on Broxtowe Maps, there are a number of AEDs in workplaces, doctor's surgeries, leisure centres, etc. These are not on the EMAS list on the basis they are not available 24 hours a day.



APPENDIX 4

The seven phone boxes which were the subject of the consultation were in the following locations:

1. Carwood Road, Beeston

2. Front of Festival Inn, 2 Ilkeston Road, Trowell

3. Church Street, Eastwood

4. Awsworth Lane, Cossall

5. Corner of Lawrence Avenue/Tennyson Square, Awsworth

6. Corner of Pinfold Lane/Nottingham Road, Stapleford

7. Junction of Raglan Street/Nottingham Road, Eastwood

The Planning Council objected to the removal of all but the kiosk at Cossall. The link to the committee decision is https://www.broxtowe.gov.uk/for-you/planning/payphone-removal/

Numbers 1,5 and 7 above are the ones where “adoption by Councillor / use as defibrillator” was given as a reason for the objection.

On 15th April, BT advised that 1,2 and 3 had been removed. Orders had been placed for removal of the other four but contractors were only undertaking emergency work at that time.