



HEALTH OVERVIEW AND SCRUTINY COMMITTEE – 10th
NOVEMBER 2021

DISTRIBUTION OF AUTOMATED EXTERNAL
DEFIBRILLATORS (AED) WITHIN LEICESTERSHIRE

REPORT OF THE DIRECTOR OF PUBLIC HEALTH AND THE
EAST MIDLANDS AMBULANCE SERVICE

Purpose of the Report

1. This report responds to a request by the Committee to examine the availability and coverage of public access defibrillators (PAD) within Leicestershire. Its purpose is to set out such coverage, how a community may go about securing a PAD and to make recommendations that will enable more people in Leicestershire to survive an out of hospital cardiac arrest (OHCA).

Background

2. There are more than 30,000 out of hospital cardiac arrests (OHCAs) per year nationally where emergency medical services attempt to resuscitate the victim. In only one in 20 instances was a public access defibrillator used before the ambulance arrives.
3. The UK survival rate from an OHCA is around 8%, lower than in other developed countries. A recent review found that bystander assistance through cardiopulmonary resuscitation (CPR) and attaching a defibrillator increased the survival rate to 32%, compared to 12% for police or firefighters attaching a defibrillator. Survival rates were even higher for people who had a rhythm that could be treated by a shock from the defibrillator, at 53% following intervention by bystanders. The higher survival rate seen following bystander assistance is probably due to the shorter time response time. Whether it was the speed of first response or cause of cardiac arrest that accounted for these differences, it is clear that members of the public have an important role to play.
4. According to a You Gov survey of 2150 adults carried out by the Resuscitation Council UK, while 93% of respondents would call 999 if they witnessed a cardiac arrest, only 54% said they would probably use a defibrillator.

Overview of AED Provision

5. There are two types of AED in the community:
- Those that are available to the public and kept in a cabinet;
 - Those that are available only to staff at a particular address, for example a doctor's surgery or sports hall.

No one has a definitive list albeit the Ambulance Service tends to be informed about the majority of PADs. This is particularly the case in respect of public AEDs above but less likely for those for emergencies at a particular address.

Distribution of AEDs in Leicestershire

6. The data below is taken from the Computer Aided Dispatch (CAD) System within the Ambulance service where AED sites are maintained by EMAS. It considers only those in the first group above. The number of AEDs in the community according to the data is spread by Leicestershire Postcodes as below:

Post Code	AED Total
CV13	31
CV9	6
LE1	17
LE10	21
LE11	35
LE12	86
LE13	17
LE14	46
LE15	85
LE16	61
LE17	42
LE18	15
LE19	11
LE2	43
LE3	36
LE4	31
LE5	25
LE6	10
LE65	13
LE67	49
LE7	59
LE8	31
LE9	45
DE74	23
DE12	27
Total	865

7. Distribution has been driven by a combination of local bodies or individuals responding to the Chain of Survival message of:
- Early recognition;
 - Early CPR;
 - Early AED use;
 - Early Advanced Life Support.

This Local drive is then coupled with the suitable position being selected in their village or town. This can be influenced by the location of the village hall or a local phone box.

Managing AEDs in the community

8. The vast majority of AEDs in group 1 are managed by the public. EMAS manage 30 (approx. 3% across Leicestershire and Leicester City of which 25 are in Leicestershire). The EMAS managed AEDS in Leicestershire are:
1. Barwell Co-Op Pharmacy, 50-54 High Street LE9 8DS;
 2. Coalville Council Offices, Whitwick Road Coalville LE67 3F;J
 3. Coleorton Post Office, Lower Moor Road, Coleorton LE67 8FJ;
 4. Desford, Sport in Desford, The Flying Fields, Peckleton Lane LE9 9JU;
 5. Hermitage FM coffee lounge, Memorial Sq Coalville LE67 3TU;
 6. Hinckley Police Station, Hollycroft, Upper Bond Street LE10 1RJ;
 7. Huncote, The Pavilion, Sportsfield Lane LE9 3BN;
 8. Leicester, Braunstone Police Station, Hallam Crescent East, Braunstone, LE3 1DD;
 9. Leicester, Enderby Police HQ LE19 2BX;
 10. Leicester, Hinckley Road Police Station, 90 Norfolk st 5QJ;
 11. Leicester, Keyham Lane Police Station, Colin Grundy Drive, LE5 1FY;
 12. Leicester, Leicester Forest Post Office, Hinckley Road, LE3 3GH;
 13. Leicester, South Charnwood Leisure Centre, Syston LE7 1LY;
 14. Leicester, South Leicestershire College, Blaby Road LE18 4PH;
 15. Leicester, Wigston Police Station, Bull Head Street LE18 1WX;
 16. Leicester, Tesco, Melton Road, Syston LE7 2ET;
 17. Loughborough Brush Sports & Social Club, 18 Fennel Street LE11 1UQ;
 18. Loughborough Burleigh Springs Leisure Club, Burleigh Court, Ashby Road LE11 3TD;
 19. Loughborough Coroners Office, Southfield Rd LE11 2TX;
 20. Loughborough Leisure Centre, Brown`s Lane LE11 3HE;
 21. Market Harborough Police Station, Fairfield Road LE16 9QJ;
 22. Mountsorrel, Soar Valley Leisure Centre, Kingfisher Road LE12 7F;
 23. Osgathorpe 2 Church Lane LE12 9SY;
 24. Shepshed Post Office, Market Place LE12 9RT;
 25. Woodhouse Eaves Pharmacy, 2a Main Street LE12 8RZ.
9. The other 835 known public access AEDs in Leicester and Leicestershire have been purchased by a variety of people and organisations. Currently

about 120 of these appear to have no guardian and EMAS are currently trying to find details of the owners.

10. EMAS always urge people to register their AEDs on The Circuit, the BHF/Ambulance Service central database that allows communication with our 999 systems
11. The Circuit is improving the way people can communicate with us about the readiness of their AED in the community. It also helps EMAS manage their AEDs by emailing them as a reminder on replacing pads or asking them to check it and even letting them know that has been used in an emergency.
12. The Ambulance Service are currently going through all the AEDs on their database to make sure that they are rescue ready and that the owners understand their responsibilities.
13. For group 2 AEDS, those in individual addresses, although most manufacturers do suggest owners of AEDs to tell the local ambulance service that they have one, but this is no guarantee that the Ambulance Service is told. It is a real challenge to know how many have not been registered. It is assumed that EMAS are aware of a significant proportion of those designed for public use. However, it is not known how many are kept in a building specifically for use by the owners and not the public. Appendix A provides further detail for interested parties considering procuring an AED.

Where do cardiac arrests happen in Leicestershire?

14. A Cardiac Arrest can happen anywhere and at any time. The following table indicates by post code where most cardiac arrests happen. It is difficult to make a direct correlation between the number of Cardiac Arrests and the number of AEDs as in the centre of Leicester one AED might cover a huge population and a small population in a village.

Card 09 (Cardiac or Respiratory Arrest/Death)Post Code	Incident
CV13	12
CV9	2
DE11	5
DE12	17
DE73	1
DE74	19
LE1	46
LE10	104
LE11	104
LE12	107
LE13	43

LE14	38
LE15	52
LE16	57
LE17	36
LE18	87
LE19	26
LE2	285
LE3	276
LE4	265
LE5	234
LE6	21
LE65	24
LE67	135
LE7	86
LE8	69
LE9	83
NG13	6
NG32	1
NG33	1
PE9	8
Unknown	2
Grand Total	2252

15. It is difficult to draw conclusion as to whether there is sufficient AEDS in Leicestershire, and whether they are in the right place, at this time. At face value, one can say that there are large number of AEDS spread over the County. Once mapping and tracking down the owners is complete the next step can be to look at data for areas that includes response times and coverage from AEDs.

Resource Implications

16. A small percentage of AEDs are funded and maintained by EMAS. The other 97% are privately funded.

Conclusions and Recommendations

17. AEDs have an important role to play as part of the chain of survival in cardiac arrests out of hospital. Widespread CPR and access to AEDs would significantly improve survivability. AEDs need to be known to the Ambulance service, maintained and have good governance to ensure that maintenance and awareness happen. Additionally, we should encourage people to learn life-saving skills such as CPR and the role AEDs play in saving lives.
18. The committee is asked to:
- Note the availability of AEDs in Leicestershire;

- Support the Ambulance Service drive to get owners of AEDs to register them with the Circuit database;
- Note the intention of this population database to support more detailed mapping and equity of access work.

Equality and Human Rights Implications

19. No formal EIHRA has been completed on AED availability. As per the content of the paper the first step to assessing the equity in access would be having a full understanding of AED availability. Once completed further work on assessing time to AED and access for different sectors of the community could take place.

Appendices

20. Appendix A: Q and A's regarding the cost and maintenance of an AED

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