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Letter to the Editor

Empowering communities through mapping defibrillators as points of interest

Dear Editor,

Access to life-saving resources during emergencies is more critical than ever in our rapidly evolving world. Out-of-hospital cardiac arrest (OHCA) is a leading cause of death globally, claiming millions of lives each year.¹ However, with timely intervention, many of these deaths can be prevented. Early defibrillation of shockable rhythms can significantly increase survival rates, but ensuring timely access to Automated External Defibrillators (AEDs) remains a significant challenge. Victims of OHCA near an AED are three times more likely to receive defibrillation from a bystander, doubling the survival rate.² The key concept of Public Access Defibrillation (PAD) is to place AEDs within the community, making them quickly accessible to everyone. Current ERC guidelines³ recommend the density of AEDs and first responders for the earliest defibrillation to be two AEDs per km² and at least 10 first responders per km². Despite the improved outcomes associated with PAD programs, public AEDs are used in less than 3% of OHCA cases, often in public settings.⁴ One main reason is the low awareness of AED locations. Moreover, several AEDs are not accessible outside working hours, with availability dropping by up to 60% at night and on weekends.⁵ The widespread use of smartphones and collaborative mapping software has increased interest in mapping AEDs as points of interest, improving access during OHCA cases, promoting public safety, and empowering individuals to respond to cardiac emergencies (Fig. 1). Increased awareness fosters proactive emergency preparedness and response. Collaborative mapping systems allow users to contribute AED location data, ensuring up-to-date and accurate information. This crowdsourced approach ensures new AEDs are promptly added and existing ones are properly maintained. Essential information should include accessibility, hours, and pictures (Supplementary Table 1). This innovative approach engages the community, raising awareness about AED's importance and encouraging investments in these devices, potentially increasing AED availability in public spaces. Integration with emergency medical communication centres can enable dispatchers to direct callers to the nearest AED, significantly reducing response times and improving OHCA outcomes. However, concerns about the accuracy and reliability of user-provided information in collaborative mapping systems exist. Inaccurate or outdated data, such as expired pads or inaccessible AEDs, could lead to delays in emergency response and life-threatening situations. A comprehensive

AED mapping system requires ongoing updates and verification to ensure accuracy; clear protocols and mechanisms are needed to verify and update AED locations regularly. We searched and screened if it is possible to find information about AEDs on the main online maps and analysed the available content, which has a very non-homogeneous presence. In conclusion, while mapping AEDs in collaborative mapping software offers significant benefits for public safety and emergency response, challenges related to data accuracy and maintenance must be addressed. Proper planning, coordination, and community engagement are essential for mapping AEDs to save lives and create safer, more resilient communities. It is desirable that ILCOR and the regional councils provide a Utstein-based recommendation for companies that produce maps on which data to include in the points of interest and how to make them available to the community.

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Declaration of Generative AI and AI-assisted technologies in the writing process

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CRediT authorship contribution statement

Guglielmo Imbriaco: Conceptualization, Data curation, Investigation, Resources, Writing – original draft, Writing – review & editing. **Giacomo Sebastiano Canova:** Investigation, Resources, Writing – original draft, Writing – review & editing. **Nicola Ramacciati:** Con-



Fig. 1 – Smart AED Mapping: a lifesaving technology in cardiac arrest.

ceptualization, Supervision, Writing – review & editing. **Federico Semeraro:** Conceptualization, Investigation, Supervision, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: “The authors declare the following relationships that may be considered potential competing interests: GI is a member of the Scientific Committee of the Italian Resuscitation Council and the Board of Aniarti, the Italian Association of critical care nurses. FS is the Chair-Elect of the European Resuscitation Council and Emeritus member of the ILCOR BLS Working Group. All other Authors have no conflict of interest to declare.”.

Appendix A. Supplementary material

Supplementary material to this article can be found online at <https://doi.org/10.1016/j.resplu.2024.100697>.

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