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**European Resuscitation Council VZW
Emile Vanderveldelaan 35
BE-2845 Niel
Belgium**

SUBJECT: the concept of early outpatient defibrillation of the Trebnje Healthcare Centre

We wish to present to the European Resuscitation Council our concept of early outpatient defibrillation and request the expert evaluation thereof as well as the authorization to use the European Resuscitation Council's logo on the certificates of training provided to first responders.

The Trebnje Healthcare Centre is responsible for the primary health care of the residents of the Trebnje, Mirna, Šentrupert and Mokronog - Trebelno municipalities. The area of these municipalities totals 312 square kilometres, while the population totals 20,400. The population is significantly dispersed and lives in as many as 200 settlements.

The Million Cardiac Points project of the Trebnje Healthcare Centre aims to develop an early outpatient defibrillation network. The early outpatient defibrillation system consists of the following components:

1. A network of constantly publicly accessible automated external defibrillators (AEDs)
2. The training of non-experts - first assisters,
3. The organizing of first responders,
4. Marking the constantly publicly accessible AEDs.

The Million Cardiac Points project

The Million Cardiac Points project was devised by the Association of Occupational, Traffic and Sports Medicine, which is part of the Slovenian Medical Association. The main purpose of the project is to raise awareness and train people in the use of AEDs. Any person who is not familiar with basic resuscitation procedures and does not know how to use an AED, but is trained to, upon a cardiac arrest event, find the nearest AED and a person who knows how to resuscitate and use an AED, is deemed a cardiac point. The persons who know how to resuscitate and use an AED are referred to as first assisters. It has transpired that the Million Cardiac Points project can also be useful in everyday life. According to the broader definition, any person who is not familiar with basic resuscitation procedures and



does not know how to use an AED, but is trained to, upon a cardiac arrest event, find the nearest AED and a person who knows how to resuscitate and use the AED, is deemed a **cardiac point**. Persons who know how to resuscitate and use an AED are referred to as **first assisters**. The aim of the project is to ensure every other Slovenian becomes a cardiac point, hence the name: **A Million Cardiac Points**.

The AED Initiative

The Million Cardiac Points project is closely related to the AED Initiative (www.srce-si.si). The AED Initiative is a civil movement seeking to develop the field of early outpatient defibrillation in Slovenia.

Network of constantly publicly accessible AEDs

The Trebnje Healthcare Centre has invited municipalities, local communities and societies to join the Million Cardiac Points project. In addition to organizing training of the population to use AEDs, the invitation aims to foster cooperation to set up publicly accessible AEDs.

Call for tenders: purchase and installation of automatic defibrillators, cabinets and signs.

The Trebnje Healthcare Centre drafted the tender conditions for the purchase of AEDs.

A: General tender requirements:

1. Any bid must comprise an automatic defibrillator, external cabinet for the defibrillator and marking board.
2. The supplier must perform installation of the cabinet and marker board. The supplier is not required to prepare the electrical connection.
3. The supplier must provide a warranty of at least five years for the defibrillator and the cabinet.
4. During the warranty period, the supplier must provide a replacement defibrillator in the event of servicing.
5. During the warranty period, the supplier must ensure the device's compliance with any changes in ERC guidelines.
6. During the warranty period, the supplier must once a year verify the status of the defibrillator, its battery and cabinet and replace the electrode if expired.

B: Technical tender requirements:

1. Voice instructions in the Slovenian language.
2. Automatic system self-check with the optical and acoustic indication of errors.
3. The bid must also give an indication of the minimum durability of the battery in standby mode. The minimum durability of the battery must be at least five years.
4. The bid must provide information on protection against solids and liquids separately for the defibrillator and the cabinet. This data should be expressed according to the IP rating international classification.

5. *The cabinet must be thermally insulated and heated.*
6. *The bid must provide information on the machine speed (time from power-on to initiating the shock).*
7. *The sign marking the defibrillator location should be in 3D format and must be equipped with the official symbol according to the ILCOR international guidelines.*

C: The selection criterion is a combination of the price and technical characteristics.

The Trebnje Healthcare Centre presented the bids gathered at the meeting of the supporters of the Million Cardiac Points project, which then selected the most appropriate bidder.

Gathering funds

With its supplementary budget, the Trebnje municipality already in 2014 co-financed the purchase of defibrillators, while at the proposal of the Trebnje Healthcare Centre it ensured funds from the municipal budget to co-finance defibrillators also in the years 2015 and 2016. The Trebnje Healthcare Centre invited the supporters of the Million Cardiac Points project to apply for grants of municipal funds. The candidates were then ranked according to expert criteria. Candidates that most needed AEDs in light of their population density and geographical location were ranked first.

The Trebnje Lions Club, which collected donations for the purchase of an AED and at the same time applied for co-financing from the municipal budget, was also one of the supporters of the Million Cardiac Points project. In this manner it gathered sufficient funds to buy five AEDs.

The Mirna municipality purchased three AEDs.

One Slovenian insurance company donated the Trebnje Healthcare Centre sufficient funds for the purchase of four AEDs.

Planning the network of publicly accessible AEDs

The Trebnje Healthcare Centre drafted a plan of locations of publicly accessible AEDs according to the relevant expert criteria. It took care to uniformly distribute them in the field. Local fire stations transpired to be very suitable locations. Firefighters can even take the AED with them when responding to an emergency. In places where fire stations are somewhat distant, the AEDs were mounted on buildings in the centres of settlements. In two cases the AEDs were installed without regard for the expert criteria. This is because the citizens financed the entire purchase themselves and only made use of the benefit of the collective purchase as part of the Million Cardiac Points project.

Continuous public accessibility of the AEDs

All AEDs are continuously publicly accessible. We called on the owners of AEDs to install their devices outside the entrance to their facilities. The Trebnje Nursing Home complied and installed its AED outside the entrance. This is an important location in the heart of Trebnje. However, a retailer decided not to install its AED outside the entrance to its shopping centre due to the risk of theft. The area has a few automatic defibrillators that are not constantly

publicly available. These are not considered part of the network and have no place in the system.

Information on the locations of continuously publicly accessible AEDs

The local population was informed of the locations of AEDs in local media. In some cases, grand openings of continuously publicly accessible AEDs were held. Locals were also informed of the continuously publicly accessible AEDs at various other occasions. When an emergency phone call is received, the health care centre worker who takes the call provides the relevant information on the nearest AED.

Currently, 32 devices are included the network of constantly publicly accessible AEDs, which means an average of one AED per 637 inhabitants and per 10 square kilometres. All devices are under the supervision of the Trebnje Healthcare Centre.

The training of non-experts - first assisters

As part of the Million Cardiac Points project, courses for non-experts (first assisters) are regularly conducted, covering the basic resuscitation procedures using AEDs. The courses take two hours and are designed for 10 to 15 people. The courses are led by a doctor or a nurse. One dummy and one training defibrillator are used. The 2015 Resuscitation Guidelines issued by the European Resuscitation Council are applied. The courses are free-of-charge for the participants. The courses are conducted in the field, mostly in fire stations as well as in cultural institutions, restaurants or even in local houses. This contributes to a relaxed atmosphere and ensures greater participation. The manner in which participants are invited to courses also impacts the level of participation. We learnt that providing information through the media or notice boards is inefficient. The courses are organized in cooperation with the presidents of local communities or associations who personally invite their locals or members to the course.

Organizing first responders

Legal basis

Article 22 of the Rules governing urgent medical aid services (Official Gazette of the Republic of Slovenia, no. 81/2015) stipulates that emergency medical service providers (EMS) identify the need for first responders in their locations, record the candidates for first responders and verify the adequacy of the training provided to candidates.

Identifying the need for first responders

We began with the network of continuously publicly accessible AEDs. For almost each location we defined between 3 and 5 first responders who reside or work in the immediate vicinity of the continuously publicly accessible AED in question. We established the need for at least 145 first responders.





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Registration of first responder candidates

Candidates for first responders were recorded by the Trebnje Firefighters' Association. The Firefighters' Association called upon voluntary fire brigades to appoint candidates in light of the needs for first responders identified. Preferably, candidates should be voluntary firefighters, although this was not a requirement. However, they have to reside or work in the immediate vicinity of the continuously publicly accessible AED in question.

Verification of the adequacy of the training provided to candidates.

Training will be provided to first responders once a year according to the programme referred to in Annex 14 of the Rules governing urgent medical aid services. The prevailing expert doctrine in the Republic of Slovenia, including the 2015 Resuscitation Guidelines issued by the European Resuscitation Council, shall be considered. The training will last six hours. A written and practical examination will be organised at the conclusion of the training. The enclosed certificate will be issued upon successful completion of the examination. The training will be conducted by a medical doctor and graduate health care expert who are actively involved in providing emergency medical services.

Funding

The Rules governing urgent medical aid services stipulate that urgent medical aid service providers, the Administration of the Republic of Slovenia for Civil Protection and Disaster Relief and the local community regulate the manner of training and funding the first responders with an agreement. Since our first responders will use AEDs belonging to the network of constantly publicly accessible AEDs, no funding of equipment will be necessary. The training of the first responders will be free-of-charge for the municipalities, which would otherwise have to pay. The two employees providing the training will be paid overtime. This is an important contribution of the Trebnje Healthcare Centre. We believe the current regulatory framework represents a major issue because it provides for municipal funding of the training provided to first responders. Municipalities are already facing quite significant debt levels, and in addition, they are set to receive even less funds in the future. They will thus be unable to withstand additional financial burdens. In our opinion, healthcare centres as public health facilities should provide free training in order to fulfil their mission as health care institutions. The issue of insuring first responders against potential accidents during their work remains open. We shall attempt to come to an agreement with one of the Slovenian insurance companies to insure this type of risk free-of-charge.

Marking the publicly accessible AEDs

The publicly accessible AEDs must be well-marked in order to create a successful system of early outpatient defibrillation. All our continuously publicly accessible AEDs will be marked with 3D signs of the same design with the ILCOR symbol (45 centimetres high). However, this is not enough to successfully guide people to the nearest publicly accessible AED. People's attention should be



drawn to the presence of publicly accessible AEDs already on the road. The coordinator of the Million Cardiac Points project submitted an initiative for installing traffic signals for AEDs to the Ministry of Infrastructure, which was accepted. Traffic signals for AEDs are regulated by the Rules on traffic signs and equipment on public roads (Official Gazette of the Republic of Slovenia, no. 99/2015). Traffic signals for AEDs are introduced in three forms:

1. As an additional panel attached to a traffic sign (Article 23)
2. As signalling notifications (Article 61)
3. As a symbol on a traffic sign (Article 68).

In cooperation with the Municipality of Trebnje, the coordinator of the Million Cardiac Points project shall draft a study of installing traffic signals for AEDs in the municipality of Trebnje.

Figure 1: the constantly publicly accessible AED at the fire station in Trebnje.



This figure shows the standard assembly of a constantly publicly accessible AED. The device is installed in a heated, waterproof and thermally insulated cabinet. Above the cabinet is a 45-centimetre-high 3D sign. The road, which is 50 meters away, will soon be equipped with traffic signals - a routing sign. The AED is available to non-experts who know how to use it. It will be the home device of five first responders. Firefighters can take the AED with them to emergencies.



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We also presented our concept of early outpatient defibrillation to the Slovenian Resuscitation Council and asked them to provide you with additional information. We suggest that European countries are advised to adopt normative regulation of traffic signals for AED, as the Republic of Slovenia has.

Coordinator of Million Cardiac Points project:
Zdenko Šalda, dr. med.

Medical Head - Assistant Director:
prof. dr. Marija Petek Šter, dr. med.

Enclosure:

- 1. Certificate*
- 2. AED traffic sign (selected articles of the Rules)*

