

# The Langeland AED project – Call for shorter response times **FirstAED**

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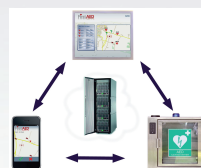
## Background – the Langeland Island

- Part of the peripheral Denmark
- Long distances to the nearest hospital (55 km)
- Long ambulance response times (50 %  $\geq 15$  minutes, 25 %  $\geq 20$  minutes)
- Bystander CPR provided by 120 trained first responders
- 85 AED's purchased by the population
- All AED's available 24 hours/7 days a week
- During the period 2009-11 with normal telephone call too long "first responder" response times (8-10 minutes)



## Methods:

- An IT-system combining ideas from the AED center and modern information and communication technology.
- All first responders are provided with an iPhone 4S telephone with the FirstAED app.
- A system to reduce response times to below 5 minutes.
- Open all the locked AED cabinets within a radius of f.ex. 1 kilometre.



## Results from AED Langeland 1/7-09 til 20/11-11

Sex	Age	Place	Distance to AED	Time to AED	Arythmia AED	Defib	Condition	Disease	Status today
F	28	Camping	< 25 m	< 3 min	VF	1	Awake	CM	Normal
F	47	Home	< 25 m	10 min	VF	4	Unconscious	CM	Brain injury
M	70	Home	< 500 m	8-10 min	A-systolia	0	Unconscious	?	Death
M	46	Work	< 500 m	8-10 min	A-systolia	3	Unconscious	CVD	Death
M	57	Home	< 500 m	10 min	A-systolia	0	Unconscious	?	Death
M	62	Home	< 500 m	8-10 min	VF	2	Unconscious	CVD	Death
M	90	Home	< 100 m	4-5 min	A-systolia	0	Unconscious	CVD	Normal
M	27	Home	500 m	4-5 min	A-systolia	0	Unconscious	Bleeding	Death
M	84	Home	800 m	4 min	A-systolia	0	Death	CVD	Death

## Action:

Cardiac Arrest

- All first responders on Langeland are provided with a iPhone 4S with the FirstAED app.
- Cardiac Arrest call 1-1-2.



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- Alarm confirmed, info about the cardiac arrest location to the First AED. The system locate the 10 geographically nearest placed first responders. All receive a push message and an alarm on their smartphone, also when the phone is closed.



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- Responder 2 accept.
- Responder 2 receive the location of the nearest AED and next the road map to the cardiac arrest – shown in GoogleMaps/Latitude. Responder 2 carry the AED to the cardiac arrest.



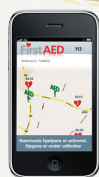
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- Responder 1 & 3 accept.
- Responder 1 & 3 receive the location of the cardiac arrest – shown in google Maps/ Latitude. Responder 1 begin HLR and responder 3 keep in touch with the dispatch centre by the smartphone.



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- The remaining 7 first responders receive a cancellation. The 3 first responders can follow each other in their smartphone.



## Perspectives:

- The Langeland AED project developed the FirstAED in the hope to get shorter response times.
- The project hope that the FirstAED GPS technology and the iPhone 4S telephones will shorten the response times to below 5 minutes.
- Three first responders will take part in the resuscitation with different roles.
- The FirstAED makes it possible to open all the locked AED cabinets within a radius of f.ex. 1 kilometre.

**AED**