E-health solutions in the prehospital care – will initial responders help in the future digitalization?

The need for a technology friendly health care, e-health, has been seen for years and is on the verge of breaking big in Sweden. With more people living in rural areas, were ambulances cover a geographically large area, a lot of responsibility is put on so called initial responders in the prehospital care. Could e-health provide support also in the prehospital care?

Sweden is a geographically large country with many inhabitants living far from big cities. Accordingly, some of the population is housed in areas with a long way to the closest hospital. At times it can take more than an hour before emergency care arrives. These places are called rural areas and has expressed the need for improved prehospital care. Here, the initial care is many times carried out by so called initial responders. These are groups of people with some medical training and the authority to perform limited medical emergency care.

PICTA is a non-profitable initiative working to implement e-health solutions to improve prehospital care. They are in contact with a group of initial responders at Åstol, an island in Sweden counted as a rural area. A pre study was set up to identify the needs of initial responders, with the group at Åstol as primary users. The study also aimed to describe the prehospital process, from an emergency call to SOS alarm, until the time of righteous given aid. The idea was to create a medical decision support. The support would help initial responders and streamline the use of sent out resources from the medical part of SOS, SvLc (Sjukvårdens Larmcentral). As resources are restricted, with ambulance helicopters as the most limited and costly example, would it be possible to identify the degree of an emergency early on in the process? Could it thereby decrease the possibility of wasting resources?

Many interested stakeholders were included in the study to grasp the cornerstones of the prehopsital care. Rescuers at sea, professors in trauma care and employees at SvLc are a few of the helpful enthusiasts. So, how complex is the prehospital care? Very complex it seemed. In addition to limiting laws and regulations, there are several interests depending on which part of the chain you are focusing on. Interviews were held to help in understanding what is working in the process for the distinctive crowds, and were the lack of function lies.

An interaction design process made the frame for the outline of the study. The methods of the process were used to create a mock up demonstrator with the user need in focus. Several concepts were formed and developed, however emerged into one medical decision support concept. The concept evolved into an application with the ability to guide an initial responder in an emergency situation, and to send the data to SvLc.

In the end, the study showed that cancelling resources could be hard to implement at the current state. However, the possibility to systematically collect patient information, transferring to SvLc has desirable qualities. As mentioned earlier, the final demonstrator is a mock up, but shows the need and the possibility of creating helpful devices to improve the prehospital care. While future studies would need to implement the demonstrator in a larger scale, the pre study could identify the existing needs and the willingness to collaborate between devotees in the care chain. As the population of Sweden keeps growing, the need for technology to

follow is a fact more than a belief. E-health solutions like this have the potential to play an important future role. E-health is the future and digitalization its foundation.