Case Report:

New electronic patient record (ePR) makes patient care at the Academic hospital more efficient

Pre-hospital care in the ambulance is becoming more important in the emergency services field, since many of the medical procedures are carried out before patients arrive at the hospital. The ambulance services in Uppsala County in Sweden are precursors within the ambulance IT field as they use research of their own as well as of others in order to make the processes of the care chain more efficient. When the organisation wanted to improve their patient record management they turned to Ortivus. Implementing MobiMed ePR has resulted in simplified work processes for the staff. The system also provides the organisation with a better source for evaluation and research. Above all, the patient information is now significantly more structured and relevant and the staff, both in the ambulance and at the hospital, has gained access to the information in a completely new and innovative manner.

Pioneers within ambulance IT

The Academic hospital of Uppsala is the oldest hospital in Sweden as its history goes back to the beginning of the 18th century. The hospital is responsible for the county ambulance service, which operates six stations throughout the county. The unit has a 180-strong work force serving the 315 000 residents of the county. All ambulances in the county are equipped with Ortivus' MobiMed system for telemedicine and electronic patient records, which are connected to the Academic hospital. Since the ambulances and hospitals in the adjacent counties also utilize the MobiMed system, all connected units can communicate with each other and thereby coordinate and optimize the resources.

The ambulance services of Uppsala County strive to be at the front edge of the Healthcare IT development. In 1989 they were the first ambulance organisation in the world to send an ECG electronically from an ambulance to the hospital. The ambulances have been equipped with electronic patient records for approximately ten years but the previous versions lacked many functions that the organisation needed. "As ambulance crews are receiving more and more training, they are providing increasingly advanced treatment before arrival at the hospital. The old record handling system did not manage comprehensive reporting about this and we had to write down a lot of information by hand," explains Per Andersson, Operations Manager for the ambulance service in Uppsala county.

Other important features that Per and his crew needed were for instance the possibility to update the list of pharmaceuticals and to add various forms and check lists. The possibility to extract information for clinical evaluation purposes was another issue of concern.

Comprehensive and structured data facilitates diagnosis

To transfer ever more detailed information from the ambulance to the hospital where the patient will later be treated, Uppsala ambulance service chose Ortivus' upgraded MobiMed ePR-solution. The system consists of a patient unit and a workstation for

the clinic, which in conjunction make up a tool for assessment, treatment and patient record management in the ambulance. The new ePR-system significantly simplifies patient record management. The ambulance staff can enter the most crucial information at the emergency site or on route. At a traffic accident site it may for instance be important to inform the hospital staff at the receiving hospital about any possible damages to the vehicles involved. The ambulance staff can point out the damages on a computer screen and the doctor at the hospital can immediately access the same interface. This information helps the doctor to assess what injuries that the patient may suffer from. “The new software makes the information available for the hospital staff in an entirely new manner and may affect the subsequent treatment of the patient”, says Per Andersson.

Once the patient has been transferred to the hospital the ambulance staff can add complementary information to the patient’s record. Since all information is stored in the system, it is easy to find and extract data that can be of importance for clinical evaluation.

Thin clients for remote management

According to Per Andersson, there is very little research conducted in the ambulance care field.
Per and his team are therefore happy to support various projects aiming at improving processes within emergency services. Continuous evaluation of guidelines and processes are crucial in this work. “The information stored in our MobiMed ePR system can be used for prospective and retrospective research. The patient data in the system can for instance reveal whether a specific treatment works and whether the care guidelines are accurate and applicable.”

Within a not too distant future, the electronic patient record in the ambulance will be integrated with the administrative system of the Academic hospital. This will further simplify the process of handing over patients as it will become quicker and safer. The plan is also to implement thin clients to enable ambulance and hospital staff to finish their record entries at the hospital departments. “A more smooth process will above all benefit the patients, which really is the reason why we are taking these measures. The patient always comes first”, concludes Per Andersson.

MobiMed *is a decision support system for ambulances and other pre-hospital activity.*
MobiMed ePR *is an electronic patient record, where all patient data is stored and can be used for clinical assessment. MobiMed systems are currently in use in Sweden (market share approximately 75%), Norway, Finland, Great Britain, France, Italy and Canada.*