IT Volume 3 / Issue 1 - Fourth Place

MPOC Interoperablity for Emergency Medical Care

Dr.Pavel Trnka/Prague EMS,Czech Republic

Dr. Jiri Danda (Head Physician),

Dr. Milana Pokorná and Dr. Daniel Kobr, RRU Physicians, Prague EMS

Dr. Jaroslav Kratochvíl, Hospital Physician,

Dr. Ondrej Franek, Dispatch Centre Physician, Prague EMS

Dr. Jaroslav Valásek, Chief Medical Officer, Prague EMS

Ing. **Petr Zajícek,** Chief Information Officer, Prague EMS

Dr. Pavel Kubu, Business Development Manager

Padraig Coakley, Financial Analyst

Prague, Czech Republic

E-mail: *trnka@kttp.cz*

Overview

The mobile point of care (MPoC) pilot project at Emergency Medical Service of Prague (EMS) named "Replacing paper with electronic records" took place between February and April 2009. Rapid Response Unit physicians were equipped with laptops and wireless connectivity at emergency scenes to facilitate information flow and underpin fast and effective treatment.

Project Targets

The Prague Emergency Medical Service (EMS) implementation of the GEmMA emergency management system enabled EMS to manage its operations through the creation of Electronic Mission Records (EMiR). This included the compilation and reporting of statistical information on emergency events and the collection of billing information for insurance companies.

The project target was to replace workflow of handwritten medical documentation with primarily electronically created reports. A second goal was to utilise the mobile technology in the field and provide additional information from interoperable e-health and insurance registers for decision support at the emergency scene.

Rugged laptop PCs were provided for physicians in the Prague EMS, to collect information at the emergency scene. Physicians can access the Emergency Service Centre via a 3G HSDPA connection and a central application server located at the EMS Centre. Data that is inputted in the field feeds into the EMiR. The solution has interoperability with the national central electronic health record system IZIP, which provides emergent dataset about previous treatments and allows responders using insurance numbers to check online whether patients are registered with the General Health Insurance Company.

When the physician is handing over a patient to an ambulance or hospital, a subsection of the EMiR is printed off (named the Electronic Patient Record) and then handed over to ambulance staff. If the EMS physician has accompanied the patient to the hospital, he or she hands this over to the hospital doctor. The electronic patient record summarises information about the course of the mission and treatments provided , thus replacing hand-written (and often hardly readable) reports.

Difficulties

During implementation, we faced many difficulties, from technical problems (e.g. lack of broadband HSDPA connectivity in some Prague suburbs; finding safe and ergonomic placement of hardware in the vehicle; software integration of dispatch centre system; emergency data set availability in EPHR profiles in repository) to "philosophical" dilemmas (i.e. finding consensus on structure of collected data; conservativism of some physicians / users).

Benefits

Despite these difficulties, the MPoC pilot revealed intangible benefits in areas of workflow optimisation, physician's decision-making, work efficiency, patient safety and well-being and staff satisfaction. The solution showed a Net Present Value of 21,403, a 12 month break-even point, and Return on Investment of 149%.

While these benefits were significant, the business value assessment of MPoC also emphasised that a holistic approach to technology implementation would benefit the entire health system.

Conclusion

As a result of the success of this pilot project, Prague EMS plans to implement this mobile solution in all rapid response and paramedic units over the next two years.

Published on : Sat, 3 Jan 2009