How can information systems support collaboration between health-workers involved in shared care across organizational boundaries?

Vigdis Heimly, Ole Andreas Alsos

Norwegian University of Science and Technology, Department of Computer and Information Science
vigdis.heimly@idi.ntnu.no, ole.andreas.alsos@idi.ntnu.no

A*b*stract. Information infrastructures can facilitate exchange and sharing of health information. An upcoming Norwegian health reform in 2009 will have focus on how the patient can get health services in, or closer to, their homes. The change in the cooperation processes between primary and specialized care will trigger the need for better collaboration platforms. ICT-systems that support collaboration between health workers have been available for more than 10 years, but they are still in limited use. Some indications of why this process has been so difficult are given as a basis for development of new systems that can support the health reform. The work is based on a survey to the Norwegian hospitals in 2008, semi-structured interviews at hospitals and with GPs, participation in meetings with end users, and available documentation.

ICT-support for shared care

In order to make the treatment chain between primary care and the hospital as efficient as possible, there is a need to register, communicate, and interpret the information that is exchanged by all the involved parties. The information can either be sent as a message, the receiver can actively get access to information that is stored by the another party, or the sender can actively register information in a system held by the cooperation partner held by a third party. The selected technical solution can depend on national legislation, and agreements between the communicating actors, but core EHR-systems are like to replace message based solutions in the coming years.

The health worker's questions

Different alternatives will have implications on the involved health's work-processes. How can I make sure that I get access to the right information when I

need it? How can I be aware that new information is present, at how can I make other parties aware that I have added new content that might be of interest? If the work processes are changed, and the workload is shared between the health workers in new ways, how I trust that others support the new changes?

Methods

A series of semi-structured interviews with users of existing systems used in shared care, a survey to the hospitals, participation in meetings with project managers, and reading of reports and other documentation has provided some clues to factors that should be paid special attention when new systems are being designed and developed.

Results and recommendations

Information to be shared need to be suited for the context in question. As an example, an electronic health record document that was written for internal use at the hospital is not necessarily usable for the patient, the GP, or the nurse in homecare. A common understanding of the needs of all the actors who are going to share the health information should be developed over time, and should also imply changes in both specifications of data, user interfaces and technical.

New technical solutions need to support all the involved health-workers work processes to a sufficient degree at all levels. The health-workers in different organizations also need to get a better understand of the cooperating actor's work processes. Extended use of work-exchange where e.g. GPs work with collaborations issues in part time positions at hospitals can be beneficial for a better understanding of other actors' needs. "If I supply content that benefits you, you should also supply me with content that benefits me." If this is not possible, other incentives (as economic) should be considered.

Awareness of when new content is added is important, but should on the other hand not be to disturbing in the daily work process. As an example, GPs that have been involved in a Norwegian core medical chart project did not want be informed immediately when medication was prescribed for their patients by other doctors, but want to check this on a list at a daily basis.

New technical solutions will facilitate new possibilities for collaborations, but many of the existing organizational barriers will still remain, and should be carefully considered when designing new technical solutions. Use of qualitative research methods can be used to get a better understanding of how future collaborative support for shared care can be designed and used. Further use of semi-structured interviews with future users and data analysis based on grounded theory can be beneficial.