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The Trends in Healthcare IT Integration in Finland

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Finland has set ambitious goals to be one of the first nations in the world to create a national electronic health record. Accessto the record by patients and electronic drug prescriptions are also stipulated by new laws passed in 2006. To achieve these aims, national IT projects have been initiated. These will unify existing IT solutions and address the problems of how to involve and take into account the cultures of healthcare organisations and disseminate technological innovations.

Information and communication technology is increasingly part of the service system for social welfare and healthcare. On a national perspective, this may enable a continuing trend towards more exact scaling of healthcare service provisions and lead to significant macro-economic benefits from IT utilisation. Thus it is meaningful to develop public healthcare solutions in increasingly larger entities. Various online services linking the population with professionals may soon become widespread. Call-centres and interactive portals direct demand with increasing accuracy to the appropriate social welfare and healthcare resources. Routine functions related to the provision of information will eventually be performed by clients themselves on a variety of terminals rather than at visits to health centres. These goals can be achieved only by having a clear national development strategy.

IT development history and current goals Finland has a long history of developing information technology and IT-related services. A study by Accenture in 2005 concluded that Finns use the most governmental e-services in the world. Thus far, healthcare IT development projects in Finland have been mostly individual efforts. These resulted in the adoption of many different, largely incompatible IT platforms in healthcare. The first major attempt to unify IT development by the Ministry of Social Affairs and Health was the unified healthcare IT development "Macro Pilot" project carried out in 1998-2002 in a single Finnish health district. The project aimed at creating a unified information solution for all levels and organisations of healthcare, but unfortunately the project was not successful.

The main reasons were that the resources and time allocated to the project, although significant, were not sufficient to realise the project's goals. Subsequently IT development work has been conducted by individual regions and/ or organisations, but however with clear national aims and goals.

The main national healthcare IT goals are: interoperability and ability to transfer patient data electronically between all levels and organisations in healthcare by the end of 2007; a national, centralised electronic health record in use by all healthcare organisations by 2011; ability to access one's own health record electronically; and the implementation of electronic drug prescriptions. No single national EPR/HIS (Electronic Patient Record/Hospital Information System) platform will be mandatory, rather interoperability between different IT platforms and the national patient record database is to be achieved by use of common international standards such as HL7/CDA-R2 and DICOM.

Integration Strategy and Implementation

To help achieve the national goals, the ministry of Socials Affairs and Health has funded a number of healthcare IT development projects. Also the Finnish Funding Agency for Technology and Innovation (TEKES) has collaborated by funding technology development that supports national goals. Two of the largest such projects are the "Proxit" and "ProViisikko". Together these two projects will result in common healthcare IT solutions and organisational processes. These projects were started in 2004, and will conclude in 2007. They have a joint budget of roughly 13 million euro. Both projects are coordinated by LifeIT plc, a consulting company owned by private stakeholders and public sector organisations.

Ten out of the 21 healthcare districts in Finland participate in the Proxit project. It is funded jointly by the participating organisations and the Ministry of Social Affairs and Health. The "Proxit" healthcare districts have all purchased the same "Effica" EPR and HIS platforms, but were developing it further, each separately with the supplier. With this joint project, it became possible to share development work and best practices between al participants.

The main focus of Proxit is to help these organisations to meet the national healthcare IT implementation strategy. Thus the main issues of the project are the creation of a more structured EPR format, development of administrative software, and the implementation of referrals and reporting between organisations. Parallel to, and complimenting the Proxit, a second project coined ProViisikko was started in 2004. The ProViisikko project was funded by the Finnish Funding Agency for Technology and Innovation (TEKES) and five healthcare districts. The focus of ProViisikko was on developing IT solutions that complimented and augmented Proxit ERP and HIS platform development. This project addresses issues such as: what organisatorial changes are required to achieve maximal benefits of the various IT technologies, and how could these changes be best achieved?

Results

The "Proxit" project developed common structuring, formatting and datafield labelling for the "Effica" EPR/HIS. It has resulted in a new, highly-structured operational EPR version that can be adjusted to meet the varying needs of individual hospitals. This single EPR platform has been installed in most of the hospital districts participating in "Proxit". It is anticipated that by the end of this year all participating hospital districts will have the same operational version of this new EPR platform in place.

The ProViisikko project deals with the development of a regional operating model for a welfare and service database that can be accessed by multi-channel technological solutions. The goal is to enable a service chain that will improvethe prospects of citizens and various entitiesto obtain, maintain, and evaluateinformation concerning care and services with appropriate data security.

The project will also determine ways to increase the capacity of organisations, support personnel in their work, and improve productivity. Thus in ProViisikko, management and monitoring of care chains will be developed so that healthcare professionals can monitor implementation of the care process within the hospital system. This will enable patients to monitor care episodes by telephone and via an online consulting system that is also being developed by the project. Present information systems do not allow for management of care episodes that cross organisational boundaries.

Conclusions

Joint development and joint project management in large national health IT projects has not been achieved on this scale before in Finland. It can be argued that this approach has been long overdue, and indeed results of Proxit and ProViisikko confirm this suspicion. Successful implementation of e-Health solutions is a process of mutual transformation; the organisations and the technology transform each other during the implementation process. Involvement of the organisations that ultimately will be responsible for implementation of new IT technologies significantly improves the motivation and ability of organisations to change and develop long-term strategies that will result in optimal use of IT solutions.

Once a well-functioning national healthcare IT infrastructure is in place, the results of these two projects, along with other innovative development work carried out at the time, are expected to secure the high standard of social welfare and heathcare services for the citizens, and eventually, to help to raise the national healthcare productivity.

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