This year the “IT Architectures and Implementations in Healthcare Environments” minitrack has accepted a total of six papers, which are diverse, come from different countries and show a range of IT implementations for modern healthcare software applications:

The Paper “Beyond a Technical Perspective: Understanding Big Data Capabilities in Health Care” comes from the US. It is a position paper which analyses the current impact of Big Data on healthcare environments, aiming to deliver a better understanding of their strategic implications. The authors examine the development, architecture and functionalities of big data, and identify its predictive capacity to support effective big data-based strategies in healthcare.

Paper “#worldhealthday 2014: The Anatomy of a Global Public Health Twitter Campaign” comes from Australia and represents one of the rare studies into the power of micro-blogging and twitter in particular in healthcare. The authors examine a case study of a significant global Twitter-based public health campaign, namely that involving the use of the #worldhealthday hashtag during and surrounding the 2014 World Health Day on April 7th 2014. The study involved a data set of over 160 million tweet deliveries. Through analytical tools, which enabled capturing and summarising a large scale set of tweets, the authors managed to explore various characteristics of this public health campaign within the Twitter medium.

Paper “Clinical Decision Support System for Opioid Substitution Therapy” comes from Finland and introduces a Clinical Decision Support System which helps to achieve an effective and efficient treatment process for opioid substitution therapy. The proposed system keeps track of the tasks that the persons involved in the process have to carry out, making the status of each patient in the process fully visible, which in turn enables effective management of patient flow.

Paper “Cooperation Benefits in the Establishment of Voluntary Inter-Organizational IT Governance for Healthcare and Social Welfare IT - A Case Study” also comes from Finland. The authors investigate the establishment of voluntary inter-organizational IT governance between healthcare and social welfare organizations. Their survey results, which involved over 100 organizations, have justified their proposed IT governance arrangement. Empirical results revealed that the perceived IT cooperation benefits had a decisive role in the acceptance and implementation of the proposal. Positive expectations, regarding IT cooperation benefits were able to outweigh the negative trust issues from the past.

The paper “Health Drive: Mobile Healthcare Onboard Vehicles to Promote Safe Driving” is a collaborative work between authors from Canada, Sweden and China. It proposes a new platform for managing heterogeneous devices and sensor generated data for the purpose of creating applications which promote safe driving. The proposed way of collecting and interpreting data in environments found in vehicular networks, help to deliver personalized and real time services to drivers and improve safety in transportation in general.

Finally, the paper “Ontology Design for Supporting Decision Making in Self Care Homes” comes from the UK and proposes a process for creating SWRL enabled OWL ontologies which support the delivery of personalized services in self-care homes. Their generic OWL model, which stores semantics of pervasive environments for any type of remote patient monitoring, can be extended with specific requirements which secure decision making for the purpose of delivering self-care services. The OWL model does not host a formal ontology: it is a software engineering mechanism which allows reasoning upon OWL concept to be built into distributed Java applications.