

Introduction to the First International Workshop on Process-Oriented Information Systems in Healthcare (ProHealth 2007)

Manfred Reichert¹, Mor Peleg², and Richard Lenz³

¹ Information Systems Group, University of Twente, The Netherlands
m.u.reichert@cs.utwente.nl

² Department of Management Information Systems, University of Haifa, Israel
morpeleg@mis.hevra.haifa.ac.il

³ Database Group, University of Erlangen-Nuernberg, Germany
Richard.Lenz@informatik.uni-erlangen.de

Healthcare organizations and healthcare providers are facing the challenge of delivering high-quality services to their patients at affordable costs. A high degree of specialization, prolonged medical care for the aging population, increasing costs for dealing with chronic diseases, and the need for personalized healthcare are prevalent trends in this information-intensive domain. The emerging situation necessitates a change in the way healthcare is delivered to the patients and *healthcare processes* are managed. Business process management (BPM) technology provides a key to implement these changes. Though patient-centered process support has become increasingly important in healthcare, BPM technology has not yet been broadly used in healthcare environments.

The ProHealth 2007 workshop was held in Brisbane in conjunction with the 5th International Conference on Business Process Management. ProHealth 2007 elaborates both the potential and the limitations of IT support for healthcare processes. It further provided a forum wherein challenges, paradigms, and tools for optimized process support in healthcare could be debated. In particular, ProHealth 2007 brought together researchers and practitioners from different communities (e.g., BPM, information systems, medical informatics, E-Health) who share an interest in both healthcare process support and advanced BPM technologies. The workshop dealt with different facets of process-oriented healthcare information systems, and gave insights into the social and technological challenges, applications, and perspectives emerging for BPM in this context.

In healthcare, process-oriented information systems have been demanded for more than 20 years and terms like *continuity of care* have even been discussed for more than 50 years. Yet, healthcare organizations are still characterized by an increasing number of medical disciplines and specialized departments that frequently only focus on their internal processes; i.e., optimization and automation of healthcare processes often stop at the border of healthcare departments.

The patient treatment process, however, requires interdisciplinary cooperation and coordination. The upcoming trend towards *healthcare networks* and

integrated care further increases the need to effectively support interdisciplinary cooperation along with the patient treatment process. Recent studies discussing the preventability of adverse events in medicine recommend the use of information technology, since insufficient communication and missing information turned out to be among the major factors contributing to adverse events. Yet, there is still a discrepancy between the potential and the actual usage of IT in healthcare.

The ProHealth 2007 workshop focused on research which aims at closing this gap. It elaborated both the potential and the limitations of IT support for healthcare processes and discussed approaches existing in this context. Addressed topics included the modelling of healthcare processes, process-oriented system architectures in healthcare, workflow management in healthcare, IT support for guideline implementation and medical decision support, flexibility and exception handling in healthcare processes, requirements for medical guideline and medical pathway support, process optimization in healthcare organizations and healthcare networks, process interoperability in healthcare and healthcare standards, healthcare process patterns, secure healthcare processes, lifecycle management for healthcare processes, and healthcare process coordination.

Submitted papers were evaluated on the basis of relevance, originality, technical quality, and exposition. Papers had to clearly establish their research contribution as well as their relation to healthcare processes. We accepted six papers as full paper and one as short paper (out of 14 submissions). The seven presentations were complemented by two keynotes. We thank Samson W. Tu (Stanford University, School of Medicine) as well as Robert Dunlop (InferMed Ltd, London, UK) and John Fox (University of Oxford) for taking over this role.

We would like to thank the members of the Program Committee and the reviewers for their efforts in selecting the papers (in alphabetical order): W.M.P. van der Aalst, E. Ammenwerth, O. Bott, P. de Clercq, E. Coeira, J. Fox, Y. Han, S. Jablonski, K. Kuhn, R. Lenz (Co-chair), O. Marjanovic, S. Miksch, B. Mutschler, M. Peleg (Co-chair), S. Quaglino, S. Sadiq, M. Reichert (Co-chair), H. Reijers, H. Schuldt, Y. Shahar, T. Spil, A. ten Teije, P. Terenziani, S. Tu, D. Wang, B. Weber and M. Weske. They helped us to compile a high-quality program for the ProHealth 2007 workshop. We would also like to acknowledge the splendid support of the local organization and the BPM 2007 Workshop Chairs.

We hope you will find the papers of the ProHealth 2007 workshop interesting and stimulating.