UvA-DARE (Digital Academic Repository)

MIE 2008: eHealth beyond the horizon - get IT there

Hasman, A.; Andersen, S.K.; Klein, G.O.; Schulz, S.; Aarts, J.; Mazzoleni, M.C.

[Link to publication](#)

MIE 2008: eHealth beyond the Horizon – Get IT there

A. Hasman; S. K. Andersen; G. O. Klein; S. Schulz; J. Aarts; M. C. Mazzoleni

This is the first special issue of a MIE conference in this journal.

From 1997 (MIE 1996) until 2007 (MIE 2006) MIE special issues were published in the *International Journal of Medical Informatics* (e.g. [1, 2]). Before, until 1995 (MIE 1994), they had been published in *Computer Methods and Programs in Biomedicine.*

Due to a change in policy the editors of the *International Journal of Medical Informatics* decided to discontinue publishing MIE special issues in the future. The editor of *Methods of Information in Medicine* expressed the opinion that it would be good for the medical informatics community to continue with the special issues and offered to publish them as special topic issues in *Methods*, as it has already been done for other special topics (e.g. [3–7] for 2008). The editors of the *International Journal* accepted the offer and it was decided that *Methods* would take over starting with the MIE 2008 conference held in Göteborg, Sweden.

The procedure for the selection of extended papers was carried out in the same way as earlier. Finally 13 papers were accepted for publication in this special issue. The selected papers again show the breadth of the field of medical informatics.

Borycki et al. [8] evaluate the impact of hybrid electronic-paper environments on novice nurse information seeking. It appeared that hybrid environments may lead to increased cognitive load and the use of less information in decision-making involving patient care.

Heimly and Berntsen [9] describe the problem that drugs are prescribed by many actors who may not be fully aware of the prescriptions of colleagues. A core EHR is introduced as a solution. The core EHR uses the EHR kept by the patient's regular GP as the main source of information. A server-based solution has been chosen in order to keep the core EHR accessible outside the GP's regular work hours.

Grabar et al. [10] discuss a novel method for automatic acquisition of synonym resources. Searching EHR content is challenging. Users must in their queries employ keywords that match the words and expressions used in health records. Guessing such 'best' keywords is a difficult task: language variation is rich. In this paper a novel method for inferring synonymy relations between words and simple terms is presented and evaluated.

Ahmadian et al. [11] describe the development of a national core dataset for preoperative assessment. The preoperative risk assessment is an important part of the anesthetic care of patients. The preoperative assessment can uncover hidden conditions that may cause problems. A preoperative assessment record therefore has to contain all relevant information. The authors describe the formation of a dataset based on expert consensus and literature review.

Blobel and Pharow [12] evaluate and compare different EHR-related standards (HL7, CCR, OpenEHR, etc.) with respect to interoperability, using the Generic Component Model. Strengths and weaknesses of different standards, specifications, and approaches were studied and summarized.

Lopez et al. [13] describe the development of a tool supporting semantic interoperability. The objective of the paper is to formulate and demonstrate a method for reusing standard information models applied in the healthcare domain by exploiting the extensibility mechanisms of UML to support the development of semantically interoperable systems and components.

Correspondence to:
Prof. Dr. Arie Hasman
Department of Medical Informatics (KIK)
Academic Medical Center
University of Amsterdam
Meibergdreef 15
1105 AZ Amsterdam Z.O.
The Netherlands
E-mail: a.hasman@amc.uva.nl

Cornet [14] studies the role of definitions and qualifiers in SNOMED CT for enabling post-coordination. Post-coordination is important as it takes away the need to pre-coordinate all possible concepts. The author analyzes the use of qualifier relationships in SNOMED CT and the extent to which qualifiers interact with defining relationships.

Schulz et al. [15] discuss problems that occur when integrating an upper ontology with an upper domain ontology. Upper ontologies are needed to support the interoperability between different domain ontologies. There still appears to be a gap between these domain-independent upper ontologies and the domain ontologies. This has led to the proposal of a new kind of ontologies, called upper-domain ontologies. Their purpose is to define the most general categories relevant for the entire biomedical domain. The article discusses the problems that arise when integrating an upper ontology with an upper domain ontology.

Daskalakis and Mantas [16] evaluate behavioral and organizational aspects of a service-oriented prototype implementation. It was investigated via a questionnaire whether the prototype implementation would be adopted by potential users. The questionnaire was based on the model of Information Systems Success of DeLone and McLean and was answered by past and present postgraduate students specializing in health informatics and healthcare services management after having obtained information about the design and a life demonstration of the system.

Callen et al. [17] established that there are cultural differences between doctors and nurses working in a large teaching hospital and that persons in different sub-cultures have different attitudes to and satisfaction with a hospital-wide mandatory computerized provider order entry system. The authors highlight the importance of identifying, explaining and measuring sub-cultures, particularly amongst professional groups, before implementation. This knowledge may facilitate the successful implementation and use of clinical information systems.

Saboor and Ammenwerth [18] present a categorization of communication problems that can occur in integrated HIS. HIS are mostly developed over several years. Changes to such complex systems may cause a variety of different negative side-effects. In order to understand the nature of incorrect communication in integrated HIS, the authors developed a concise structured categorization of common communication problems and their reasons.

Westbrook et al. [19] studied the long-term effects of CPOE systems on pathology test turnaround time. Also they investigated whether the introduction of these systems could be associated with an increase in mortality rates. It appeared that improvements in turnaround time achieved in the first 12 months were sustained in the next year post-implementation. Although the mortality rate increased in the year following system introduction but returned to the pre-system rate in the second year of system use this increase probably was not due to the system's introduction.

Säring et al. [20] discuss the determination of local and global parameters for functional analysis of the left ventricle. Generally, LV segmentation methods consider short-axis sequences only. The reduced resolution in the long-axis direction is one of the main reasons for inaccurate parameter extraction in the apical and basal area. The segmentation approach presented in this article combines short- and long-axis information as well as motion tracking to enable the functional LV analysis in 4D MR image data.

References

1. Engelbrecht R, Geissbuhler A, Lovis C, Mihalas G, editors. Connecting Medical Informatics and Bio-Informatics – MIE 2005. Int J Med Inform 2007; 76: 83–260.
2. Hasman A, Haux R, van der Lei J, De Clercq E, Roger France FH, editors. Ubiquity: Technologies for Better Health in Aging Societies – MIE 2006. Int J Med Inform 2007; 76 (Suppl 3): 99–367.
3. Demiris G, editor. Smart Homes and Ambient-assisted Living in an Aging Society. Methods Inf Med 2008; 47: 56–94.
4. Saranummi N, Wactlar H, editors. Pervasive Healthcare – Selected Papers from the Pervasive Healthcare 2008 Conference, Tampere, Finland. Methods Inf Med 2008; 47: 175–240.
5. Haux R, Kuhn KA, Kulikowski CA, editors. Informatics and Medicine – From Molecules to Populations. Methods Inf Med 2008; 47: 279–321.
6. Breu R, Sztipanovits J, Ammenwerth E, editors. Model-based Design of Trustworthy Health Information Systems. Methods Inf Med 2008; 47: 389–424.
7. Takabayashi K, Tanaka H, Kimura M, editors. Selected Papers from the Japanese Congress of Medical Informatics 2007. Methods Inf Med 2008; 47: 511–568.
8. Borycki EM, Lemieux-Charles L, Nagle L, Eysenbach G. Evaluating the Impact of Hybrid Electronic-Paper Environments Upon Novice Nurse Information Seeking. Methods Inf Med 2009; 48: xx-xx.
9. Heimly V, Berntsen KE. Consent-based Access to Core EHR Information – Collaborative Approaches in Norway. Methods Inf Med 2009; 48: xx-xx.
10. Grabar N, Varoutas PC, Rizand P, Livartowski A, Hamon T. Automatic Acquisition of Synonym Resources and Assessment of their Impact on the Enhanced Search in EHRs. Methods Inf Med 2009; 48: xx-xx.
11. Ahmadian L, Cornet R, Kalkman C, de Keizer NF. Development of a National Core Dataset for Preoperative Assessment. Methods Inf Med 2009; 48: xx-xx.
12. Blobel B, Pharow P. Analysis and Evaluation of EHR Approaches. Methods Inf Med 2009; 48: xx-xx.
13. Lopez DM, Blobel B. Enhanced Semantic Interoperability by Profiling Health Informatics Standards. Methods Inf Med 2009; 48: xx-xx.
14. Cornet R. Definitions and Qualifiers in SNOMED CT. Methods Inf Med 2009; 48: xx-xx.
15. Schulz S, Boeker M, Stenzhorn H, Niggemann J. Granularity Issues in the Alignment of Upper Ontologies. Methods Inf Med 2009; 48: xx-xx.
16. Daskalakis S, Mantas J. The Impact of SOA for Achieving Healthcare Interoperability: An Empirical Investigation Based on a Hypothetical Adoption. Methods Inf Med 2009; 48: xx-xx.
17. Callen JL, Braithwaite J, Westbrook JI. The importance of medical and nursing sub-cultures in the implementation of clinical information systems. Methods Inf Med 2009; 48: xx-xx.
18. Saboor S, Ammenwerth E. Categorizing Communication Errors in Integrated Hospital Information Systems. Methods Inf Med 2009; 48: xx-xx.
19. Westbrook JI, Georgiou A, Rob MI. Test turn-around times and mortality rates 12 and 24 months after the introduction of a computerised provider order entry system. Methods Inf Med 2009; 48: xx-xx
20. Säring D, Relan J, Ehrhardt J, Müllerleile K, Bahrmeyer A, Groth M, Handels H. Reproducible Extraction of Local and Global Parameters for Functional Analysis of the Left Ventricle in 4D MR Image Data. Methods Inf Med 2009; 48: xx-xx.