Introduction

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Biographical notes: Stefan Kirn holds diploma degrees in Management Science, and Computer Science. He did his PhD thesis, and his habilitation in Artificial Intelligence. From 1995 to 2003, he has held a chair in Information Systems at Technical University Ilmenau, Germany. Since 2003, he holds a chair in Information Systems at University of Hohenheim, Stuttgart. His major research interests are intelligently cooperating software agents (multiagent systems/multiagent organisations), and the use of novel information and communication technologies in service industries, especially in healthcare, and logistics. Currently running and recently completed projects are Akogrimo, BREIN, FIRST, eHealthMonitor (EU funding), and MIGRATE!, InterLogGrid, AutoBauLog, and SmartSite (national funding). He is (co-)author of more than 150 peer reviewed papers in international journals and conferences, and has (co-)edited more than ten books.

Nilmini Wickramasinghe is the Epworth Chair Health Information Management. She researches and teaches within the information systems domain with particular focus on developing suitable models, strategies and techniques grounded in various management disciplines to facilitate more effective design, development and implementation of IS/IT solutions to effect superior, patient-centric healthcare delivery. She collaborates with leading scholars at various premier healthcare organisations throughout Australia, USA and Europe. She is well-published with more than 300 refereed scholarly articles, more than ten books, numerous book chapters, an encyclopaedia and a well-established funded research track record.

The role for medical informatics today is growing at an exponential rate. Every second we are witnessing new technology solution and apps to address one aspect or another of healthcare delivery. This special issue tried to address a particularly challenging task of identifying some of the most important areas and key topics today within the field. In no specific order chronic disease, the need for safe and reliable solutions, the growing role of social media, hip/knee athroplasty and designing databases appear to be important hot topics today as our special issue compilation describes.

Specifically:

Paper 1 by Schulz entitled 'Technology solutions in chronic disease management: the role of "social media"' specifically brings together the role of social media as it relates to another key trend of chronic disease management.

Paper 2 by Moradi et al., 'A new approach to design safe and reliable electrical stimulator', provides a detailed discussion of pertinent safety and reliability issues with medical technologies.

Paper 3 by Herter entitled 'Medical treatment errors in hospitals: information technology-based concepts to limit their occurrence' also looks at safety but from the perspective of medical errors in hospitals.

Paper 4 by Madeti et al. 'Biomechanics of hip joint: a review' focuses on the area of hip athroplasty.

Paper 5 by Deepa et al., entitled 'Action fuzzy rule based classifier for analysis of dermatology databases', looks at the design of appropriate databases.

Finally, paper 6 by Peter 'Technological solutions in chronic disease management for monitoring diabetes' looks at the roles for technology to provide better monitoring and management of diabetes a growing and troubling chronic disease.

It is not possible in one special issue to cover all the key topics today in health informatics but this special issue does serve to highlight many important areas including risk management, medical errors, chronic disease management, privacy and security and also present some leading edge technology solutions. In this way scholars and students can gain important insights into the direction that the filed is taking and develop a further understanding of significant research areas. We are desirous that this will in turn encourage further research in these areas that will serve to build upon the extant knowledge base and provide solutions that can in turn ensure superior healthcare delivery ensues.