

## Telemedicine: Trends and Challenges

Special issue

### Guest editors

Lisette van Gemert-Pijnen, University of Twente, The Netherlands

Marieke Hettinga, Windesheim University of Applied Sciences, The Netherlands

This special issue is based on selected papers and extended papers of the Fifth International Conference on eHealth, Telemedicine, and Social Medicine, held on February 2013, in Nice, France. The authors of the best papers of this conference were invited to extend their papers to a full journal paper.

The eTelemed conference is a well-visited conference with lively discussions in tracks on technical aspects, societal and financial aspects, as well as on user-oriented research. The theme of the eTelemed conference in 2013 was globalization and the impact on health care, costs and society. In particular, collecting, storing and management of patient data were highlighted to discuss the implications for safety, online access, and information systems to process and store data. The integration of advanced and innovative technologies, like teleradiology, imaging and self-tracking sensing systems, with traditional care is still a challenge. Citizen-centred care through safe, smart and mobile technologies and new information tools requires new visions on accountability, responsibility and managing health and wellbeing.

The best papers of this conference are selected by the International TPC (Technical Program Committee) and the guest-editors on the basis of their contents, specifically for lending themselves to an interesting extended work. TPC consists of international experts who are leading researchers in the field, working in academia and industry. We, as the invited guest-editors of this special issue, both lead research teams in the domain of eHealth.

The papers of this special issue are from researchers all over the world, and from various disciplines. Together, they reflect the interdisciplinary field of eHealth. The papers address topics as: Design and implementation criteria for advanced telemonitoring systems to support chronic care patients and elderly, User centred development approaches to design platforms for telecare and distance learning systems, Multidisciplinary development of devices to support medical decision-making, Critical factors for using social media in a governmental communication setting, and Business modelling for eHealth innovation of small and medium sized enterprises. For example:

- The relevance and significance of the local context when establishing and implementing telemedicine services
- Real time audio-visual telemedicine program providing 24/7 emergency and Intensive Care physician coverage; factors for implementing a successful model.
- Long-term Home Monitoring of COPD Patients via a wearable System
- Design of NOWAPI system for telemonitoring the treatment of obstructive sleep apnea.

- User-centred development of AAL-JP project fearless for elderly. Balanced Scorecard to guide the multi-disciplinary development process.
- Development of an unified platform for Ambient Assisted Living for telecare and communication of elderly
- EMuRgency; AI-driven volunteer Notification System for integrating laypersons into Emergency Medical Services
- Improving Online Interactive Modules for e-Learning through iterative and formative evaluations with stakeholders and designers
- A dynamic interface for Linked Open Drug Data (LODD) to automatically detect the drugs in a prescription, to collect multidimensional data and to supports automatic prevention of possible drug interactions in a prescription.
- Application of Linguistic Approaches to rank the effectiveness of treatment modalities from the most recommended to the contraindicated; in order to support multi-expert decision-making in healthcare
- Multimodal cognitive nonverbal and verbal Interactions: the neurorehabilitation of autistic children via mobile Toy Robots
- A critical perspective on governmental communication through Twitter; what is good practice in communicating through social media channels?
- Introduction of an eHealth Innovation Map, for small and medium-sized enterprises (SMEs)

As the guest editors, we wish the reader an enjoyable and interesting reading of these papers, and above all, we hope to see you at one of the future eTelemed conferences.

**Lisette van Gemert-Pijnen** is the editor in chief of the International Journal On Advances in Life Sciences and member of the scientific board of eTelemed. She is the head of the Center for eHealth Research & Disease management at the University of Twente, The Netherlands. Her research group's program focuses on persuasive designs (people-driven) and business modelling (value-driven) for interactive eHealth interventions, in particular, on how persuasive designs can increase trust, engagement, and adherence to eHealth interventions aimed at safe-care and self-care. Lisette is one of the Advisory Chairs of the eTelemed series.

**Marika Hettinga** leads a research team on ICT-innovations in Healthcare at the Windesheim University of Applied Sciences, The Netherlands. The central theme of this team is the structural embedding of ICT-innovations in healthcare leading to a research focus on business modelling, methods for evidence based eHealth and user oriented research. Furthermore, technological research questions are addressed concerning sensor technology and big data. Marika is one of the Advisory Chairs of the eTelemed series.