
Preface

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Biographical notes: William J Buchanan leads the Centre for Distributed Computing within Edinburgh Napier University. He has extensive research experience in distributed systems, mobile networks, pervasive healthcare, simulation tools, digital forensics and security, and has published over 25 academic books. He has also won several awards for his work with knowledge transfer, and works within several application domains, including healthcare and policing.

Christoph Thuemmler is a Consultant Physician with the Scottish NHS who has worked in healthcare systems in Germany, the USA and the UK. He is also a Visiting Reader at the Centre for Distributed Computing within Edinburgh Napier University. Apart from clinical work in general internal medicine, acute and geriatric medicine he has a research interest in patient flow dynamics, real time computing, radio frequency identification and smart system integration.

Overall, the healthcare industry is often seen as a chaotic structure, where it is difficult to map healthcare processes onto formal models. This Special Issue of IJHTM aims to identify and discuss useable models for new emerging patient care strategies within a changing healthcare environment, so that IT systems can be effectively designed around the patient, rather than, as in most cases, where healthcare systems are designed around the healthcare practitioners. This type of approach is key as it will allow a paradigm shift away from rigid centralised hospital dominated healthcare systems towards a more flexible distributed patient-centred service. Upcoming ubiquitous and pervasive technologies will help to transform static on demand provider defined care patterns into need driven highly dynamic personalised interventions.

In order to deliver the right service in time, heterogeneous multimedia information from distributed sources needs to be processed much faster in order to be integrated into an enhanced digital patient model. Along with enhanced models of patients, the special edition focuses on enhanced methods of security within healthcare systems, such as ones based around roles within a healthcare environment. This might identify healthcare roles around the patient, and the events, properties, procedures, and so on, which effectively define a patient's environment, and to fully integrate security from a core level. Most existing healthcare systems are typically seen as centralised systems, thus this issue also aims to investigate methodologies which allow the distribution of data around wide areas, and in the creation of systems which are robust, but also allow for enhanced security.

