

---

## Editorial

---

### Giuseppe Turchetti

Scuola Superiore Sant'Anna,  
Pisa, Italy  
E-mail: g.turchetti@sssup.it

### Koos Krabbendam\*

School of Management and Governance,  
University of Twente,  
The Netherlands  
E-mail: j.j.krabbendam@utwente.nl  
\*Corresponding author

### Elie Geisler

Stuart School of Business,  
Illinois Institute of Technology (IIT),  
Chicago, IL, USA  
E-mail: geisler@stuart.iit.edu

### Nilmini Wickramasinghe

Royal Melbourne Institute of Technology (RMIT),  
Melbourne, Australia  
E-mail: nilmini.work@gmail.com

**Biographical notes:** Giuseppe Turchetti is an Associate Professor of Economics and Management at the Scuola Superiore Sant'Anna in Pisa, Italy. He is a Cofounder of the Research Centre on Technologies and Services for the Support of Longevity and of the Research Laboratory on Management and Innovation of SSSA. His main research interests are in the fields of the organisation, financing and evaluation of healthcare services and health technologies. He is an author or co-author of 7 books and of over 80 scholarly papers and book chapters.

Koos Krabbendam is a Professor of Operations Management and Chairman of the Department of Operations Organization and Human Resources in the School of Management and Governance at the University of Twente, The Netherlands. He got a Doctorate degree on a study about the organisational impact of industrial automation, and has published several articles on the subject. Since 2000, he has also been a Visiting Professor at the College of Business Administration, Hunan University, China. He has a wide interest in education. Among other things, he is doing work in e-learning and has published quite a few cases for the e-learning environment. His main research interest is in the field of management of innovation, both in manufacturing and in healthcare.

Elie Geisler is a Distinguished Professor at the Stuart School of Business of the Illinois Institute of Technology (IIT), USA. He holds a Doctorate from Northwestern University. He is an author or co-author of over 100 papers and 12 books. His current research interests are in the management of medical technology and the structure, measurement and performance metrics of knowledge management systems.

Nilmini Wickramasinghe is an Associate Professor at Stuart School of Business, IIT, where she researches and teaches in several areas within information systems, with particular focus on the applications of these areas to healthcare. She is well published in all these areas and regularly presents her work throughout North America, as well as in Europe and Australia. She is the Editor-in-Chief of two scholarly journals published by Inderscience.

---

The papers included in this Special Issue have been taken from a selection of papers that were presented at the 2007 Healthcare Technology Conference in Pisa, 3–5 October. The theme for the conference was ‘Towards responsibility and compliance in the innovation and management of healthcare technologies: international experiences and comparative experiences’. This theme was chosen by the conference committee since it was felt that as it is generally agreed that technologies play a key role in healthcare innovation and management, it is essential for the healthcare community and the web of healthcare players as well as society in general to focus on the critical issues of responsibility and compliance.

Responsibility and compliance clearly have an integral role in all areas of healthcare technology. In one Special Issue it is not possible to highlight all areas where responsibility and compliance are critical; however, we hope that the following eight papers will draw readers’ attention to key areas and help to foster more research and thinking in this regard.

The first paper, by Garshnek et al., is about the use of personal digital assistants (PDA) for mass medication distribution. In the case of disease outbreak it is expected that, because of the limited number of available health professionals, for medication distribution one has to rely on spontaneous volunteers. These volunteers have to make medication decisions based on a complex algorithm in a stressful situation. The question the paper deals with is whether, compared with hand-written methods, the use of PDAs will help them to reduce errors and increase their efficiency.

The paper by Turchetti et al. looks at the introduction of new and advanced solutions in the biomedical technology sector, which is a complex process and is usually more difficult to achieve than in other fields. This paper proposes and then discusses a theoretical model for assessment of social and economic benefits of an innovative technology with the aim to frame the cost-saving implications related to the use of a new device. The model is applied to the case of a new rehabilitation technology.

One of the issues in the transformation of healthcare systems is related to the design and implementation of planning and control systems and of supporting cost accounting systems. The paper by Cannavacciuolo et al. presents a case study concerning the allocation of the costs of a surgery unit to the final cost centres that use its services.

Waiting lists for elective surgery are a topical issue in many health systems. Decision makers should therefore state rules to prioritise access in order to attain both efficiency and equity. The paper by Testi et al. evaluates an experimental web-based information

system that, by using a prioritising algorithm, determines the relative priority of each patient in the waiting list and the corresponding order of admission.

In healthcare, there is a growing interest in applying new approaches in operations, such as lean thinking, total quality management and the theory of constraints, which have been successful in industry. However, unlike in industry, the operators in healthcare are professionals, who have great autonomy over their work. Experimenting with approaches to study the benefits is thus not without problems. A way to overcome these problems is the cooperative research methodology of action research. The paper by Rosmulder et al. describes the use of action research and soft systems methodology for studying and taking action in complex, and unstructured problem situations such as the healthcare environment.

The next paper, by Papadopoulos et al., addresses the dynamics and mechanisms underpinning the trajectories and outcomes of process innovation. It deploys actor-network theory to explore the role of emergent stakeholder dynamics and networks in shaping the trajectory and outcomes of a project to implement lean thinking in a theatres unit.

Today's telemedicine has evolved to the point where it now supports new clinical approaches to homecare. This is due primarily to advances in telecommunication which have engendered a more user-friendly implementation of telemedicine. The work described in this paper by Zanaboni et al. aims to assess the adoption of a remote monitoring service for follow-up examinations of heart failure patients implanted with biventricular ICD. This assessment study was conducted in order to evaluate the critical utility on patients and their management, the technical feasibility, the efficiency and the customer satisfaction.

The ability of any healthcare system to improve outcomes for patients through the use of IT or through process improvement depends very much on the implementation of process redesign methodologies. In the final paper, by Walley et al., the redesign capabilities of 29 UK NHS Trusts are assessed, to gain insight into the current situation within the NHS as a whole.

We trust our readers will find this Special Issue informative and stimulating. We close this editorial by calling for additional research that focuses on responsibility and compliance in the various aspects of technological innovations in the field of healthcare technology and management.