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Editors

Health Care Systems Engineering

HCSE, Florence, Italy, May 2017

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Foreword Proceedings HCSE 2017

The International Conference on Health Care Systems Engineering provides an opportunity to discuss state-of-the-art operations management issues in healthcare delivery systems. The third edition of this conference took place in Florence at the Meyer Children's Hospital—a unique location in a beautiful city. One facet of the uniqueness of the Meyer Children's Hospital is that it was built not to look like a hospital. This inspiring atmosphere carried over directly to the participants. Scientists and practitioners used the opportunity to discuss new ideas, methods, and technologies and how they can be brought into practice.

Topics included predictive models and information systems in healthcare, healthcare logistics, planning and location, clinical pathways, patient-centered services, emergency department management, and many more.

What makes HCSE a very special conference is the broadness of the topics and at the same time the dialogue between researchers and practitioners to better evaluate the value of the presented ideas. Moreover, for each session, there is not only a chair person assigned, but also a discussant. This improves the quality and intensity of the discussion after each talk enormously.

The hospital tour at the Meyer Children's Hospital as well as the perfect social program completed the positive impression of HCSE 2017 in Florence. I am very much looking forward to future editions of HCSE.

Prof. Stefan Nickel
Karlsruhe Institute of Technology—KIT, Karlsruhe
Germany

Preface

This volume is dedicated to the peer-reviewed contributions accepted for presentation at the Third International Conference on Health Care Systems Engineering (HCSE 2017) that took place in Florence, Italy, from May 29–31, 2017. This conference aims at giving evidence of how quantitative operations management (OM) methods can support complex decisions arising in healthcare processes.

A distinguishing feature of the conference with respect to the other OM conferences on similar topics is to bring together medical staff and OM people to (i) share knowledge, (ii) share perspectives—often different and possibly conflicting—with the aim of finally (iii) come to a problem solution. The conference is purposely organized in plenary and single-stream regular sessions so as to foster the discussions and collaborations between OM scientists and clinicians.

Another peculiar feature of the conference is the location which is quite unusual for an OM conference: Each edition was hosted inside a hospital and for HCSE 2017 the hosting hospital was the Meyer Children’s Hospital in Florence. We would like to express our gratitude to the General Director Dr. Alberto Zanobini for letting us visit and use the (outstanding) hospital facilities throughout the conference.

In this edition of the conference, we had the honor of host two keynote speakers to whom we express our truly deep gratitude: Prof. Stefan Nickel from the Karlsruhe Institute of Technology—KIT (Germany) and Prof. Angela Testi from the University of Genoa (Italy). Their contributions were perfectly fitting the objective of the conference and were very much appreciated by the audience.

Each of the contributions submitted to the conference has undergone a peer-review process which involved at least two reviewers selected by the Conference Scientific Committee. A total of 29 contributions were finally accepted and organized in six regular sessions (25 contributions) and a young session (4 contributions). Each session was chaired by an academic and a clinician discussant, both experts in the field. This conference was indeed multidisciplinary and international with 84 authors spread in 18 countries and in 3 continents.

The regular sessions cover a wide spectrum of topics in the management of healthcare systems, and they feature the following topics: (i) predictive models and

information system, (ii) planning and location, (iii) protection and analytical approaches, (iv) emergency department management, (v) robustness management, and (vi) scheduling.

Young session is a novelty of this edition: Young scholars, i.e., graduated students and Ph.D. students, have been given the opportunity to submit an extended abstract instead of a full paper and to present their ongoing research on emerging topics in healthcare management in a dedicated session. Presentations have been held in a friendly, inspiring, and bridge-building environment, where young scholars received valuable feedback from the audience to finalize their research. The most promising research was awarded by a committee made of members of the Scientific Committee and experts in the field, and the winner was Fabian Schäfer presenting the paper: F. Schäfer, M. Walther, A. Hübner, Patient-Bed Allocation in Large Hospitals.

We would like to thank Prof. Nickel who accepted to write the foreword of this volume, all the members of the Scientific Committee who gave us the opportunity to host HCSE 2017, all the speakers, authors, attendees, discussants, and reviewers for their valuable help in guaranteeing the quality of the accepted contributions. Each of them has contributed to the success of HCSE 2017.

We are deeply indebted to the young people from the local organizing committee, i.e., to Caterina Caprara and Roberta Rossi because without their help everything would have been more difficult to manage.

Finally, we would like to express our sincere wishes for the success of the next edition of the conference, HCSE 2019!

Florence, Italy

Paola Cappanera
Filippo Visintin

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