

# Biomedical Informatics for Sustainable Health Systems. Editorial

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## Summary

**Objectives:** To provide an editorial introduction to the 2007 IMIA Yearbook of Medical Informatics with an overview of its contents and contributors.

**Methods:** A brief overview of the main theme of "Biomedical Informatics for Sustainable Health Systems", and an outline of the purposes, contents, format, and acknowledgment of contributions for the 2007 IMIA Yearbook.

**Results:** In resonance with the MEDINFO 2007 conference theme "Building Sustainable Health Systems", this issue of the Yearbook examines the role of healthcare informatics in helping face the challenge of sustainability for our health systems, through a number of original contributions, and selected papers published during the past 12 months.

**Conclusion:** This timely topic, along with the review and surveys on the main streams of research in medical informatics, offer a complete overview of the development of our field. This current state of affairs is put in the perspective of the fortieth birthday of IMIA, reflecting on the past achievements of the Association, and outlining its potential to continue shaping the world of medical informatics.

## Keywords

Editorial, 2007 IMIA Yearbook of Medical Informatics, sustainability of health systems, surveys of biomedical informatics, reviews of biomedical informatics, history of biomedical informatics, IMIA and its societies

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The International Medical Informatics Association is about to celebrate its fortieth birthday, a good mark of sustainability, an accomplishment in our ever-redefining field, and, above all, a call for continuing to drive the vision and the strategy for the development of our community. A section of the Yearbook is devoted to reflections by IMIA leaders on the history and future of the Association. IMIA's President, Nancy Lorenzi, also reports on the progress of the strategic planning effort she has been heading for the past two years.

Meanwhile, health systems are facing unprecedented challenges for their very survival. They will have to reconfigure or reinvent themselves in order to sustain the services to their populations under care, maintain the values of the societies they serve, and cope with increasing constraints and finite resources. As the main theme of the MEDINFO 2007 Conference, sustainability of health systems is explored in a detailed survey by Evelyn Hovenga, Chair of the MEDINFO 2007 Organizing Committee, and by Enrico Coiera. It is illustrated in various perspectives by a selection of recently published papers, and brought together in a synopsis by Christian Lovis.

It is now well recognized that health and healthcare information systems and tools, built on sound medical informatics principles, will play an increasingly important role to facilitate

and accelerate these needed transformations. In his keynote, Jean-Claude Healy challenges our community to take a leading role in helping achieve the bold goal of "eHealth for all by 2015". Research and education are crucial in this endeavour, and in this Yearbook issue, academic institutions from diverse regions of the world - Morocco, the United States, Australia, and Japan, describe their activities and strategies for teaching and furthering knowledge in biomedical informatics.

Throughout the Yearbook's sections, current concepts and tools are presented. Each of them will, to some degree, contribute to success in meeting the challenges of sustainability: IT can improve patient quality and safety of care (David Bates and Jonathan Einbinder), patient records provide the foundation for the securing continuity of the patient information chain (Petra Knaup et al.), open-source tools enhance health information systems' interoperability (Stelios Sfakianakis et al.) as well as the development, implementation and sharing of guideline-based clinical decision support (Tze-Yung Leong et al.), while new IT-enabled medical sensors help redefine the boundaries of healthcare systems (Dimitri Konstantas).

Two in-depth reviews explore key determinants of medical informatics' ability to make a positive difference in healthcare systems: human factors engineering approaches (Marie-Catherine Beuscart-

Zephir et al.), and the factors influencing success or failure in the implementation of computerized provider order entry systems, which is the current iconic challenge of clinical informatics (Asli Ozdas and Randolph Miller).

## About the IMIA Yearbook of Medical Informatics: A Sustainability Issue

The Yearbook of Medical Informatics of the International Medical Informatics Association (IMIA) is distributed through IMIA's Member and Corresponding Member Societies worldwide. Since its inception in 1992 it has been the single most important publication summarizing the activities of IMIA, and showcasing the best of medical informatics research for the previous year.

Due to changing demands by its readership and the expanded availability of original papers over the web, the IMIA Yearbook of Medical Informatics has adopted a new format and mode of publication since 2006, with the goal of substantially broadening its availability to virtually all members of the IMIA family. In particular, surveys, giving overviews of recent developments, and comprehensive introductory reviews on relevant topics in the different fields of health and biomedical informatics, have been added as original articles. Now published as a supplement of *Methods of Information in Medicine*, one of the official journals of IMIA, these original papers are peer-reviewed, indexed in Medline, and impact-factor listed. The Yearbook remains a non-profit publication of IMIA, jointly published with Schattauer Verlag. It is currently subscribed to by almost half of IMIA's national member societies, providing access for about 20.000 individuals.

This, as we hope, successful evolution has required careful planning and thoughtful steering by the Yearbook co-editors (from 2001 to 2006 R.H. and C.K., see Figure 1). This year, one of the co-editors (R.H.) is taking on another role in IMIA, and will be succeeded in his Yearbook editorship by Antoine Geissbuhler from 2008 on, with Casimir Kulikowski maintaining editorial continuity.

## Information on IMIA and on its Regional Groups

The Yearbook contains detailed information about IMIA, its Member Societies, Regional Groups, Working Groups, and Special Interest Groups.

Preparation of the general pages describing IMIA activities received considerable assistance from Steven Huesing, the Executive Director. The section on IMIA Working Groups and Special Interest Groups was greatly aided by contributions from Peter Murray. For the third time a more detailed report on the activities of IMIA regions is included with the help of Regional Editors. We would like to thank Arie Hasman and Rolf Engelbrecht (for EFMI), Sedick Isaacs (for HELINA), Elizabeth Di Chiara and Tia Abner (for the North American IMIA Member Societies), Yun Sik Kwak (for APAMI) and Alvaro Margolis (for IMIA LAC) for their valuable contributions. The IMIA representatives from the individual countries provided the material for their own national societies.



**Fig 1** Co-editors C.K. and R.H. (from left), demonstrating 'thoughtful steering' (on a model of the world's first automobile at the Daimler-Benz Museum in Ladenburg, Germany).

## Sponsorship of the 2007 IMIA Yearbook by Siemens Medical Solutions

In recognition of the importance of the IMIA Yearbook to our field, Dr. Erich Reinhardt, President and CEO of Siemens Medical Solutions kindly offered to support IMIA by sponsoring the printing of the 2007 IMIA Yearbook. On behalf of IMIA the editors of this Yearbook wish to thank Dr. Reinhardt for this very generous support.

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The referees who contributed to the selection of articles in the 2007 Yearbook of Medical Informatics were:

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