On the Methodology and Scientific Fundamentals of Organizing, Representing and Analysing Data, Information and Knowledge in Biomedicine and Health Care

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Summary
This issue of Methods of Information in Medicine celebrates the journal’s first 50 years. As the oldest journal in biomedical and health informatics and, being broader in its scope, as the journal dealing with the methodology and scientific fundamentals of organizing, representing and analysing data, information and knowledge in biomedicine and health care, the journal publications during the last five decades also reflect the formation of a scientific field that deals with information in biomedicine and health care. Five papers that arose from a scientific symposium on “biomedical informatics: confluence of multiple disciplines” held in Heidelberg, Germany, in June 2011 are included in this volume. The papers reflect not only the broad interdisciplinary scope of the journal, but also the broad and evolving scope of the field itself. We can also recognise that there is an ongoing need for original and relevant research. As a discipline that has an impact on many other fields and is also influenced by them, scientific exchange and collaborative research continues to be needed.

1. Fifty Years of Methods of Information in Medicine

This issue completes volume 50 of Methods of Information in Medicine.

Since 1962, during the first 50 years of this journal, 2583 articles have been published in 218 issues (‘regular’ issues, i.e. without counting additional supplement issues). All articles are now accessible through the journal’s online archive as well as indexed in the U.S. National Library of Medicine’s MEDLINE database, with links to this online archive. These articles are, mostly, original articles on research, but also editorials (since 1981), commentaries (since 1993), review papers, discussion papers and reports.

In addition to these articles announcements, book reviews, calendars of events, conference reports, editorials resp. editori-
al comments and notes, IMIA and MIE news, information on current literature, letters to the editor, notes from the publisher, and other reports have completed these 218 journal issues. Additional articles appeared in Methods’ supplement issues and books.

As the oldest journal in medical informatics (or biomedical and health informatics, respectively) and, being broader in its scope, as the journal dealing with the methodology and scientific fundamentals of organizing, representing and analysing data, information and knowledge in biomedicine and health care, the journal publications during the last five decades also reflect the formation of a scientific field that deals with information in biomedicine and health care.

Fig. 1 Participants of the symposium ‘Biomedical Informatics: Confluence of Multiple Disciplines’, from June 9 to 11, 2011, at Heidelberg, Germany. With country and some of their roles, related to this symposium. From left to right: Reinhold Haux (Germany, Editor of MIM, Past President of IMIA), Helga Bergemann (Germany), Victor Majojo (Spain, EdB), Marion Ball (USA, EdB, Past President of IMIA), Fernando Martin-Sanchez (Australia, EdB, IMIA Board), Corrina Scharnweber (Germany), Michael Marschollek (Germany), Dieter Bergemann (Germany, SP), John Mantas (Greece, President of EFMI, EdB), Klaus-Hendrik Wolf (Germany), Joyce Mitchell (USA, Past President of ACMIA), Petra Knaup (Germany, EdB), Riccardo Bellazzi (Italy, EdB, IMIA Board), Jana Zvárová (Czech Republic, EdB, Editor of EJBI), Katsuhiko Takanawashi (Japan, EdB), Vimila Patel (USA, EdB), Hartmuth Dickhaus (Germany), Edward Shortliffe (USA, EdB, Editor of JBI, President of AMIA), Dominik Aronsky (USA, Associate Editor of MIM, ACMIA Board), Alexa McCray (USA, Senior Consulting Editor of MIM, President Elect of ACMIA), Olaf Gefeller (Germany, Associate Editor of MIM), György Surján (Hungary, EFMI Board), Jan van Bemmelen (The Netherlands, Senior Editor of MIM, Past President of IMIA), Anne van Bemmelen (The Netherlands), Jan Talmon (The Netherlands, EdB, Editor of UMI), Arne Hasman (The Netherlands, EdB, Past Editor of UMI, IMIA Board), Christian Lovis (Switzerland, EdB, EFMI Board), Donald Lindberg (USA, Senior Editor of MIM), Fia Hasman (The Netherlands), Indra Neil Sarkar (USA, Associate Editor of MIM), Mary Lindberg (USA), Peter Murray (UK, CEO of IMIA), Casimir Kulikowski (USA, EdB, Editor of the IMIA Yearbook, IMIA Board), Hans Peterson (Sweden, EdB, Past President of IMIA), Andreas Ziegler (Germany, EdB), Michio Kimura (Japan, EdB, President of APAMI), Hyeoum-Ae Park (South Korea, IMIA Board), Ulla Gerdin (Sweden), Mariah Junglan Min Park (South Korea), Mark Musen (USA, EdB), Christoph Lehmann (USA, EdB, Editor of ACI, AMIA Board), Randy Miller (USA, EdB, Past Editor of JAMIA), Elske Ammenwerth (Austria, EdB), Lucila Ohno-Machado (USA, Editor of JAMIA), Linda Miller (USA), Andrea Schüg (Germany, SP), Antoine Geissbühler (Switzerland, EdB, Editor of the IMIA Yearbook, President of IMIA), Tze Yun Leong (Singapore, Associate Editor of MIM), Peter Henning (Germany, SP), Participants, not in the picture: Marianna Diomidis (Greece), Jan Haaf (Germany, SP). Abbreviations: ACI: Applied Clinical Informatics, ACMIA: American College of Medical Informatics, AMIA: American Medical Informatics Association, APAMI: Asia Pacific Association of Medical Informatics, EdB: (past) Editorial Board Member of Methods of Information in Medicine, EFMI: European Federation of Medical Informatics, EJBI: European Journal of Biomedical Informatics, JAMIA: Journal of the American Medical Informatics Association, JBI: Journal of Biomedical Informatics, IMIA: International Journal of Medical Informatics IMIA: International Medical Informatics Association, JAMIA: Journal of the American Medical Informatics Association, JBI: Journal of Biomedical Informatics, MIM: Methods of Information in Medicine, SP: Schattauer Publishers.
2. The Symposium on 'Biomedical Informatics: Confluence of Multiple Disciplines' on Behalf of this Event

To mark this historic event, a scientific symposium took place in Heidelberg, Germany, from Thursday, June 9 to Saturday, June 11, 2011 at the University of Heidelberg's Internationales Wissenschaftsforum, a center for scholarly exchange in all areas of science and academic research. It was organized by the journal's Core Editorial Team (the Associate Editors, the Senior Consulting Editor, myself as Editor). The symposium theme was 'Biomedical Informatics: Confluence of Multiple Disciplines', with the intention to reflect on opportunities, challenges and priorities of organizing, representing and analyzing data, information and knowledge in biomedicine and health care.

A select number of distinguished colleagues from around the world joined us in celebrating the 50th anniversary of Methods. These colleagues were either involved in the journal's development, or editors of some of our international sister journals, or representatives of international medical informatics organizations, of which Methods is an official journal. We were happy that most of the invited colleagues were able to come and also to actively participate in discussing the past, present and future of our field. Figure 1 shows the group photo with the conference participants. In Table 1 the symposium program can be found.

3. Five Manuscripts as Symposium Outcome, Completing the First Five Decades of Methods

As an outcome of this conference, five manuscripts, which can be found in this issue, have been prepared.

The first paper documents the journal's development during its first half century and provides some analyses of its publications [1]. The other four papers discuss four themes, which were identified as major themes for our field during this symposium. Having the symposium theme in mind these four articles centered on confluences [2], decision support [3], data analysis and data mining [4], and on inte-
national aspects [5] with respect to our field.

4. Conclusions

With these papers we can recognise the tremendous development and scientific progress, which took place during the last 50 years. We can also see that this development has by no means ended and is still growing.

We can also recognise that there is an ongoing need for original and relevant research on the methodology and scientific fundamentals of organizing, representing and analysing data, information and knowledge in biomedicine and health care. As a discipline that has an impact on many other fields and is also influenced by them, continuous and even growing interdisciplinary, multidisciplinary and even transdisciplinary scientific exchange and research seems to be obviously needed. Methods of Information in Medicine will continue to serve as a publication forum for stimulating such research.

Acknowledgements

The organizers of this symposium were supported by many persons and institutions. On behalf of the Core Editorial Team of Methods as the symposium organizers I would like to thank them all. The contributions of all authors to articles [2] to [5], in particular the additional editorial work of the first authors, needs also to be explicitly acknowledged.

References