

## Preface

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Published online: 16 March 2010

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People from various walks of life and socioeconomic status are increasingly demanding to be better informed of anticipated changes in their health status as they progress through life. Although not simple, it is now feasible to predict tissue/organ deregulation associated with predisposition to particular pathologies such as premature aging, neurodegenerative processes, cardiovascular disorders and various cancers. Thus, high-accuracy proteome maps of human body fluids open new perspectives for early and even predictive molecular diagnostics of chronic disorders before the usual symptoms appear, and, therefore, allow well-timed prevention. Further, the minimally invasive approach of profiling the circulating nucleic acids and differential blood proteome holds the promise of a revolution in population screening, predictive disease diagnostics and prognostic indicators. The information presented in the EPMA-journal emphasizes the necessity of individualized patient treatment and provides compelling reasons as to why “across-the-board” treatment is not warranted.

The EPMA-Journal is for everyone: on reading the journal, readers can learn a new philosophy in medicine, novel trends in healthcare and biomedical education. The journal provides important information for individuals of various professional and scientific backgrounds. Professionals can consider the general concept of multidisciplinary approaches and learn the mindset of border areas and other scientific branches. A partial list of those who will

especially benefit from the information provided in the journal is as follows:

- professionals in conventional and molecular diagnostics, biomedicine, biotechnologies, ethics, and economics
- universities, research units, private and public hospitals
- patients and their family members
- scientific journals as well as public journals with medical sections
- international associations with healthcare-oriented scientific, research and public health-related activities/responsibilities
- political organizations and authorities active in the healthcare sector
- healthcare industry.

Predictive, preventive and personalized medicine offers great promise for the future practice of medicine. Essential components of this approach include well-organized population screening protocols utilizing novel diagnostic biomarkers of disease states, targeted prevention of common human pathologies, optimal treatment planning and personalized medicine thereby resulting in substantial improvement of the quality of life. This approach also offers the advantage of delivering care at potentially reduced costs to the population at large thereby addressing social and ethical issues related to access to and affordability of healthcare. A broad distribution and a routine clinical utilization of advanced technological approaches could enable a significant portion of the population to reach the 100-year age limit yet remaining vibrant in excellent physical and mental health and as actively contributing members of society. One of the central issues discussed is the screening for predisposition of healthy individuals to potential pathologies later in life. The groups at risk identified within the general population can be given a fair

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chance of a focused diagnosis with multidisciplinary expertise and well-timed preventive measures. The reliability of the blood-tests proposed, potential application to clinical routines, enormous economical and social impacts of the new generation of molecular- and nanotechnology-based diagnostic approaches—are all discussed in the EPMA-Journal.

The scientific platform for the EPMA-Journal has been created by the worldwide pioneer book dedicated to “Predictive Diagnostics and Personalized Treatment: Dream or Reality”, Ed. O. Golubnitschaja, “Nova Science Publishers”, New York 2009. A panel of leading world experts and authorities of the international issue-related associations from 16 countries contributed to the creation of this scientific platform addressing central issues and topics such as model-based patient-care and individualized therapy-planning, reproductive medicine and postnatal diagnostics, early/predictive diagnosis and optimized treatment of Diabetes mellitus, cardiovascular, cancer and neurodegenerative disorders, advanced technologies in gene-therapy application and drug-delivery systems, prediction of an individual’s drug-response. The ever-increasing role of laboratory diagnostics and the central function of information systems together with a consideration of the ethical aspects of predictive and personalized medicine have been stressed in the overall concept of medical practice in predictive diagnostics, targeted preventive measures and personalized patients’ treatment.

*EPMA-Journal* is created by the *European Association for Predictive, Preventive & Personalised Medicine* to give an intelligent overview of the major developments across the issue-related, top-level science, most advanced technologies in laboratory medicine and potential practical applications, which can sufficiently improve current healthcare systems around the world moving from curative to predictive and preventive paradigms in personalized patients’ treatment. The journal is designed in a reader-friendly manner to highlight the permanent progress in the branch of Predictive, Preventive & personalized Medicine worldwide. For this purpose, the journal is organized as a two-yearly, cyclic update of innovative predictive diagnostic technologies, targeted preventive measures and individualized therapeutic approaches in prevention and improved treatment of common human pathologies. In addition, there is an annual issue “Healthcare in Europe: Overview” prepared by the *European Medical Association* which overviews the novel trends and compares the developments in Healthcare systems throughout Europe.

Prof. Dr. Olga Golubnitschaja—Editor-in-Chief of the EPMA-Journal supported by the Editorial BOARD performed a great job putting together this unique concept of the journal. We are glad that the information provided in the journal will stimulate further discussions to address many central issues in relation to the future practice of predictive, preventive and personalized medicine.