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Preface

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The 1996 IMIA Yearbook of Medical Informatics reflects the long-term technical and methodological developments in medical and health informatics, which has eventually led to very powerful integrated workstations for health-care professionals. Although this matter has been discussed for about ten years, only now has the computer power, the resolution of display screens, and the communication speed reached a sufficient cost-efficiency level that integrated workstations, including image processing, are available at reasonable cost. Thus, it becomes feasible to bring a multiplicity of computer-supported functions onto the desk of the health-care professional, which will eventually change the way these professionals handle information about a patient. Even more important, it is now possible not only to have multimedia processes but also to link operational systems to various kinds of knowledge bases and thus to directly support clinical decision making as part of the therapy.

The question of how to design powerful integrated workstations for health-care professionals is closely linked with several methodological questions, of which the following two seem to be the most important ones:

1. How to define the architecture of an electronic patient record; and
2. How to link decision support, algorithms, and knowledge from medical databases to the everyday workflow.

Legal requirements, different organizations, and national social systems as well as various aspects of workflow organization in clinical and ambulatory environments will lead to very different designs for the electronic patient record in different countries or sub-sectors within national health-care systems. Especially the question of whether and how managed care approaches are followed has a major influence on the architecture of the electronic patient record. It will need major efforts of health-care informatics specialists in many countries to finally reach consensus and to decide whether the various aspects can be mapped into a general architecture, or whether different types of architectures have to be developed, programmed, and maintained.

The linkage of relevant information and knowledge for the support of decision processes into the everyday work of the health-care professional is the second major topic to be addressed. In North America and Europe, more

and more commercial companies are entering the expanding market to provide and to sell specialized information services to health-care professionals. The dynamic development of this sector is closely related to the hopes of several international companies that not only physicians will be their future customers, but rather the general citizen who is interested to hear more about his health problems. A huge market is expected and major investment is going into the development of corresponding databases and on-line services. The impact which this development may have on the health professional's workstation and the workflow may be considerable. It may well be that this aspect is changing not only the work-flow patterns in health-care, but also organizational hierarchies and the overall system of how we handle knowledge in health-care systems, in science, and in research. Therefore, research on the health-professional's workstation should have not only a technical dimension but also needs awareness of social and organizational impacts which the technical changes may bring us.

The IMIA Yearbook of Medical Informatics plays an important role in summarizing the activities of the various IMIA Working Groups and in reporting about IMIA's Member Societies. The importance of these aspects will increase as more countries around the world are interested in joining IMIA. Only recently, an African region was launched at HELINA '96 at Midrand in South Africa. IMIA's infrastructure, which is documented in the corresponding section of the Yearbook, becomes increasingly important for the exchange of students and for the support of electronic com-

munication between various partners worldwide. That section, therefore, needs specific attention and can only be as good as the degree to which the whole IMIA Community is contributing.

As every year, the editorial office of the IMIA Yearbook at the Department of Medical Informatics, Erasmus University Rotterdam, has compiled an interesting selection of articles and review papers addressing this matter. The editors, Jan H. van Bommel, Erasmus University, and Alexa T. McCray, National Library of Medicine, Bethesda, USA, are publishing the Yearbook, now in its fifth consecutive year. The IMIA Yearbook has become a reference source which every Medical Informatics specialist in Health Informatics institutions needs to rely on.

At the time the first computers became available in the forties and the fifties, applications in health-care were immediately discussed. Many important aspects of medical documentation were approached already in the fifties and the sixties. Since then, many Medical Informatics specialists have contributed to the advancement of the field. In the last five years, the IMIA Yearbook has been documenting and portraying this development. The IMIA Community owes many thanks to the colleagues in Rotterdam and Bethesda, and around the world who make the edition of the Yearbook possible.

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