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Health Informatics

An Overview

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Foreword

Compared to other fields in biomedicine and in the health sciences, the field of health informatics is still a relatively young one. Health informatics – others may call it also medical informatics – has nevertheless matured considerably. Today, its impact on the quality and efficiency of health care has even become crucial. Because of this development, health care professionals, who are well-educated in health informatics, are urgently needed.

This book, edited by Drs. Evelyn Hovenga, Michael Kidd, Sebastian Garde and Carola Hullin Lucay Cossio, with sections

- setting the scene (introduction),
- basic health informatics concepts,
- supporting clinical practice,
- supporting health care service delivery management,
- supporting clinical and health informatics research, and
- health informatics education

is a broad introduction to the field of health informatics. With contributions of many distinguished authors, it is a valuable resource for health care professionals and health informatics students. In its second edition, new developments in a rapidly changing and expanding field have been considered.

My congratulations go to all, who contributed to this book, in particular to the editors for having composed an attractive overview, and especially to Evelyn Hovenga, the 'spiritus rector', not only for this project.

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President of IMIA, the International Medical Informatics Association

Preface and Acknowledgements

This text was originally published in Australia in 1996. Since then, the world has changed significantly. The emergence of the Internet and World Wide Web with its enormous possibilities had just begun, standardisation was in its infancy, broadband was unheard of, we had just started thinking about the Y2K bug, supply chain management was more theory than practice, Google wasn't even founded, nor would anybody have had dreams or nightmares about Google Health or Microsoft HealthVault to store your personal health information and make it accessible when needed. To say it with the words of Thomas Friedman [1], since 1996, the world has been flattened in the sense that many people have been empowered significantly and now have a far more equal opportunity to achieve, create, collaborate and compete with each other than used to be the case, in healthcare as well as in any other business.

Thus, this second edition has been extensively reviewed, updated and a number of new topics have been included in order to meet contemporary issues and challenges. The text has a strong focus on health viewed from a computing perspective. It was compiled primarily for health professionals who now require knowledge about how these new technologies of information and communication may be used to enhance their practice. It aims to provide an overview of the health informatics discipline. The contents reflect what we consider are the basics for continuing education purposes and for inclusion into any curriculum which prepares a student for practice in any of the health professional disciplines. It is suitable for use as a basic text in both undergraduate and post graduate curricula. Each chapter can be expanded upon as required. Guidelines for health informatics education are provided in the last few chapters of this text.

This text is not all inclusive or exhaustive; most of the chapters could be expanded individually into a book on its own.

This text deliberately avoids a focus on any one of the health professions. Health care has become more and more integrated between the various sectors ranging from primary care to hospitals, as well as becoming more interdisciplinary between the various health professions. Also there is a trend to empowering the patient to play a more active part in decision making. All this requires clinical information to be available across sectors and across professions and necessitates integrated clinical (computer) systems such as 'professional' or 'clinician' workstations that support the focus on the patient as the centre of care rather than a discipline or departmental focus. Clinical data from multiple sources are integrated and support multiple types of clinical decision making. This also has implications for the language or terminology used and may well influence changes in how individuals practice their profession at the point of care.

The book is divided into six sections, an overview of the discipline, basic health informatics concepts, the application of health informatics supporting clinical practice, health care service delivery management, clinical research and health informatics education. We first present the history of computing in health followed by an overview of the discipline and outline some of the basic principles underlying this health discipline, including the need to balance the technology with our underlying commitment to

patient care. In section two we discuss the basic concepts which need to be grasped about computing and explain how these apply to the health professions to best meet the needs as detailed in section 1. The next four sections demonstrate how these new technologies can assist our daily work, in clinical practice, management, education and research enabling us to realize our global e-health vision.

We thank the Spanish language editorial team, Carola Hullin Lucay Cossio, Erika Caballero Muñoz, Lorena Camus, Alejandro Gigoux Múller, Antonio Jose Ibarra Fernandez, and Maria Pilar Marin Villasante who managed the translation process prior to this book's publication by Mediterraneo, Santiago, Chile.

Reference

[1] Friedman T.L. 2006 The world is flat: The globalised world in the twenty-first century. 2nd expanded edition. Penguin Books Ltd., London UK.

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