

FOREWORD

We are pleased to present an issue of the IJCIM concerning the very important field of technology and healthcare. Following the publication of Professor Khong Poh Wah's article (cf. footnote)* on this topic in an earlier issue of the IJCIM, he suggested that an entire issue might be devoted to the subject. The IJCIM editorial staff recognized that the topic was so critical that he was encouraged to begin gathering the articles. He began with his research in an excellent article aptly titled "Competitive Healthcare Delivery: Involving Medical Technology of Computer Intelligence" for this issue. It is co-authored by his colleague, Dr. Dhanjoo Ghista. Healthcare is among the most important of areas where IT can make a real and specific difference to people's lives and we are happy to present this broad overview of some of the means whereby this can take place.

The healthcare science, technology and econometrics (STE) infrastructure consists of the Academy of Medicine, university research institutions, industry research laboratories, and national health research organizations. The STE research system is formed through the close cooperation and coordination among these organizations and is designed to allow the development of an efficient network that can be used in the development of an eclectic cost-effective healthcare delivery system (CEF-HCD), to facilitate the use of technology that benefits economic and social well being.

The issue is designed to contribute to the reformation of the healthcare delivery system, through the incorporation of management, information, communication, and medical technologies. This effort can best progress through communication among relevant disciplines, and the IJCIM is an appropriate vehicle for this. The issue addresses the role of technology in CEF-HCE both from the perspective of the healthcare service providers and consumers.

In their article, Khin Than Win and Joan Cooper share their experiences of linking electronic health record systems in the Australian healthcare industry. Tang H. L. and Chen L. illustrate the applications of computational-imaging in computed tomography (CT) and magnetic resonance image (MRI) in their analysis of histological tissue images for automated identification of organ origins.

Business structures primarily tend to operate according to the market mechanisms, however idealistic they may be in their origins. Rowena Jong discusses how private medical practitioners can develop a balanced approach in the face of structured competition, a managed-care system and capitalization for a sustainable primary-care system. How to allocate and distribute resources among the components of a healthcare-delivery system remains an issue and Seng Lee Huang analyzes the influence factors on healthcare spending in Singapore using a computational regression model.

* "Management of Healthcare Technology: Innovations, Challenges and Issues in the New Technology Era", *International Journal of the Computer, the Internet and Management Vol.11 No.1 (January-April, 2003) pp51-63*

The moral implications of applying utilitarian principles in healthcare decisions are considered by Peter Mack. A socialist market-economy system can influence the extent of the role of scientific and technological operations in promoting economic development. By the same token, one cannot but take into account the medical ethics issues in dealing with the economic dimensions of healthcare services. Cost-cutting makes the system vulnerable to medico-legal complications. REN Rong-ming and WANG Man-tian discuss this issue in terms of the current medical malpractice management in China.

Healthcare operations and management practice are culturally influenced. Arun Kumar and Linet Ozdamar have compared the healthcare systems of several countries. To enhance the service quality in the industry, Lee Pui Mun has proposed an IT approach based on the principle of speed, mobility, and timely information-sharing.

Indeed, healthcare delivery has yet to evolve from an empirical approach to a multi-disciplinary field involving physical and biological sciences, engineering-sciences, management science and industrial engineering, econometrics and financial engineering. This issue is merely a small step in this grand integration.

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