Preface

The adoption of health informatics within healthcare organisations is characterised by a series of phases since the 1960s. Initially, health informatics adoption began in financial systems in the 1960s, which provided support to the organisations' billing, payroll, accounting and reporting systems. During this phase, health informatics adoption was clear and straightforward (e.g. elimination of clerical positions). Clinical departments took a major initiative during the 1970s that supported their internal activities such as radiology, laboratory and pharmacy. Financial systems once again became prominent in the 1980s with major investments in cost accounting and materials management systems[1]. During the 1990s, attention turned towards enterprise-wide clinical systems, including clinical data repositories and visions of a fully computerised electronic patient medical record. All the technological developments in the field of health informatics have been made in providing well functioning systems to healthcare organisations in order to improve healthcare services. Computerised Patient Record (CPR) systems; the adoption of the Internet along with Intranet and Extranet; Asynchronous Transfer Mode (ATM) networks along with local area networks; wide area networks; enterprise systems; integration approaches and remote diagnostics via telemedicine have experienced significant growth in recent years[2].

The adoption of the Internet in healthcare has significant impacts on the delivery of healthcare services and has bridged the gap between healthcare providers, patients, suppliers and other stakeholders. In addition, the Internet is used by healthcare organisations to support operational management including employment announcement and staff recruitment. The adoption of the Internet has led to the concept of intranets and extranets and a number of medical intranets and extranets have been developed and implemented for different purposes, such as for internal and external sharing of medical information and patients' insurance eligibility, which have been greatly facilitated by broadband Internet. The need for most patients to take on more responsibility for their healthcare is made easier by an increasing availability of medical information on the Internet. Thus, the number of specialised or health-related web portals is increasing. Such developments in this area suggest that health informatics has the potential to facilitate the innovation of health care delivery and that innovation is truly needed[3].

The above clearly suggests that accessibility, adoption and use of health informatics tools are likely to transform and affect almost every aspect of better healthcare services. Therefore, it is important to understand the development in the domain of health informatics within the context of both developed and developing countries. Most countries with highly developed health systems are investing heavily in computer hardware and software in the expectation of higher quality for lower costs. Recent systematic reviews show that health informatics is providing a range of benefits, particularly in the areas of prevention and care to the patients. However, there remains a relative lack of published evaluations of informatics tools and methods. The uncritical adoption of new systems, based on the pressures of technological push,

continue to discredit policy makers who have had to commit significant resources despite inadequate information on what can be realistically expected from a proposed system. In the context of developing countries, this becomes all the more significant since the resources are not abundant, and hence warrant extremely judicious use. Thus, studies from the developing countries' perspective become invaluable in guiding the adoption of new technologies and tools, and technologies related with health informatics within this context.

In line with the above, the overall mission of "**The Handbook of Research on Advances in Health Informatics and Electronic Healthcare Applications**: **Global Adoption and Impact of Information Communication Technologies**" is to provide an understanding of the global adoption and impact of Information and Communication Technologies (ICTs) within the area of Health Informatics. Corresponding to the mission, the 30 chapters comprising this Handbook have discussed a range of topics covering Evaluation, Tools and Technologies, Applications and Impact on health informatics and electronic healthcare systems. The book highlights the major areas of adoption of health informatics in both developed and developing countries, and further examines the constraints, experiences and outcomes, as well as identifying policy concerns and planning implications. In effect, this Handbook provides an advanced understanding of health informatics from a global perspective. This Handbook contributes towards theory, practice and policy. Theoretically, it exerts efforts towards expanding the knowledge within the area by synthesising and evaluating the appropriate literature in order to enhance the understanding of health informatics adoption, usage and impact from the perspectives of both developed and developing countries. The Handbook will form an aid for gaining an improved appreciation of the factors such as costs, benefits and barriers associated with its adoption. Therefore, the Handbook can potentially help healthcare organisations, development functionaries as well as policy makers to understand the impact of health informatics on health care administration and health outcomes for providing better healthcare services and reducing medical errors.

The Handbook is organised into 30 chapters, co-authored by 55 contributors from 34 different institutions/organisations located in more than 30 countries (such as Australia, Italy, India, Norway, the United Kingdom, and the United States of America). Such geographical and institutional variety indicates that the Handbook has drawn on a collection of wide and diverse outlooks. The 30 chapters have been organised into five sections: Health Informatics and E-Health Evaluation (six Chapters); Health Informatics and E-Health Tools and Technologies (five Chapters); Health Informatics and E-Health Applications (six Chapters); Health Informatics and E-Health Impact (five Chapters) and further reading (eight Chapters).

Considering the richness and depth of the content, we firmly believe that this handbook will be an excellent resource for readers/audiences who wish to learn more on how to encourage the successful adoption of emerging information and telecommunication technologies in healthcare, both in the context of developed and developing countries. The chapters included in this Handbook are also useful for readers who are interested in learning about how various research approaches and methods fit with different theories. The target audience for the Handbook includes Healthcare Service Providers, Policy Makers, Academics/Researchers, Students of IS and IT Management.

We sincerely hope that this Handbook will provide a positive contribution to the area of information systems in general and health informatics specifically. In order to make further research progress and improvement in the understanding of this area, we would like to welcome feedback and comments about this Handbook from readers. Comments and constructive suggestions can be sent to the Editors of IGI Global at the address provided at the beginning of the Handbook.

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Sincerely,

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ENDNOTES

[1]   Grimson, J. (2001). Delivering the Electronic Healthcare Record for the 21st Century. *International Journal of Medical Informatics, 64*(2-3), 111-127.
[2]   Kim, K. & Michelman, J. (1990). An Examination of Factors for the Strategic Use of Information Systems in the Healthcare Industry. *MIS Quarterly, 14*(2), 201-215
[3]   Khoumbati, K., Themistocleous, M. & Irani, Z. (2006). Evaluating the Adoption of Enterprise Application Integration in Healthcare Organizations. *Journal of Management Information System, 22*(4), 69-108.