HEALTH INFORMATICS: AN INTERDISCIPLINARY RESEARCH TOWARDS HEALTHCARE

Healthcare quality has a broad connotation and relates to an extensive list of factors that affect healthcare. The importance of information, as one of the key resources in any health sector, has been increasing, and now information is strongly recognised for its direct impact on the management of healthcare and care services. The right information supplied to the right stakeholder at the right time in the right format is essential in order to make the right decisions and take the right actions. Ample examples of inadequate information provision and how they affect the quality of care and safety often make headlines. Emergent technologies entering the ever-evolving world of medicine and healthcare have on the one hand provided new opportunities but, one the other hand, have convincingly reduced the medical errors and improved the patient safety. Informatics is often misunderstood as a wholly technical discipline; hence, much research effort has been focused on the technical issues in medicine and healthcare. However, healthcare informatics is not just about technology; at its heart is information, a key resource in medicine and healthcare. Clinicians and other health staff rely on information for decision-making and coordinated actions. Their working environment has become more complex at a time of increasing demand for healthcare.

We define informatics as the study of the creation, management, and utilisation of information in scientific and economic activities (IRC, 2013). Informatics studies all properties and aspects of information in its lifecycle, particularly with emphasis on its effect on the business domain and stakeholders. Information, similar of the effect of gravity, functioning on all its stakeholders, is pervasive within its information field. The management and utilisation of information is exercised at social and organisational levels, through informal, formal, and technical mechanisms, to assure quality and safe health activities.

Health semiotics, an emerging concept, studies healthcare activities from a semiotic angle. It focuses on the use of information for communication and action in health domain. The health domain is similar to others in the way that activities involved fall into the physical and sign-based categories. However, the health domain often has features that are specific and sometimes unique. The activities, products and services are not only organised and represented as an Internet of things, but also the Internet of signs (O’Leary, 2013). Such phenomena can be best studied through a semiotic lens. Semiotics is the study of icons, indices, symbols, and other types of signs in order to understand properties and characteristics of information, with particular emphasis on effect on human actors (Liu, 2000, Li, et al., 2013). Semiosis, a process of sense making of a sign, is a triadic relationship involving three elements: the sign (i.e. observation or report), the object (i.e. what is observed, measured, or reported), and the effect from the process of sensing-making. Such a sense-making process will lead to decisions and actions. The quality
of semiosis is critical to making decisions and avoiding errors. Semiotics enables sense-making of different types of signs from an extensive variety of sources. The semiotics approach is a socio-technical methodology that enables the connection between people and technology that is often missing from other texts.

This book is an excellent example of interdisciplinary effort. It explores the use and application of informatics from engineering and technical disciplines through medical practice to training and health policy to more personal and social perspectives. While the role of advanced technologies is often played in medicine and health, most of the papers demonstrate a balanced view of recognising the value of information as opposed to information technology. In addition, the importance of effective use of information, as opposed the understanding of information itself, is appropriately and frequently mentioned. Patient safety, care quality, stakeholders, human factors, and such issues have occupied an appropriate space in many of the discussions. The book fills a very important and timely need when human approaches are often missing and technical changes often sideline the need to link the two.

Another key feature of the book is that it addresses a number of important emergent issues such as the need to understand the impact of human factors and how new technology can be harnessed and work to improve safety.

The book includes a wide range of both practical and theoretical papers. Many of the theoretical papers are based on a sound, but often novel, research and offer new ways to address important safety and quality issues. The practical papers pose highly relevant issues experienced by practitioners and capture unique experience. In this way, the book offers a unique perspective and blend of the theoretical and practical to meet the needs of both practitioner and theories.

I congratulate the authors and editorial team for the contribution that this book makes.

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REFERENCES


