E. Vance Wilson, Editor
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Over the past decade, medical informatics has slowly expanded its focus from the early physician-centric data and applications to a model that allows end-users, including the patients, to access, manipulate, and hopefully comprehend data about their personal health, their medical history, and their prognoses. It is clear that e-services that are designed to fulfill the promise of understanding and controlling one’s own health data will lead to a revolution in the practice of medicine and health maintenance services. Researchers looking at web-based services understand more every day about the complexities of the challenges presented by this coming revolution, and a concerted effort by specialists in information technologies, behavior, and health disciplines will be required.

Given the growth rates for e-health service research and development, the fields of information systems and service science, as well as public health, have been in need of a compilation of significant examples of patient-centric health informatics research. A new volume edited by Dr. Vance Wilson addresses this need by offering conceptual foundations and solid studies of exemplar applications of patient centered health information tools. The text takes a broad, international view and includes thirty-eight authors and twenty-six chapters in two main sections.

Some in traditional medical communities have suggested that the development of patient-centric e-health initiatives has the potential to diminish input from traditional medical and healthcare institutions. On the contrary, the varied studies in this text paint a picture of the new, patient-centric, e-health model that can actually enhance the effectiveness of the efforts and technical input from medical providers. With the patient increasingly in control, accompanied by full collaboration with medical institutions, a new e-healthcare model in the United States and elsewhere can become the standard of effectiveness in health maintenance and prevention. Dr. Wilson’s book includes articles by a wide variety of researchers in the United States, the United Kingdom, Australia, Denmark, Finland, Argentina and Norway. The fact that the text offers such a broad international view is evidence of

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the pervasive and developing importance of patient-centric health models.

In an introduction to this compilation, the editor defines three attributes or basic characteristics of the patient-centered e-health model. These are, first, that it is focused on the patient, second, that requires or assumes active involvement by the patient, and third, that it is a source of empowerment for the patient. Technologically-speaking, the patient focus has been seen in the development of user centric tools and applications, as a movement away from applications that serve the needs of physicians, who may focus on diagnostic specifics and the need to satisfy information requirements of medical institutions. The patient-active perspective seems to focus on the ability to add data to medical health records including the increasingly popular personal health record or PHR. The third perspective, patient empowerment, looks at the ability of e-health information and tools to supply the information necessary to make health decisions and ideally to guide health-promoting behaviors. While there are several ways in which the patient-active perspective can be distinguished from the patient-empowerment view, since there is clearly broad overlap between these themes, the fact that several of the articles support both of these perspectives is ample evidence of their combined value.

Many of the articles stand out in their ability to define or serve as exemplars of central e-health issues. Dawson et al., provide an overview of the development of the field of e-health and briefly examine its history and major themes. Mauro et al., offer a set of design principles for improving usability of e-health systems and applications and explains the relevance of a variety of research approaches to untangling the complexities of user centered design. Next, social psychological approaches to understanding the relationship between users and online health systems are reviewed, with an interesting focus on the psychological mechanisms of medical self disclosure. Disability determination is the focus of an article by Blechmen who outlines the special needs of large disabled populations who are outside the established health insurance support. The extraordinary need for development and continuity of health data that can be used for evidence for disability claims establishes a unique category for e-health systems. Next, the challenge of marketing e-health systems is explored with a look at traditional and social network marketing approaches. Jarvinen examines the issues of privacy and health records with a model illustrating the trade-offs between simultaneous demands for service and privacy. This is followed by the closely related issue of trust in e-health systems by defining the categories of content aggregators, online communities, and physician portals as the three key trustees.

The second section of the book focuses on technology and application-based solutions. It begins with an excellent treatment of usability in terms of the methodologies of interaction design. Forti and colleagues examine the core set of disciplines for an interaction design lifecycle for e-health and how they apply to challenges in e-health solution development. The value of user input to the process is explained and illustrated in a way that makes the study of significant value to e-health interface and technology developers. Web-based approaches to providing the information necessary to allow consumers to make health provider choices on price and service quality bases are discussed by Ma and LeRouge. The disposition toward adoption
of e-health services by rural populations in a variety of geographic locations are discussed by Fruhling, who drew examples from residents of small towns in rural, central and western Nebraska. Two studies look at management of chronic health concerns. The first study reviews e-health for those with extended disease cycles in a broad sense, and a second focuses on the lessons to be learned from the failure of an e-health system for asthma management to engage users. A final article in this section presents a new model developed by Wilson and Lankton that ties together behavioral intent to use e-health applications with proxy measures suggesting actual medical needs.

As with any set of readings intended to cover a rapidly expanding subject area, there is always room for development of special topics. In the foundations section of the text, while the coverage is broad, several emerging social issues merit treatment in a future edition. The impact of e-health services on provider and payer administrative expenses would be worth covering, especially in light of efforts by private and government institutions to control burgeoning costs. In the second section that deals with applications, a future edition could include additional e-health design frameworks. For example, an important focal area is emerging among e-health researchers that addresses the needs of members of diverse and underserved populations, including the need to adapt e-health technologies and interfaces to the special requirements of those outside the traditional language and technology literacy boundaries.

Overall, the quality of the research in the articles is very good, and several are exceptional. Although a couple of the twenty-eight articles suffer from irregularities arising from translation, the overall result is polished, readable, and interesting.

This text is an excellent overview of the emerging areas of patient-centered e-health services, and it offers much value to educational programs and practitioner development curricula. For graduate programs in health information management, health technology design, and the sociological aspects of e-health, it should be considered a strong supplement with current, and to some extent definitive, studies in the field. In addition, the service science and service engineering programs that have recently been launched in graduate schools in the U.S. and around the globe will find a wealth of material relevant to their disciplines. Finally, researchers in e-health and e-services are certain to find specific research relevant to their fields in this new text, as well as useful frameworks for understanding the evolving research horizons in these areas.

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