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Strangers in A Strange Land: Can IS Meet the Challenges and Opportunities of Research in Healthcare?

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ABSTRACT

This panel investigates opportunities and challenges of using IS theory and methods in healthcare, and healthcare theory and methods in developing IS knowledge. Healthcare differs from industries typically studied by IS researchers, and thus presents different social actors, norms and practices, organizational structures, workflows, terminology and language, and institutional imperatives. Conversely, healthcare issues and methods, such as those used in medical informatics, are different from those commonly considered and employed in IS research. Panelists will present different, although decidedly North American, experiences crossing disciplinary boundaries in order to conduct research about information systems in healthcare. We hope to stimulate discussion by presenting opposing viewpoints on what IS researchers need to consider if they wish to do research in healthcare. Our primary objective is to show how fruitful collaborations of IS and medical informatics research could be achieved.

Keywords

Healthcare, IS theory, medical informatics, methods, interdisciplinary research.

INTRODUCTION

Healthcare is a significant component of modern societies, representing a large percentage of GDP, and sustaining a high political profile and strong public interest. An important and growing component of healthcare delivery is information systems and information technology. To some IS researchers, it seems natural that the diffusion of IS theory into healthcare has much to offer. However, medical informatics research is an on-going and flourishing field. In addition, our experiences suggest the exchange between IS and medical informatics research, and the ability to do IS research in healthcare settings, is more complex than might be expected.

Healthcare differs from industries typically studied by IS researchers (e.g. manufacturing, financial services, retailing) and thus presents different social actors, norms and practices, organizational structures, workflows, terminology and language, and institutional imperatives. The complex interplay between administrative and clinical IT adds to the differences. As a result, there are substantial challenges and opportunities to the diffusion of IS theory to healthcare as well as in development and extension of IS theory through studies of healthcare IS/IT.

Panelists will present different, although decidedly North American, experiences crossing disciplinary boundaries in order to conduct research about information systems in healthcare. We hope to stimulate discussion by presenting opposing viewpoints on what IS researchers need to consider if they wish to do research in healthcare. We will address the following related issues:

- How useful are IS issues, theories and methods useful in healthcare settings? Specifically, are the differences between healthcare and more typical IS settings important?

- What opportunities and challenges confront healthcare and medical informatics researchers in using IS theory? Can IS serve as a reference discipline for healthcare? Should it?
- What preparation does an IS researcher need before undertaking research in healthcare organizations?
- What opportunities and challenges does healthcare provide and pose to developing IS knowledge and theory?
- Are medical informatics issues, theories, and methods useful to IS theory?
- How could fruitful collaborations of IS and medical informatics research be achieved?

Mike Chiasson, Ph.D. (mike.chiasson@haskayne.ucalgary.ca): Mike is an assistant professor of IS at the Haskayne School of Business, University of Calgary. Mike has researched and published in the areas of information systems development, hospital IS, health promotion, entrepreneurship, action research and critical theoretical research. After finishing his Ph.D. from the University of British Columbia in information systems, he completed a three-year post-doctoral work in health promotion before returning to a traditional management/IS department. Mike will take the position of the IS field in the debate, arguing for general and strong IS theory, independent of context. During various points, he will address the barriers and facilitators to the use of IS knowledge in a healthcare setting, and the opportunities that emerge from such interdisciplinary knowledge exchange and shaping.

Elizabeth Davidson, Ph.D. (davidson@cba.hawaii.edu): Liz is an associate professor of information systems at the University of Hawai'i at Manoa. Her initial research focused on qualitative investigations of system development practices with healthcare organizations. Recently, she has been conducting empirical studies in the healthcare field. Liz will take the position of someone interested in joint possibilities for both IS and medical informatics. During discussion, she will highlight issues related to moving into an unfamiliar industry, and the career implications and publication experiences in this move. She will also consider areas of research similarities and differences between health information systems research and more traditional IS research. Davidson and Chiasson will also present their research on patterns of (non) publication in IS journals of research carried out in healthcare settings, and on their experience as IS researchers attempting to work in those settings in different North American countries.

Bonnie Kaplan, Ph.D. (bonnie.kaplan@yale.edu): Bonnie is a Lecturer at the Yale Center for Medical Informatics at the Yale School of Medicine and a member of Yale University's Interdisciplinary Bioethics Project. She previously held faculty positions in departments of information systems in schools of business. Bonnie has spent her life crossing disciplinary boundaries. She earned a PhD in the history of science while working writing computer applications in healthcare organizations. As chair of the International Medical Informatics Association's Working Group 13: Organizational and Social Issues, and a past chair of the American Medical Informatics Association People and Organizational Issues Working Group, Bonnie has worked to build bridges between the information systems, science studies, and medical informatics communities. Bonnie will take a position from within the medical informatics community--which values (at least in the US) pursuing randomized control trial (RCT) approaches in local and experimental knowledge of IS evaluation--of one who has long advocated diversity in research question and approach. Kaplan will also report on a review of publication patterns in medical informatics evaluation research, and on her experiences as a doctorally trained social scientist who has held faculty appointments in both IS and in medical informatics and collaborated on projects with colleagues both from within and outside of medicine and business schools.

Rita Kukafka, Dr. P.H., M.A. (rita.kukafka@dbmi.columbia.edu): Rita is Assistant Professor, jointly appointed with the Mailman School of Public Health (Sociomedical Sciences) and the Department of Biomedical Informatics, College of Physicians and Surgeons at Columbia University. The focus of her dual appointment is to develop a program of research and training in Public Health Informatics. She holds a Doctorate degree from the School of Public Health at Columbia University. She also holds a masters degrees in health education. Rita then crossed disciplinary boundaries when she earned a second masters degree in Medical Informatics from Columbia University. Coming from a public health background, she did a three-year postdoctoral fellowship in Medical Informatics in order to understand IT. Consequently, she believes that IS has much to offer. Her research focuses on representing patient perceptions and beliefs for purposes of creating patient-tailored information, computer mediated communications designed to influence changes in health behaviors and provider practices, and how theory from the behavioral sciences can be applied to advance our understanding and to improve our capacity to implement information technology systems into healthcare organizations. Nevertheless, she will argue that knowing about IT and IS is about 25% of what you need to know to be effective when working in healthcare. The other 75% is understanding the needs and goals of a healthcare organization and how to meet those needs. Experience with consultants who want to sell public health officials IT products to address bioterrorism reinforced her sense that an excellent system may not be a good match for healthcare organizations because of their particular needs and goals, and the difficulty of integrating a system into

the clinical work flow. Rita also will argue that the language of healthcare is a barrier for IS, and that IS researchers need to become bilingual so that they can translate between IS and medical informatics.

Gilad J. Kuperman, M.D, Ph.D. (gjk9001@nyp.org): Gil became the Director of Quality Informatics at New York Presbyterian Hospital (NYPH) in 2003. NYPH is a 2200-bed multi-campus institution resulting from the 1998 merger of New York Hospital (affiliated with Cornell University) and Presbyterian Hospital (affiliated with Columbia University). NYPH is affiliated with both medical schools. In this position, Gil applies the principles of informatics to assure that the hospital's information technologies are used as effectively as possible to advance the hospital's quality agenda. Gil also researches how information technology affects the quality and efficiency of healthcare. He has been active in studying how information systems can change physician behavior and the extent to which systems can improve safety and reduce errors. Before moving to NYPH, Gil spent 11 years in Boston at Brigham and Women's Hospital and Partners HealthCare System, where he was the Associate Director of Clinical Systems Research and Development. Gil has a Ph.D. in medical informatics and practiced medicine for 5 years; he now spends full time in informatics. From this interdisciplinary experience both as a physician and medical informatician, Gil will discuss ways the rationale for IT in healthcare differs from IT in business organizations. He will reflect on how quality care is the "product" of healthcare, and how IT as an enabler of "quality" care leads medical informatics to address different issues from IS. Gil will take the position that researchers in IT in healthcare must have a solid understanding of healthcare quality issues and the specific complexities of healthcare organization and delivery. He will point to potential areas of IS research that could help healthcare organizations achieve their strategic objectives of using IT to improve care, and discuss what he considers the appropriate qualifications for undertaking such research.