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# Panel: Practising IS Research in Medical Practice: Opportunities and Dilemmas for Rigour and Relevance in Health IT Research

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IT RESEARCH**

# PRACTICING IS RESEARCH IN MEDICAL PRACTICE: OPPORTUNITIES AND DILEMMAS FOR RIGOR AND RELEVANCE IN HEALTH IT RESEARCH

*(Panel sponsored by SIG-Health)*

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## Abstract

*In this panel, sponsored by the Association for Information Systems (AIS) – Special Interest Group in Healthcare (SIG-Health), panellists will address practical issues involved in conducting information systems research in health care settings that is rigorous and relevant to healthcare audiences as well as the IS academic field. Issues to be addressed include gaining access to healthcare settings, developing and maintaining relationships with medical practitioners, establishing trust and legitimacy between IS researchers and medical researchers and practitioners, and designing projects for relevance and rigor in the unique setting of healthcare. Panellists will draw from their work in such projects to highlight the challenges they experienced and strategies they have employed. The discussion will be furthered through audience participation during the discussion period.*

*Keywords: health care, health information technology, research practices, cross-disciplinary research.*

# 1.0 OVERVIEW OF THE PANEL

Healthcare is a critically important social and economic sector.  Challenges include providing basic healthcare services to all members of society, controlling outbreaks of infectious diseases locally and globally, and planning for growing demand from the aging populations in developed and developing countries.  Limited public funding for healthcare, problems with healthcare quality, and inequalities of access to services vary in degree but are prevalent in many national settings.  Improvements in the collection, processing, and dissemination of medical data are essential to help address these challenges and to improve service delivery and assess outcomes of medical practices.

Health information technologies (HIT) are increasingly viewed as a key component in healthcare quality improvement and cost control efforts.  However, widespread diffusion of and effective innovation with HIT continues to be problematic.  In the USA, for example, use of HIT among physicians in private practices has been slow to diffuse, even with financial incentives.  Government-funded efforts to build HIT systems and infrastructure have encountered problems with implementation and usage in a number of instances.  Research is needed to help medical practitioners and policy makers to more effectively plan and carry out HIT initiatives.

IS researchers have established a broad base of behavioral, social, organizational and industry-wide research knowledge in other socio-economic sectors, which may have relevance to medical practice and HIT initiatives.  Additionally, IS researchers have the opportunity to extend their body of knowledge through HIT research.  Given these social needs and opportunities, IS researchers are increasingly participating in health IT projects.  To conduct HIT research on the diffusion, adoption and use of HIT will require that IS researchers work closely and collaboratively with medical practitioners and researchers, as well as researchers in fields such as medical informatics.  However, the norms and practices of these diverse groups differ significantly from those of IS researchers, creating challenges to conducting relevant and rigorous collaborative research that meets the expectations of the various researchers and their constitutients.

This panel will address a variety of topics relevant to conducting such health IT research, including:
- Negotiating access to appropriate medical practice settings to conduct interesting and relevant HIT research;
- Aligning goals and expectations between medical practitioners and IS researchers about the product and process of research;
- Designing research projects that contribute both to healthcare practice and IS research knowledge;
- Understanding the HIT research experience as a social process within a unique context.

*Matthew Guah* will briefly describe the goals and objectives of the Special Interest Group – Healthcare (SIG-Health) of the AIS and then will introduce the panelists.

*William Donahue* will begin the panel with a discussion of healthcare practitioners' expectations for HIT and some practical challenges with HIT innovation and diffusion, for which insights from IS research might benefit medical practitioners' efforts.  To explore these issues, he will describe his organizations' efforts to implement quality and care improvement programs within his independent physician organization and to provide physicians' with incentives and support for HIT adoption.  He will also address challenges of working collaboratively with IS researchers.

*Michael Barrett* will discuss how conducting IS research with medical practitioners may influence their professional goals and agendas, and how research relationships may complicate or complement social research approaches.  Drawing from recent work on patient safety and new technology adoption in hospital pharmacies, he will contrast the pharmacist groups' interest in reducing dispensing errors and improved waiting times with the IS research team's ethnographic methods and focus on social and organizational change.  Dr. Barrett will consider how the researchers played a role, much like the dispensing robot (the object of study) in forwarding pharmacists' professionalization efforts, drawing

from an institutional perspective to make sense of the research process and its implications for professionalization efforts of pharmacists.

*Eivor Oborn* will draw from her experience as a social science researcher in a department of surgery and surgical technology to highlight key challenges in being relevant to practicing specialist surgeons. She will discuss how clinicians tend to be skeptical and disinclined to trust outsiders, thus establishing credibility is a crucial hurdle. Expectations for data collection, analysis, and collaboration also differ significantly. Dr. Oborn will elaborate on several survival tactics that have been helpful to her as a social scientist in seeking to understand, and be understood by, a staunch medical audience. These include recognizing the tribal nature of the medical arena and understanding the uniqueness of a particular specialist group and how they relate to other groups.

*Elizabeth Davidson* will discuss her experiences working with a group of community physicians in an action research project, with the goal to facilitate the adoption of electronic medical records. Her remarks will address the challenges of setting expectations across stakeholder groups, effectively influencing the course of project efforts, balancing the role of researcher and project manager with medical colleagues and collaborators, and bridging the gap between social theories and practical actions in the project. To close the panel's formal remarks, she will also summarize key points raised by other panelists regarding achieving rigor and relevance in health IT research and initiate the open discussion with the audience.

Through these presentations and ensuing open-ended discussions on the use of information technology in health care practice, the panel will contribute to the conference theme of IS research in an innovation-based knowledge society. The panelists will also address issues of relevance to the innovation, adoption and diffusion track of the conference and to the ethics in IS track, as they consider potential areas of conflict and collaboration between medical practitioners and IS researchers.

## 2.0 PANELLISTS

**Michael Barrett** is a faculty member in IT and Innovation and Director of the MPhil program in Innovation, Strategy, and Organization at the Judge Business School, University of Cambridge. He is an Associate Editor of *MIS Quarterly* and *Information Systems Research*. His research interests include: information technology and service innovation; IT implementation and organisational change; IS services outsourcing and globalisation; and knowledge management. His recent work in the heath sector includes: the role and use of knowledge management at the WHO, the use of IT in supporting multi-disciplinary heath care teams, and the introduction of dispensing robots for hospital pharmacy automation. His work has been published in a wide range of journals including *Information Systems Research*, *Academy of Management Journal and Accounting*, *Organizations and Society*. Michael has consulted and provided executive education to a number of organizations in the public and private sector.

**Elizabeth Davidson** is the W. Ruel Johnson Distinguished Professor of Information Technology Management and Department Chair at the Shidler College of Business, University of Hawaii Manoa. In her research, she investigates how organization members identify opportunities for using information technologies and orchestrate information technology (IT) initiatives, and the organizational change processes associated with IT initiatives, focused on healthcare settings. In previous studies she has examined social structure change associated with computerized physician order entry in hospitals and barriers to adoption of electronic medical records by small physician practices. Dr. Davidson currently serves as research director for an action research program attempting to build a community of practice around implementation of health information technology and its use to improve patient outcomes among small practices in Hawaii. She also serves as an associate editor for *European Journal of Information Systems* and *MIS Quarterly* and on the editorial board of *Information and Organizations* and *Information, Technology and People*. Dr. Davidson

worked for over ten years as an IT project manager in Fortune 500 firms, before she earned her Ph.D. in Information Technologies from MIT's Sloan School of Management.

**William Donahue, J.D.,** is Executive Director of the Hawaii Independent Physicians Association, HIPA (http://hipadocs.com/), which is comprised of over 700 solo and small physician practices in the U.S. state of Hawaii. Mr. Donahue oversees the organization's quality performance improvement, community outreach programs, and personal health record implementation program and has chaired the state's Regional Health Information Exchange (RHIO) task force. Mr. Donahue established E-QUIP, a subsidiary of HIPA, to lead efforts in the state to implement electronic medical records among small physician practices; he manages the firm's implementation projects and EMR vendor relations. Mr. Donahue has lectured extensively on the use of pay for performance programs in the U.S. to stimulate physicians' adoption of chronic and preventative care protocols and on the use of EMRs to promote clinical integration among private physician practices. Mr. Donahue received his law degree from Western New England School of Law. He has served as in-house council for Aetna (a leading U.S. health insurer) and the Massachusetts Department of Mental Health and legal counsel for the Central Massachusetts Healthcare IPA.

**Eivor Oborn** completed her PhD in Management Studies at Judge Business School (JBS), Cambridge University in March 2006. Her research topic concerned multidisciplinary team development and knowledge management within specialist medicine. She subsequently worked as a research associate at JBS studying the adoption of new (robot) technology in pharmacy practice. She is currently a Research Fellow at Imperial College, Department of Biosurgery and Surgical Technology, Faculty of Medicine working on two projects related to the restructuring of healthcare services. She holds a Senior Research Associate position at the Judge Business School, University of Cambridge.

**Matthew Waritay Guah** is Assistant Professor at Erasmus School of Economics, Erasmus University Rotterdam. Research focuses in organizational issues surrounding emerging technologies (i.e. Web Services and SOA) in the healthcare and financial industries. His research interests include neo-institutional theory, socio-economic impacts of E-Business on government services delivery, resistance to IS, organizational structure, IS infrastructure, strategic planning for IS. Dr. Guah has a Ph.D. in Information Systems (Warwick Business School), MSc (University of Manchester, and BSc (Salford University). He came into academia with after 10 years experience (including Merrill Lynch, CITI Bank, HSBC, British Airways, and United Nations). He has authored two books on IT strategies and very large IT projects. He is editor-in-chief for the International Journal of Healthcare Delivery Reform Initiatives.