Introduction to Minitrack: Information Technology in Health Care Track - IT Adoption, Diffusion, and Evaluation in Healthcare

Leigh Cellucci  
East Carolina University  
celluccie@ecu.edu

Arnold Kamis  
Suffolk University  
akamis@suffolk.edu

Ton Spil  
University of Twente  
a.a.m.spill@utwente.nl

Carla Wiggins  
Weber State University  
carlawiggins@weber.edu

The adoption, diffusion, and evaluation of information technology (IT) in healthcare continue to present challenges to organizations and society, as well as to researchers. IT is seen as an enabler of change both nationally and locally in healthcare organizations. However, IT adoption decisions in healthcare are complex because of the uncertainty of benefits and the rate of change of technology. On a national or system-level, reimbursement structures, regulations, inter-organizational concerns, infrastructure and the existence of standards may have an explanatory role. On an organization level, previous strategic choices, strategic priorities, size and location of the organization, information assurance, stakeholder experience and many other factors may play a role. On a project level, issues associated with both national and local concerns impact the risk of success. Many studies also focus on the individual level of analysis, with the individual user as the unit of analysis. It is wise to consider individual related success determinants such as broad technology adoption, relevance, attitude, requirements and resources. Yet, on this level, we need to learn more about the identification of different allied health professions and the role that IT has for their various work processes that may be impacted.

The papers in this minitrack utilize numerous research approaches. Delphi studies, surveys, interviews, and longitudinal case studies all provide different methodological approaches on the broad-based issues underlying the successful adoption, implementation, and evaluation of IT. These four approaches are all represented in the papers from this minitrack.

We start with three papers on electronic health records in three different contexts. First, how EMR systems are being used by family physicians and what they perceive to be the performance outcomes for themselves and their medical practices; two EMR user profiles and three clusters of EMR impact are identified. Second, a literature review of Health Information Exchange is presented with barriers and facilitators of adoption in the United States. Finally, a three stage, sense-making process is studied for a nurse-managed primary care clinic preparing for the implementation of an Electronic Health Record system with limited resources.

While IS research increasingly focuses on the clinical potential of health information technologies, the adoption and diffusion of IT as an enabler of hospitals’ administrative activities remains unexplored. Three papers on operational excellence explore this area. First, hospital revenue cycle transformation is examined, identifying themes and opportunities via a contextualist framework of organizational transformation inquiry. Second, evaluating flexible ward systems by developing a generic simulation-based DSS to evaluate cluster configurations for a 1000+ bed university hospital. Finally, workflow changes of a CPOE system, showing that a simulation-based tool can be effectively applied to quantitatively evaluate and compare different options of workflow change.

The third session is about evaluation of HIT in a broad sense. First, an extensive literature review of HIT resistance, highlighting the main research gaps and opportunities. Second, IT governance, risk management, and compliance are integrated and studied in Swiss hospitals. Finally, an ontology analysis of HIPAA is performed, identifying blind, blank, and bright spots, allowing for the correction of biases.

The last session represents the future, showing adoption and evaluation issues in mobile and Web applications. The compliance behavior of patients supported with a mobile health education system is studied via Rational Choice Theory and the Theory of Planned Behavior. The second paper finds that early detection, prevention, and intervention of depression can be facilitated cost-effectively. The third paper studies the attitude toward patient portal readiness among the underserved population.