Exploring the Impact of Technology Adoption on E-prescribing Roles and Routines

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Abstract— E-prescribing is touted as the entrée to more robust healthcare information system adoption in outpatient medical offices. Yet adoption has been slow with less than two percent of 2007 prescriptions done electronically in the United States. The discovery of widespread use of surrogate prescribers and evidence of unintended artifact usage suggests that the intended design has overlooked existing manual prescribing practices (e.g., roles and routines). If these changes can be traced to documented existing practices reported in the literature, these insights may allow designers to anticipate the impact of their designs as new technologies are introduced. Changes induced by e-prescribing systems are identified using a roles-artifact-routine analytical framework applied to the prescribing activities in physician offices and pharmacies. The model of the prescribing process, both manual and electronic, is synthesized from the broader medication management literature that extends beyond those studies focused on e-prescribing alone. Several artifact-induced changes to roles and routines surfaced by this framework suggest that the adoption challenges of e-prescribing technology go beyond those previously identified (e.g., financial barriers).

Keywords— Healthcare systems; electronic prescribing; process management; organizational roles; routines; workflow

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Nelson King is an associate professor with the Industrial and Systems Engineering Department of Khalifa University. His research interests are in networked information systems, especially inter-organizational collaboration in healthcare. He also examines the socio-organizational impact of process-driven systems. He obtained his PhD in industrial and systems engineering from the University of Southern California where he also did post-doctoral research in imaging informatics. Before joining academia, he spent over twenty years as a systems engineer. Nelson’s healthcare work has been published in journals such as the European Journal of Information Systems, Communications of the Association for Information Systems, E-Service Journal, and Health Systems. Some of his earlier work on virtual teams has been published in MIS Quarterly and IEEE Transactions on Engineering Management. He serves as associate editor for Communications of the Association for Information Systems, Health Systems, and Information Systems Management.

BIOGRAPHY
Include author bio(s) of 150 words or less.

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