Introduction to special section on the emerging healthcare education revolution

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Biographical notes: Timothy R. Huerta (MPA, California State University, Los Angeles; PhD, University of Southern California) is currently an Assistant Professor in Health Organization Management (HOM) in the Rawls College of Business at Texas Tech University and the Director of the Center for Healthcare Innovation, Education and Research (CHIER). He is currently working directly with Covenant Health System on both its Electronic Health Record (EHR) implementation and its quality improvement programme. This collaboration enables him to work with healthcare organisations in addressing the 'value proposition' – the development of outcome measures that link quality of care with organisational efficiency.

In 2009, the US Federal Government authorised The Health Information Technology for Economic and Clinical Health (HITECH) Act, representing an unprecedented investment of resources into the US healthcare system. The HITECH Act allocates $19 billion in grants and incentives, outlines a pathway for the development of regulations pertaining to data exchange in healthcare, and invested significant targeted resources towards the development of the workforce necessary to support this new integrated infrastructure. The development of the modernised medical information workforce, as outlined by the HITECH act, takes a multi-pronged approach.

First, the act authorises the establishment of Health Information Technology Regional Extension Centers (HITRECs) to offer technical assistance, guidance and information on best practices to support and accelerate healthcare providers' efforts to become meaningful users of Electronic Health Records (EHRs). To date, 60 HITRECs provide services for all 50 states, Puerto Rico, and the District of Colombia. These resources were intended to facilitate the transition in the medical community by supporting organisational transitions through the adoption process.

To address the need for non-degree training programmes that can be completed in six months or less, the Act funded the Community College Consortia to Educate Health Information Technology Professionals Program. These resources are expected to support the education of medical coders, entry clerks, and other paraprofessional programmes.

The HITECH Act provided $16 million in grants to institutions of higher education (or consortia thereof) to support health information technology (health IT) curriculum development and competency assessment. The Curriculum Development Centers (10 million) and Competency Examination for Individuals Completing Non-Degree Training Program (6 million) were developed to facilitate the standardisation and harmonisation of programmes in higher education and included the development of certification requirements.

The fifth and final intervention focused grant dollars into efforts to increase the availability of individuals qualified to serve in specific health information technology professional roles requiring university-level training. These programmes support institutions with strong informatics foundations in their efforts to create programmes that address the need for highly focused, professional level training necessary to lead, analyse and advance organisations in their EHR adoption journey.

This new workforce will, in many ways, be quite different from other technology workforces. Healthcare has a culture that has been at odds with the depersonalisation of the patient–professional relationship. Technological integration has often been cast as interfering with the human aspect of care. Further, healthcare professionals have resisted the training required to adequately function in high-technology environments as a skill set that is outside the scope of the provision of care. However, in many cases these same professionals are the only individuals capable of providing the information required by these same systems.

As a result, there will be opportunities for significant research on the transition of these highly specialised professionals to a new competency set in a new domain. For instance, the cultural differences between the professional hierarchies in healthcare require different approaches to facilitate effective adoption. Doctors, for instance, will need to be convinced of the value that increased integration will provide to patient outcomes. Nurses will need to develop the skills and data to support the care of patients and the quality of their experience. Managers see the benefit of increase IT in terms of improved measurement of key performance indicators. Rather than focusing on the workforce that is entering the market, the dynamic at play is about transforming and empowering the workforce that exists. To that end, the two papers presented here offer the first, in what I hope will be an ongoing developmental trajectory for research in this emerging subspecialty.

The paper by Reeves and colleagues offers an alternative approach for addressing the development of context-appropriate knowledge through a co-development lens. This model aligns well with adult-learning models and sits well in environments where education professionals trained in information systems but without knowledge of health can bridge the two components effectively. The co-creation model allows professionals to maintain their identity as experts in healthcare delivery while at the same time supporting the development of a broader educational experience.

The paper by Jacko and colleagues provides a first look into the consortia model of health informatics education delivery that was funded by the HITECH Act. They note that the inputs required for success in the transition to a modern healthcare service delivery model: a lack of developed programmes in health IT; a lack of institutional and intra-institutional involvement in programmes; the absence of a coordinated approach in this environment; and, the geographic and socioeconomic dynamics serve to slow institutional responses to the needs identified.

With the healthcare sector composing over 17% of US GDP, these programmes have been positioned to transform both the supply and demand of information technology professionals in healthcare. Similarly, there is a need for a venue within which to discuss the emergent best practices and lessons learned. Moving forward the demand for these professionals as part of a modern healthcare system will increasingly become a driving force for improving the quality of education and training in information systems and the concomitant development of domain knowledge in healthcare.

In this respect, this journal can become a home for the discourse that should and must arise from the emerging community of practice. Developing suitable training strategies, techniques and tools for effective learning of information systems and operations management is of paramount importance in modern healthcare. Innovative models of education that reach outside of the university's traditional domain will find greater success as these organisations seek to transform what it means to provide care in the USA.