

Assessing Healthcare Workforce Training Needs for Health Information Technology-Enabled Healthcare Transformation

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Background

- Our nation's healthcare system is changing at a rapid pace accelerated by the American Recovery and Reinvestment Act (ARRA) and the Affordable Care Act (ACA).
- Transformative healthcare delivery programs depend heavily on health information technology (health IT) to improve and coordinate care, maintain patient registries, support patient engagement, develop and sustain data infrastructure necessary for multi-payer value-based payment, and enable analytical capacities to inform decision making and streamline reporting.¹
- Additionally, EHR technology is now available to over half of the nation's eligible providers participating in the 'Meaningful Use' program. The accelerated pace of change from new and expanding technology will continue to be a challenge for preparing a skilled workforce.^{2,3,4}
- As part of the U.S. Department of Health and Human Services efforts to create an interoperable learning health system that achieves better care, smarter spending, and healthier people, the Office of the National Coordinator for Health Information Technology (ONC) funds programs in workforce training.⁵

Objectives

- As one of the awardees for this two-year program, Columbia University has performed a training needs assessment to inform the design of a training curriculum for incumbent healthcare workers for the rapidly changing landscape of healthcare and health IT.
- We seek to investigate what does the healthcare workforce need to know to enable healthcare transformation as health information technology and healthcare delivery systems evolve.⁶

Research Design

- We conducted 14 interviews with 16 key informants that are senior leaders in their respective organizations and serve on our advisory board. Interviews were transcribed and a qualitative coding and analysis was performed.
- Informants represent a broad expertise across the five topic areas identified by ONC for workforce training:
 - Population health;
 - Care coordination and interoperable health IT systems;
 - Value-based care;
 - Healthcare data analytics; and
 - Patient-centered care.
- A quantitative survey to complement qualitative findings is being administered to managers and their workforce to obtain ground-level data to inform tailored content and delivery of training.⁷
- This protocol was approved by Columbia University IRB.

Results

- As a result of our thematic analysis, we identified 16 themes for informing the design of a training curriculum for healthcare workers to become more knowledgeable in health informatics, health IT, population health, care coordination, interoperability, value-based care, analytics, and patient-centered care.
- The 16 themes were organized into three larger themes with the framework of why healthcare workers should receive training, what content should be included in the training, and how should the training be implemented.

Results (Continued)

WHY should healthcare and IT professionals be trained		
Theme	Summary	Sample Quote
Healthcare Environment	Healthcare and health IT professionals need a better understanding of the context in which they operate. It is important to recognize the relationship between micro-level actions of individuals and macro-level factors of healthcare delivery.	"Part of what you're going to have to do is help them navigate what the law requires of them and what they're actually seeing on a day to day basis"
WHAT content should be included in training		
Theme	Summary	Sample Quote
Patient-Provider Communication	Patient-provider communication has become increasingly important. It is crucial to understand and implement the tools and technologies used today to support patient engagement and patient activation. Clinicians should also understand patient-generated data and how it can be used.	"[Patient engagement] is a big part of population health because you can do all that you want to get your population healthier, but if the patients aren't engaged, you're never going to get there."
HOW should training be implemented		
Theme	Summary	Sample Quote
Training Audience	All clinicians and providers should be trained, but all healthcare workers would also benefit. It is also key to understand who is the target audience for resource allocation purposes.	"I would say almost everyone. So certainly nurses, doctors, all of the disciplines, physical therapy, pharmacy, all of the disciplines like radiology, lab because what they do impacts flow."

Conclusion

- There is an enthusiastic demand for highly targeted health IT training for the workforce in this new era of healthcare.
- All healthcare providers need to be trained in a tailored, contextual way, on content related to patient engagement, patient-provider communication, and analytics. The focus of the content reflects the importance of patient-centered care and data to achieve optimal, quality care for both individuals and populations.
- The complex, dynamic nature of health care at all levels requires understanding of policy, management, and macro-level awareness and thinking.
- Our future plans include analyzing the quantitative survey currently being administered to build upon our thematic analysis.

References

- [1] Brownie, S., & Thomas, J. (2014). A single competency-based education and training and competency-based career framework for the Australian health workforce: Discussing the potential value add. *International journal of health policy and management*, 3(4), 215-21.
- [2] Alpay, L., & Russell, A. (2002, July 10). Information technology training in primary care: The nurses' voice. Retrieved from Computers, informatics, nursing : CIN
- [3] Edwards, G., Kitzmiller, R. R., & Breckenridge-Sproat, S. (2011, September 15). Innovative health information technology training: Exploring blended learning. Retrieved from Comput Inform Nurs.
- [4] Graham-Jones, P., Jain, S., Friedman, C., Marcotte, L., & Blumenthal, D. (2012). The need to incorporate health information technology into physicians' education and professional development. *Health affairs (Project Hope)*, 31(3), 461-7.
- [5] Mohan, V., Abbott, P., Acteson, S., Berner, E., Devlin, C., Hammond, W., ... Hersh, W. (2013). Design and evaluation of the ONC health information technology curriculum. *Journal of the American Medical Informatics Association : JAMIA*, 21(3), 509-16. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/238318322
- [6] Matovu, J. K., Wanyenze, R. K., Mawemuko, S., Okui, O., Bazeyo, W., & Serwadda, D. (2013). Strengthening health workforce capacity through work-based training. *BMC International Health and Human Rights*, 13(1)
- [7] Yi, M. Y., Jackson, J. D., Park, J. S., & Probst, J. C. (2006). Understanding information technology acceptance by individual professionals: Toward an integrative view. *Information & Management*, 43(3), 350-363. doi:10.1016/j.im.2005.08.006