What Workforce is Needed for Large-Scale Informatics Projects?

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References

Anonymous (2012). Demand Persists for Experienced Health IT Staff. Ann Arbor, MI, College of Healthcare Information Management Executives. http://www.ciochime.org/chime/press/surveys/pdf/CHIME_Workforce_survey_report.pdf Anonymous (2012). Needles in a haystack: Seeking knowledge with clinical informatics, PriceWaterhouseCoopers. http://www.pwc.com/us/en/health-industries/publications/needles-ina-haystack.jhtml Anonymous (2013). Solving the talent equation for health IT, PriceWaterhouseCoopers. http://www.pwc.com/us/HITtalent Anonymous (2014). 2014 HealthITJobs.com Salary Report. http://www.healthitjobs.com/healthcare-it-careers-resources/2014-healthitjobs-health-it-salarysurvey.aspx Anonymous (2014). 2014 HIMSS Workforce Survey. Chicago, IL, HIMSS Analytics. http://www.himssanalytics.org/research/AssetDetail.aspx?pubid=82173 Ash, JS, Sittig, DF, et al. (2012). Recommended practices for computerized clinical decision support and knowledge management in community settings: a qualitative study. BMC Medical Informatics & Decision Making. 12: 6. http://www.biomedcentral.com/1472-6947/12/6/ Ash, JS, Stavri, PZ, et al. (2003). Implementing computerized physician order entry: the importance of special people. International Journal of Medical Informatics. 69: 235-250. Buntin, MB, Burke, MF, et al. (2011). The benefits of health information technology: a review of the recent literature shows predominantly positive results. *Health Affairs*. 30: 464-471. Charles, D, Gabriel, M, et al. (2014). Adoption of Electronic Health Record Systems among U.S. Nonfederal Acute Care Hospitals: 2008-2013. Washington, DC, Department of Health and Human Services. http://www.healthit.gov/sites/default/files/oncdatabrief16.pdf Chaudhry, B, Wang, J, et al. (2006). Systematic review: impact of health information technology on quality, efficiency, and costs of medical care. Annals of Internal Medicine. 144: 742-752. Detmer, DE and Shortliffe, EH (2014). Clinical informatics: prospects for a new medical subspecialty. Journal of the American Medical Association. 311: 2067-2068. Furukawa, MF, Vibbert, D, et al. (2012). HITECH and Health IT Jobs: Evidence from Online Job Postings. Washington, DC, Office of the National Coordinator for Health Information Technology. http://www.healthit.gov/sites/default/files/pdf/0512_ONCDataBrief2_JobPostings.pdf Gardner, RM, Overhage, JM, et al. (2009). Core content for the subspecialty of clinical informatics. Journal of the American Medical Informatics Association. 16: 153-157. Goldzweig, CL, Towfigh, A, et al. (2009). Costs and benefits of health information technology: new trends from the literature. *Health Affairs*. 28: w282-w293.

Hersh, W (2004). Health care information technology: progress and barriers. *Journal of the American Medical Association*. 292: 2273-2274.

Hersh, W (2012). Update on the ONC for Health IT Workforce Development Program. HIMSS Clinical Informatics Insights, July, 2012.

http://www.himss.org/ASP/ContentRedirector.asp?ContentId=80559&type=HIMSSNewsItem;src= cii20120709

Hersh, W (2014). Continued Concerns for Building Capacity for the Clinical Informatics Subspecialty - 2014 Update. <u>Informatics Professor</u>, November 15, 2014.

http://informaticsprofessor.blogspot.com/2014/11/continued-concerns-for-building.html Hersh, W (2014). Eligibility for the Clinical Informatics Subspecialty, 2014 Update. <u>Informatics</u> <u>Professor</u>, June 18, 2014. <u>http://informaticsprofessor.blogspot.com/2014/06/eligibility-for-</u> <u>clinical-informatics.html</u>

Hersh, WR (2014). Healthcare Data Analytics. <u>Health Informatics: Practical Guide for Healthcare</u> <u>and Information Technology Professionals, Sixth Edition</u>. R. Hoyt and A. Yoshihashi. Pensacola, FL, Lulu.com: 62-75.

Hersh, WR and Wright, A (2008). What workforce is needed to implement the health information technology agenda? An analysis from the HIMSS Analytics[™] Database. *AMIA Annual Symposium Proceedings*, Washington, DC. American Medical Informatics Association. 303-307.

Hsiao, CJ and Hing, E (2014). Use and Characteristics of Electronic Health Record Systems Among Office-based Physician Practices: United States, 2001–2013. Hyattsville, MD, National Center for Health Statistics. <u>http://www.cdc.gov/nchs/data/databriefs/db143.htm</u>

Jones, SS, Rudin, RS, et al. (2014). Health information technology: an updated systematic review with a focus on meaningful use. *Annals of Internal Medicine*. 160: 48-54.

Manyika, J, Chui, M, et al. (2011). Big data: The next frontier for innovation, competition, and productivity, McKinsey Global Institute.

Safran, C, Shabot, MM, et al. (2009). ACGME program requirements for fellowship education in the subspecialty of clinical informatics. *Journal of the American Medical Informatics Association*. 16: 158-166.

Schoen, C, Osborn, R, et al. (2012). A survey of primary care doctors in ten countries shows progress in use of health information technology, less in other areas. *Health Affairs*. 31: 2805-2816.

Schwartz, A, Magoulas, R, et al. (2013). Tracking labor demand with online job postings: the case of health IT workers and the HITECH Act. *Industrial Relations: A Journal of Economy and Society*. 52: 941–968.

Shortliffe, EH (2011). President's column: subspecialty certification in clinical informatics. *Journal of the American Medical Informatics Association*. 18: 890-891.



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Overview

- Health information technology (HIT) adoption has increased in the US and elsewhere
- This has resulted in substantial growth (and shortages) of the HIT workforce
- Despite the growing need, the characteristics of the workforce will be changing
- Education and training will be key to the foundation of the workforce as it grows and adapts









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One component of successful adoption is a competent workforce

- Analysis of HIMSS Analytics Database[™] estimated need for 41,000 additional HIT professionals as US moved to more advanced clinical systems (Hersh, 2008)
- ONC increased estimate of need to 50,000, leading to Workforce Development Program being part of HITECH Program (Hersh, 2012)
- Actual numbers of jobs posted were even higher (Furukawa, 2012; Schwartz, 2013)
- Despite growth of jobs and number trained, shortfalls persist (CHIME, 2012; HIMSS Analytics, 2014)







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But demand still persists for experienced HIT staff (CHIME, 2012)

- Skills most often in demand
 - Clinical software implementation and support staff (e.g., EHR, CPOE) 74%
 - Infrastructure staff 47%
 - Business software implementation and support staff 45%
- 71% said IT staff shortages could jeopardize an enterprise IT project, while 58% said they would definitely or possibly affect meeting meaningful use criteria for incentive funding
- · 85% also expressed concerns about being able to retain current staff
- 67% were aware of the ONC workforce programs, with 12% of those respondents reporting that they had hired graduates from them

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all desta manufa **Himss** Middle East **Integrated Health Innovations Further borne out in HIMSS Analytics** HIT Workforce Survey (2014) Most common areas for hiring in provider organizations • Clinical application support (64%) Provider organizations Help desk (57%) Over 80% reported adding IT FTE in the past year, with half hiring 1-10 FTE and 20% hiring more than 20 FTE IT management (45%) Project management (35%) IT security (34%) 13% reporting laying off staff Financial application support (32%) About three-quarters outsourced rather than hired some of the above types of personnel System design and implementation (29%) Clinical informatics/clinical champion (29%) 75% plan to hire in coming year System integration (22%) · Similar for vendors Process workflow design (20%) © Healthcare Information and Management Systems Society

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Other findings and data

- From HIMSS Analytics Workforce Survey (2014)
 - About 92% of providers and 74% of vendors reported lack of fully qualified staff as barrier to achieving organizational IT goals

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- Most common reason was lack of qualified staff in local region (69%, 71%)
- Hires being attracted to other organizations by more lucrative offers (50%, 29%)
- About 35% of provider organizations reported putting an IT initiative on hold due to inadequate staffing, with another 24% contemplating doing so





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Other workforce issues

- · Clinical informatics
- Data analytics
- Certification











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What about certification?

- · Historical nursing and HIM
- · Certifications not requiring formal training
- · Clinical informatics subspecialty for physicians





Other certifications do not require specific formal training

HIMSS

- CPHIMS/CAHIMS Certified Professional/Associate in Healthcare Information & Management Systems
- http://www.himss.org/getcertified/
- HITPro/CHTS six workforce roles, developed out of ONC Workforce Development Program but now administered by AHIMA
 - <u>http://www.ahima.org/certification/chts</u>
- Health IT Certification
 - http://www.healthitcertification.com
- CompTIA
 - <u>http://certification.comptia.org/getCertified/certifications/hittech.aspx</u>





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Clinical informatics subspecialty (cont.)

Following usual path of five years of "grandfathering" training requirements to take certification exam before formal fellowships required

Two paths to eligibility for exam in first five years

- Practice pathway practicing 25% time for at least three years within last five years (education counts at half time of practice)
- Non-traditional fellowships qualifying educational or training experience, e.g., NLM fellowship, or educational program (master's degree, certificate?)
- · ABPM rules
 - http://www.theabpm.org/abpm_clinical_informatics.pdf
 - My interpretation (Hersh, 2014)



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How do we train the necessary workforce?

- Some observations based on 20 years of experience
 - Informatics jobs does not require everyone to be a clinician, but understand of healthcare is critical
 - Most education has been at graduate level usually building on previous education in healthcare, IT, or other professions
 - Informatics education is very amenable to distance learning
- Certification likely to play an increasing role AMIA developing Advanced Interprofessional Informatics Certification to complement physician certification
- OHSU program <u>http://www.ohsu.edu/informatics-education</u>



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For more information

- Bill Hersh
 - http://www.billhersh.info
- Informatics Professor blog
 - http://informaticsprofessor.blogspot.com
- OHSU Department of Medical Informatics & Clinical Epidemiology (DMICE)
 - http://www.ohsu.edu/informatics
- American Medical Informatics Association (AMIA)
 - http://www.amia.org

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