

Characterizing the Health Information Technology Workforce: Analysis from the HIMSS Analytics™ Database

William Hersh, MD
Professor and Chair
Department of Medical Informatics & Clinical Epidemiology
Oregon Health & Science University
Portland, OR, USA
hersh@ohsu.edu
www.billhersh.info

Adam Wright, PhD
Senior Medical Informatician
Clinical Informatics Research & Development Group
Partners Health Care
Boston, MA, USA
awright5@partners.org

April 17, 2008

Acknowledgements

We gratefully acknowledge HIMSS Analytics for use of the HIMSS Analytics Database and Dave Garets, Mike Davis, Lisa Pilolla, and Michelle Glenn of HIMSS Analytics for their help in obtaining and interpreting the data.

Executive Summary

Health information technology (HIT) has been documented to improve quality and safety while reducing costs of health care, yet there remain many barriers to its wider adoption. Although the barriers of finance and implementation issues are most commonly discussed, less attention has been paid to the workforce required to develop, implement, train users of, and evaluate HIT applications in order to achieve quality, safety, and cost savings. The goal of this study was to use a comprehensive HIT database to attempt to characterize this workforce and identify areas where future research and policy is needed.

We categorize three broad groups of the HIT workforce professionals: information technology (IT), health information management (HIM), and biomedical informatics (BMI). Because they have a recognized Standard Occupational Code, HIM professionals are relatively well-characterized. IT professionals have been analyzed in certain settings and applications, but not comprehensively. The new data in this report, based on the HIMSS Analytics™ Database and its EMR Adoption Model™, provide new insights into IT professionals in health care settings. The final category of BMI professionals still has not been well-characterized but has been found situationally to be vital for HIT implementation success. This group often though not exclusively consists of health care professionals who have training or experience in BMI.

The data in this report focus on IT professionals in health care settings. We extracted data from the HIMSS Analytics™ Database and extrapolated our findings to the United States (US) as a whole. We found the following results:

- There are approximately 108,390 IT professionals in health care the US.
- The amount of IT staff hired varies by level of EMR adoption, with the rate of IT FTE per bed started at a level of 0.082 FTE per bed at the lowest level of the EMR Adoption Model (Stage 0) and increasing to 0.0201 FTE bed at higher levels (Stage 4).
- To move the entire country to higher levels of adoption (Stage 4) will require an additional 40,784 IT professionals.

There are limitations to this analysis. First, the HIMSS Analytics Database is incomplete. Second, the data are limited to IT professionals who are mainly in hospitals and do not include those who, for example, work for HIT vendors or in non-clinical settings. Finally, data on BMI professionals are still virtually non-existent.

Our analysis adds to data that show there must be increasing attention paid to the workforce that will develop, implement, and evaluate HIT applications. There are substantial career opportunities for a wide variety of professionals. We advocate that continued research explore IT and HIM professionals further for their optimal organization and education in hospitals and other health care settings. We also believe it is essential to initiate research on the role of BMI professionals in these settings as well. Finally, policy development must be undertaken to insure that HIT workforce development is adequately planned and funded.