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The State and Pattern of
HEALTH
Information Technology
Adoption

Kateryna Fonkych

Roger Taylor

Sponsored by Cerner Corporation, General Electric, Hewlett-Packard,
Johnson & Johnson, and Xerox



HEALTH

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Summary

Innovations in information technology (IT) have improved efficiency and quality in many industries. Healthcare has not been one of them. Although some administrative IT systems, such as those for billing, scheduling, and inventory management, are already in place in the healthcare industry, little adoption of clinical IT, such as Electronic Medical Record Systems (EMR-S) and Clinical Decision Support tools, has occurred. Government intervention has been called for to speed the adoption process for Health Information Technology (HIT), based on the widespread belief that its adoption, or diffusion, is too slow to be socially optimal.

In this report, we estimate the current level and pattern of HIT adoption in the different types of healthcare organizations, and we evaluate factors that affect this diffusion process. First, we make an effort to derive a population-wide adoption level of administrative and clinical HIT applications according to information in the Healthcare Information and Management Systems Society (HIMSS)-Dorenfest database (formerly the Dorenfest IHDS+TM Database, second release, 2004) and compare our estimates to alternative ones. We then attempt to summarize the current state and dynamics of HIT adoption according to these data and briefly review existing empirical studies on the HIT-adoption process. By comparing adoption rates across different types of healthcare providers and geographical areas, we help focus the policy agenda by identifying which healthcare providers lag behind and may need the most incentives to adopt HIT. Next, we employ regression analysis to separate the effects of the provider's characteristics and factors on adoption of Electronic Medical Records (EMR), Computerized Physician Order Entry (CPOE), and Picture Archiving Communications Systems (PACS), and compare the effects to findings in the literature.

The results of the analysis suggest high heterogeneity in HIT adoption, across HIT applications and types of providers, such as for-profit and non-profit hospitals. We discuss the hypotheses that explain our empirical findings and the forces behind HIT adoption, and we link hypotheses and forces to potential policy implications. Additional evaluation of HIT adoption at the level of healthcare systems, rather than

their facilities, suggests the potential for system-based connectivity and future patterns of adoption.