THE IMPACT OF IT SYSTEM SUPPORT ON HOSPITAL TECHNICAL EFFICIENCY OVER TIME

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ABSTRACT

The Health Information Technology for Economic and Clinical Health (HITECH) provision of the 2009 American Recovery and Reinvestment Act (ARRA) requires hospitals to increase their investment in information technology (IT) in order to achieve "meaningful use" of electronic health records by 2015 or face reduced Medicare reimbursement. The empirical literature evaluating the impact of IT on hospital costs and quality, however, is inconclusive. Recent work, therefore, explores the importance of complements to a hospital's IT capital investment such as process re-design and user acceptance. We argue that IT support is another crucial complement to IT capital investment and therefore analyze its impact on hospital technical efficiency using data envelopment analysis (DEA). To better understand the path by which IT impacts hospital efficiency, we estimate not only overall technical efficiency, but also its two components: pure technical efficiency and scale efficiency and assess the impact of an increase in the level of IT support on these efficiency measures. While we find limited evidence that IT support does contribute to hospital overall technical efficiency, primarily through an improvement in pure technical efficiency, we do not find evidence that a higher level of IT support leads to improving technical efficiency over time.

Keywords: *Health IT, HITECH, Data Envelopment Analysis (DEA)*