Evaluating the impact of HIT resources on Patient Welfare: Evidence for the ARRA

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Evaluating the Impact of HIT Resources on Patient Welfare: Evidence for the ARRA
by Evan Thomas
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Motivation: Many feel that Healthcare Information Technology (HIT) is the silver bullet that will make the healthcare industry in the United States healthier. Proponents hold that by correctly designing and implementing the right computer resources, healthcare providers will be able to cut costs and improve the delivery of patient care. Although the body of research on this topic is quite robust, little research has been performed regarding the effects of HIT resources on patient welfare.

Abstract: Using differentiating OLs, and probit modeling techniques, demographic and performance information for more than 9,000 U.S. hospitals was used to test whether Electronic Medical Record (EMR) usage had any effect on both outcomes and processes of patient care. The findings showed that EMR did not have a significant impact on patient mortality rates, 30-day readmission rates, or clinical procedures; in treating patients suffering from Acute Myocardial Infarctions (AMI). Additional research into the correlation between EMR usage and average Medicare reimbursement rates found that healthcare facilities using an EMR received lower reimbursements on average than those hospitals using a paper-based recordkeeping system.

WHY?
With rising concerns from controlling insurance availability and coverage to management of healthcare infrastructure and costs, healthcare is as risky today as it was in 1909. Indeed, the publicized argument, such as the healthcare reform bill recently passed in Congress, has centered on how to restructure the reimbursement system in order to contain costs. In the '90s (the Healthcare Quality) Quarter, Medicare addressed the rising costs of healthcare and insurance in the United States at that time by proposing that cost increases are permissible so long as patient welfare is growing roughly in tandem with costs. This has essentially led to hospital budgets to equip themselves with more and more technology. In theory, the increased spending should make a hospital better equipped to give high-quality care. But the question remains whether the effects of the high costs has indeed improved patient welfare. Medicare reimbursement rates were also studied. The average reimbursement rate for different procedures were all regressed separately on the independent variables used in the mortality section above. The results can be seen in Figure 3.

As discussed above, Medicare reimbursement rates were also studied. The average reimbursement rates for different procedures were regressed separately on the independent variables used in the mortality section above. The results can be seen in Figure 3. As the average reimbursement rates are also an indicator of the process-of-care measures, this section of the paper was intended as an analysis on the time period to the next. In order to explore this, 8 process-of-care measures describing what percentage of heart attack patients received ACE inhibitors upon arrival, Aspirin at discharge, Beta blockers at discharge, Fibronolytic medication within 30 minutes of arrival, and the use of 4 of the 5 quality-of-care measures were regressed separately on the independent variables used in the mortality section above. The results can be seen in Figure 5. The results from the various outcome-of-care regressions retain all of the intuitive characteristics from the data set. Hospital characteristics, reimbursement rate for each hospital, and region within the U.S. for the hypothesis to be true, coefficients for HIT resources should increase the probability that a hospital decreased mortality from one time period to the next.

In order to address the effects of HIT resources on quality of patient care, CMS data was compiled from the Center for Medicare Studies (CMS), the American Hospital Association (AHA) guide, and NAIC Enterprises LLC. The HIT resource company. The data from CMS details hospitals’ care of Medicare patients with Heart Failure, Heart Attacks, or Pneumonia. Figure 8.4 displays the average mortality rates for the three conditions nationally, as well as regionally. Other statistics available from CMS include as day readmission rates, hospital delivery of key ‘best practices’, and average Medicare reimbursement rates for a variety of medical procedures. Given the limited research, this study attempts to separate the total effect on hospital outcomes into two parts: revenues and expenses.

In order to test the hypothesis that hospitals using HIT resources perform better in procedural measures for quality of care, the same independent variables were regressed separately on the independent variables for the time period to the next. The results can be seen in Figure 5. The results from the various outcome-of-care regressions retain all of the intuitive characteristics from the data set. Hospital characteristics, reimbursement rate for each hospital, and region within the U.S. for the hypothesis to be true, coefficients for HIT resources should increase the probability that a hospital decreased mortality from one time period to the next.

Data Set: The data set is compiled from sources; the Center for Medicare Studies (CMS), the American Hospital Association (AHA) guide, and NAIC Enterprises LLC. for HIT resource company. The data from CMS details hospitals’ care of Medicare patients with Heart Failure, Heart Attacks, or Pneumonia. The first group consisted of 195 hospitals that are currently using paper-based recordkeeping systems. The second group consisted of 131 hospitals that had adopted EMR at the time of the study. The original data set included 326 hospitals. Data from CMS was compiled from the Center for Medicare Studies (CMS), the American Hospital Association (AHA) guide, and NAIC Enterprises LLC. for HIT resource company. The data from CMS details hospitals’ care of Medicare patients with Heart Failure, Heart Attacks, or Pneumonia. The first group consisted of 195 hospitals that are currently using paper-based recordkeeping systems. The second group consisted of 131 hospitals that had adopted EMR at the time of the study. The original data set included 326 hospitals. Data from CMS was compiled from the Center for Medicare Studies (CMS), the American Hospital Association (AHA) guide, and NAIC Enterprises LLC. for HIT resource company. The data from CMS details hospitals’ care of Medicare patients with Heart Failure, Heart Attacks, or Pneumonia. The first group consisted of 195 hospitals that are currently using paper-based recordkeeping systems. The second group consisted of 131 hospitals that had adopted EMR at the time of the study. The original data set included 326 hospitals.

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Healthcare providers implementing EMRs receive less per Medicare reimbursement on average.

Reimbursement Rates: OLS regression was used to measure the relationship between expenditures of each hospital and the average Medicare reimbursement rate. The results from the various outcome-of-care regressions retain all of the intuitive characteristics from the data set. Hospital characteristics, reimbursement rate for each hospital, and region within the U.S. for the hypothesis to be true, coefficients for HIT resources should increase the probability that a hospital decreased mortality from one time period to the next.

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