

Dissertation Proposal

Essays on Health Information Technologies

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Healthcare, which accounts for more than 15% of the US GDP, is undergoing a transformation partly due to the increased adoption of health Information Technology (IT) within all constituent units of the healthcare system—hospitals, nursing homes, pharmacies, and other units. This increase in IT adoption is driven not only by advances in computer and communication technologies, but also by government intervention such as the Health Information Technology for Economic and Clinical Health Act. The concomitant technology-enabled changes in healthcare present new issues that need careful study, and I examine some of these issues in my dissertation. My first paper¹ provides evidence of the benefit of advanced Electronic Medical Records (EMR) on patient safety. In this paper, my co-authors and I apply fixed-effects models to a novel panel data set from Pennsylvania hospitals for the years 2005-2012. We find that advanced EMR significantly benefits patient safety in hospitals. Our findings are relevant for policy makers as well as hospital administrators as the extant literature does not provide adequate answers (as noted in the report *Health IT and Patient Safety* from the Institute of Medicine of the National Academies). In my second paper, co-authors² and I investigate the effect of hospital competition on the hospital's quality of patient data security. We use a national data set of US hospitals and measure patient data security by the number of breaches reported for the hospitals. Using non-linear regression models, we find that hospital competition is associated with lower quality of patient data security. We argue that hospitals in more competitive market may invest less in information security as consumers choose among hospitals on more visible aspects of quality (such clinical quality or boarding quality versus data security).

¹ Joint work with Rahul Telang and William Marella

² Joint work with Rahul Telang and Martin S. Gaynor