

Some Concerns About the CBO Study on Evidence of HIT Costs and Benefits

On Estimating Health and Safety Benefits of HIT. Improvements in health and safety are perhaps the most important benefits that may be enabled by health information technology. Besides improving the quality of healthcare, these benefits could produce savings for the health care system as a whole as healthier people make fewer demands on the system. The CBO study, while agreeing that there may be health and safety benefits makes no attempt to quantify them. It does not take into account the peer-reviewed RAND report on this subject produced as part of the RAND HIT study.¹ This report, appearing as a companion to the RAND report on costs and benefits of HIT, estimated the potential savings from reducing adverse drug events and utilized models and Medical Expense Panel Survey data to examine the costs, health benefits and potential savings of improvements in preventive care and chronic care that could be enabled by interoperable electronic medical record systems, under various assumptions. We invite the CBO to examine these models and consider their use in a more complete analysis of the benefits and costs of HIT.

Adoption Rate, Benefits and Costs of HIT. The RAND study of HIT was not a static study of the subject fixed to the year 2004 as implied by statements in the CBO report and in the Director's blog. It started with a best estimate of the adoption level in 2004 at the time of the study and then used a 15-year adoption curve typical of complex information technology to estimate the savings and costs over time if the adoption of HIT followed that pattern. It is certainly true that if adoption of effective HIT reaches a new level as a result of ongoing adoption then the savings and costs would be different than that estimated from the 2004 base. The data to update estimates is clearly available from the tables in our reports. The interesting question, and what we believe should be a goal of any continuing CBO study of HIT, is to understand what would be the costs and savings benefits of achieving a high level of effective HIT adoption sooner than 15 years and what type of legislation would promote that. Additionally, the CBO acknowledges some of the disincentives in the current fee for service system that are discussed in our study. These could inhibit even a 15-year rate of adoption. It is surprising that the CBO failed to cite our peer reviewed reports that discuss the state and pattern of HIT adoption and which make important comparisons with the adoption of HIT in other industries, including a discussion of health care unique disincentives to adoption that may imply a need for government intervention.^{2 3 4}

¹ James H. Bigelow, Kateryna Fonkych, Constance Fung and Jason Wang, "Analysis of Healthcare Interventions That Change Patient Trajectories", MG-408-HLTH, RAND, 2005.

² Anthony G. Bower, "The Diffusion and Value of Healthcare Information Technology", MG-272-HLTH, RAND, 2005.

³ Kateryna Fonkych and Roger Taylor, "The State and Pattern of Health Information Technology Adoption", MG-409-HLTH, RAND, 2005.

Why the RAND study is conservative. There are many possible benefits and sources of potential savings that we did not include in our estimate of overall savings, leading us to believe that our quantitative estimates based solely on existing evidence at the time were probably an underestimate of what might be achieved if HIT were widely adopted and used effectively.⁵ These benefits and potential savings include some of the same ones mentioned in the CBO report – large health record databases for research and development of evidence-based medicine, better adherence to evidence guidelines, and measuring quality of care – as well as the improvements in preventive care and chronic illness management mentioned above. There are also likely to be potential efficiencies in billing and innovations in health care processes similar to IT-enabled process changes seen in other businesses. Interestingly, the CBO reports that RAND’s estimate of hospital costs to acquire and maintain a CPOE system is larger than some other studies, even though “the RAND study used observations from a larger group of hospitals” than the other studies. This, in fact, also makes the RAND estimate of net savings more conservative. True, the RAND study did not include in its estimates a few cases of negative effects (primarily errors) of HIT. We assume that systems leading to such negative effects will not proliferate.

On specific items of evidence. As with any scientific study, it is important to lay out the evidence, assumptions and models. We did this by providing all of the data and models in reports, technical appendices and compact discs with the cost and benefit estimation software. A user of these data who wished to remove any element representing a savings or cost, could easily make alternative assumptions and arrive at new estimates. We also provide uncertainty estimates that reflect the variations in the evidence for each benefit or cost. All peer reviewers had access to these data, as did the CBO. We stand by our use of this evidence, but invite the CBO to utilize the models we provided to examine alternative assumptions about the data, or to include alternative new data elements.

⁴ Roger Taylor, Anthony Bower, Federico Girosi, James Bigelow, Kateryna Fonkych, and Richard Hillestad, “Promoting Health Information Technology: Is There a Case For More Aggressive Government Action?”, *Health Affairs*, Sept/Oct 2005, Volume 24, Number 5.

⁵ In fact, our criterion for evidence was even stronger in that we required multiple sources of evidence for any benefit that we quantified.