Designing Incentive-Pricing Mechanisms to Promote Health Information Exchange

Emergent Research Forum (ERF)

Saeede Eftekhar
University at Buffalo
saeededef@buffalo.edu

Niam Yaraghi
University of Connecticut
niam.yaraghi@uconn.edu

Ram Gopal
University of Connecticut
ram.gopal@uconn.edu

Ram Ramesh
University at Buffalo
rramesh@buffalo.edu

Abstract

The central motivation for a Health Information Exchange (HIE) system is enabling healthcare providers to share and access patients’ electronic medical information (Vest et al. 2015). While patients and insurance companies receive tangible benefits from using HIE, healthcare providers do not have financial motivation to use the HIE system. The financial concern of healthcare providers has been recognized by health policy makers, and thus a few incentive payment programs have been implemented to address that (Williams et al. 2012). However, these programs are not enough enforceable and after they end, physicians are no longer motivated to continue using the system.

To address this gap, we design an economic framework for the HIE platform to share the financial savings from HIE usage between engaged entities. We consider two scenarios: (A) the HIE system is freely available for healthcare providers and the flow of payments is among three entities: patients, healthcare providers, and insurance companies; (B) the HIE system is not free and the flow of payments is among the HIE organization, healthcare providers and insurance companies.

In scenario A, we recommend that the insurance companies either directly incentivize healthcare providers or indirectly through patients to realize incentive compatible usage by all concerned parties. In both mechanisms in this scenario, patients pay a fee to their healthcare providers for HIE usage. In scenario B, we recommend that healthcare providers are incentivized for using HIE by either insurance companies or the HIE organization. In addition, the HIE organization charges either healthcare providers or insurance companies. Thus, we develop two mechanisms for scenario B as well: (i) direct incentive mechanism in which the HIE organization directly incentivizes healthcare providers to use HIE and insurance companies pay the fee to the HIE organization. (ii) indirect incentive mechanism in which insurance companies incentivize healthcare providers for using HIE and healthcare providers pay the fee for accessing HIE. In each scenario, our objective is to determine a feasible set of values for the variables incentive and fee, under each mechanism, so that the benefits for all three engaged entities increase as a result of HIE usage. Graphical representations corresponding to each mechanism under each scenario have been analyzed. There is always a feasible set for variables incentive and fee so that every entity benefit from HIE usage.

While our proposed framework is designed for the basic HIE system, it could be extended for other HIE models who provide more services. We further suggest that to promote HIE, entities should negotiate on sharing the total benefit from HIE usage. This study has significant implications for HIE business.

References
