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Don't Blame It on RHIO

In his 2004 State of the Union address, President George W. Bush announced a goal of electronic medical records for all Americans by 2014. With the appointment of the well-respected David Brailer, MD, as our first healthcare information technology czar, the country seemed set on a path to EMRs supported by a web of interoperability. The National Health Information Network (NHIN)—backed by a network of connected regional health information organizations (RHIOs)—would free the healthcare system of misplaced medical records, lost test results, and inaccessible reports.

According to a detailed report published in the December issue of *Health Affairs,* the U.S. has not made much progress in its effort to build RHIOs (Adler-Milstein et al., 2007). RHIOs, envisioned as the conduit for the exchange of electronic medical information among providers, are failing to be established with sustainable funding at a pace that supports the rapid deployment of EMRs. This fact does not bode well for anyone expecting EMRs to become ubiquitous and interconnected by 2014 or even 2020.

Adler-Milstein et al. found minimal penetration of RHIOs into communities. Of 145 RHIOs known to exist in July 2006 and sent a survey in early 2007, 138 organizations had launched some kind of electronic data exchange effort. Of those, it was estimated that nearly one in four were likely to be defunct, with just 20 functional on a modest scale. Of the 20, only 15 included a broad set of patients, while 13 were receiving user fees. The researchers estimated that at most 12 of the RHIOS were self-sustaining, while 8 continue to receive grant funding.

Of these 20 RHIOs, just 5 were exchanging data with all participating entities, thereby achieving system wide interoperability. Not all of these had a sustainably funding model that would guarantee their continuation beyond the length of their grant funding.

The impetus to form RHIOs was to establish entities to facilitate the exchange of medical information among providers to ensure the highest level of quality, safety, and efficiency in patient care. RHIOs were to be the backbone of comprehensive and complete EMRs for patients. These robust records would offer providers up-to-date patient information leveraged to deliver appropriate and focused clinical care.

Without comprehensive patient records, clinicians are at risk for making the wrong diagnosis, ordering unnecessary tests, repeating already completed studies, and prescribing inappropriate or unnecessary treatments. The slow growth of RHIOs, and the very small number of functioning organizations that exchange patient clinical information on a wide scale, means that a working NHIN, with enhanced quality of care and cost savings, is unlikely to exist any time soon.

Unsustainable Business Models

The failure of RHIOs to establish themselves in communities has little to do with the technology and the development of standards and more to do with the governance and political realities associated with RHIOs. Most RHIOs were built on unsustainable business models, relying upon closed-end grants that only ensured the survivability of the RHIO for the length of the grants.

Many RHIOs began with the good natured support of government or foundation funding focused on getting the RHIO launched. These projects consisted mostly of demonstration projects rather than the building of ongoing businesses. Once the seed money was exhausted, few RHIOs possessed an ability to maintain momentum and viability. Even the well publicized RHIO in Santa Barbara failed to succeed partly due to its lack of a viable funding model. Neither "federated" nor "centralized" RHIO models are immune from the dangers posed by inadequate funding models.

Moral Hazards

The problems with funding RHIOs reflect many of the fundamental problems in funding high quality, cost effective, patient-centered healthcare in the U.S. Each stakeholder depends greatly upon the actions of the others. This situation creates multiple instances of moral hazard, where good choices by the stakeholder lead to poor overall choices for the entire healthcare system.

For example, providers who invest in information technology, such as medication administration systems, are more likely to have lower rates of medication errors. Although the provider organization invested in the system, the financial benefits—associated with a reduction in the number of adverse drug events—accrue not to the provider organization but to the payor through decreased costs of care.

For RHIOs, the same problem of assigning benefits is an impediment to investment by stakeholders. Clearly most non-financial benefits of functioning RHIOs accrue to the patient in improved care, reduced administrative hassle, and freer provider choice. Most financial benefits accrue to providers and payors through patient care efficiencies and decreased administrative costs.

That said, there are important disincentives for providers, HIT vendors, and payors that lead them away from investment in interoperability and

RHIOs. For example, RHIOs, by untying patient information from the organization of care, makes it easier for patients to seek care at institutions other than the one that stores the bulk of their medical record.

HIT vendors may see interoperability as a way for their current provider clients to switch to their competitor's clinical information systems.

Payors, who stand to benefit the most financially from RHIOs (e.g., reduction in unnecessary repeat testing), see little reason to fund them unless all the payors participate. No payer wants to fund cost savings for its competitors.

RHIOs are not viable without a sustainable funding model. Therefore, it is no surprise that so few RHIOs are operational today. Until we align the funding of RHIOs with the benefits that accrue, no RHIO will be long lasting or worthy of seed investment.

Are RHIOs a Public Good?

Are RHIOs a public good the way roads, mass transit, and public health departments are a public good? Are the potential benefits of RHIOs to society and its individuals so overwhelming that the unfettered free market must be abandoned? Does the failure of free markets to build sustainable RHIOs compel the government to become involved?

This columnist believes the answers to the questions above are a resounding YES.

After 4 years of insignificant progress with RHIOs, the government must work with the private sector to establish a viable market for RHIOs that support long lasting funding models. Now, this does not necessarily mean unlimited government funding of RHIOs, nor the opposite embodied in the exclusion of government agencies.

As in other areas in healthcare, governments at both the Federal and state level must encourage demonstration projects to learn the best and most supportable RHIO models. It is expected that more than one model will be found to be viable, reflecting the uniqueness of particular communities. These best models then must be deployed across the country through the direct participation of local stakeholders including patients, providers, and payers.

In economics, experts speak of externalities, those costs or benefits that arise from an economic activity that affect someone other than the people engaged in the economic activity. Externalities never find their way into the calculation of prices. By recognizing the externalities inherent in the RHIO market—the accruing of costs and benefits to other stakeholders as noted above—public and private entities can and should bond together to establish markets where RHIOs can thrive.

The recognition of RHIOs as a public good, leading to their inevitable expansion, will deliver a robust network of clinical information exchange and lead to safer, higher quality, and more efficient healthcare. PSQH

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FURTHER READING

Chaiken, B. P. (2006). Interoperability: Finding a home for your data. *Patient Safety and Quality Healthcare, 3*(4), 10-11.

Health Record Banking Alliance, http://www.healthbanking.org/.