Regional data exchanges unlock potential of electronic health records

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Included in the American Recovery and Reinvestment Act of 2009 (ARRA) is a major financial commitment to electronic health records (EHR)—$17 billion in incentives for providers and $2 billion for administration and related programs. In addition to the incentive payments, ARRA sets out significant penalties. Providers and hospitals failing to meet the criteria for *meaningful use* of EHR within a certain time will see reductions in their Medicare reimbursement rates. Many details of meaningful use are yet to be determined, but at minimum they are set to include electronic prescribing, collecting clinical quality measures, and exchanging data with other providers for care coordination.

These measures of meaningfulness encompass an important portion of what EHR can do, particularly the area of personal health records (PHRs), which would provide a complete electronic health record for each patient. Effective use of PHRs could have significant positive effects on healthcare: better coordination of care, fewer errors, reduced administrative costs, and, hopefully, better health outcomes. Yet to get the most from EHR data, the definition of *meaningful* should extend beyond PHRs to include a layer of infrastructure and standardization that would enable population-level analysis. Population-level analysis would help everyone involved in healthcare to use and understand the impact of evidence-based measures (EBMs). It would help when comparing quality across providers and thereby increase transparency. PHRs are important, but only with population-level capabilities in place can EHR systems reach their full utility in helping to reduce costs, implement evidence-based medicine, and enhance transparency.

The move toward personal health records has its own challenges separate from implementing EHR systems or creating unified PHRs. But these are challenges that are better faced now. It may seem like a fairly abstract goal when many physician practices are struggling with simply getting basic EHR systems up and running. But there has never been a better time to start thinking about broader uses of EHR. With such a major push to deploy the technology, there is a risk of overlooking a key piece of the overall strategy. Standardization is much easier to achieve at the outset of a technological shift than later when there are many installed systems in place that require retrofitting.

Community-based data-pooling initiatives in Minnesota, Massachusetts, Oregon, Wisconsin, and Washington (commonly known as chartered value exchanges or CVEs) have already shown that, at least using administrative data, it is possible to bring stakeholders to the table, get appropriate infrastructure in place, and begin using community health data to improve quality and transparency. These organizations may serve as models or building blocks for more meaningful use of EHR data nationally.

TECHNICAL AND ORGANIZATIONAL CHALLENGES

Data sharing of the type necessary for population-level EHR analysis presents formidable technical challenges. Many decisions must be made about how data are collected, stored, and shared. Disparate EHR systems provide data in divergent formats that can be challenging to reconcile. And while it is possible to collect data on nearly all clinical events, it can be difficult to accurately report on outcomes and quality processes for every condition. Certain data gathering probably needs to be prioritized with an eye toward implementing evidence-based measures (EBM) and improving transparency.

With all these complexities, designing the data warehouse for such an initiative is not a trivial task. Yet the CVEs which have been formed have addressed these difficulties and have become operational. For example, the Puget Sound Health Alliance (PSHA) created a database containing detailed claims for several million persons in the Puget Sound Area in Washington state. From this data warehouse, performance measures are created using standards created by the National Quality Forum and the National Centers for Quality Assurance and provides reporting to the organization, which then distributes the data to the community.[1] This has increased the level of transparency of quality to the community and has resulted in improvement in these quality measure scores.

It is important to point out that the PSHA and similar organizations are using administrative data. Integrating clinical data into these systems will be a significant step forward. For instance, administrative data can tell us if a particular test was done, but does not tell us the result of that test. That makes it difficult to measure progress and find out how effective particular health interventions are relative to one another. Clinical data will help shed light in these areas—but they will be orders of magnitude more challenging to apply because of the greater volume and complexity of clinical information.

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[1]   "Reformers hope database revamps health care," *Puget Sound Business Journal*, 8/18/06, http://www.pugetsoundhealthalliance.org/news/documents/PSBJ8-18-06.pdf

As clinical data streams become available, the existing CVEs will have important infrastructure and experience to build on. They also have another advantage: They are well-positioned to deal with the human aspects of community data pooling, which can be even more important to success. There are complex privacy regulations to satisfy. Patients may be resistant to sharing their data. Providers may be concerned that they will be unfairly tagged as below-average due to factors beyond their control. Payers competing in the free market may not wish to share data they consider proprietary.

PRIMED FOR CONSENSUS

Getting all these stakeholders to agree is clearly difficult. But as with the more technical challenges of population-level EHR, today's CVEs have proven that it is possible to overcome them. By focusing on building consensus among participants, the Wisconsin Health Information Organization (WHIO) has kept all its original members at the table and added new ones along the way. Another CVE, Minnesota Community Measurement (MNCM), got buy-in from the Minnesota Medical Association (MMA) in the early stages of its initiative. Instead of seeing comparative measurement as a threat, the MMA joined the MNCM board to bring the physicians' voices to the table.

This points to what we believe is a key component of success across many CVEs, which is their regional nature. The CVEs that have been established to date are grassroots organizations with demonstrative impacts on their communities. And these CVEs have started to develop community-wide programs to improve wellness, clinical quality, and disease management (see www.forces4quality.org). Stakeholders have more of an incentive to participate and a greater chance of being heard. Patients can reap the benefits of allowing their data to be shared and analyzed as their local care options become more transparent and as quality metrics become publicly available. Local insurers can see cost reductions from data-driven healthcare without having to build their own health data systems. Everyone with something to gain or lose can participate in the process and see the benefits in the local community.

Organizations such as CVEs offer one more advantage in analyzing health data. At least at the outset, it will not be possible to analyze treatments and outcomes for every condition known to medicine.

We must choose the ones for which EHR can deliver the greatest benefits. Yet the prevalence of medical conditions varies greatly from region to region. In one place, rheumatoid arthritis may be more important than diabetes. Making these decisions on a national level will naturally emphasize conditions that are, on average, most important nationally. CVEs can place additional emphasis on medical matters of concern to the region, collecting more data, performing more detailed analyses, and delivering more relevant results. Finally, the local focus is appropriate because care is delivered locally.

THE ROLE OF CVES IN A HEALTH REFORM CONTEXT

While ARRA does not explicitly mention CVEs, they clearly could, and we believe should, have an important role to play in improving the meaningful use of EHR. The Network for Regional Healthcare Improvement points out several areas in which CVEs could receive and use ARRA funds—to conduct and disseminate clinical effectiveness research, develop data systems, serve as regional health information technology extension centers, and promote prevention and wellness.[2]

Beyond ARRA, we can broaden the conversation around meaningful use to include community data pooling—and organizational models like the existing CVEs warrant a prominent place in that conversation. Such models provide a proven framework for community-driven health IT. They enable consensus-driven decision making, address regional differences in healthcare needs, and function at sizes that make it easier to design standardized data systems—all features that play into the current healthcare reform conversation.

Most importantly, CVEs energize the people affected to take responsibility for getting the most out of EHR systems. Not only can national and community EHR initiatives work together, they may both be necessary to realize the full potential of data-driven healthcare.

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[2]   NRHI Issue Brief 2009-1, 4/8/09.

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