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Health information Exchange -

Making It Work for CHCs

1. What are HIEs?

Simply stated, Health Information Exchange (HIE) is the electronic transfer of health care information across organizations within a community, health care delivery system, or geographic region, with the objectives of improving quality and reducing cost. Initial efforts at HIE began in the 1990s with the development of Community Health Information Networks (CHINs) and Community Health Information Management Systems (CHMISs). CHINS served as information technology-based networks linking healthcare shareholders in a community with the goal of improving care and maintaining health for people in the community[1], while CHIMISs are networks focused on building a data repository for use in assessing the performance of health care providers and insurance plans.[2] Other similar initiatives included Community Health Information Partnerships (CHIPs) and strictly commercial (electronic data interchange (EDI) efforts. All were aimed at providing a community-wide, common base for sharing clinical data and facilitating its use in care improvement and performance assessment.

These early initiatives evolved into larger, regionally-focused system development efforts such as the Santa Barbara County Care Data Exchange (SBCCDE) which covered Santa Barbara County (CA) and included 4 hospitals, 45 pharmacies, 2 payers (Kaiser Permanente, Blue Cross/Blue Shield of CA), 2 large lab companies and several public agencies. This modestly sized Regional Health Information Organization (RHIO) was one of the first of its kind, but unfortunately was shut down in 2007 without ever achieving productive information exchange[3]. Still, other RHIOs grew in size and complexity, with the Bronx RHIO an example of this trend. The Bronx RHIO covered 6 hospitals with a total of over 4100 beds and also included four large, multisite CHCs, three large rehabilitation centers and the Visiting Nurse Services of New York for a total of over 10 million encounters and 20,000 births a year.

The American Recovery and Reinvestment Act of 2009, which included the HITECH Act (Health Information Technology for Economic and Clinical Health) set aside $564 million to be granted to States and 'State Designated Entities' to 'support efforts to achieve widespread and sustainable health information exchange (HIE) within and among states through the meaningful use of certified Electronic Health Records (EHRs). In addition, the ONC is providing $250 million for the Beacon

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[1] Duncan, K. 1996. CHINs in the Context of an Evolving Health System. Proc. AMIA Ann. Fall Symposium,1996.

[2] U.S. Congress, Office of Technology Assessment, Bringing Health Care Online: The Role of Information Technologies, OTA-ITC-624 (Washington, DC: U.S. Government Printing Office, September 1995)

[3] *c.f.* Brailer, D. 2007. From Santa Barbara to Washington: A Person's and a Nation's Journey toward Portable Health Information. Health Affairs. 26(5). W581-588. , or
Frohlich, J. *et al.* 2007. Retrospective:Lessons Learned from the Santa Barbara Project and their Implications for Health Information Exhange. Health Affairs. 26(5). w589-591

Community Cooperative Agreement Program, which has made grants to 17 community-based health information organizations that had pre- existing IT infrastructure to facilitate HIE.

With this amount of funding involved – over $800 million through ARRA alone – it is important to understand what the objective of the HIE efforts are, and attempt to understand their efficacy. Consistent with the development of nationwide standards and the interest in economies of scale, HIE initially appeared to be focused on inter-regional exchange of clinical, demographic and financial healthcare information, with the RHIOs and other organizations providing community and regionally -based exchange, and the ONC and Federal funding supporting cross-regional exchange This begs the question of whether the focus is relevant or appropriate given how healthcare services are delivered and accessed. If the goal is reducing cost and improving access, might there me a more immediate, or necessary, use for HIE?

The Federal view of HIE has not changed much since the HITECH Act was passed in 2009. HIE is still thought to be about following patients for nationwide exchange, focusing primarily on a subset of information that can be exchanged (such as care or discharge summaries, lab results, or public health reporting) and emphasizing the elements of Stage 2 Meaningful Use requirements. For example, the Nationwide Health Information Network (NwHIN) sponsored by ONC is intended to both enable inter-regional exchange of personal health data, and to provide a vehicle for contribution to regional (and nationwide) public health efforts. Accordingly, NwHIN has been focused on large-scale, complex, cross-geography exchange.

However, as financial, operational and technical issues have become better understood, HIEs have begun to evolve. Many are still community and/or regionally based, but others have focused on information exchange in specific medical specialties such as cardiology, psychiatry etc. These exchanges have depended on the collegiality and dependence of providers in the same discipline as a motivation for participation. Still others are based on single-vendor communities, while some have emphasized more local areas and needs, harking back to the early community-based systems. Concurrently, information exchange outside of HIEs has emerged, in the context of electronic referral where patient data is part of the referral package or in planning for care transitions.

2. What is the current state of HIEs?

Several recent reports provide different perspectives and insight on the state of HIEs today. The Brookings study on health information exchanges (February 2012) [4] found that HIEs have made substantial progress in technology-based connections, organizational frameworks and engaging stakeholders. They also found significant challenges, noting that: “However, barriers remain in terms of governance, financing, and policy vision. Many states and localities have experienced difficulties in producing consensus on strategies and approaches, and identifying consistent revenue streams. Some question whether the state level is the proper unit for HIEs given natural marketplaces centering on localities or regions. Until those problems are overcome, it will be impossible for HIEs to achieve their full potential.”

[4] D.M. West & A. Friedman. 2012. Health Information Exchange and Megachange. Brookings Governance Studies. 8 February 2012.

The National eHealth Collaborative study (April 2012) [5], also documented substantial progress, but stated that "…given the rapid market and policy changes and technology innovations occurring right now, there is confusion among healthcare stakeholders about how best to proceed with implementing HIE" . This study found that the biggest challenges and barriers to implementing HIE were related to vendor-based variations in the implementation of interoperability standards, use of disparate and non-interoperable systems, provider adoption, privacy and security concerns, and most commonly, funding and sustainability issues.

Finally, a study published in the Journal of the American Medical Informatics Association (JAMIA) (March 2012) found that ONC's support for NwHIN DIRECT, the provider-to-provider secure messaging exchange solution, was "undercutting the limited business model for RHIOs and HIEs, decreasing the likelihood of their success".[6]

These studies highlight that while there are some technology constraints, these are primarily short term, and that provider adoption, high-level healthcare policy, funding and sustainability are the key HIE issues today. Further, these persistent challenges suggest that it may be time to dive more deeply into the "whys" and "hows" of HIE.

The Problem and the Health Center Experience

It may be that HIE as envisioned at the federal level is a solution looking for a problem to solve. Given how health care services are delivered, and how people actually access care and services, is large-scale, complex, cross-geography exchange necessary? Do we need a broad scale national solution? Or can HIE be re-framed to better support and meet information needs? The issues faced by community health centers in obtaining comprehensive information for their patients, who may get emergency or specialty care at other provider locations, or change providers seasonally, may provide some insight into a clearer and more relevant focus.

One such example is the NYCLIX (the New York Clinical Information Exchange), which includes The Institute for Family Health, a multi-site FQHC that sees more than 80,000 patients annually. A good number of the Institutes' patients (perhaps the majority of them) are likely to get emergency and acute care at one or more of the NYCLIX – affiliated hospitals, which include Beth Israel Medical Center, Mt. Sinai Medical Center, NY-Presbyterian Hospital, and St. Luke's-Roosevelt Hospital., An HIE across just a few city blocks or the East Side corridor would greatly improve care in these instances.

A rural example is found at La Clinica del Cariño, a member of the Gorge Health Connect (The Dalles, OR), where many migrant agricultural workers are cared for during the summer picking season. These same patients follow the crops, and in the winter may get their care in California, at one of 16 health center sites affiliated with the Council of Community Clinics in San Diego, Riverside and Imperial counties. This example suggests an opportunity for the use of an HIE to

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[5] Health Information Exchange Roadmap – The Landscape and a Path Forward. National eHealth Collaborative. Washington, D.C. April, 2012

[6] Lenert, L. et al. 2012. Shifts in the Architecture of the Nationwide Health Information Network. JAMIA, doi:10.1136/amiajnl-2011-000442 (p. 1, Abstract)

address the needs of a specific, underserved population.

3. Changing the HIE Paradigm

I suggested earlier that several of the issues facing HIEs are characteristic of a problem looking for a solution. These are 1) provider adoption – providers would be happy to adopt exchange if it was doing something useful for them, 2) funding – Federal funding has mostly ended and other sources of funding are uncertain, which leads to 3) commercial sustainability – how do HIEs become self-sufficient financially? If large-scale, inter-regional clinical information exchange at the point of care does not provide for a sustainable business model, what might? Perhaps a focus on practical care transitions, as in the local, urban CHC to ED example, or exchange of transition information for specific populations with known regional care patterns, as in the migrant agricultural workers example. Either or both of these types of examples could provide a more robust and sustainable business model, and effectively improve care while reducing costs..

5. What this means for HIEs and What They Can Do

The above examples are just two of many situations where CHCs would benefit from exchange of specific information for well-known purposes. CHCs are perhaps the organizations with the most visible and practical needs for healthcare information exchange So how can CHCs assess their need for HIE and to begin to implement a plan for achieving productive exchange?

First, CHCs need to know if exchange is feasible, by evaluating the technical feasibility of exchange to determine if the mechanism and architecture for exchange are readily available and deployable by the health center (or an affiliated network).

Next, the center should evaluate clinical, operational and socio political issues:

1. Clinical – Would HIE deployment result in an improvement in care and/or clinical results for the health center's patients?
2. Operational – Would HIE t result in improvements in the cost of care, resource utilization, planning efficiency etc. for the health center?:
3. Sociopolitical – Is exchange aligned with the current and future social and organization environment of the health center?

If the answer to these questions is yes, and the technical capacity is available, then practical health information exchange would be an asset to the health center. So how do you start?

First, assess the high-level need for establishing exchange. If your patients routinely receive care from other providers, there could be a strong rationale for establishing some form of exchange. Begin by assessing care provided to the centers' patients by other local healthcare organizations: hospital EDs, other health centers, rehabilitation and/or nursing facilities. Look at how often, this occurs, and for what purposes. Recurrence is important, both to establish patterns that can be used to determine which organizations you will need to exchange data with, and because it could contribute favorably to sustainability. as it contributes to sustainability. Consider also recurrent use of non-local providers to determine if it is meaningful.

Developing the capability to qualify for Stage 1 or Stage 2 Meaningful Use Meaningful Use incentives could present another high-level need. Stage 2, in particular, requires electronic

submission of patient care summaries to support a) patient access to care data, b) care transitions across unaffiliated providers, settings and EHRs. Achieving recognition as a Patient-centered Medical Home (PCMH) requires information across providers for to enable continuity of care, referral tracking and electronic care management. HIE could help meet the criteria for these programs.

Once the need has been determined and defined, determine if there are means for interconnection with those organizations. Understanding the care patterns that you are trying to track and facilitate, and knowing which other healthcare facilities need to be part of the picture, will allow you to decide on what mechanisms will work best. The mechanisms might include NwHIN DIRECT for provider-to-provider secure messaging without any organizational (or large-scale architectural) commitments, NwHIN CONNECT if participating HIEs are involved, HIE or other integration vendor software, local or community based exchanges, or any of the myriad new ways of connecting. A one-size-fits-all solution may not be feasible given actual requirements.

Then you will have to develop a deployment plan that includes technical and cross-organizational collaboration in order to set up the connections. The technical plan should include vendor specifics, such as the steps required to actually set up and test the connections. The cross-organizational plan should include the division of work between the separate healthcare facilities in order to get the connection working.

Finally, you'll need to develop an operational plan. This plan should include agreements on how to deal with vendors, how the connections will be kept up-to-date and working, what the usage patterns should be, what the sustainability arrangements will be (charges, contributions, etc.), and agreements on collaboration and conflict resolution among partners.

With exchanges established based on actual patterns of care, there will be minimal adoption or sustainability issues,. At this point, whether or not you are formally participating in an HIE or a RHIO, you should be set up for exchange that will improve your health center clinically and operationally. HIE is changing, and this model of participation in HIE will provide real advantages to health centers.

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