Making a Connection:
Clinics Collaborate on EHR Deployment

California HealthCare Foundation

ISSUE BRIEF

ELECTRONIC HEALTH RECORD (EHR) technology is a vital tool in supporting healthy communities, and has significant potential to enhance care for the safety-net populations served by California's community clinics and health centers (CCHCs). However, only an estimated 4 percent of these clinics have successfully adopted EHRs. Barriers include the high cost of purchasing, installing, maintaining, and staffing the systems, as well as EHR vendors' inability to address the unique needs of community clinics and provide the level of initial and ongoing training and support required for successful adoption.

To overcome these barriers and achieve economies of scale, collaborative arrangements around EHR adoption have been formed in various parts of the state. Such collaboration has proven successful for clinics with regard to other technology tools such as practice management systems, general ledger/accounts payable software, and registry and chronic disease management systems (CDMS).

The California Networks for Electronic Health Record Adoption (CNEA) program was initiated in 2006 to promote network solutions and speed the adoption of EHRs in the clinics.[1] The CNEA strategy is to develop centralized EHR support hubs to provide technology, technical support and training, vendor management, and other services that community clinics require for EHR adoption, but typically cannot afford on their own. These hubs—called NEAs—would support widespread adoption of EHRs and test models that could reduce the total cost of ownership through group purchasing and shared applications and services.

The project funders were aware that a large percentage of EHR adoptions fail due to clinics' lack of readiness and services, and that the issues of governance, leadership, collaboration, and business planning—not the technical challenges—present the highest barriers.

The concept of NEAs remains a viable and important one as demonstrated by the Health Resources Service Agency's (HRSA) support of the strategy of building collaborative EHR network models through $31.4 million in HIT investments in CCHCs and Health Center Controlled Networks (HCCNs).[2] The CNEA initiative seeks to build on these investments to support California clinics to partner with NEAs.

Four Models of EHR Deployment

In August, 2008, eight grantees representing four models of EHR deployment were funded to advance the adoption of EHRs in the safety net and to share their experiences. The project defined an EHR network as a health information technology collaboration focused on CCHCs, safety-net providers, and other not-for-profit health care providers. Through this collaboration, an array of services is provided to support the adoption of EHR and other applications. The four models and eight grantees include the following:

1. **The national network model** calls for building or leveraging existing EHR networks, often national in scope, to provide for individual or groups of clinics in California. Two of the eight grantees used this approach.

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- **Open Door Community Health Centers (ODCHC) in partnership with Our Community Health Information Network (OCHIN).** ODCHC provides health care and education to residents of Humboldt and Del Norte counties and surrounding rural areas through eight clinical sites and a robust telemedicine program. OCHIN acts as a technical services organization (TSO)[3] and a buying collaborative to offer EpicCare to its members. Because of its transaction-based pricing structure, EpicCare would otherwise be cost-prohibitive to small practices and community clinics.
- **Next Generation Health Network (NGHN)** was launched through the first phase of the CNEA planning grant in 2006 to provide secure and customized clinical technologies and quality improvement services to Planned Parenthood affiliates. Using NextGen Enterprise Practice Management and Electronic Health Records software, NGHN has developed the Frameworks product, an integrated technology solution that uses standardized processes, configurations, data collections tools, and related workflows to achieve continuous quality improvements.

2. **The clinic consortia model** calls for working with California clinic consortia to expand their existing EHR product and implementation services to at least three of their members. Two grantees used this model.
   - **Redwood Community Health Coalition (RCHC)** is an HRSA-designated Health Center Controlled Network (HCCN) with 14 associated members offering eClinicalWorks practice management and EHR to its members and other health centers through a technical services organization. By combining TSO services with quality improvement coaching, RCHC hopes to extend their support beyond the clinic site and achieve their goal of community outreach and action.
   - **California Rural Indian Health Board (CRIHB)** provides a focal point within California's Indian health field for a number of activities: planning, advocacy, funding, training, technical assistance, coordination, fund-raising, education, and development. It also promotes unity in the formulation of common policy on Indian health care issues. CRIHB offers its members licenses of NextGen practice management and EHR software, as well as technical assistance for implementation, training, hosting services, and reporting.
3. **The multi-site expansion model** supports multi-site clinics in expanding adoption of their existing EHR product and implementation services to at least three additional clinic sites. Two grantees used this model.
   - **Golden Valley Health Centers (GVHC)** is a private, nonprofit organization serving families in Merced and Stanislaus counties through a network of 25 medical and eight dental sites. Included are two freestanding women's health centers, three school-based centers, and a homeless health care program. As long-standing users of the HealthPort practice management system, GVHC has elected to implement EHR features incrementally according to the capabilities and constraints of each site.
   - **Shasta Community Health Center (SCHC)** is a nonprofit primary health care system that serves Shasta and surrounding counties and communities through five clinical sites. The health center supports the teaching and training of health professionals who have a strong interest in caring for the disadvantaged. SCHC has deployed the NextGen enterprise practice management system and EHR to all of its clinical sites and is working to connect electronically to community care partners for better coordination of care.
4. **The hospital-based regional extension model** calls for a partnership between a local hospital and clinics to

extend an existing EHR product and implementation services in a region or service area. Two grantees use this approach.

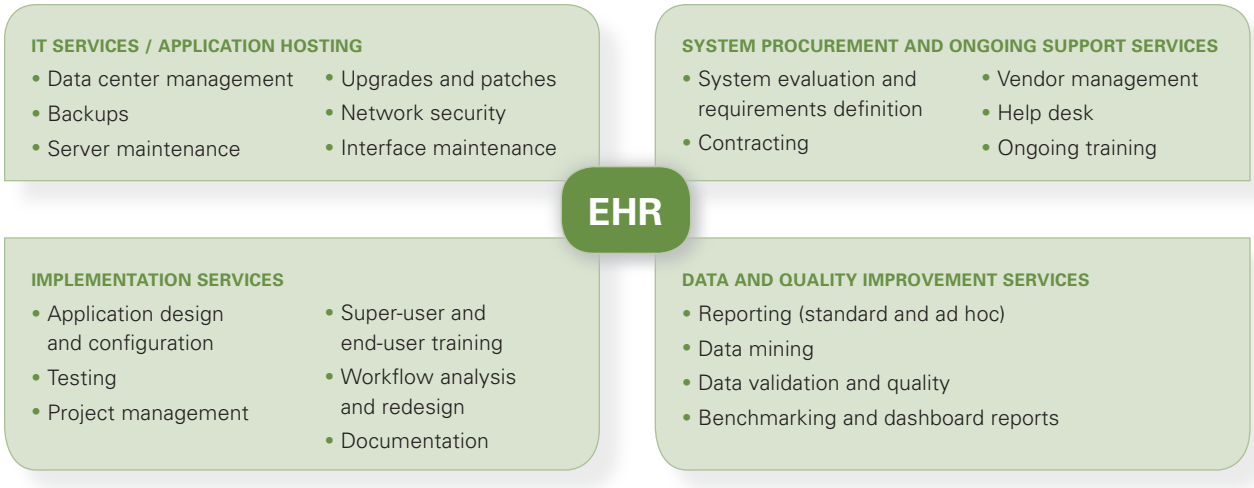
- **San Mateo Medical Center (SMMC)** includes 17 outpatient primary and specialty clinics, an inpatient medical and psychiatric hospital, Level 2 emergency department and psychiatric emergency service, and a long term care facility. SMMC deployed eClinicalWorks to provide ambulatory scheduling, electronic documentation, ePrescribing, and a patient portal. It plans to interface with radiology, lab, the hospital's HIS (Invision), and the Bay Area Regional Registry for immunizations.
- **The Children's Clinic, Serving Children and Their Families (TCC),** in partnership with Memorial Hospital of Long Beach (MemorialCare), implemented EpicCare in six clinical sites. MemorialCare's size and buying power enabled TCC to affordably implement the system. A single database between the two entities promotes continuity of care, and the medical center's IT staff helps to support the clinics.

Network Services

The grantees have found that the strategic framework under which the application is deployed is just as important as choosing the right EHR product. Overall, the benefits associated with collaborative deployment were found to be significant; they include the opportunity to leverage the experience of similar organizations, mitigate the risk of dependence on vendors, achieve economies of scale, and fill gaps in organizational capabilities. There are trade-offs to each approach, as well as considerations to weigh in individual circumstances. To better understand and evaluate the services that network models offer, the CNEA initiative provided some factors to consider when determining a clinic's EHR deployment strategy. In their February 2009 white paper "For the Record: EHR Adoption in the Safety Net," Manatt Health Solutions underscored the importance of the service aspect of network models: "Networks typically offer economies of scale by leveraging their technical infrastructure and functional expertise across multiple organizations. One of the most valuable attributes of networks is the targeted services they can offer to clinics, thanks to a deep understanding of clinics' needs."[4]

Figure 1 summarizes four categories of services that many networks offer to some degree.

Figure 1. Network Services



Source: Full Circle Projects, Inc.

The following tables summarize each of these broad-based service areas, followed by pertinent findings from the eight grantees that illustrate some of the benefits and trade-offs.

Table 1. IT Services / Application Hosting

Service Description

Many networks offer to host the application and provide a full spectrum of technical support related to the EHR, including server maintenance, backups, failover capability, upgrades and patches, network security, and interface support. In some cases, EHR vendors also offer hosting services. Interfaces to/from external systems are a critical component of effective use of the EHR, and this function is often supported by the hosting facility.

Benefit / Value Proposition

- Reduces initial capital outlay for servers and other network monitoring devices.
- Reduces the workload on individual health center IT staff. Enables IT staff to focus on end-user and network support; server maintenance and support skills are not required.
- Eliminates the space requirements for a server room.

Considerations / Trade-offs

- It is necessary to evaluate and manage the relationship with the host so that service level agreements are kept and backups performed on schedule.
- Reliable broadband connections are required to assure system uptime.
- Individual health centers are still responsible for installation and maintenance of equipment within their organization and for client-side interface monitoring.

- The Redwood Community Health Coalition implements and hosts the application for nine members and provides IT network support to three members. EHR implementation has exposed clinic weaknesses and shown that IT support is a need. According to Mary Szecsey, executive director of West County Health Centers, "Technical support from RCHC is very important. It's more than economies of scale, its economies of skill. There's no way we could have done this on our own."

- At San Mateo Medical Center, technical support is provided through the San Mateo County Information Services Department. Because of scarce resources, agreements needed to be made about the priority of their ambulatory EHR project. Initially, the implementation schedule had to fit into existing IT plans, and delays were not easily accommodated. Eventually, other projects were delayed to provide dedicated support required by the EHR project.

- Our Community Health Information Network offers the Epic EHR on an application service provider (ASP) basis, which was a key benefit for the Open Door Community Health Center. "Getting the connection up and running was simple," said Joe Lewis, IT manager at ODCHC. "It's been a real money saver from the technical perspective."

Table 2. System Procurement and Ongoing Support Services

Service Description

Networks typically offer a product or products that have been thoroughly vetted to meet the needs and characteristics of their members. Lawyers and consultants often assist with assuring that volume discounting and customizations have been accounted for in contract terms. Vendor management and ongoing negotiations for upgrades, fixes, and support for network members can be centrally managed by network staff. Networks often sponsor user groups that bring members together for continual learning.

Benefit / Value Proposition

- Eliminates or significantly reduces the cost of vetting and contracting EHR vendors.
- Offers "bulk purchase" pricing and reduces maintenance costs if the network takes on help desk services.
- Leverages customizations of standard products to meet the specific business model of network members, such as FQHCs, family planning agencies, and school-based health centers.
- Enables spreading of lessons learned about ongoing optimization of the system to all members by network support staff.

Considerations / Trade-offs

- Initial contracting and vetting may take significantly longer than an individual procurement and contracting process.
- Contracts may not fully account for different business models (school-based health centers, non-FQHCs, rural health centers, residency programs, etc.) if the network has diverse membership.
- If the application is being offered by a hospital partner, health centers may be required to purchase additional ambulatory modules.
- If not executed efficiently, the network can be an extra layer between the network member and the vendor for issue resolution.

- The three founding affiliates of the Next Generation Health Network (NGHN) hired a lawyer who spent

considerable time and effort negotiating the NextGen contract. "There is no question that the deal we collaboratively derived was significantly better than what we could have gotten separately," said John Giambruno, CFO of Planned Parenthood Mar Monte. There is significant value to the affiliates in having a fully vetted, risk-mitigated contract in place when they join NGHN.

- Golden Valley Health Centers, a multi-site clinic organization, chose HealthPort (their practice management vendor) because it offered an affordable, low-risk way to move forward with EHR. Licenses are purchased as needed on a "pay as you go" basis and EHR Express (ePrescribing and lab ordering) licenses are also available. Said Christine Noguera, deputy CEO, "Let's learn our lessons on the EHR we can afford." This approach also saves on maintenance fees, which are initiated for each individual at the time he or she goes live with the EHR. GVHC hopes to augment IT staff by building a stronger network of "super users"—local experts who can train others onsite. An EHR committee meets monthly to ratify new policies and make other significant decisions.
- Redwood Community Health Coalition led its members through a lengthy and thorough system selection process that helped to achieve consensus and buy-in to the selection of eClinicalWorks. The size of the coalition gets the vendor's attention. There is a dedicated staff member at RCHC whose job it is to coordinate issue resolution with the vendor. There was some initial confusion about accountability and responsibility for various tasks between RCHC, eCW, and clinics, but it is becoming clearer to all. "Now we do 90 percent of the eCW support—both technical and functional," said Adrian Williams, IT director at RCHC. "Because we know the organizations and the way they are using the system, we can do a better job on the level one and level two issues." Member clinics benefit from lower overall support costs with RCHC's arrangement.
- Leaders of The Children's Clinic, Serving Children and Their Families (TCC) advocated for MemorialCare to choose EpicCare and served as an active part of the health system's selection process. TCC partnered with MemorialCare in part because their combined patient volume allowed them to acquire the ambulatory module. Costs were shared with the hospital. MemorialCare assigned staff members to work with the clinics to optimize the use of the system and reduce dependence on consultants by building in-house expertise; however, application support continues to be provided by external consultants.

Table 3. Implementation Services

Service Description

Most EHRs are highly configurable to meet a wide variety of business models and user preferences. Networks can offer a pre-defined and configured application and/or facilitate the process for members to develop a "collaborative build." Working in conjunction with the EHR vendor, network staff can provide a customized step-by-step implementation plan, project management guidance, workflow redesign assistance, and supplement end-user training.

Benefit / Value Proposition

- Provides technology project management experience, a key skill set often missing or unavailable in health centers.
- Eliminates the need to start from scratch when building tables and templates to configure the system; shortens the implementation timeline and reduces complexity.
- Provides skilled trainers familiar with health center needs and requirements; reduces dependence on vendor staff and their scheduling constraints.
- Documentation and training templates can be made available by the network to be customized by member health centers to fit their processes and workflow.
- Often provides a deeper level of project management beyond that of a vendor.

Considerations / Trade-offs

- Decisionmaking by consensus can take longer; changes or customizations generally cannot be made on the fly.
- Standardizing the way the application is configured limits the ability to customize for individual usability needs.
- If the network and application spans several states, accommodating the needs of California health centers can be less robust than desired.
- Clinics still need to invest significant human resources to insure that all implementation processes are coordinated and effective. This includes designating a project leader, a physician champion, and a multi-disciplinary implementation team with protected time to attend to these needs.

- Next Generation Health Network has developed the Frameworks product, a step-by-step guide to PM and EHR implementation and a standard configuration to meet the needs of Planned Parenthood affiliates. This is a compelling value proposition because many of the set-up decisions have already been made, reducing the time to implementation. There is a well-established process and forum for working through template-building and handling the need for data fields that may be required in one state but not others. This process, in which more than 50 clinicians participated, took over a year and a half of regularly scheduled conference calls. Noted Bobby Lee, CEO of NGHN, "There's an investment to be made for meaningful collaboration."

- Golden Valley Health Centers has pursued an innovative "organic" rollout. The less structured and incremental approach lets them pilot ePrescribing at one site and test the lab interface at another, for example. "It's a kind of 'spread the pain' approach," said CIO Ray Parris. As their comfort level grew, a full-function pilot was set up. Christine Noguera, deputy CEO, pointed out: "We're taking small, high-probability-of-success risks. With success comes buy in."

- Our Community Health Information Network brings clinics together to achieve the critical mass required for use of the Epic system. Even with a strong core business model and good cultural fit, OCHIN is challenged to meet the diverse needs of rural, urban, and public health clinics with one instance of the database and trained staff. "Meeting all clinic requirements—across different states and counties—using the same database and the same system build as every other OCHIN member has been a considerable challenge," said Cheyenne Spetzler, COO of Open Door Community Health Centers.

Table 4. Data and Quality Improvement Services

Service Description

Technically advanced third-party reporting tools are generally needed for mining the rich clinical data collected through EHR use; this skill set is offered by many networks. Operational reports and dashboards to monitor effective and accurate use of the system can also be provided by network staff. Data quality audits, data validation techniques, and quality improvement coaching are services offered by deeply integrated networks.

Benefit / Value Proposition

- Reduces the cost of extracting data from the system, both in terms of the cost of licenses for the reporting tool as well as for training and skill development of the report writing staff.
- Provides the ability to benchmark across a wider array of similar health centers and providers.

Considerations / Trade-offs

- Each EHR deployment must be highly standardized to take advantage of these services; certain customizations diminish the usefulness of reports based on the collaborative build.
- While these benefits are often the most compelling, benefits from data mining, benchmarking, and QI programs typically take the longest to realize.
- Collaboration needs to exist at a relatively deep organizational level to achieve these economies of scale and benefits from centralized reporting.

- For Redwood Community Health Coalition, collaborative programs such as the Quality Culture Series, i2iTracks collaboration, and Clinical Systems Learning Community all contributed to cultural cohesion. There was an understanding of the need for standardization, patient panels, metrics definition, and dashboards for cross-network benchmarking and reporting.

- The California Rural Indian Health Board provides extensive support for reporting and data mining. A Web-based resource has been set up so that providers can look up their diabetic patients and monitor their key measures. Data goes in on a daily basis. Dave Adams, billing manager at the Jackson Health Center, commented on working with the tribal health centers on agreeing to collect the data in the same specific places. "Simply put, if you see a diabetic patient you need to use the diabetic flow sheet," he said.

- At Shasta Community Health Center, each morning the director of informatics runs ten to 15 scripts that

look for data outliers, and sends the report to the staff members who make the errors. Reports also give information to the trainers and pinpoint training needs. Reporting in general is highly technical. NextGen uses Crystal Reports and the customized CCHC templates exacerbate the complexity. Four staff members have been trained to extract data from the application beyond the reports that are offered within the application.

Conclusion

The growing presence of EHR networks in the safety net—particularly Health Center Controlled Networks—provides an opportunity for clinics to leverage a viable EHR deployment option that is aligned with their requirements and priorities. To be successful, however, clinics must thoroughly evaluate the specific benefits and trade-offs of these network offerings, as well as the level of the network's maturity. By understanding the depth and breadth of services offered, they can better manage expectations and fill gaps in skills and resources. It will be a challenge for the networks to grow sustainably even as their implementation tools and techniques mature. Clinics may rush into joining a network feeling that evaluation is not necessary because they are HCCNs or because the software licenses are offered at a lower cost. One of the lessons learned from the CNEA initiative is that no matter how attractive a partner seems culturally, this will not mitigate negative operational realities. As with direct-to-vendor relationships, carefully matching organizational capabilities and requirements to the offering of the service provider will lay the best foundation for the deployment of EHR systems.

Endnotes

1. The Blue Shield of California Foundation (BSCF), the California HealthCare Foundation (CHCF), and the Community Clinics Initiative (CCI), a joint project of the Tides Foundation and The California Endowment, are funding this project.
2. Health Center Controlled Networks (HCCN) are networks of safety-net providers who ensure access to health care for the medically underserved populations through the enhancement of health center operations, including health information technology from the HRSA Web site.
3. A technical services organization (TSO) is a centralized organization set up to improve operational efficiencies, capitalize on economies of scale with specialized staff, and assist in things related to technical, operational, implementation, and clinical support services that would not otherwise be feasible for individual health clinics.
4. "For the Record: EHR Adoption in the Safety Net," Manatt Health Solutions, for the California HealthCare Foundation, www.chcf.org/topics/view.cfm?itemID=133862

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