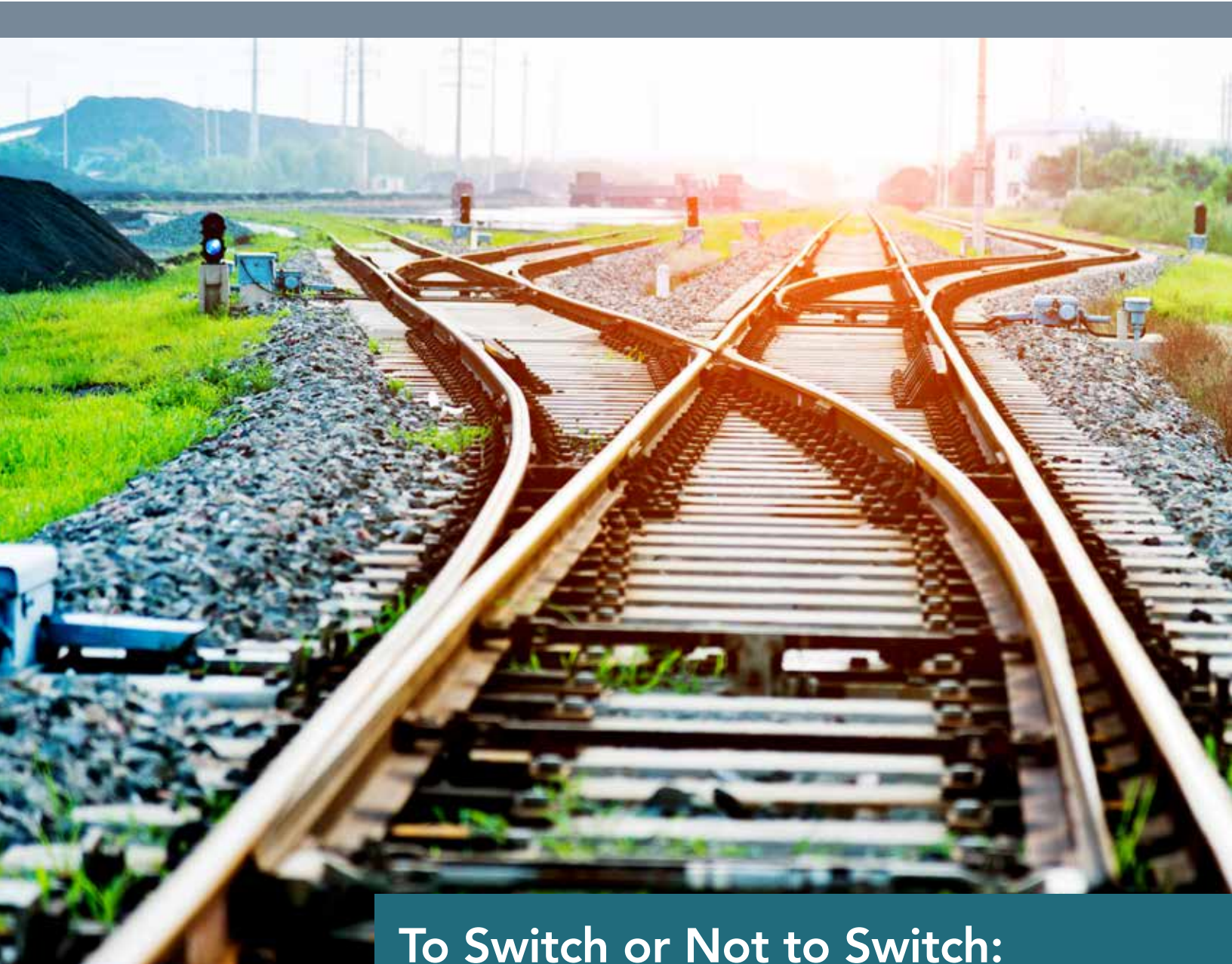




California Health Care Foundation



To Switch or Not to Switch: A Guide for Community Clinics Considering Changing EHRs

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About the Author

Walter Sujansky, MD, PhD is the principal consultant at Sujansky & Associates, a California-based consulting firm that specializes in the analysis and design of EHRs, disease registries, and solutions for health information exchange.

About the Foundation

The California Health Care Foundation is dedicated to advancing meaningful, measurable improvements in the way the health care delivery system provides care to the people of California, particularly those with low incomes and those whose needs are not well served by the status quo. We work to ensure that people have access to the care they need, when they need it, at a price they can afford.

CHCF informs policymakers and industry leaders, invests in ideas and innovations, and connects with changemakers to create a more responsive, patient-centered health care system.

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Introduction

Community health centers (CHCs)* are a critical part of California's health care delivery system for the medically underserved. Statewide, 175 CHC organizations operate 1,400 clinic sites that provide primary medical, dental, vision, and behavioral health care to over a tenth of California's 40 million residents each year.¹ About 85% of these patients are Medicaid beneficiaries or are uninsured.

Electronic health record systems (EHRs) are important tools used by CHCs to provide care, receive payment, and manage their patient populations. About 90% of CHCs in the state use EHRs.² Beyond the basic tasks of medical recordkeeping, EHRs provide other key functions for CHCs, including the facilitation of:

- ▶ Complex billing and reporting functions.
- ▶ Care coordination, including data exchange with hospitals and specialists.
- ▶ Population health management, including functionality for clinical data aggregation, analysis, dashboard display, and real-time alerting.
- ▶ Quality improvement and utilization management, particularly for CHCs engaged in alternative payment models and risk-bearing capitation.

Shifts in the health care landscape are changing clinical and operational requirements for many clinics. At the same time, there is growing recognition of the complexity and cost of managing an EHR that fulfills these requirements. Further, as CHCs adopt value-based payment models with payers, improved EHR and data management for population health management and care coordination has the potential to increase revenues, reduce costs, and improve CHCs' overall financial standing.³

In this environment, CHCs may reassess their needs and goals to decide whether a different product and/or a different model for EHR management might better serve them. The specific impetus for considering an EHR

change varies, but generally includes one or more of the following factors and goals:

- ▶ Improve interoperability with hospitals and specialists that use a different EHR.
- ▶ Reduce complexity and cost by outsourcing day-to-day EHR management to a third party.
- ▶ Be responsive to clinic providers who have a strong preference for a different EHR product.
- ▶ Share a common EHR with the members of a CHC consortium, particularly one that does payer contracting on behalf of its member clinics.

In addition, some CHCs are required to make a switch as the result of a merger or because they share another organization's EHR and that organization is switching products.

About This Guide

The purpose of this guide is to help CHC leaders weigh the costs and benefits of remaining with their current EHR system (possibly with enhanced functionality) or switching to a different one. It is intended to be useful to all those participating in decisions about EHR systems, not just to technical experts. The guide offers a step-wise approach to asking important questions, making decisions, and moving forward. The appendices describe the types of products and services that are available to CHCs and that are mentioned throughout the guide.

The information here is based on the following input:

- ▶ Interviews with 16 CHCs selected for their diversity in perspectives related to switching EHRs.
- ▶ Detailed product information from five EHR vendors about the features and the licensing and hosting options for CHCs.
- ▶ A scan of the available literature with a focus on provider organizations' experiences with switching EHRs.

*CHCs include Federally Qualified Health Centers (FQHCs), FQHC Look-Alikes, and other health center program grantees.

Since the needs of every organization are different, the guide neither encourages nor discourages a particular solution. Likewise, although some EHR products are more commonly used than others, the guide does not recommend any specific vendors or resources.

Although switching EHRs is not uncommon among outpatient providers,⁴ few of the interviewed CHCs had yet undertaken or completed such a change and experienced its full benefits and costs. This study is, therefore, more prospective than empirical, but it does reflect the aspirations and expectations of a large group of CHCs that have considerable experience in using EHRs to support their core missions.

Step-Wise Approach to EHR Decisionmaking

1. Deciding whether to switch EHRs

- Understand your goals and motivations
- Consider the available options
- Consider the costs

2. Selecting a new EHR product or outsourcing provider

- Explore EHR product options
- Explore EHR outsourcing providers
- Perform due diligence and negotiate a contract

3. Planning and executing the EHR transition

- Plan
- Train
- Monitor
- Get help

STEP 1

Deciding Whether to Change EHRs

Understand Your Goals and Motivations

Exploring your clinic's rationale for reassessing its EHR system is the first step in deciding whether to make changes and can help to clarify what to look for in a new EHR.

Questions to Ask

- What are the specific problems with or limitations of your current EHR?
- What are the specific benefits you seek to achieve by changing or switching EHRs?
- How important to your organization's mission or financial position is it to achieve those benefits or to solve those problems relative to other priorities?

The most commonly cited reasons for switching EHRs include improved interoperability, simplified EHR operations, more satisfied and productive clinicians, and more opportunity to share the services and expertise of a CHC consortium.

GOAL

Improved Interoperability

Many CHCs are motivated to reassess their EHR system to improve data exchange with local hospitals and referral centers. Interoperability is key to providing better population health management and care-coordination for Medi-Cal managed care patients to improve the timeliness, quality, and cost-effectiveness of care. Switching EHRs may be the best solution to enabling interoperability, but it is worthwhile to investigate alternative solutions. These include built-in interoperability capabilities of your existing EHR, including integration with the Carequality and CommonWell networks and the availability of Direct Secure Messaging as well as regional health information exchange organizations (HIOs) (see Appendix C for descriptions).

In general, CHCs should contact their local hospitals, specialist networks, and others with whom they wish to exchange data to understand the IT platforms and data exchange systems that exist in their local market.

Questions to Ask

What types of electronic information exchange do you need?

- ▶ Requesting and retrieving complete patient records? If so, Carequality and CommonWell may both meet these needs.
- ▶ Requesting and retrieving encounter-specific records and summaries of patients' diagnoses, medications, allergies, etc.? If so, Care Everywhere and the services of certain HIOs may be required to meet these needs.
- ▶ Sending referral requests? Receiving consult notes? Getting alerts for emergency department (ED) visits or hospital admissions? If so, you may require the services of a HIO or a commercial vendor specializing in these services, like Collective Medical Technologies. Carequality and CommonWell currently do not provide these capabilities, and Care Everywhere requires additional customization to provide referral requests, consult notes, and alerting.

What EHR systems are used by the provider organizations with which you exchange patient data most frequently, and what data-exchange features do those EHR systems provide?

- ▶ If other provider organizations use the same EHR system as your clinic, you may want to explore the proprietary data-sharing features of that EHR (e.g., eClinicalWorks P2P, Epic Care Everywhere, or NextGen Share).
- ▶ If other provider organizations use a different EHR system than your own, what data-exchange capabilities do those EHRs support? Specifically, do they support cross-EHR exchange mechanisms, such as Carequality or Direct Secure Messaging? If so, does the current version of your own EHR also support those mechanisms, or would you need to upgrade your version to get them? If your current EHR already has those features, you may be able to exchange data with other organizations without switching EHRs or upgrading.

- ▶ If your EHR has the same data-exchange features as the EHRs used by other health care organizations in your region, will you need to coordinate further with those organizations to take advantage of those features (for example, exchanging Direct Secure Messaging addresses and mutually agreeing to send consult notes via secure messaging rather than by fax)?

Is there a HIO in your region that could help you exchange data with other provider organizations regardless of the EHRs that you each use? If so, what types of data exchange does that HIO enable, what are the costs and processes for joining the HIO, and what is the experience of peers who participate in that HIO?

The California Department of Health Care Services is launching the **California Health Information Exchange Onboarding Program (Cal-HOP)** in 2019 to provide incentive funding for any Medicaid provider interested in connecting to an HIO. For more information, see www.dhcs.ca.gov.

GOAL

Simplified EHR Operations

A CHC can simplify the operation of its EHR by switching to a product that is hosted and managed off-site by a third party. The third party could be the EHR vendor, an independent information technology (IT) consulting and support firm, or another type of hosting organization (including a local hospital). See Appendix C. Outsourced hosting and management may not necessitate an EHR switch. Depending on its capabilities, an outsourcing entity can take on tasks and responsibilities that are currently handled by the CHC's own IT department, including but not limited to:

- ▶ Hosting and managing the computer hardware on which the EHR runs
- ▶ Backing up patient data
- ▶ Upgrading the EHR software as new versions are released
- ▶ Programming software customizations for the EHR
- ▶ Configuring data-entry templates, customized reports, and other informatics content

- Configuring network settings and data interfaces to labs and other providers
- Ensuring system security
- Providing user support

CHCs sometimes struggle to find and retain qualified personnel to perform these tasks, and many do not consider health IT among their core competencies. Engaging a third-party firm may be right for some but not for others. The benefits and costs of outsourcing are listed in Table 1.

Table 1. Advantages/Disadvantages of Outsourced Hosting and Support

POTENTIAL ADVANTAGES	POTENTIAL DISADVANTAGES
<ul style="list-style-type: none"> ✚ Less need to hire, train, and retain internal IT staff. Potential for considerably less staff, depending on the level of outsourcing and the specific outsourcing organization selected. ✚ More-experienced and specialized staff than some clinics could hire and retain internally, depending on the specific outsourcing organization selected. ✚ Less management oversight required for server and EHR maintenance activities and for informatics and content work. ✚ Simplification of business interactions and technical troubleshooting with the EHR vendor and other software and hardware vendors, which may get handled entirely by the outsourcing provider. ✚ Centralized development and maintenance of data interfaces to other organizations, including ones that are regional (e.g., hospitals, HIOs), statewide (e.g., immunization registries), or national (e.g., major reference laboratories). ✚ Ability to share a single EHR application and patient database with other CHCs, facilitating technical support and/or reporting and analytics services by the CHCs' consortium. ✚ Possible lower total costs of EHR ownership if the efficiencies gained from sharing the pooled resources provided by the outsourcing vendor exceed the management overhead and profit margin that the vendor may introduce. ✚ Operational benefits like improved staff retention and satisfaction, and efficiencies in care coordination and clinical workflows, among others. 	<ul style="list-style-type: none"> ✚ Possible resource contention with other customers of the outsourcing vendor, resulting in delayed service requests for report writing, configuration changes, help-desk tickets, etc. ✚ Constrained query access to the CHC's own EHR data, which must be more carefully controlled by the outsourcing vendor, as it may reside in databases and on servers shared with other customers. This constraint frequently necessitates the extraction of the CHC's data into a local data warehouse or third-party reporting service to enable the full range of query access that the clinic desires. ✚ Constrained ability to implement certain EHR customizations that a CHC may desire and that may otherwise be possible, because the outsourcing vendor wishes to avoid its staff having to support significantly different versions of the same EHR. ✚ Loss of full control and command over the EHR environment, resulting in potential delays or limitations in the configuration and support tasks provided by the outsourcing vendor. ✚ Possible higher total costs of EHR ownership if the management overhead and profit margin introduced by the outsourcing vendor exceed the efficiencies gained from sharing the pooled resources provided by that vendor.

Questions to Ask

- ▶ Do you have the appropriate IT leadership and staff to manage the EHR well? Does your IT team have the skills needed to manage the hardware, software, networking, interfaces, security, training, and user support?
- ▶ Is there sufficient knowledge among your own IT staff about the features of your EHR? Is there sufficient knowledge to create customizations, when needed, to support workflow and reporting needs?
- ▶ Could you provide more training and education to your current IT staff to augment its capabilities, or is outsourcing to a separate organization required to access the needed expertise?
- ▶ Which specific tasks or responsibilities do you want or need to outsource? Is there an outsourcing vendor able and willing to assume those tasks? Appendix D lists vendors used by CHCs interviewed for this report.

“Many CHC IT departments aren’t capable of doing the work to make their current EHRs perform well, and aren’t able to make the investment in people required to build that capacity.”

— CHC CIO

GOAL

More Satisfied and Productive Clinicians

Physicians and other clinical staff sometimes express a preference for certain EHRs over others. Many newly practicing clinicians prefer the EHR system that their training hospital used. Similarly, clinicians that practice part-time at local hospitals and private medical groups often show a similar preference for those systems. Switching to a frequently requested and familiar system may improve clinician satisfaction and productivity at CHCs with large cohorts of clinician staff that already know and prefer it.

Questions to Ask

- ▶ What are your providers’ pain points with respect to the current EHR? Are these problems affecting a significant cohort of providers?
- ▶ What kinds of specific system capabilities or user-interface features would improve your providers’ satisfaction or productivity? Do other EHRs offer these?
- ▶ Could these pain points be addressed through additional user training or by implementing customizations to your current EHR?

GOAL

Sharing Services and Expertise via CHC Consortia

Most CHCs are members of consortia that allow them to pool resources and share services, such as advocacy, quality management, grant applications, and health IT support. When the members of a consortium use the same EHR product, consortium staff can gain deep expertise in that single product and provide more effective support to member CHCs for troubleshooting, version upgrades, local customizations, and configuration of decision-support and reporting features.

Further, if all members of the consortium not only use the same EHR product but also share the same patient database (i.e., use the same “instance” of the EHR), the consortium can leverage this pooled data repository for more effective quality improvement efforts.

Consortia that collectively participate in alternative payment and risk-sharing programs are considering an approach that brings their member CHCs onto the same hosted EHR systems. These consortia operate similarly to independent practice associations in that they strive to control utilization while maintaining and demonstrating quality. A single EHR instance shared among the CHCs enables the consortium to more easily perform several important functions, including:

- ▶ Analyzing its covered population when negotiating risk-based contracts
- ▶ Tracking and stratifying its patients to guide care-management efforts
- ▶ Implementing real-time decision-support capabilities to optimize quality metrics

- ▶ Collectively reporting on Healthcare Effectiveness Data and Information Set (HEDIS) and pay-for-performance measures
- ▶ Building electronic interfaces to outside entities such as hospitals and labs, and to third-party services including referral and population-management tools

Questions to Ask

- ▶ Is your CHC a member of, or could you join, a CHC consortium willing and able to facilitate a consolidated approach to EHR procurement?
- ▶ Are your clinic's EHR needs and your providers' EHR preferences similar enough to those of other consortium members that a single product is suitable for all?
- ▶ What patient privacy and security policies does your organization have that could facilitate or limit the sharing of EHR technology with other CHCs?
- ▶ How many staff full-time equivalents (FTEs) and how much money could your clinic potentially save by outsourcing EHR hosting, support, and/or data analytics to the shared consortium effort?

Consider All Options for Meeting Your Goals

Switching EHRs may be the best solution to address problems related to health IT at some CHCs. However, there may be alternative solutions to switching, depending on your goals.

Questions to Ask

- ▶ What are all the potential ways to address the problems or achieve the benefits you've identified?
 - ▶ Apply the available features of your existing EHR, including interoperability features? Participate in a HIO?
 - ▶ Upgrade your existing EHR to the latest version?
 - ▶ Procure specialized products that integrate with your EHR, such as for reporting, referral management, and population health?
 - ▶ Customize your existing EHR?

- ▶ Hire additional staff or further train existing staff to better host and support your existing EHR?
- ▶ Outsource some or all hosting and support for your existing EHR product?
- ▶ Switch EHR products altogether?
- ▶ What are the relative benefits, costs, and risks of each option?
- ▶ Is there time to try certain options before making the switch?

Consider the Financial Impact

Table 2 lists the financial considerations a CHC will face when switching EHRs (see page 9). It is easy to underestimate the cost of switching by focusing merely on the upfront expense of purchasing new software, migrating data, and retraining personnel. Any CHC considering a switch should also consider harder to measure financial impacts, including potential short-term decreases in productivity and long-term enhancements to revenue and/or savings. For each financial area, a CHC should determine whether the cost items apply, and if so, should estimate the time and money needed. It is also easy to underestimate the potential long-term financial benefits of switching. This is in part due to the difficulty of assigning projected financial value to things like staff retention or revenue collections. To make a fully informed decision, it is critical to consider these long-term financial impacts. A cost-benefit analysis will be a critical part of the decisionmaking equation.

Table 2. Potential Areas of Financial Impact That CHCs Face When Switching EHRs

COST AREA	DESCRIPTION
System Costs	
Licensing fees	<p>CHCs should determine which modules and services are included in the base licensing fees of the EHR and which entail add-on costs. For example, certain EHRs include a patient portal or dental module in the base licensing fee, whereas others require additional licensing for these modules.</p> <p>Note that certain EHRs that charge by the number of billing providers base their fees on the number of unique providers, whereas others use the (lower) number of provider FTEs. CHCs often use part-time staff, and you may be able to negotiate the lower FTE-based licensing model if your vendor typically charges based on unique providers.</p> <p>These licensing fees should also be included in long-term financial forecasts because they are ongoing costs.</p>
Hosting costs	<p>If switching EHRs also involves a new hosting model, it is important to examine the potential changes in costs associated with that model. For example, moving to a hosted model can result in no longer having to maintain the hardware or software associated with hosting the EHR on-site — backup costs, etc. Moving to a hosted model can also impact staffing costs by potentially reducing or shifting the number or types of staff needed to support the EHR system.</p>
Productivity and Revenue	
Retraining clinicians and staff	<p>CHCs should assess the time for training users, as EHRs are quite different from one another. The necessary training time will vary from entity to entity.</p>
Clinical productivity	<p>Depending on the levels of training and post-launch support, it can take time for a CHC to return to its prior number of daily patient visits after an EHR switch. While there might be a short-term reduction in visits, clinical productivity might also improve in the long term.</p>
Billing/collection processes	<p>EHRs and practice-management systems are integrated applications in modern EHRs, so switching to another EHR will likely entail switching to a new practice-management system also. As with the EHR, this move entails data migration, retraining, loss of customizations, and potential challenges with claims submission and payment, at least temporarily.</p> <p>In the longer term, CHCs may see changes in the quality of billing, collections, and revenue cycle management capabilities, thereby resulting in changes in revenue. This depends on the effectiveness of the practice-management systems.</p>
Data Migration and Data Capabilities	
Data-migration fees	<p>A onetime cost, these fees are charged by the new EHR vendor, the old EHR vendor, and/or a third party assisting with data migration. Most EHRs will charge extra for data migration in the initial licensing and implementation fees, whereas others may not include these costs to incentivize customers to switch to their product.</p>
Staffing needs for data migration	<p>Data-migration scripts may need to be reviewed for correctness and may need to be customized. A certain degree of manual data reentry from the old EHR to the new EHR is often required.</p>
Changes in structured data format	<p>In general, data migration is difficult and will be incomplete.⁵ Much of the historical clinical note data may end up in PDF documents, rather than structured templates or fields. PDF documents are harder to search and may not be usable for reporting, analysis, and decision support. Note that the loss of structured data needed for reporting can be mitigated if the clinic has been populating a clinical data warehouse separate from its EHR, as these data will not need to be migrated.</p>
Data collection and analytic capabilities	<p>Switching EHRs may change data collection and analytics capabilities, either through the EHR itself or through technology that can seamlessly interact with a new EHR. Changes in these capabilities can have an impact on the longer-term financial health of an organization. For example, increased data analytic capabilities can simplify the collection and reporting of data that can be used to enhance revenues through value-based payment mechanisms that rely on quality data.</p>
Cost to maintain a read-only instance of the old EHR	<p>Given record-retention requirements and the inability for all patient data to be migrated to the new EHR, CHCs that switch EHRs typically need to license and maintain a read-only version of the old EHR for a period.</p>

Table 2. Potential Areas of Financial Impact That CHCs Face When Switching EHRs, *continued*

COST AREA	DESCRIPTION
Workflow Changes	
Reimplementing EHR customizations	Some or many of the customizations made by a clinic to its old EHR may not exist in the new EHR as standard features, so they may need to be reimplemented.
Reimplementing lab and hospital interfaces and other interoperability connections	Interfaces to certain national vendors, such as Quest/LabCorp, may be available in the new EHR as built-in features. Other interfaces to local entities, such as hospital labs, radiology departments, or clinical data warehouses will likely need to be reimplemented (typically, at a cost of \$5,000–\$15,000 each).
Other	
Patient experience	Near-term operational disruptions due to the switch may impact patient satisfaction and even access to services. However, a different EHR may also change the way clinics engage with patients in the long term. A new system may better address their needs, possibly impacting retention, loyalty, and quality of care.
Staff costs	Longer term, a new EHR may also change staffing dynamics, changing the number of staff and the skill set needed, and possibly affecting retention. This is a critical consideration, as it relates to modeling the longer-term impact of a change, given the fact that staff costs account for approximately 73% of CHCs' annual operating expenses.

STEP 2

Selecting a New EHR Product or Outsourcing Provider

If, after considering your goals and options, you choose to switch to a different EHR and/or engage an outside firm to help in the hosting and management of your current EHR, your next step is selecting the specific vendor and product.

Explore EHR Product Options

Although there are hundreds of EHR products on the market, five vendors are most widely used among CHCs nationwide: AthenaHealth, eClinicalWorks, Epic, Greenway Health, and NextGen. Appendix B provides a comparison of these EHRs.

Questions to Ask

- ▶ What is the shortlist of alternative EHRs and support providers that are suitable for your CHC?
- ▶ What specific product features and services do they offer?
- ▶ What pricing and other contractual terms can you negotiate with them?
- ▶ What system do your providers prefer?
- ▶ What other recommendations have you received from peer CHCs on alternative systems?

Explore EHR Outsourcing Providers

Selecting the most appropriate provider of EHR hosting and management requires deciding which specific services your CHC wants and determining which firms can provide those services. Appendix D describes the different levels of outsourced hosting and support services available and lists the EHR outsourcing providers used by the CHCs interviewed for this guide. Appendix A details which of these CHCs are using which providers.

Note that clinics should include a service level agreement (SLA) in any contract with an outsourcing provider. Such an agreement should specify guaranteed up times and system-response times, as well as turnaround times for tech support, report customization, and other services.

Perform Due Diligence and Negotiate a Contract

Any vendors and organizations that interest your CHC must be vetted for quality and cost-effectiveness. Clinics are advised to reach out to other CHCs using the same product or service before negotiating a contract.

Prudent contracting for EHR products and services is complicated but is critical to a successful transition. The Office of the National Coordinator provides a comprehensive and helpful guide to EHR contracting for health care provider organizations.⁶ It includes a chapter on SLAs, as well as specific contracting considerations when switching from one EHR to another.

STEP 3

Planning and Executing an EHR Transition

Some clinics, after considering all alternatives, may decide to switch EHRs, an undertaking that requires careful planning and execution. The following sections on planning, training, monitoring, and getting help offer recommendations collected from interviews with CHCs that have switched EHR systems. Additional resources for planning and executing EHR transitions are also available.⁷

Planning

Workflow transitions. Consider what changes to existing clinical and administrative workflows will be needed due to the differing features of the new EHR. Document your current workflows for frequent EHR use cases (e.g., diabetic foot exam), and plan exactly how the workflows will be performed in the new system. Configure the new system and/or modify the workflows, as necessary, to support the use cases in the desired way.

Peer diligence. Talk with other clinics that have migrated to the new EHR you have acquired, ideally from the EHR you are currently using. Ascertain any issues they had in migrating their workflows to the new system, and use this information to plan your own workflow changes and to ask relevant questions of the EHR vendor before launch.

Data migration. Research what data you will be able to migrate to the new EHR, and how much data can be migrated in a structured form versus read-only documents. Perform an inventory of any custom structured fields that you may have added to your current EHR to support specific reporting needs or clinical decision making. Check that such fields are already present or are added to your new EHR, and that the data in such fields will be migrated over to the new system database. Take special care if the data migration relies on standard data formats (such as C/CDA XML documents) that may not include the custom fields you have created. Plan your data migration very carefully, as this may be the single most important and difficult aspect of the EHR switch.⁸

Plan your data migration very carefully, as this may be the single most important and difficult aspect of the EHR switch.

Operational slowdown. Consider how much of a slowdown in operations should be planned for and how many fewer visits per day should be scheduled immediately after the new EHR goes live. Make financial plans to absorb reductions in revenue for a period following the launch.

Timing of launch. Do not attempt to go live at all your facilities at the same time. Stagger the launches and training to apply lessons from initial launches to later ones, and to not overextend the available IT, training, and support resources.

Resist vendor pressure to launch. Take your time preparing, and don't go live until you are ready. Certain EHR vendors may push you to go live as early as possible and iron out any problems down the road because they have internal milestones and performance indicators to hit and may not begin collecting revenue until the launch.

Monitoring. Plan how you will monitor data quality, workflow efficiency, training adequacy, and effectiveness of support following your launch, to quickly identify and address any problems.

Training

Amount of training. Do not underestimate the amount of time it will take to train clinicians and staff on the new system before they are ready to go live. Carefully consider how many users will need to be retrained on the new EHR, and how much training each user will need.

Proficiency and monitoring. Individual users may require different amounts of time to train on the new system, depending on their facility with computers and comfort using an EHR in general. Develop methods to assess proficiency on the new system as part of training, and plan to accommodate users who require more training.

Training modules. Conduct training separately for users with distinct roles who will be using different functions of the new EHR system. For example, intake staff who will be using the scheduling and intake functions need to train separately from clinicians who do not need to master those functions but require more extensive training on chart-review and clinical-documentation features.

Timing. Perform the training close to launch, not too far in advance. Even one month is too long, as users will not retain the training for that long.

Monitoring

Following launch, run your regular reports frequently to detect any data that may not be getting collected correctly or consistently in the new EHR. This will allow you to more easily correct any missing or incorrectly formatted data, as well as to identify the technical or workflow glitches that are leading to such errors, before many such data errors accumulate.

“Our go-live wasn’t beautiful. Make sure you have someone managing the project who understands both the old system and the new system, and how to bridge the two.”

— CHC CEO

Getting Help

Even if you are migrating to a hosted EHR for which the hosting vendor provides all implementation and support services, you may wish to engage your own independent consultant with knowledge of the new EHR and the hosting services to best represent your interests during and after the migration. Even though you will be partnered with the hosting vendor in the management of the EHR product, you will still be in a vendor/client relationship with the outsourcing firm, and it will be servicing numerous other clinics at the same time.

Conclusion

As the health care landscape changes for FQHCs in California, they will have to make adjustments to maintain state-of-the-art clinical quality, efficient operations, and sound financial footing. Changes to the way they manage and use their EHRs, or a change of EHR products altogether, may be among the adjustments that many FQHCs need to make. This guide presents a logical step-wise approach to considering and making such adjustments, with an emphasis on considering many options and being aware of all relevant costs and benefits. Although no two FQHCs are exactly alike, hopefully this guide will provide value to many of them as they make decisions to meet the future and continue fulfilling the important role they play for California’s safety net.

Appendix A. Organizations Interviewed for This Report

COMMUNITY HEALTH CENTER	COUNTY(IES) SERVED	SITES	LOCATION TYPE(S)	PROVIDER FTEs	CURRENT EHR	YEARS USED	EHR HOSTING CONFIGURATION	IT STAFF FTEs*	EXTERNAL EHR SUPPORT	INTERVIEW SUBJECT(S) AND TITLE(S)
Achievable Foundation	Los Angeles	1	Urban	3	Greenway Success EHS	5	EHR vendor	1	EHR vendor	Chris Barrett, IT and Programs Manager
AltaMed	Los Angeles Orange	50	Urban	300	NextGen	7	Self, on premises	110	None	Raymond Lowe, CIO
Elica Health Centers	Sacramento	9	Suburban/Rural	48	Athena Health	2	EHR vendor	9	EHR vendor	David Hughes, COO/CFO; Christine Hernandez, Administration Manager; Victoria Lewis, Director of Business Intelligence; Vlad Makhno, EHR Director
HealthRIGHT 360	San Francisco San Mateo	5	Urban	35	eClinicalWorks	5	Self, with colocated servers	4	Greater Sierra Health Information & Operation	Jack Cheng, VP of Healthcare Services
LifeLong Medical Care	Alameda Contra Costa	22	Urban	150	NextGen	7	MedTech Solutions	16	MedTech Solutions	Ryan Hensler, EHR Manager
Livingston Community Health	Merced Stanislaus	6	Rural	25	NextGen	5	eMedApps	5	eMedApps, Blue Novo	Leslie Abasta-Cummings, CEO; Feras Khoury, COO; Glen Villanueva, CMO
Mathieson Memorial Health Clinic	Tuolumne	1	Rural	6	NextGen	9	CA Rural Indian Health Board	0.5	CA Rural Indian Health Board	John Vass, CEO
North East Medical Services	Santa Clara San Mateo San Francisco	13	Urban/Suburban	90	NextGen	9	Self, with colocated servers	24	None	Diana Kawasaki-Yee, COO; Anthony Vu, IT Manager
OLE Health	Napa	8	Suburban/Rural	30	eClinicalWorks	9	EHR vendor	5	EHR vendor	Gary Fedler, Director of Information Systems
One Community Health	Sacramento	2	Urban	16	Epic (OCHIN)	1	OCHIN	8	OCHIN	Christy Ward, CEO
Open Door Community Health Centers	Del Norte Humboldt	11	Rural	65	Epic (OCHIN)	10	OCHIN	6	OCHIN	Stacy Watkins, Deputy Operations Director
Santa Rosa Health Center	Sonoma	11	Suburban	90	eClinicalWorks	9	Self, with colocated servers	5	KLH Consulting	Naomi Fuchs, CEO
Shasta Community Health Center	Shasta	4	Rural	40	NextGen	12	Self, on premises	11	None	Charles Kitzman, CIO
St. Jude Neighborhood Health Center	Orange	3	Suburban	10	Allscripts Touchworks	10	Heritage Medical Group	1	Heritage Medical Group	Kelly Carter, QI Manager; Dan McLoone, Data Analyst / IT Support
WellSpace Health	Sacramento	17	Urban/Suburban/Rural	107	NextGen	4				Janine Bera, CMO
Westside Health Center	Los Angeles	2	Urban	8.5	eClinicalWorks	5	Physicians Trust	0.25	Physicians Trust	Deb Farmer, CEO

*Includes internal clinic staff for core IT support, EHR maintenance, report writing, clinical informatics, and technical support.

Organizations Interviewed for This Report, *continued*

OTHER ORGANIZATIONS	ORGANIZATION TYPE	INTERVIEW SUBJECT(S) AND TITLE(S)
Center for Care Innovations	Care-transformation organization for safety-net providers	Tammy Fisher, Senior Director
Community Health Center Network	Managed service organization for FQHCs	Dan Clanon, IT Specialist
California Primary Care Association	Community health center advocacy group	Robert Beaudry, COO David Anerson, VP of Health IT
Epic Care Everywhere Governing Council	Vendor advisory council	Steven Lane, Member
Health Center Partners of Southern California	Community health center consortium	Nicole Howard, Chief Advancement Officer Tracy Garmer, Executive VP and COO
OCHIN	EHR hosting and support vendor	Kim Klupenger, Chief Experience Officer

*Includes internal clinic staff for core IT support, EHR maintenance, report writing, clinical informatics, and technical support.

Appendix B. EHR Product Information

Although hundreds of EHR products exist on the market, five vendors⁹ provide the EHRs most widely used among CHCs nationwide: AthenaHealth, eClinicalWorks, Epic, Greenway Health, and NextGen. For this guide, each vendor completed a 25-item survey to provide information on the following topics:

- ▶ Cloud-based hosting options and support services
- ▶ Support for nonmedical care, such as dental, vision, mental health, and substance use
- ▶ Support for population health
- ▶ Support for interfacing and interoperability
- ▶ Practice-management functions related to CHC billing and reporting
- ▶ Pricing

The survey responses indicated that the five products have many of the same general capabilities important to CHCs. However, interviews with CHCs indicated that the quality and effectiveness of the same features vary from vendor to vendor, and the availability of features may differ across versions of the same product. Table B1, page 17, shows notable similarities and differences between the products; note that the table is intended to help CHCs understand the features available with each system, not the quality of the features.

Table B1. Relevant Features of EHRs Most Commonly Used by CHCs

	EHR VENDOR / PRODUCT NAME (VERSION)				
	ATHENAHEALTH ATHENAONE (v. 18.11)	ECLINICALWORKS EHR AND PMS (v. 11)	EPIC* AMBULATORY SUITE (2018)	GREENWAY HEALTH INTERGY† (v. 11.1)	NEXTGEN ENTERPRISE EHR/PM (SPRING 2018)
Cloud-Based Hosting Services					
EHR Hardware Hosting	✓	✓	✓	✓	✓
Networking Support	✓	✓	✓	✓	✓
EHR Version Upgrades	✓	✓	✓	✓	✓
EHR Content Upgrades (e.g., codes)	✓	✓		✓	✓
Level-1 User Support	✓	✓		✓	✓
Specialty Modules					
Dental	✓	✓	✓	✓	✓
Vision	✓	✓	✓		✓
Pediatrics	✓	✓	✓	✓	✓
Behavioral Health	✓	✓	✓	✓	✓
Substance Use Treatment	✓	✓	✓	✓	✓
Interoperability Networks‡					
Carequality	✓	✓	✓	✓	✓
CommonWell	✓	✓		✓	✓
Vendor-Specific Network		✓	✓		✓
Integrated EHR and PMS	✓	✓	✓	✓	✓
Meaningful Use EHR Certification	Stage 3 (2015)	Stage 3 (2015)	Stage 3 (2015)	Stage 3 (2015)	Stage 3 (2015)
Licensing Model	As a percentage of collected billings	Per number of billing providers	Per number of patient visits	Per number of billing providers	Per number of billing providers
Licensing Price	Not provided	\$599 or \$649 per FTE provider/ month	Not provided	Not provided	Not provided

*The survey was completed for the Epic EHR as a standalone product. OCHIN hosting of the Epic EHR may provide additional features, as described in Appendix D.

† Greenway Health provided information only for its Intergy EHR product, although CHCs typically use its legacy Success EHS product. No information for Success EHS was obtained.

‡ The Carequality and CommonWell networks are in the process of implementing bridging capabilities between their respective participants. Vendor-specific networks include P2P (eClinicalWorks), Care Everywhere (Epic), and NextGen Share (NextGen).

Appendix C. Interoperability Options

CHCs need to exchange patient data with hospitals, emergency departments, specialists, and other provider organizations that also treat their patients. Prompt and efficient data exchange, including access to patient records and notifications of hospital and ED events, is crucial for optimal treatment, care coordination, and acquiring the data needed for population health and utilization management.

Health data interoperability is achieved by CHCs in a wide variety of ways, including the following.

Care Everywhere — Epic

Epic provides Care Everywhere, a built-in capability for data exchange across different provider organizations that use its product. This capability was commonly cited as a reason for switching to the Epic EHR by the interviewed CHCs that operate in medical communities where Epic is prevalent among hospitals and specialists. Although other EHR products, such as eClinicalWorks and NextGen, offer similar data-exchange capabilities among their customers, Epic has a higher market share at hospitals and larger medical groups.¹⁰

Care Everywhere enables Epic users to retrieve summary documents containing patient record information from other facilities that also use Epic. These documents include a list of all the encounters at the outside facility and a list of the problems, allergies, medications, and immunizations recorded at that facility. Most of this information is provided in a structured and coded format that can be parsed and potentially imported into the clinic's own EHR.

Carequality and CommonWell

These two data-sharing infrastructures allow EHR users to search for and retrieve summaries of care provided at any outside hospitals and outpatient facilities that also use EHRs participating in the Carequality and CommonWell networks.

Like Care Everywhere, these technologies deliver structured documents containing summary clinical data that can be imported into the patient's local record. However, Carequality and CommonWell enable data exchange not

only with facilities that use Epic, but also with ones using different EHRs that participate in these networks, such as Cerner, NextGen, AthenaHealth, and eClinicalWorks.

Carequality and CommonWell provide fewer types of documents than Care Everywhere, and there may be greater variability in the completeness and quality of patient summaries delivered because different EHR vendors formulate the summaries differently.¹¹

Some clinics may find that the capabilities of Carequality and CommonWell are sufficient to meet their interoperability needs. Notably, interviews revealed that not all CHCs understand or take advantage of the Carequality and CommonWell data-exchange capabilities that are built in to their clinic's EHR.

Direct Secure Messaging

Direct Secure Messaging is an interoperability feature of most EHRs and is a required capability of any product certified to Stage 3 of meaningful use. It allows the secure sending of referral requests and consult notes electronically, including attachments containing the patient's summary of care. Some interviewed CHCs take advantage of this feature to receive discharge summaries and other documents from their local hospitals or consult notes from specialists. Other CHCs were unaware that their EHRs have this capability or how to use it to improve interoperability with local hospitals and specialists.

Health Information Exchange Organizations

At least 10 health information exchange organizations (HIOs) operate regionally in California, offering a range of data-exchange capabilities. Most CHCs interviewed were not aware of the full extent of services provided by their local HIOs and/or had not engaged with the HIOs to investigate and try the services available. These resources could potentially obviate the need to switch to a different EHR solely to gain required interoperability capabilities. A 2019 CHCF report on the HIO landscape describes available options, benefits, and drawbacks of participating in an HIO.¹²

Appendix D. Outsourcing Vendors

Some clinics use outsourced hosting and support services, which reduces the workload of their IT management and staff. In certain cases, the benefits of these services may be realized without switching EHRs.

Table D1 below shows levels of EHR hosting and outsourcing support that vendors provide to CHCs. Higher levels represent greater external support and less responsibility assumed by the CHC's internal IT staff.

For an example of an organization that provides Level 4 outsourcing services, see the "OCHIN" sidebar.

Table D1. Levels of Outsourced Hosting and Support Services Available to CHCs

No outsourcing. The CHC handles all aspects of its EHR hosting, hardware and software management, networking and interface management, technical support, and clinical content development.

Level 1: Outsourced colocation only. The vendor handles physical security for the clinic's servers, guaranteed power supply, and redundant network access (but the clinic itself continues to provide the server hardware and EHR software).

Level 2: Outsourced hosting of EHR software. In addition to the above services, the vendor provides and manages server hardware, operating system software, database software, networking configuration, and security (but the clinic itself continues to provide and manage the EHR software).

Level 3: Outsourced hosting of EHR software and general EHR-specific application support. In addition to all the above services, the vendor handles EHR installation, application of EHR version upgrades and patches, management of lab and other external data interfaces, EHR data backups, user training, and technical/help-desk support (but the clinic itself continues to provide informatics support for EHR content, such as reports and clinical-documentation templates).

Level 4: Outsourced hosting of EHR software, general EHR-specific application support, and informatics support for EHR content. In addition to all the above services, the vendor handles writing and customization of reports, development of clinical-documentation templates, development of decision-support rules, and other content tasks.

OCHIN: Example of a Full-Service (Level 4) Outsourcing Vendor

OCHIN provides EHR hosting and support services for CHCs in California using the Epic suite of EHR, dental health record, practice management, population health, interoperability, and other integrated software modules. OCHIN services include:

- ▶ Facilitated interoperability through built-in capabilities and networks, including:
 - ▶ A single patient database across all OCHIN facilities
 - ▶ Care Everywhere, Carequality, and Direct Secure Messaging
 - ▶ eHealthExchange, which allows patient data exchange among HIOs and integrated delivery networks
 - ▶ Bidirectional interfaces to California's immunization registry as well as to Quest and LabCorp reference laboratories
 - ▶ EpicCare Link, which enables outside providers to access the clinic's patient records when granted appropriate authorization
- ▶ Closed-loop referral interfaces. At additional expense, OCHIN can develop electronic interfaces to exchange referral requests and consult notes with other provider organizations that use the Epic EHR.
- ▶ Localized billing and reporting, with customized edit checks for a variety of commercial and Medical managed care payers in California. Includes built-in reporting features for many of the state-specific Medicaid programs, such as the Child Health and Disability Prevention program and the Comprehensive Perinatal Service Program.

OCHIN recommends that each clinic have one to two highly trained EHR liaisons on staff to assist with regular version upgrades. Further, CHCs may want or need to maintain a local IT team to supplement analytics and workflow redesign services available from OCHIN.

In addition to the levels of services included in Table D1, certain vendors provide other types of services that fall outside of this model, including:

- **Managed IT.** This term refers to full-service general IT support, including management of on-site hardware and peripherals, EHR software, other business software, on-site local area networking, and security. Managed IT may or may not include off-site hosting of EHR hardware and software the same way that an outsourced provider might.
- **Consortium-mediated EHRs.** Typically, consortia help organize and negotiate the contract with a third-party EHR-hosting and management vendor on behalf of its members, while the individual clinics would still have to contract directly (see “OCHIN” sidebar on previous page).

- **Consulting support for EHR software only.** This option has no off-site hosting of EHR hardware or software, and no support for non-EHR applications.

Table D2 lists outsourcing providers servicing the CHCs interviewed for this guide, and Appendix A indicates which of these CHCs use which of those outsourcing providers.

Table D2. Examples of Outsourced Vendors

VENDOR	EHR(S) SUPPORTED	NOTES
EHR vendors AthenaHealth , eClinicalWorks , Epic , Greenway Health , and NextGen	Own EHR only	Host versions of their EHRs in their own cloud-based data centers. See Table B1, page 17.
Local hospitals (referral centers, ACO partners, etc.)	Various	Provides shared access to and support for the same EHR instance that the hospital already uses for its own inpatient and outpatient services.
eMedApps www.emedapps.com	NextGen	Provides hosting and other levels of outsourcing support.
KLH Consulting www.klhconsulting.com	Various	Provides hosting and other levels of outsourcing support.
Med Tech Solutions www.medtechsolutions.com	Various	Provides hosting and other levels of outsourcing support.
OCHIN ochin.org	Epic	A full-service hosting, support, and services vendor that provides Level 4 outsourcing specifically for CHCs. See Table D1, page 19.
OSIS www.osisonline.net	NextGen	Provides hosting and other levels of outsourcing support .
Physicians Trust www.physicianstrust.net	eClinicalWorks	Provides hosting and other levels of outsourcing support.

Note: There may be other vendors, not mentioned in the interviews, that provide the types of outsourcing services described in this report.

Endnotes

1. *California Federally Qualified Health Centers, 2017: Quick Reference Guide*, California Health Care Foundation, November 2017, www.chcf.org.
2. Jamie Ryan et al., *The Adoption and Use of Health Information Technology by Community Health Centers, 2009–2013*, The Commonwealth Fund, May 2014, www.commonwealthfund.org; and Katherine Kim et al., “Health Information Technology Adoption in California Community Health Centers,” *Amer. Journal of Managed Care* 21, no. 12 (Dec. 2015): e677–83, www.ncbi.nlm.nih.gov.
3. *Partnering to Succeed: How Small Health Centers Can Improve Care and Thrive Under Value-Based Payment*, California Health Care Foundation, March 2018, www.chcf.org; and “Health IT Playbook: Section 10. Population and Public Health,” Office of the Natl. Coordinator for Health Information Technology, last modified February 28, 2018, www.healthit.gov.
4. *Technology Survey Results, Physicians Practice*, July 7, 2015, www.physicianspractice.com. This 2015 survey of 1,181 outpatient physicians indicated that 39% already had switched EHRs at least once.
5. Jacqueline LaPointe, “Legacy Data Management Strategies Key to EHR Replacement,” *EHR Intelligence*, May 11, 2016, ehrintelligence.com, accessed December 15, 2018.
6. *EHR Contracts Untangled: Selecting Wisely, Negotiating Terms, and Understanding the Fine Print*, Office of the Natl. Coordinator for Health Information Technology, September 2016, www.healthit.gov (PDF).
7. “EHR Transition Tips – Motivation and Planning,” Health Information Technology, Evaluation, and Quality Center (HITEQ), November 2016, hiteqcenter.org; and “EHR Transition Tips – Vendor Solicitation and Selection,” HITEQ, December 9, 2016, hiteqcenter.org.
8. Jacqueline LaPointe, “Legacy Data Management Strategies Key to EHR Replacement,” *EHR Intelligence*, May 11, 2016, ehrintelligence.com.
9. “NACHC Network Resource Guide: Network Support for EHR,” accessed September 7, 2018, nrg.nachc.org. These products are the ones most commonly supported by community health center networks in California and nationwide.
10. “EHR Products Used for Meaningful Use Attestation,” Office of the Natl. Coordinator for Health Information Technology, last modified January 10, 2019, dashboard.healthit.gov.
11. J. D. D’Amore et al., “Are Meaningful Use Stage 2 Certified EHRs Ready for Interoperability? Findings from the SMART C-CDA Collaborative,” *Journal of the Amer. Medical Informatics Assn.* 21, no. 6 (Nov.–Dec. 2014): 1060–8, doi:10.1136/amiajnl-2014-002883.
12. Walter Sujansky, *Promise and Pitfalls: A Look at California’s Regional Health Information Organizations*, California Health Care Foundation, January 2019, www.chcf.org.