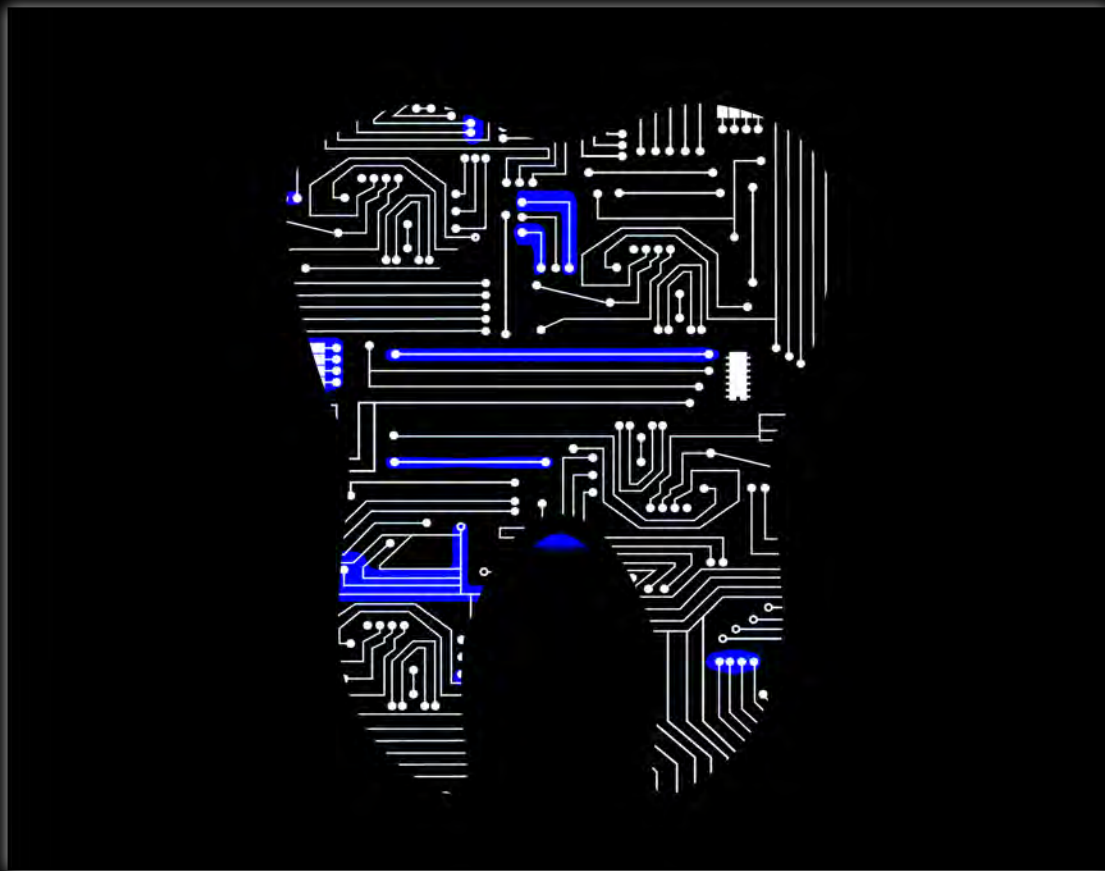


# Health Information Technology Resource Guide

for Community Health Center Dental Programs



December 2021

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## for Community Health Center Dental Programs

The information in this Resource Guide was accurate at the time of publication.

As regulations and information regarding health centers are not static, NNOHA recommends readers verify any critical information with different state/federal regulations and changes that may have occurred since publication.

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The mission of National Network for Oral Health Access (NNOHA) is to improve the oral health of underserved populations and contribute to overall health through leadership, advocacy, and support to oral health providers in safety-net systems.

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# Introduction

Selecting an electronic health system is one of the most important decisions a Community Health Center (CHC) will make. Unfortunately, it may be a process for which most dental directors have little formal training or experience.

NNOHA is publishing this Resource Guide on Health Information Technology (HIT) as a service to help its members make this important decision. This primer is an excellent resource to prepare the entire leadership team to make a decision that works best for everyone from the dental provider on the clinical floor to the administrative staff reporting outcomes. CHCs exist with a federal government mandate to provide physical health, mental health, and oral health services to the nation's most vulnerable populations. To carry out this charge and be able to evaluate and report on their progress and effectiveness, HIT is key.

Historically speaking, Electronic Medical Records (EMRs) and Electronic Dental Records (EDRs) were developed as separate entities. Today, however, CHCs are growing into patient-centered health homes and are integrating all healthcare disciplines in one program. Despite this, integrated HIT systems have been slow to emerge. This presents a dilemma

for CHC leaders when choosing the most functional EMR and EDR, especially when considering cost and overall utility, while still being able to integrate all health services.

This Resource Guide includes pointers on selecting an Electronic Health Record (EHR), tips on how to build a CHC's specification list, how to conduct

product demonstrations, and how to negotiate contracts while involving the entire CHC team in the process. It also includes research NNOHA conducted in 2021 by asking detailed questions of Integrated Dental Practice Management/EHR vendors and by polling its members on their level of satisfaction with their current EHR systems.



NNOHA's HIT Workgroup reviewed the NNOHA membership survey results (see *Appendix F*), vendor demonstrations, and material provided by NNOHA's HIT consultant to assemble this Resource Guide. Because dental directors will not make this decision alone, *this Resource Guide is designed to be a tool for the entire leadership team of the CHC*. It provides hands-on tools, real-world examples, lots to ponder, and a wealth of suggestions to get you started.

# Acronyms Used Throughout This Resource Guide

Acronym	Meaning	First used on page...
API	Application Programming Interface	35
BAA	Business Associates Agreement	27
CAD/CAM	Computer Assisted Design/Computer Assisted Manufacture	43
CCDA	Consolidated Clinical Document Architecture	35
CEO	Chief Executive Officer	11
CHC	Community Health Center	4
CSV	Comma Separated Values (file format)	47
EDR	Electronic Dental Record	4
EHI	Electronic Health Information	41
EHR	Electronic Health Record	4
EMR	Electronic Medical Record	4
EPCS	Electronic Prescriptions for Controlled Substances	31
FHIR	Fast Healthcare Interoperability Resources	35
FQHC	Federally Qualified Health Center	49
HL7	Health Level 7 (interoperability standard)	34
HIPAA	Health Insurance Portability & Accountability Act	23
HIT	Health Information Technology	4
IT	Information Technology	10
OCR	Office of Civil Rights	40
PHI	Protected Health Information	40
PMS	Practice Management Software	9
RFP	Request for Proposal	10
SaaS	Software as a Service (legal agreement)	47
SRA	Security Risk Assessment	40
UDS	Uniform Data System	7
USCDI	United States Core Data for Interoperability Standards	42
XML	Extensible Markup Language	35

# Chapter I

## Considering New Software?

There is a revolution in the dental software industry today that is changing the way organizations run their operations and do business. Some of these changes include software certification testing, advanced clinical and EHR features, cloud technology, better imaging integration, improved cash flow and risk reduction, higher levels of security, and more advanced technology platforms. Some dental vendors are embracing these changes and continuing to innovate to provide their customers with the most up-to-date solutions.

Many dental practices and CHCs may be unsatisfied with the customer support and service from their

present vendors, while others feel obligated to keep a system that was purchased to satisfy another department in the organization. Vendors that have both medical and dental modules have typically invested more in upgrading the medical component than dental, thus leaving the dental module behind—both in technology and clinical practice. Because of this software revolution, informed CHCs are re-evaluating their present software solutions and comparing it to alternatives on the market.

You may naturally feel some hesitation, thinking it will be too time consuming, or impossible, to change from one system to another. Keep in mind

vendors realize that customers *do* change software systems, and from a customer service standpoint, they should work with you to help you through this transition. It is reasonable to pay them for their time and assistance.

If you determine that your present system is not adequate for your long-term needs and you want to move on, then you should do so. However, it is also important to prepare your team for the transition. This guide is designed to provide you strategies to make your efforts less stressful, based on







the experiences of many others. There are links to online, printed, and video resources provided later in this Resource Guide.

There are numerous reasons why CHCs believe their systems may not be adequate for their future needs. These reasons can be broken into three categories: Features & Functionality, Technology, and Vendor Support & Communication. Common problems are noted within each category.

## Issues with Features & Functionality

***Current vendor innovation has been stagnant.***

Other vendors have developed new

features to meet the growing needs of a CHC. Examples may include:

- Integration of analytics and business intelligence
- Automated task and workflow management
- Tighter image integration and cloud-based image management
- Real-time claims scrubbing and eligibility checking
- Enhanced patient engagement and communications
- Enhanced electronic claims processing
- Clinical decision support
- Supported centralized administrative functions: oversight, compliance, billing office, call centers etc.

***The user interface has become old and outdated***  
Usability is not up to present standards.

***The system does not integrate information***

The interoperability does not support single patient registration, Uniform Data Systems (UDS) reporting, and sharing of problems, allergies, and medications.



## Issues with Technology

### ***Outdated infrastructure***

Vendor applications use older technology.

### ***Over-reliance on proprietary features***

Database structures are proprietary and not standard, do not accommodate external add-ons for enhancement.

### ***Limited mobile interface***

Mobile device access to the system is not as robust as modern technology provides.

### ***Limited accessibility***

Vendor does not offer a cloud-based model.

### ***Interoperability***

There is no potential for interoperability with the EMR.

### ***Lack of flexibility***

There is no teledentistry workflow capability.

### ***No scalability***

There is no potential to scale the system to support CHC growth.

## Issues with Vendor Support & Communication

### ***Dissatisfied with status quo***

Current vendor has provided poor or limited support.

### ***Reactive, not proactive***

Support has not been offered on a timely basis.

### ***Lack of support workflow and tracking***

There are no support escalation procedures/processes.

### ***Limited business scope***

Vendor does not act on CHC enhancement requests.

### ***Insufficient onboarding and/or maintenance***

Training is not adequate to support business or user needs.





## Chapter 2

# Taking a Team Approach to Software Selection

It will be no surprise to learn that in NNOHA's experience, the organizations that used a team approach and encouraged staff members from all impacted departments to be involved in the selection of new software typically had the most success.

In the selection process, there are a number of opportunities to get everyone involved. The initial phase of evaluation and selection is particularly critical. Just as dentists, hygienists, dental assistants, office managers, and other staff contribute their part to the overall operations of an efficient dental practice, almost all CHC staff members have some need to use the Practice Management Software (PMS) and EHR to contribute to the overall workflow of the dental department. Therefore, all staff members could provide meaningful insight.

While some staff might like certain features that others rarely use, it is important from the beginning of the process for everyone to recognize that *a unanimous recommendation may not be possible*. At the end of the day, a little compromise might be needed to get a system that works for everyone. The CHC certainly will need to have input from the information systems, finance, registration, billing, and other clinical departments.

Bringing in the team at this early stage is critically important to win support for the final decision. It is not uncommon to encounter resistance to change at this early stage. However, if management encourages doubts and questions to be voiced—and then directly addresses them—it will give team members a sense that their input is valued. Team



members will then be more inclined to be invested in the success of the new system.

*Team member investment is especially important when the implementation begins and routines are inevitably disrupted.* It is important that the project leader discern from each team member how their individual job function will be impacted by the final product, as well as how their functions will be affected during the transition itself. Each team member may not have their first choice selected in the final decision, but they will know that the project director is aware of their most pressing issues. Because everyone will be using the new system,

for the CHC to ensure that dental considerations are not overlooked.

## Departmental Working Groups

This is where the “heavy lifting” in vendor evaluation and selection takes place. The departmental working groups (IT Working Group, Clinical Working Group, etc.) should consist of front-line staff with detailed knowledge and experience within their specific functional area.

Departmental working groups can make or break an evaluation and selection project. These folks are responsible for determining needs and requirements in their respective functional areas, helping formulate and review the Request for Proposal (RFP), analyze RFP responses, develop various scenarios for vendors to illustrate, attend vendor demonstrations, and analyze demonstration results. Ultimately, these working groups will lobby for their respective departments and make recommendations to the Project Manager or Executive Committee for further discussion and final vendor selection.



everyone needs to feel and touch it before purchase. All potential users should have an opportunity to give input to the list of system features that are required. *A best practice is to establish an EDR committee with representation from all program areas, dentist, dental hygienists, clinical and operations support staff, dental office managers, IT staff, etc.* This committee can work closely with the Executive IT Committee

## Project Manager

The point person or project manager will be responsible for assigning tasks to committee members and assuring that the necessary committee work is being done in a timely manner. In addition, the project manager is responsible for keeping various phases in this process on track.



## Executive Committee

Overseeing the software selection process from a high level is the executive committee. This group typically consists of the CEO or designee, Chief Information Officer or IT Director, Chief Financial Officer, Operations Manager, and the relevant clinical directors, or a designee that is known for both clinical and technological expertise.

This group should also include dental leadership. It is important to note that the departmental representative on the Executive Committee is responsible for aggregating feedback from individuals in their respective departmental working groups during the evaluation and selection process steps.

The Executive Committee will ultimately be responsible for making the selection and purchase decisions based on analysis and feedback from respective working groups that have participated in all major phases of the evaluation.

Realistically, some compromise should be expected as the Executive Committee makes its vendor selection decisions. Each member of the Executive Committee has a different perspective, and one vendor will probably not meet all the needs and requirements of each functional area. *This guide is specifically designed to help the dental director participate in the Executive Committee process with data to support the department's recommendation.*



# Chapter 3

## The Selection Process

The selection process may feel daunting because the stakes are so high. Breaking the process down into separate steps can offer a formula for success and help ensure that all bases are covered.

### Step 1: The Priority List

The project manager should instruct the departmental working groups to list and prioritize features and functions that are important. Working group members should indicate which features are truly “deal breakers” and which features would be “nice to have” but are not necessarily critical to the use of the system. An example of a clinical “must-have” feature might be the ability to capture clinical doc-

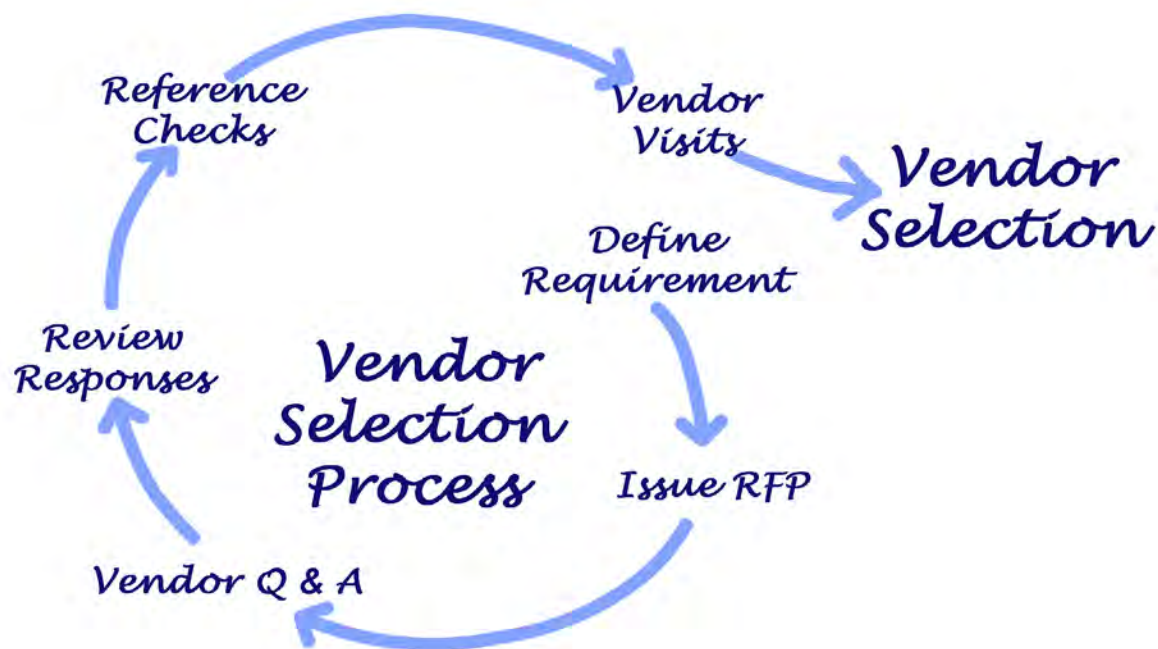
umentation in the form of structured or individual data items, whereas a nice-to-have feature might be a web patient portal.

The prioritization of features is especially important when comparing different vendors regarding specific features. With a particular software application, you might not get everything you want, but after prioritizing, it is easier to determine if a vendor has most of what you deem to be critical.

#### Can you keep a secret?

This priority list is for internal decision making only. It is critical that vendors you are evaluating are not





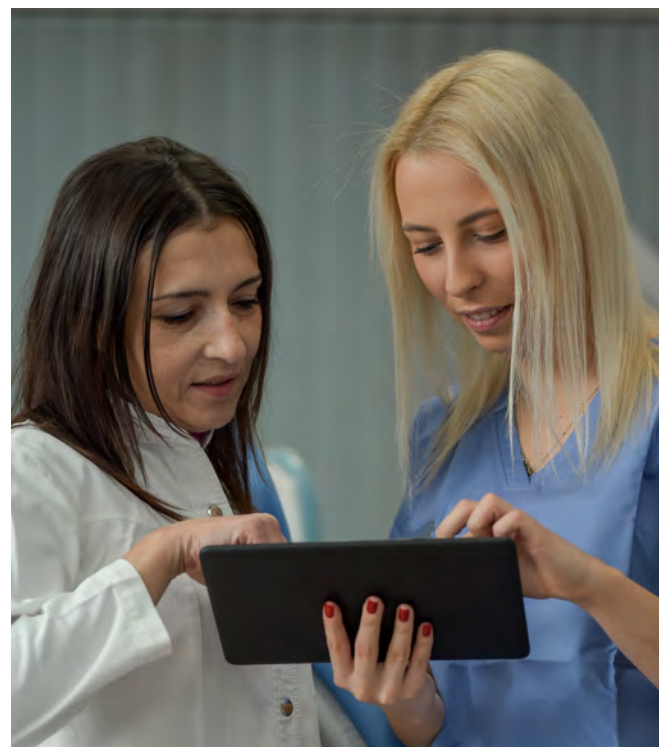
aware of which features you consider to be must-haves and which ones are considered nice-to-haves. *If a vendor is aware of which features are most important to you, then their responses to your requirements may reflect that bias, instead of giving you a candid assessment of true capabilities.* Later in this process you will be asking the vendors to respond to your needs and requirements. If you reveal too early what is important to you, a vendor could easily cater responses to their benefit.

Both short-term and long-term needs are important to consider. For example, some short-term needs might be the ability to consolidate all of a patient's clinical information in one place, make the clinical workflow more efficient and productive, or send automated follow-up notifications. Long-term needs might include offering patients a web portal to help support better communication or the ability to interface with a new imaging system that will be purchased down the road.

### Focus on functionality

One mistake some CHCs make when developing requirements is trying to design how the feature will work instead of sticking to the actual function

of the requirement. For example, when defining certain needed functions of clinical documentation, a working group member might specify how buttons and links should work instead of focusing on what the feature will accomplish for the clinician (seeing the proverbial trees, not the forest). Dedication to functionality will ensure that important goals are met.





While each department develops its list of *functional* needs and requirements, it is critically important to also identify and define *technical* needs and requirements. Each CHC typically has unique technical



needs that are important to define during the requirements process.

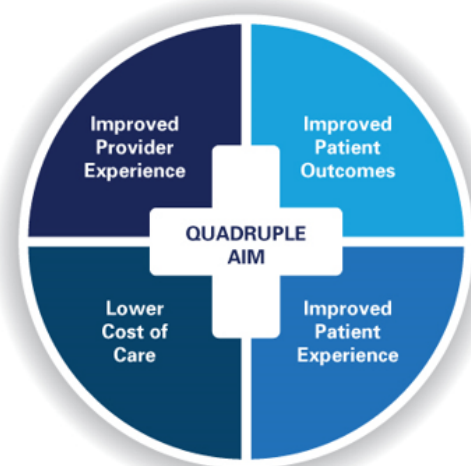
Picture an iceberg: The mass that is above the water represents the types of requirements you can see and feel while using the software. But the rest—often as much as 80%!—is below the surface and represents all the underlying technology that makes the system work. It is crucial to keep in mind the technical requirements that are not visible to the average user, or dentist. *You* must keep these in mind, along with the user's functional requirements, to ensure the system you choose will work as you need and expect.

So, how do you develop detailed technical needs and requirements? Your IT department representative, or an IT working committee, needs to be involved in the evaluation and selection effort. Their input is every bit as important as input from clinical, operations, billing, and finance working groups.

## Litmus test: The Quadruple Aim

When identifying software needs and functionality criteria, it may be helpful to apply the Quadruple Aim of HealthCare\* as a filter for evaluating each element. For instance, the Quadruple Aim would lead you to ask:

1. Does the feature support a **positive treatment experience** and better patient engagement?
2. Does the feature support **healthier outcomes** with tools that manage treatment planning, completion and tracking of planned care, and continuity of care with disease prevention and periodontal maintenance?
3. Does the feature support **how the dental clinician needs and wants to practice** with tools and protocols designed to optimize care delivery and to also reduce stress with accuracy, efficiency, and workflows?
4. Does the feature support sustainability and access growth (**cost-effective outcomes**) through both efficient and time-saving workflows and revenue cycle management capabilities?



\*The Quadruple Aim of HealthCare, widely accepted as a compass to optimize health system performance, was introduced in 2014 by Thomas Bodenheimer MD. Quadruple Aim graphic courtesy of Omega Medical Imaging.

## Examples: Prioritizing Software Features & Functionality

In the following tables, we examine hypothetical vendor software features and functionality, categorized by function, to determine what is important to a CHC. Using priority tags of *Must Have*, *Nice to Have*, and *Not Needed* allows for easy classification. Prioritization will also help you develop clinical, operational, and financial scenarios for vendor demonstrations at Step 4 of the selection process. A list of common requirements to consider, along with blank versions of these comparison grids, can be found in Appendix A and used to formulate your own lists and prioritization.

### CLINICAL REQUIREMENTS EXAMPLES

Feature	Category	Must Have	Nice to Have	Not Needed
Integration of digital images within the chart	Image Management	✓		
Multiple users can access the same radiographs simultaneously	Image Management	✓		
Ability to annotate images	Image Management		✓	
Real-time medication lists	Medication Management	✓		
Drug allergy checking	Medication Management	✓		
Generic equivalents	Medication Management		✓	
Real-time presentation of informed consent	Patient Education	✓		
Multimedia patient education material	Patient Education			✓
Ability to log into patient account on multiple computers at once	Chart Access		✓	

### REGISTRATION & SCHEDULING EXAMPLES

Feature	Category	Must Have	Nice to Have	Not Needed
Track referral source	Registration		✓	
Ongoing referral history in one screen view	Registration			✓
Patient portal: problems, medications, history	Registration	✓		
Alerts on copayment amounts	Registration	✓		
Automated rules for finding available time slots	Scheduling			✓
Phone reminder interface	Scheduling		✓	
Recurring appointments	Scheduling		✓	

### BILLING & CLAIMS MANAGEMENT EXAMPLES

Feature	Category	Must Have	Nice to Have	Not Needed
Adjustments and write-offs automatically update	Adjustments	✓		
Alerts for adjustments and overdue claims	Adjustments		✓	
Price override audit	Audit			✓
Manage incomplete patient visit documentation	Audit			✓
Attachments required by insurance company	Claims Management	✓		
Automatic claim submission	Claims Management	✓		
Add claims notes that can be viewed in the office	Claims Management	✓		
Clean claim capability	Claims Management	✓		

## Step 2: The Request for Proposal

There are many factors to consider when evaluating software vendors beyond the obvious functions of the product itself. It is necessary to make sure the software company can meet your organization's functional requirements, use modern and standardized technologies, and provide scalability for future growth. The dental department must also consider the vendor's capacity to implement the new system and train your staff. And you will need a detailed description of the contract terms and pricing.

So how do you organize all this detailed information into an “apples to apples” comparison with information from other vendors? There is a tool that can pull all this information together for a proper analysis: the Request for Proposal (RFP).

RFPs are important because they:

- Communicate your needs, priorities, and expectations to potential vendors
- Provide for side-by-side, apples-to-apples vendor comparisons
- Document vendor commitments and promises from a legal standpoint by including the RFP as an exhibit to the contract
- Demonstrate that you, as an organization, have done due diligence to choose the best product possible for your CHC

Soliciting RFPs from vendors does not cost anything but your time. Because RFPs require vendors to prepare customized proposals, the process gives you a good idea of which vendors are serious about working with you and which can best accommodate your needs. A sufficient number of vendors should be considered to ensure you have

enough options, because you may not get response to your RFP from all vendors.

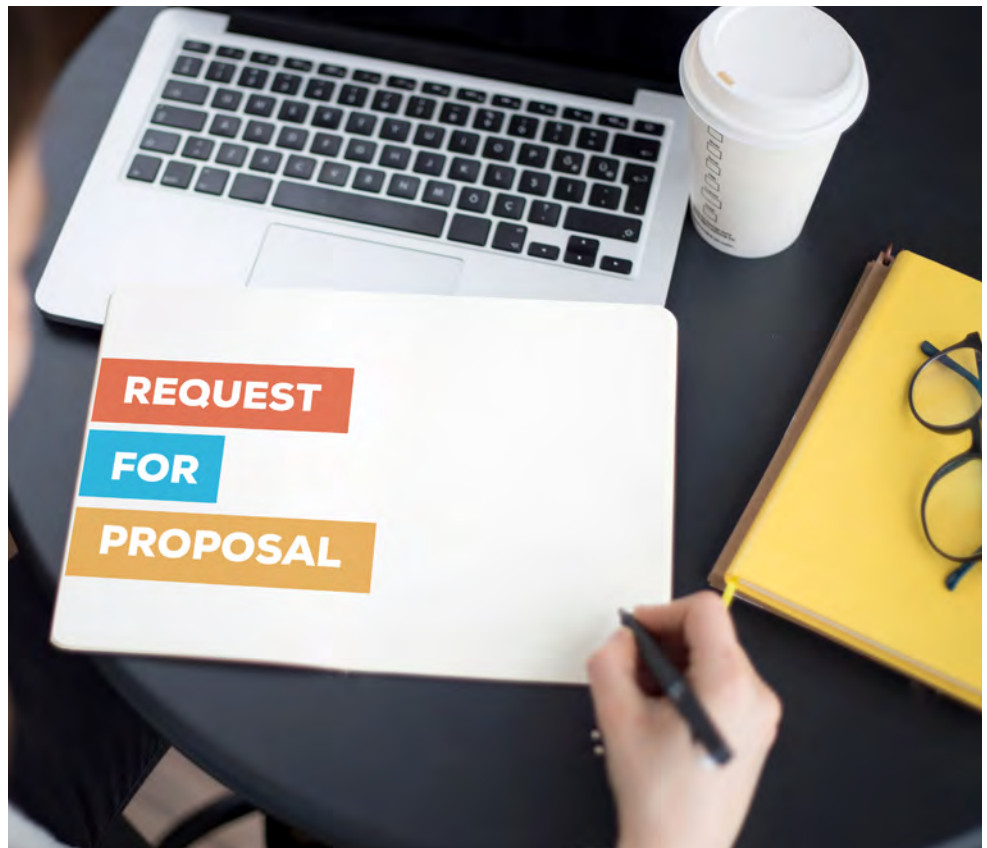
The RFP can cover several areas and at a minimum should include:

1. List of vendor software features and functionality
2. Vendor business profile
3. Underlying technology that the software is built upon
4. Vendor's implementation and training plans
5. Description of the vendor's support processes
6. Sample contract and agreements
7. Detailed proposal of cost items
8. List of references/satisfied customers

*See Appendix B for suggested content for an RFP.*

### What should a CHC look for in a vendor?

Ask potential vendors about their experience with CHCs or other similar sized organizations. It is very important to ask if they have any level of interoperability with EMRs. Ask about the size and experience of support and customer service staff







be surprised later with bills for “additional services or modules” that push the total cost above that of a competitor’s total bid.

It is important that different proposals specify similar products and services. For example, when comparing two vendors, one proposal might have items related to software, services, and support, while the other proposal might include software, services, support *and* the cost of an interface to your imaging system. Your team must determine the CHC’s priority list (Step 1) before sending the RFP to the selected vendors. Convey this information to each vendor in the same way so that their pricing proposals accurately reflect what items they are able to provide.

Remember that once you sign a deal and implement a new system, it is very difficult to go back if you realize there are some items you did not specify initially and that are out of the scope of your budget. These proposal templates given to the potential vendor should not just include items that you need initially but also items that you perceive you might need down the road so you could at least get a basic idea of what they might cost.

and their research and development staff. Make sure that they have sold and supported software to CHCs that are similar to yours.

Ask vendors if they reinvest in research and development or support. When was the last time they had a major update or release? Profiling a vendor’s organization and sales history can be valuable information when comparing proposals.

### **Comparing price, value, and total cost of ownership**

It would be nice if all vendors used a standardized pricing template, but this is not the case. The burden is on the CHC to compare various proposals item by item. You and your executive team must understand all elements of a pricing proposal to properly compare prices.

It may not be easy to put the different proposals into an apples-to-apples comparison. You must make every effort to have *all* costs in your comparison to ensure you will not



## Step 3: Analyzing the RFP

After you receive RFP responses from your pool of candidate vendors, either the selection committee or the various working groups need to analyze the results.

It is possible to quantify vendor responses in order to use an apples-to-apples comparison approach. This is especially true of vendor responses to your list of prioritized software features and functionalities from Step 1.



### Developing scorecards

Here's how it works: In Step 1, you prioritized each software requirement as *Must Have* or *Nice to Have*. Then in Step 2, when responding to your RFP, the vendors, in turn, categorized each of those items as *Available* or *Not Available*. These two sets of data provide an excellent starting point for quantitative analysis.

If you apply a scoring system to this information—let's say you assign 10 points to every *Must Have*,

5 points to every *Nice to Have*, and 0 points to every *Not Needed*—and then award points based on corresponding vendor availability—full points if *Available*, no points if *Not Available*—then you can derive a quantifiable score for each requirement, as illustrated below.

Repeating the process for all vendors can yield a wealth of data for your team to review, analyze, and compare.

#### 1. ASSIGNING SCORES TO FEATURES

Requirement Description	Category	Priority			Availability		Score
		Must Have	Nice to Have	Not Needed	Yes	No	
Clinical dashboard provides a patient summary view	Charting	✓			✓		10
User can designate certain data entry fields as required	Charting	✓			✓		10
Hands-free perio probing foot integration	Charting			✓	✓		0
Progress notes narrative can be edited	Charting	✓				✓	0
Customizable progress note structure	Charting	✓				✓	0
User-friendly progress note template editor	Charting		✓		✓		5
Audit of chart changes	Charting	✓			✓		10



After you have categorized the requirements and assigned scores to each individual item, it is now possible to assign scores to each category. Depending on your particular needs, one category might carry more weight than another category in your final analysis. It is helpful to be able to

compare and contrast the relative strengths and weaknesses of each vendor in specific functional categories. Also note that in addition to calculating a general score for each category, it is helpful to calculate the percentage of total Must Haves since these can be considered deal breakers.

## 2. ASSIGNING SCORES TO INDIVIDUAL CATEGORIES

Charting	Vendor A	Vendor B	Vendor C	Possible Score
Score	85	70	60	95
Score Percentage	89%	74%	63%	
Must Haves - Number	6	5	4	6
Must Haves - Percent	100%	83%	67%	
Image Management	Vendor A	Vendor B	Vendor C	Possible Score
Score	195	170	150	215
Score Percentage	91%	79%	70%	
Must Haves - Number	17	17	16	18
Must Haves - Percent	94%	94%	89%	
Medication Management	Vendor A	Vendor B	Vendor C	Possible Score
Score	515	440	400	615
Score Percentage	84%	72%	65%	
Must Haves - Number	49	44	38	58
Must Haves - Percent	84%	76%	66%	
Patient Education	Vendor A	Vendor B	Vendor C	Possible Score
Score	70	90	110	130
Score Percentage	54%	69%	85%	
Must Haves - Number	7	10	11	12
Must Haves - Percent	58%	83%	92%	



## Assigning scores to functional areas

Finally, with scores calculated for individual items as well as specific categories, you can take your analysis a step further and assign scores to each of the functional areas.

This is important because each functional area will carry different weight depending on the goals of your organization. During your analysis, you can determine those priorities.

### 3. ASSIGNING SCORES TO FUNCTIONAL AREAS

Clinical	Vendor A	Vendor B	Vendor C	Possible Score
Score	1320	1020	1150	1775
Score Percentage	74%	57%	65%	
Must Haves - Number	100	79	90	127
Must Haves - Percent	79%	62%	71%	
Registration & Scheduling	Vendor A	Vendor B	Vendor C	Possible Score
Score	1815	1290	1125	2190
Score Percentage	83%	59%	51%	
Must Haves - Number	147	129	118	171
Must Haves - Percent	86%	75%	69%	
Billing & Claims Management	Vendor A	Vendor B	Vendor C	Possible Score
Score	1550	1630	1250	2155
Score Percentage	72%	76%	58%	
Must Haves - Number	150	163	123	209
Must Haves - Percent	72%	78%	59%	

## Step 4: Conducting Vendor Demonstrations

Claiming to have specific features and functionality is one thing, but it's another thing entirely to make sure such features are easy to use, intuitive, and navigable by your staff. This is the subjective part of the process and where many CHCs fall short. This is what the vendor demonstration is all about.

The vendor demonstration is where a vendor gets to *show* you, not just *tell* you, what their product is all about. Make sure the vendor account representatives do not control the demonstration, showing you what they want to show you or evading the questions that are most important to your team. *The CHC must remain in control of the process.* So instead of spending unnecessary time

observing functions that might not be critical to your decision making, you should take charge to ensure your team gets what they need out of each demonstration, not just what the account representative thinks they need to show or tell you.

With integrated practice management and EDR systems, the first step is to develop clinical scenarios that represent what the team would normally see on a daily basis. You can embellish these scenarios with hypothetical issues and problems that may come up during a visit. It is very helpful to see how a vendor and their software deal with these types of scenarios. Sometimes it is difficult to keep to the script, especially when an account representative has their own agenda. Just remember you are trying to get answers to what *you* need, so stay with the program. It is helpful to add additional elements



to the scenario during the demo as you think of them; these extra issues will really test the system. The main goal is to see how the software handles different situations, so be sure to have the vendor demonstrate how they would handle some of the tougher cases that you have experienced.

Additional resources for vendor product analysis can be found in the appendices:

- *Appendix C: Vendor demonstration scorecard*
- *Appendix D: NNOHA's HIT workgroup's observations on vendor demonstrations*
- *Appendix E: Questions to ask during a site visit*

Whether you use these tools or develop your own, it is important to be as consistent as possible to ensure an equitable comparison.

#### 4. SAMPLE VENDOR DEMONSTRATION SCORECARD: OPERATIONS

5 = Exceeds Expectations      3 = Meets Expectations      1 = Below Expectations

Vendor A			
Category	Functionality	Ease of Use	Comments
Practice management dashboards/summaries	3	3	Dashboards missing
Patient registration and information retrieval	3	5	Simple process to enter info
Patient call record	3	5	Simple process to enter info
Scheduling template creation and edit	1	1	Difficult to understand/use
Patient scheduling and appointments	5	5	Excellent process
Patient check-in	5	5	Well designed
Patient check-out	3	3	More difficult than it should be
Practice operations task and workflow support	3	1	Too difficult to use
Practice internal communications	3	3	Appears somewhat useful
Treatment planning and management	5	3	Nice presentation of treatment plans
HIPAA-compliant patient communications	3	3	Adequate

## Step 5: Conducting Reference Checks & Site Visits

Even after you have identified your first choice and have been offered what seems to be a fair price, you may have some lingering questions. Such as:

- How do you know that the software you are interested in has performed to expectations for others over time?
- How can you know if implementation, training, and go-live have gone as expected for others?
- How do you know if other customers have been satisfied with support from your chosen vendor?

A good way to be comfortable that you are making the right decision is through reference checking.

When checking references, it is important not just to call customers the vendor recommends, but to also find additional CHCs who use the system you are investigating. One way to find potential references is to post a question to the NNOHA Listserv asking if other organizations would be willing to let you contact them with some questions about Vendor A. If you receive an invitation to call another organization, it is essential to be prepared with a list of pertinent questions so you can compare references fairly and equally.

It is helpful to have a set of identical questions that are asked of each reference. Besides finding out how satisfied they are with the use and operation of the system, you should find out about the experiences of your fellow CHC dental directors who use this software, including any negative experiences or problems. In particular, ask about the vendor's implementation, support, and communication. Negative experiences can happen to anyone. How did the vendor respond? Did the vendor's performance match the

expectations they had set? What was the final outcome, and are there any ongoing issues that need to be resolved?

Reference checking will render the most meaningful results if the CHC you question is comparable to yours in terms of staff size and IT support. And if members of their original RFP review committee are available for you to consult, you may be able to collect a wealth of additional insights to enhance your evaluations.

To be complete in your reference checks, organize your questions to cover the following topics:

1. CHC profile
2. Vendor A's product features and functionality
3. Vendor A's implementation and training
4. Vendor A's support and maintenance
5. What might they do differently next time?

A site visit of a health center using the software is highly recommended, if feasible. Guidelines and suggestions for site visits, including sample questions, can be found in *Appendix E*.





## Step 6: Final Vendor Selection

After you have completed your reference checks, it is time to bring the selection committee back together for a final analysis in preparation for choosing the vendor. At this point, the committee needs to review all the major milestones up to this point in the evaluation process.

### RFP analysis

It has probably been some time since you completed your analysis of the vendor RFPs. Before you make a final decision, it would certainly be worthwhile to revisit why you chose to move forward with a particular vendor in the first place. Remember that all the vendor responses—whether relating to features and functionality, implementation training, support, or technical capabilities—are representations that you have used to make your decisions thus far. Therefore, the vendor is accountable for these representations from a legal standpoint if you choose to use the RFP as a contract exhibit.

### Demonstration analysis

If the RFP is indicative of what the vendor has the capability of doing from a feature and functionality standpoint, the demonstration allows you to predict how this software would fit into your organization on a daily basis. By using the vendor demonstration scorecards to analyze vendor presentations, you give yourself another powerful tool to quantify results. This allows you to do a proper comparison to support your final vendor decision. Using the scorecards should lead one solution to stand out from the rest.



### Reference checks

Conducting customer reference checks is the final piece of the puzzle to confirm what the vendor is representing in their RFP and in their demonstration. It is critical that you ask the right questions to get a realistic feel for how the vendor performs and whether or not they support their customers in a long-term partnership.

After you have completed all these analyses, the team should be able to move ahead and select the vendor of choice. That means that all the checkboxes are marked and the software offers the features and functionality the team has identified and prioritized. The CHC is comfortable that the vendor can successfully guide them through implementation and training. The support guarantees fit your expectations. The technical framework surrounding the solution is solid and scalable.

## Step 7: Negotiating Vendor Contracts & Pricing

You would think that would be the end of that, and your vendor is selected. However, the final critical step is making sure the team negotiates pricing that fits into the organization's short-term and long-term budgets, as well as negotiating contract terms and conditions that are reasonable. This step is typically completed by the Executive Committee.

The process of final negotiations with your vendor of choice may give insight into how your potential partnership will develop. If the vendor made a sincere effort to help meet your needs in the pricing and contract negotiations phase, then there is less likelihood they might push back when you need hands-on support and/or service. The process of contract negotiation should be the final gateway to



choosing the vendor that is right for you.

In addition to providing key areas for consideration, related recommendations are offered to guide your negotiations.

## **Warranties and guarantees**

**Software Functionality:** Functionality means that the software works as it should, in accordance with what the user documentation specifies for performance. This is usually guaranteed for a specific time period after “Go Live” (the point of implementation). In case bugs, errors, or problems occur, the contract needs to include specific timeframes and steps for communication and fixes.

Be aware of:

- Functionality commitment across changes such as versions, regulatory requirements, and software interfaces
- The standard for functionality, which may exist in the Help files, reference materials, or other documentation
- Timeframes for fixing functionality and consequences/remedies if timeframes are not met
- Who can install the software under the warranty, including whether a practice member can do installation or if an authorized/certified representative must install
- Eligible professional responsibility
- Warranties about performance (not all vendors will guarantee ongoing performance due to software interactions and complexity, but you should at least inquire about such warranties)

**Recommendation:** Remedies should be documented in the event a vendor cannot repair functionality after the timeframe has elapsed.

**Regulatory Compliance:** In addition to Meaningful Use, many other regulations apply to dental software. Regulatory conditions change over time as rules and

circumstances alter. Regulatory compliance in a contract is a commitment by the vendor to address and meet future regulations, such as changes to HIPAA or other regulations. A key question for practices to ask is whether that compliance upgrade is free to the practice, or if there will be additional costs or fees. The timeline for vendors to reach compliance should also be specified.

**Recommendation:** Ensure that the vendor commits to regulatory compliance within a specified period after new regulations are introduced, preferably at no extra cost.

**Standards Compliance:** Standards pertain to specific kinds of functionality like interoperability, or the ability to export to registries or accept input from device interfaces. Contracts usually spell out compliance for existing standards and specify which standards are met by the software.

In addition, your CHC may want the vendor to commit to meeting new or revised standards. That may be difficult, particularly if the standards have not yet been defined. However, understanding how the vendor will work to remain in compliance with industry standards over time, as well as government and certification standards as they are updated, is key to ongoing software functionality. You should ask if standards compliance is included in regular upgrades or if there are additional fees.

If you use unusual interfaces, the contract should specify any charges for a specific interface that does not meet an industry standard.



Be aware of:

- Health information exchange requirements
- Evolving standards for interoperability
- Data exchange for referrals, dental laboratories, and to physicians
- State registries for clinical research, if applicable
- Imaging equipment and devices

**Recommendation:** *Make sure the vendor is committed to keeping up with evolving industry standards.*



## Support and maintenance

**Vendor Responsibilities:** Vendors will assume various support and maintenance responsibilities for the software. This could include issue resolution, releasing updates, patches for bugs, and new features or enhancements. Typically, vendors spell out their support and maintenance commitments.

**Recommendation:** *Understand what items are included and excluded from vendor commitments.*

**Client Responsibilities:** Many aspects of hardware and software maintenance may fall to the client/user. The contract should specify client responsibilities for the software to function in the active environment, including issue reporting responsibilities.

**Recommendation:** *Understand and commit to client responsibilities to ensure the software will provide utility in your clinic.*

## Third Party Responsibilities (if applicable):

Components may be integrated into the software that are either licensed or purchased from third parties. Examples may include drug databases, patient education databases, electronic prescribing tools, and more. The contract should specify such third parties' responsibilities and commitments, as well as methods for the client to report problems.

**Recommendation:** *Understand any third party responsibilities and how to communicate if they are not met.*

**Support Term:** The duration of support must be specified in the contract. Often, the support term is one year, with a clause that dictates annual automatic renewal.

**Recommendation:** *Know how long your support coverage will last and if it renews automatically.*

**Support Hours:** Make sure you determine the support hours in your local time zone for each medium of interaction with a vendor.

Some vendors provide 24/7 technical support; others offer support during traditional business hours based on their geographic location.

**Recommendation:** *Know your coverage window and when you will be able to reach the vendor for live support.*

## Response and resolution commitments:

These clauses concern how much time the vendor is given to respond to an issue or support request and resolve the problem once reported. Response and resolution times can differ depending on the severity of the issue. Are there credits or reductions in cost associated with failure to meet response and resolution commitments?

**Recommendation:** *Specify a timeframe that allows your CHC to continue ongoing operations and understand the severity tiers that dictate response time.*

**Escalation:** This is the process by which a customer can escalate an issue through the vendor organization

if the initial response is unsatisfactory. Typically, an escalation clause will define who the problem should escalate to within a certain period of time. Someone at the CHC should maintain a log of reported problems and resolution status to keep track of escalation and follow up on unresolved issues.

**Recommendation:** *In addition to reporting problems to the vendor, keep track of response time and know how to escalate problems if resolution does not occur in a timely fashion.*

**Upgrades, updates, releases, and feature enhancements:** All software is upgraded and updated. However, different vendors support upgrades in different ways. Ask whether upgrades are included in vendor support or if there are additional charges. You also need to know if upgrades happen automatically, or if your team needs to take steps to implement those changes. The upgrade cycle and dates for vendor communication should be clearly stated. Updates should be scheduled at a time that does not interfere with patient care.

**Recommendation:** *Understand how to ensure continuous upgrades, whether there are additional costs, and how often to expect them.*

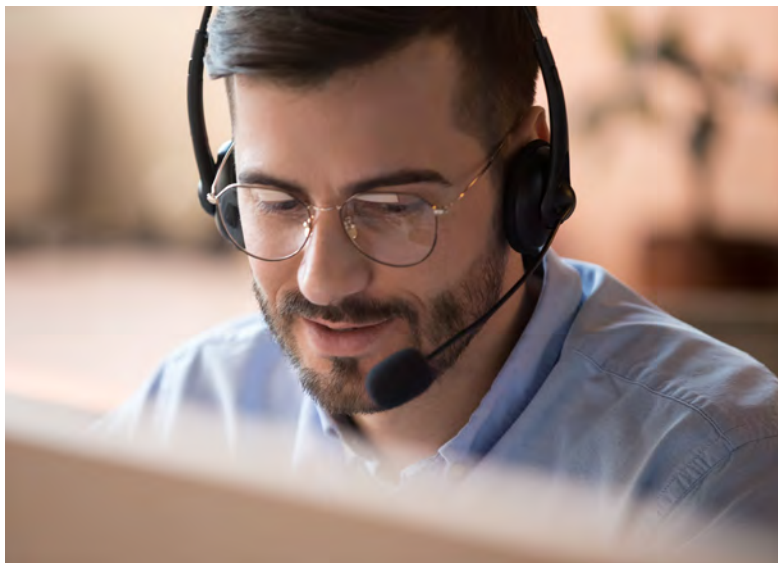
## Pricing

**Software payment terms:** For traditional software, often the cost is a fixed fee. However, the payment may be broken up by key milestones. This can be defined in various ways, depending on the situation. Here's one sample structure:

- 30% upon execution of contract
- 20% upon installation
- 30% upon Go Live
- 20% 30 days after Go Live

In this example, the payment is directly tied to project milestones and vendor accountability; the vendor is not acting as a financing organization.

**Recommendation:** *Always make sure there are logical payment milestones for the project. You should not make full payment up front.*



**Price/Fee Increases:** Many contracts include planned price increases for ongoing services like maintenance or hosting. Some clauses provide for a period when the price is frozen before increases kick in. Sometimes there will be a cap on the amount or percent these fees can increase for each period.

Vendor fee increases may be dictated by external factors, such as third-party licensing. In those cases, vendors (and their clients) may be at the mercy of a third party vendor's pricing policies. One common approach to limiting fee increases on support/maintenance agreements is tying such increases to standard economic indicators. This can help you budget for recurring costs. For items that can have caps, increases may be based on an inflation index like the Consumer Price Index (CPI) or a multiple of the index.

Be aware of:

- Items that incur predictable increases
- How often increases can occur
- Basis and/or amount of increase and any caps (basis refers to metrics used for potential price increases such as CPI)

**Recommendation:** *The initial pricing should be stable for a fixed period, and potential increases should have an annual cap.*

**Termination and transition:** Termination rights can be supported by a number of reasons but are

typically exercised for breach of contract by either side. Generally, either party may terminate the agreement, although written notice is usually required within a specified timeframe. It is important to understand what fees might be refunded or retained by the vendor, as well as what items need to be provided/returned from the vendor to the client (e.g., data files) or from the client to the vendor (like CDs and software documentation).

In most cases, upon termination of your contract, your CHC would be transitioning to another vendor. Upon termination or expiration of agreements, a vendor will usually provide read-only documents and/or print access to selected data as required by HIPAA. However, it is helpful for the vendor to agree to provide assistance in converting data to a new system (typically at a standard hourly rate). It may also be helpful to agree that you will be provided with structured data in an industry standard format.

Keep in mind that because system conversion does not begin until after contract termination, you must confirm there will be a window for you to continue running the old system for a defined period of time, and to receive support as needed for some period after termination.

Be aware of:

- Scenarios where termination can occur
- Notification method and timeline for termination
- Access to data and format of data after termination
- Transition time to cover software use and support after termination and during data migration
- Vendor responsibilities regarding transition to a new system
- Data conversion formats available

**Recommendation:** *Ensure that the vendor agrees to a transition plan at the time the initial contract is negotiated.*

**Confidentiality and Business Associates Agreement (BAA):** Both your CHC and your chosen vendor will most likely have access to confidential data about each other over the course of the relationship. A confidentiality clause ensures that both parties agree to protect confidential information and not share or disclose it. This confidentiality only applies to information acquired that is not generally public knowledge. In addition, a HIPAA BAA should be executed that addresses PHI in particular.

A business associate is not a member of the organization, but does work for them (for instance, a subcontractor). A BAA extends the confidentiality clause to include anyone with access to protected data.

**Recommendation:** *Ensure there is a confidentiality provision addressing the fact that, throughout the life of the business relationship, each party will potentially have access to confidential information pertaining to the other party. Also, you need to implement a BAA that addresses potential HIPAA breaches based on the vendor-client relationship.*

**Data ownership and intellectual property rights:** The vendor should not have the right to store or use patient data except to meet your expressed needs related to the software system. Templates and custom forms developed for you or by your team may contain intellectual property that your CHC should own. In that instance, vendors must be prohibited from sharing that information unless you provide that permission. However, all basic and underlying forms and tables will be owned by the vendor, and you must not distribute them without permission. You, the client, are responsible for accuracy and validation of data, including managing data according to regulations and standards.

**Recommendation:** *Define which party owns what intellectual property and how it can be used/shared. Understand each other's rights and responsibilities related to data management and security.*



## Chapter 4

# Other Issues in Health Information Technology

There are many other important areas where the electronic health system can play an important role for the CHC and therefore could factor into your exploration, discussion, analysis, and final decision. Such topics are explored in detail in this chapter.

### Teledentistry

The number of vendors that have cropped up offering “teledentistry” solutions can be confusing. This was to be expected as the COVID crisis presented business opportunities to software vendors. Integration of teledentistry could prove to be a game changer for many CHCs as we move into an increasingly virtual world.

What is alarming, though, is that in seeing the business opportunity presented by the pandemic, several companies have quickly thrown together basic teleconferencing capabilities marketed as “teledentistry solutions.” Teleconferencing capabilities refers to the growing use of video platforms such as Zoom, Google Meets, and Microsoft Teams to virtually connect parties in two or more different physical locations—in your case, patient and provider—in a live, real-time, video discussion. Some dental EHR vendors

have integrated this technology within their platforms.

As CHCs look to incorporate teledentistry into their workflows, it is getting more difficult to navigate the landscape due to the sheer number of vendors offering solutions. Adding to the confusion is the fact that there are also “homegrown” options, which are based on culling together disparate third-party applications (video conferencing, scheduling, payment processing, etc.). What is your CHC supposed to do if you want to embrace teledentistry as an offering for your patients both during the pandemic and beyond? Where should you start to effectively navigate through the maze of vendors and solutions offered, some of which may not be





committed to providing true teledentistry going forward?

If your goal is only to have the ability to communicate with your patients in real-time in a remote setting, then an off-the-shelf video conferencing solution might do this at the lowest level (not considering HIPAA compliance and security). However, teledentistry is more than just a real-time video conference with a patient.

The first step is defining how you will use teledentistry, both now and in the future, and understanding the features and functionality that will support those

## Customized consent and history forms

The system you purchase should give you the ability to send and receive the same consent forms for your virtual visit that you would use in an onsite visit. It is also critical that you add COVID-specific consent forms to the packet your patient completes online. Remember, the virtual visit holds as much liability as an in-person visit. In addition, the teledentistry solution you use should utilize electronic forms for collecting patient information like clinical history, current problem, and medications that are similar to what you would gather in an onsite visit.



objectives and goals. True teledentistry is not just about doing teleconferencing with patients (that's the easy part). It also incorporates additional functionality within the virtual visit workflow, including asynchronous communications, collaboration, and more, which make it a solution from which a dental organization can truly benefit.

Here are a few features that you should be thinking about as you evaluate teledentistry vendors and their technical platforms:

## Teledentistry, EHR, and practice management Integration

A virtual visit would not be very helpful without the ability to document all aspects of the visit, just as you would do in an onsite visit. Some products on the market offer no ability to document within the teledentistry software itself. Other vendors are working toward real solutions to provide integration with various PMS/EHR systems. This is not a simple task. There can be a level of complexity that might pre-

clude a seamless integration. This can be mitigated somewhat if there is full cooperation between teledentistry and PMS/EHR vendors.

## Asynchronous and synchronous workflows

There is much confusion surrounding these teledentistry terms. *Synchronous communication* in teledentistry involves facing a patient in real time using secure HIPAA-compliant teleconferencing. *Asynchronous communication* in teledentistry is more commonly referred to as “store and forward”

capability (meaning correspondence is saved/stored within the system and then forwarded to provider or patient through a behind-the-scenes workflow step). Some teledentistry platforms offer real-time synchronous visits, while others support asynchronous text or chat-type visits. Not all platforms support both types of visits.

If you are evaluating platforms that have both types of visits, make sure it is easy to switch back and forth and there are alerts and reminders to keep both provider and patient informed. Systems that offer “push” communications—notifications that are automatically pushed (or sent) to recipients, rather than “pull” communications that recipients must manually seek (or retrieve) on their own, and without any prompting—would obviously be preferable.

### **Case collaboration**

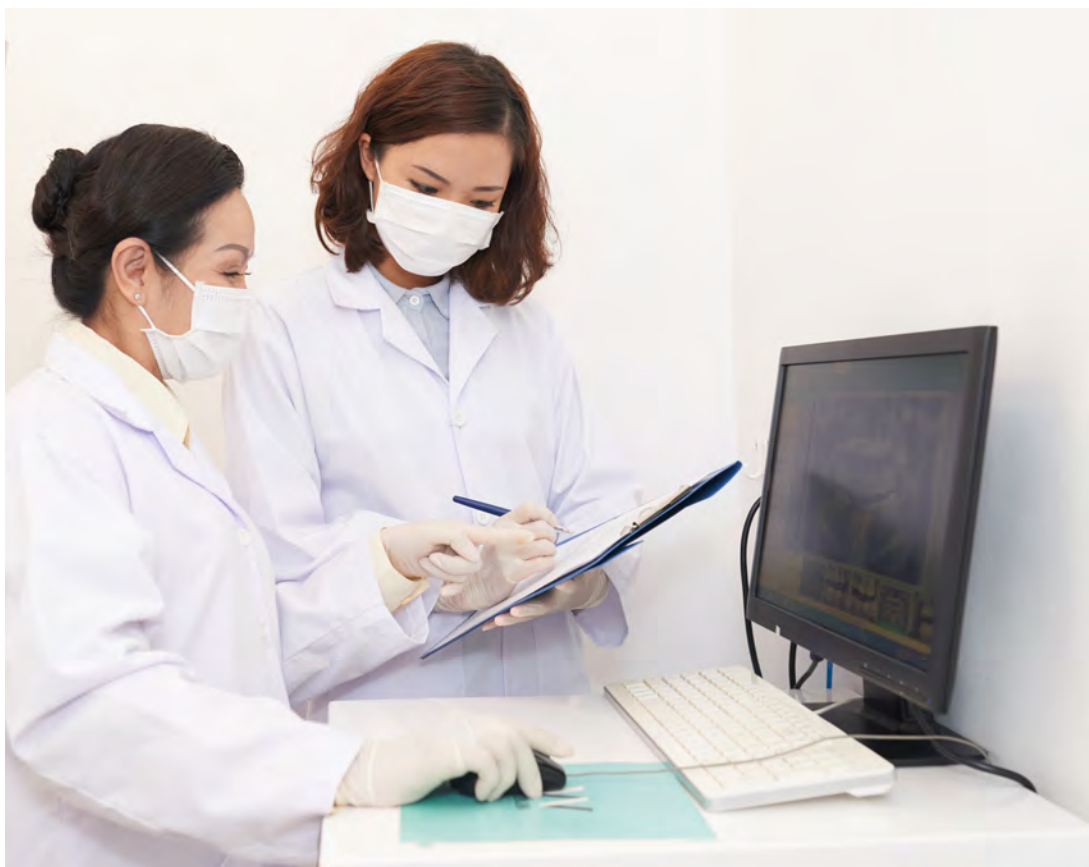
Collaboration functionality is essential in a teledentistry system and may give you functionality that typically would not be available in an onsite visit. Using teledentistry, a CHC can achieve case collaboration occurring either in real time or behind the scenes. The ultimate benefit is the bringing together of the medical providers, dental providers, and enabling services such as interpreters or case managers.

Both synchronous and asynchronous functionality should allow for collaboration between the patient, CHC provider, and any outside partners that are involved in the case. From the standpoint

of patient care, it is very helpful during the video portion of the virtual visit to bring in a care team and support capability to share records, images, comments, etc. Being able to share those items with other specialists using asynchronous store and forward functionality, both before and after the patient visit, is another benefit to patient care.

In addition to offering all the advantages noted above, employing teledentistry is also an excellent strategy to triage emergent concerns and/or identify when the patient should be asked to come into the office to address post-operative follow-ups, complications, patient concerns, and other needs that require onsite attention. A good percentage of routine office visits can be handled satisfactorily via teledentistry, enabling the CHC dental team to focus in-person attention to more critical onsite needs.

For further information on teledentistry, consult the [NNOHA Teledentistry Users' Guide](#) published in 2021.





## ePrescribing

Electronic prescriptions, or ePrescriptions, provide the ability to electronically select medications and send them directly to the pharmacy, bypassing the manual processes of faxing, phone calls, or handing paper to the patient. In addition to accommodating ePrescriptions, your HIT system should also possess the ability to track *all* of the patient's medications, provide allergy alerts, and indicate drug-to-drug interactions. Many states are now requiring providers to ePrescribe.

### Medication lists

Many patients are unable to remember all their medical conditions or recall the names of the medications they are currently taking. With ePrescribing, it is easy to push a button to display a list of all medications a patient is currently taking, even if prescribed from different sources such as primary care, specialist, or hospital.

These powerful features are full of checks and balances to make sure the drugs you prescribe do not cause adverse effects with each other or with the patient's medication list obtained through the electronic prescription clearinghouse. The system also checks for interactions



with the patient's documented allergies and health conditions. A key benefit is knowing if any of your patient's medications will have adverse interactions with the anesthetic you are about to administer.

### Dental-specific decision support

There is functionality within some ePrescribing systems known as "dental-specific" decision support. With this innovative feature, you are alerted to a specific drug's potential effects on dental treatment, including various complications that can occur. It is helpful to know in advance whether certain medications cause bleeding, dry mouth, or other complications, as well as a list of alternatives that do not cause such adverse effects.

### Real-time formulary checking

A big advantage of ePrescribing is that it has become standard to automatically check a patient's formulary when writing your electronic prescriptions. This gives you the opportunity to have a conversation with your patient regarding whether the medications will be covered or not and, if not, what other alternatives might exist.

### Controlled substances

The Drug Enforcement Administration changed the classification of drugs that contain hydrocodone combinations from Schedule III to Schedule II.

Most of the ePrescribing vendors were ready for this change using EPCS (electronic prescriptions for controlled substances). From a workflow standpoint, there are a few extra steps regarding the checks and balances for prescribers.

For example, typically a two-factor authentication



is required when ePrescribing. This two-factor authentication consists of security codes/tokens that are received and entered during the controlled substance ePrescribing process. The objective is to verify the identity of the prescriber. The pharmacy selected during the ePrescribing process must also be able to accept controlled substances electronically. In some states, you might be required to identify a supervising provider. Some EHR solutions have an interface with the Prescription Drug Monitoring Program that archives when a search was completed prior to prescribing a controlled substance. The good news is that controlled substances are now carefully monitored as a part of electronic prescribing.

### ePrescribing models

Because providing all the features and functionality described above is so complex, including the need for continual adherence to ever-evolving state and federal regulations, there is a blossoming industry consisting of third-party vendors that specifically provide ePrescribing functionality, either directly to a provider or through an interface with the provider's dental software.

Today, the ability to electronically prescribe is offered in one of two ways:

- 1. Standalone:** With a standalone version, you log into the ePrescribing vendor's system and use their screens and functionality directly. The benefit of this approach is that you don't necessarily need dental software that interfaces with a prescribing system. However, you *do* have to toggle back and forth between your dental software system and the ePrescribing system, and you may have to re-enter a patient's demographic information. This is not very smooth from a workflow standpoint.
- 2. Integrated:** With an integrated system,

your dental software will typically have an ePrescribing button on one of the screens... and when you push it, the ePrescribing vendor screen is displayed along with all the available functionalities. Patient information is automatically passed through the ePrescribing software, there is no switching between systems, and accessing this screen fits into your normal workflow. There are really no issues with this approach, except that your dental software *must* integrate with one of the ePrescribing vendors.



### Electronic Referrals

New technologies are making it possible for dental providers to create referrals to specialists while the patient is still in the room. Providers can choose the specialist to be seen and send the referral electronically, along with all pertinent records including images. Then, after the specialist has completed the treatment of the patient, the specialist can note the treatment in the electronic record, and the information can be sent back to the primary dentist to close the referral loop.





The advantages of electronic referrals over manual referrals involving phone calls and/or faxed documents include greater security, improved timeliness, and better monitoring that the referral visit was, in fact, accomplished. And when you add more efficiency to the process with a web-based patient portal, it is now possible to add HIPAA-compliant messages to the patient-accessible chart. This allows a patient to complete necessary forms prior to being seen. Bonus: After the patient leaves the office, even if they lose the referral details, they can go online to find it because the information is available right there.

Features within electronic referral networks may include:

1. The ability to send the referral electronically from within the patient's chart, even while still with the patient
2. The ability to pick and choose the sections of the chart that are pertinent to the referral
3. Automatic audit trail of referrals that were sent
4. The ability for the specialist to add their own notes, examinations, procedures, and treatments to the patient's chart
5. The ability for the EHR to recognize when the patient was seen by the specialist and, in some cases, automatically trigger necessary next steps
6. Patient access to the referral information online (if the CHC's system contains a patient web portal)
7. The ability to communicate securely between referring provider and specialist without having to use email (which may not be HIPAA compliant)
8. The ability to manage care within the care team, not just between consulting and referring dentists, but also between the patient's medical providers and dental providers

## **Integrating the Dental System with the Medical System**

Most CHCs have both a dental department and medical department. The more sharing of patient data between Dental Practice Management/EHR systems and their counterpart Medical Practice Management/EHR systems, the better.

In the medical world, most EHRs adhere to an interoperability standard based on the need to be compliant with the Meaningful Use program. In the dental world, we have not seen the same number of vendors choosing to embrace these interoperability standards. Yet as part of the software evaluation and selection process, it would behoove a CHC to review each vendor's capability for interoperability.

### **All-in-one vs. true interfaced interoperability**

Many CHCs have all-in-one dental-medical solutions such as EPIC or eClinicalWorks. With one company addressing both medical and dental system needs, it is possible to have tight integration of data elements flowing back and forth.



that is driven by events such as the admittance of a patient to a hospital.

The goal of HL7 is to enable healthcare organizations to create uniform data that anyone with authorization can retrieve and use in their own systems. Interoperability between healthcare organizations necessitates



interfaces between different systems that use a common protocol like HL7. An HL7 interface consists of an endpoint for the sending application, an endpoint for the receiving application, and a method of transmitting data between the endpoints.

HL7's primary objective is to enhance interoperability between healthcare information systems that have implemented it. The program focuses on the interfaces between dissimilar systems by creating a common data exchange language using formatted messages. However, HL7 does not dictate system architecture or how data is stored in an application. There are two popular subsets of HL7 that define how patient information can be formatted, packaged, and sent between systems. These two subsets are CCDAs ([Consolidated Clinical Document Architecture](#)) and a newer protocol called FHIR ([Fast Healthcare Interoperability Resources](#)).

**CCDA:** CHCs that applied for meaningful use funds would have needed to use a “certified” EHR. A requirement of the certified EHR was to provide the ability to send and receive CCDA documents.

A CCDA document is an Extensible Markup Language (XML) document summarizing current and pertinent historical information about an individual patient's healthcare record at a given facility. CCDAs can include the following sections, among others:

- Allergies
- Immunizations
- Instructions
- Medications
- Plan of Care
- Problems/diagnoses
- Procedures
- Reason for referral
- Reason for visit
- Results
- Social history (smoking status)
- Vital signs

**FHIR:** FHIR uses a federated model and is more adaptable to a web-based world. It is not as general in its structure as a CCDA, is more flexible, and lends itself better to application programming interfaces (APIs) that are taking hold.

FHIR supports pluggable apps, like one you might download from the Apple App Store or Google Play. The FHIR standard moves healthcare interoperability that can support current application technology, using off-the-shelf programming APIs. FHIR provides a much simpler set of APIs, so getting up and running with the FHIR API is easier and quicker for vendors.





## Data elements

Some of the data elements healthcare organizations often share unidirectionally and bidirectionally, from both a clinical and administrative standpoint, are:

### Clinical

- Problems, diagnoses, and conditions
- Allergies
- Medications
- Immunizations
- Procedures Treatment plans
- Visit notes and documentation
- The complete patient record

### Operational

- Demographic information
- Scheduling information
- Billing and insurance information

## Using interoperability as a differentiator

As oral health becomes more widely recognized as essential to a patient's overall health, sharing common patient information between dental and medical providers becomes more critical. Therefore, in an overall evaluation of new dental software, it would be wise to explore the interoperability capabilities of potential vendors you are evaluating. It is important to note that at this point in time, the dental software industry has not embraced interoperability to the same extent as the medical industry. In fact, the medical industry has somewhat normalized it.

There are encouraging efforts by some dental software vendors to add interoperability capabilities. However, sometimes a vendor representative—at the time they answer your RFP or conduct a product demonstration—is not even fully aware of internal efforts spearheaded by their own research and development department. To get a full picture of the level of interoperability capability, it might be necessary to inquire about it specifically and/or connect your technical resources/IT personnel with the EHR vendor technicians.



## The Benefits of Cloud-Based Systems

The benefits of cloud-based software are indisputable, and there has been a trend toward replacing older client server systems with cloud-based systems. A CHC looking for new software should consider cloud-based systems based on the following rationale, which are expanded in this section:

1. No need to invest in and build internal IT infrastructure
2. No need for internal or contracted IT server support
3. Higher levels of HIPAA compliance with security experts at cloud data centers
4. Easily accessed integrated databases aggregating data and images from all locations
5. Access to patient records anywhere from any device
6. Monthly subscription pricing instead of large up-front licensing costs
7. No need to install software updates or improvements
8. Ability to offer best-in-class solutions by more easily interfacing with third-party partners and applications for such aspects as patient engagement, customer relations, social media, patient education, analytics, revenue cycle management, and more



Note that some vendors present themselves as cloud-based vendors when they actually operate client server systems that are hosted in a remote data center. In this deployment model, a third-party remote data center will install and run a CHC's licensed software on their servers, thus removing the need for the CHC to manage its own servers locally. The difference is that "true" cloud-based systems use a standard web browser that can be accessed from any device without using some kind of connecting software.

In most cases, a "true" cloud-based software, when designed and operated efficiently, will provide maximum flexibility to support an CHC's operations. However, it is critical to do your due diligence when it comes to cloud-based software contracts and agreements. With a cloud-based system, your data resides offsite, so control and ownership of your data, including how you will access it, is critical. Also, the operations of the system are now out of your hands. Support and uptime guarantees are critically important, in addition to a number of other items that you will find in cloud-based contracts.

## **1. No need for internal IT infrastructure**

According to NNOHA's HIT consultant, it is estimated that, based on rapid innovation in technology, a CHC with its own in-house servers should invest in a technology upgrade every 2-3 years for the hardware to keep up with increasingly sophisticated software applications. Costs encompass not only in-house server hardware but also software licenses for server operations applications such as databases, security, etc. In addition, there needs to be a robust network connecting all workstations to the server infrastructure. When utilizing a cloud-based system, all server hardware and software costs are removed from the equation. If you do an analysis of reduced server hardware and software costs, you will typically find that there is a short payback timeframe.

## **2. No need for IT server support**

The cost of providing IT resources, whether in-house or contracted, can be reduced if IT infrastructure, including the servers, is not located on site. In fact, with a cloud-based system, you have access to a complete IT support department for the cost of



the cloud subscription. For your applications to run efficiently, it is necessary to constantly do what is known as “housekeeping” (maintenance) on the servers. Simply put, servers need routine tuning up... and many CHCs do not have the time to work on this. But a cloud-based system comes with dedicated staff to continually make sure the servers are running at optimal efficiency.

### 3. Higher levels of HIPAA compliance

It can be difficult and time consuming for CHCs to make sure their IT infrastructure is secure and HIPAA compliant. A cloud-based data center employs security experts whose sole job is to make sure the servers are continuously secure and HIPAA compliant. These are typically highly paid experts, which a CHC would not likely have on staff. In addition, a cloud-based data center will consistently run internal security risk assessments to look for potential security and HIPAA issues.

### 4. Integrated databases

For those CHCs with multiple locations or that report data to a CHC network, having one integrated database is critical. An integrated single database gives a CHC the ability to easily aggregate data, including images, from different sources and locations. If there is not an integrated database, then having to manage multiple databases can be an issue. This is especially true as image databases continually move toward the cloud.

### 5. Accessing patient records from any device

With a cloud-based system, patient records and other information can easily be accessed from

anywhere, from any type of device, so long as the device has a web browser and there is a reliable internet connection. The cloud-based system also ensures that patient information is not compromised with this easy access. The alternative is to access this information using some type of network interface, which is not as convenient and requires adding an extra piece of software to the device. This can also potentially be an added expense for CHC software investment.

### 6. Monthly subscription pricing

With a traditional licensing model, a CHC would pay a large up-front cost for a software application. Many times, this potential expense can cause hesitation in getting the best software possible due to budgetary constraints. Also, once you pay an up-front license fee, and decide later to switch to another software, you cannot typically get any refund.

But with a cloud-based system, a CHC typically pays a monthly subscription charge to utilize the software. Contracts

can be negotiated on either a month-to-month or short-term basis, so if you decide later to switch to a new vendor, then you have only paid for previous use of the software. This model can result in a more efficient use of funds.

### 7. No need to install software updates

With a traditional licensing model, you typically pay an annual charge for system maintenance, which includes updates and improvements to the system. With a cloud-based software model, the system is continually being updated, and this service is included in the monthly subscription charge.





In addition to the financial aspect, having a system that is continually updated by the vendor eliminates the potential stress, inconvenience, and business disruption you would otherwise experience if responsible for keeping your software current, installing patches and updates, and performing other maintenance.

## 8. Ability to offer multiple solutions

The software industry is rapidly changing to more of an app-based model. What this means is that instead of one vendor having all the solutions within *their* software, there are more partnerships between disparate software vendors. For example, one vendor may have great patient education applications, another vendor may offer the best analytics modules, and yet another vendor may possess great claims processing capabilities. Cloud technology makes it easier for partners to connect an interface to their applications... and thus for users to compile a “menu” of top-notch tools from various application developers.

## Security & HIPAA Compliance

Most CHCs are aware that even with virus protection, sophisticated hackers can still get into patient databases. Just having virus protection on everyone's computer is not enough. There must be an ongoing strategy for incorporating and updating security



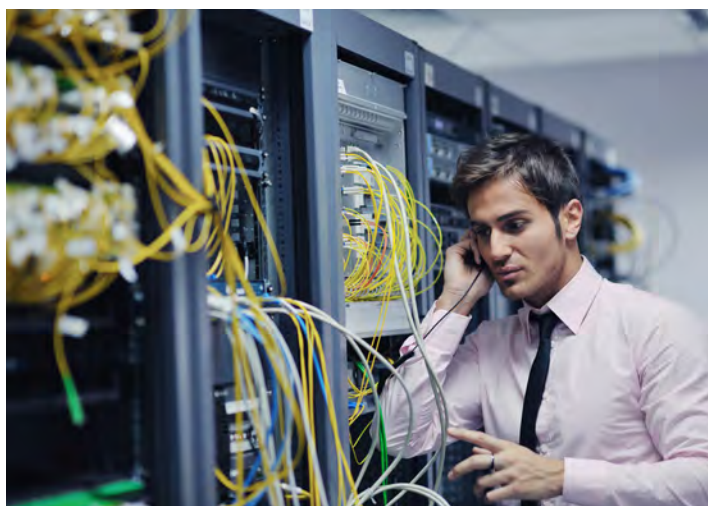
tools and procedures. Numerous well-publicized HIPAA breaches provide an opportunity to discuss the protection of patient data and how to give yourself the best chance of safeguarding your patient records.

### Onsite secure data management

If you have chosen to locate your server onsite, it is essential to engage with a trusted IT company or individual that has knowledge of database security. They should be able to develop a plan and timeline for continually updating the security of your in-house databases. Fees for this can be charged through either a monthly service contract or on an hourly basis as needed.

Leave server security to the IT experts. In fact, NNOHA recommends conducting a security analysis regularly. Also make sure you perform timely back-ups that you could use to restore records should you run into issues with your data. One IT best practice is to keep an additional back-up on an external hard drive that is stored securely offsite in another location.

If you do decide to enter into a service arrangement with an IT company or professional, it is important to structure a detailed service contract that outlines these kinds of responsibilities and commitments.



## Cloud-based secure data management

The advantages of cloud-based security were discussed at length earlier. Chief among them is that the creation of timely back-ups of your data are in the hands of IT professionals and *not* dependent on you or your staff. It is critical to develop a detailed



cloud services agreement that encompasses uptime, service guarantees, control of data, termination for cause, and numerous other factors.

## Avoiding HIPAA breaches and penalties

The dental industry faces increasingly frequent breaches of patient Protected Health Information (PHI). Patient data, and even some software products with questionable data protection schemes, have become a high-value target for hackers seeking illegal financial gains. In addition to suffering stiff penalties for HIPAA violations, *it can be very difficult—if not impossible—for a CHC to recover from the repercussions of the loss of patient trust.*

Data breaches are crippling to healthcare organizations, considering the vast amount of sensitive information with which consumers trust them. No CHC, no

matter how large or small, is immune to threats.

In the wake of an actual breach, one of the first questions that is asked on a HIPAA audit is whether you can provide a full accounting of *all* your PHI, including where it is stored, who has access to it, and if you have followed the administrative, physical, and technical safeguards laid out by federal regulation to protect that data. Based on your answers to these questions, you could potentially mitigate your liability or be held accountable to the full extent of HIPAA penalties.

When researching a HIPAA violation, the Office of Civil Rights (OCR) under the Department of Health and Human Services, which is the entity responsible for enforcing HIPAA regulations, will look for a culture

of compliance within the CHC to see if you have done everything possible to prevent a breach or violation.

The best way to assure the OCR that your CHC is trying to follow the regulations is by using a Security Risk Assessment (SRA). The SRA is a tool to help prevent data breaches and strengthen security within an organization like a CHC. It is offered free by the Office of the National Coordinator; you can easily download the current [Security Risk Assessment Tool](#) to get started. However, having access to tools like this does not reduce the need to have a continual engagement with your IT company or professional regarding ongoing security and routine updates.

Most CHCs are aware that regular SRAs are no longer optional; instead, they are required and



strictly enforced. HIPAA Privacy and Security Rules as outlined in [45 CFS 164.308](#) require organizations that handle health information to routinely review the administrative, physical, and technical safeguards they have in place to protect the security of patient PHI. *SRAs are also a mandatory requirement for providers seeking technology subsidies and payments through the Federal EHR Incentive Program, commonly known as the Meaningful Use Program.*

Although conducting regular SRAs may seem like a hassle, the cost of failing to conduct them and remediate risks is much worse. Penalties can include millions of dollars in fines, loss of patients, credit monitoring costs, lost productivity, civil and criminal investigations, and irreparable damage to institutional and professional reputations.

SRAs are designed to help protect against data breaches or loss. By conducting thorough assessments, you and your fellow healthcare providers and business associates can uncover potential weaknesses in your security policies, processes, and systems, and work together to remedy them before adverse security events occur. The regulations specify that risk analysis should be ongoing as various internal factors change and threats evolve.

SRA areas of focus should include:

- Review of PHI inventory to determine where electronic and other data is located
- Examination of the safeguards required by rule 45 CFR 164.308: administrative, physical, and technical, including the latest Omnibus rules
- Assessment of current operations for HIPAA compliance, including safeguards in place, as well as vulnerabilities and specific threats to safeguards
- Evaluation of existing security policies and procedures
- An applications criticality review
- A threat analysis that identifies external threats
- A vulnerabilities analysis that identifies internal issues
- A risk remediation roadmap



## Information Blocking

The 21st Century Cures Act prohibits “information blocking” of electronic health information (EHI). Broadly speaking, information blocking includes any practice that unreasonably limits the availability and use of EHI for authorized and permitted purposes. For example, a healthcare provider could be engaged in information blocking if it takes several days to fulfill a patient’s request for EHI when, in fact, the provider could have, using reasonable efforts, fulfilled the patient’s request in a much shorter timeframe.

The final rule applies equally to healthcare providers, health information technology developers, healthcare networks, and information exchanges, although this discussion will primarily focus on providers. The definition of “healthcare provider” is extremely broad and appears to include virtually every type of entity that furnishes healthcare.

Information blocking is committed when a healthcare provider behaves in a way that they *know* is *unreasonable* and is likely to interfere with access to, exchange, or use of EHI. In contrast, the standard for health information technology developers, networks, and exchanges is broader—*knows or should know*.

There is a phase-in period for how the final rule's information blocking provisions apply to EHI. From the April 5, 2021, compliance date through October 6, 2022, EHI is limited to the information contained in the 16 data classes for the United States Core Data for Interoperability (USCDI) standard. Those data classes are:

1. Patient Demographics
2. Vital Signs
3. Allergies and Intolerances
4. Medications
5. Smoking Status
6. Immunizations
7. Procedures
8. Care Team Members
9. Clinical Notes
10. Assessment and Plan of Treatment
11. Goals
12. Health Concerns
13. Laboratory
14. Problems
15. Unique Device Identifiers (for a patient's Implantable Device)
16. Provenance (i.e., the metadata of the records provided)

After October 6, 2022, however, the scope of EHI expands to include the full electronic “designated

record set” within the meaning of HIPAA. In other words, a healthcare provider will be required to fulfill a request to access, exchange, or use EHI *in any manner requested*. If, however, a healthcare provider is technically unable to fulfill the request, the healthcare provider and requester can and should work on developing an alternative manner for the fulfillment of the request (such as the transmission of a secure file by email). Click here for more about [information blocking](#).

## Imaging Advancements

Previously, most dental EHRs have not experienced true integration of images into the patient record. Instead of true integration, the software in essence “bridges” to the imaging software, which, in turn, opens a window displaying the image. When manipulating images by this method, you are really working in the imaging software and not within the EHR itself.

This is similar in concept to how many EHRs manage ePrescribing. Software vendors are working to provide a closer level of integration between imaging software and EHRs without the need for bridging software. Once images are input directly into the EHR, then there will be much more you can do with the image data.



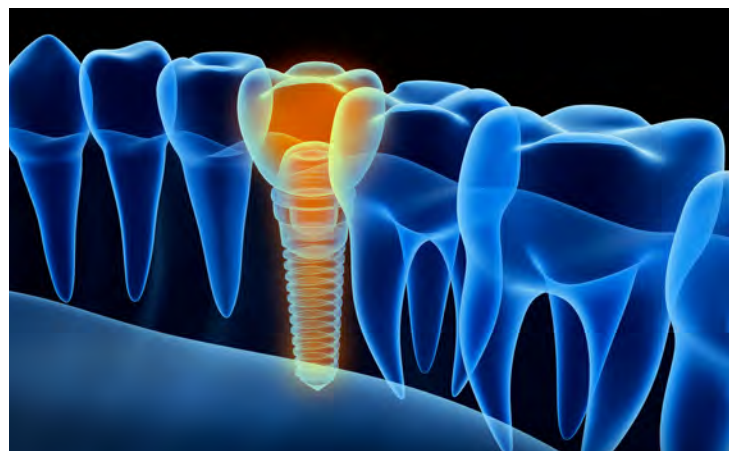
In addition, the industry is moving from having local image servers within each clinic to more of a cloud-based model. With compression algorithms getting more sophisticated and transfer speeds increasing, it is becoming more common to move images directly to the cloud in order to increase accessibility from different locations and reduce the need for expensive hardware. This also helps with consistency of patient care throughout clinics.

### Increased integration

An integrated platform with one central database is key to managing all 2D images, photographs, intraoral camera images, 3D images, and CAD/CAM so the clinician doesn't need to access different software modules to get the information. Image collaboration and sharing between providers is made easier with cloud technology. Images that are transported via the cloud are immediately made available within the dental software itself, and alerts pop up for the recipient when the images are available for viewing. On the other end, the clinician sending the image gets a notification that it has been received.

Collaboration of images between dental and medical is also becoming more common, especially in certain targeted growth areas like sleep medicine and vascular medicine. From a patient education standpoint, presenting 2D images together with 3D images helps the patient better understand what the provider is presenting.

Imaging is usually required for insurance purposes



as well. Growing sophistication of image management systems will allow users to search and filter for specific images in a number of different ways. Analytics can be performed on different devices that will give the dental organization the ability to monitor and track equipment usage and ultimately aid in imaging maintenance and support.

### Images in the cloud

There is an explosion of 3D imaging devices that will be managed on one integrated platform. Real-time cloud imaging is finally becoming a reality, based on a lot of the work that has been done on 3D optimization. Cloud ecosystem for 3D image management is being developed from a capture, data organization, and distribution perspective. 3D imaging is becoming more popular in the cloud because vendors are developing 3D viewers to support it.

Instead of sending unsecured 3D images through email for distribution and/or radiographic review, which can be problematic because of the large sizes of 3D files, the user will log into a secure portal and receive the images quickly in a secure environment. Overall patient care can be enhanced by the ease of manipulating 3D images. This engages not just the provider to review images, but also allows radiologists and radiology groups to collaborate on sophisticated cases, just as they do in the medical world.

Based on quick, real-time analysis of large data sets, an intelligent imaging system can pinpoint areas of concern that the provider should be focusing on. *This is a game changer for clinical diagnostics.* From a quality assurance standpoint, it is exciting that users will be able to perform analytics on the quality of the images that have been captured and report back on potential issues. For example, in a multi-location CHC, the clinic manager can easily discern if there are problems with images from various locations and what steps are needed to rectify them.

# Appendix A

## Software Requirements: Features & Functionality

A comparison of all desired software features and functionality—categorized, prioritized, and quantified to reflect what is important to your CHC—will guide your search for a new software solution. The process through which you develop this comparison and conduct your comparative analysis is explained in detail in *Chapter 3*.

To help you get started, the NNOHA HIT Workgroup has developed a number of tools you can use, which are conveniently organized in a downloadable [electronic HIT Workbook](#). These tools will guide your critical thinking process, ensure you incorporate all the necessary operational areas of your CHC, and document findings in a way that aids the selection process.

Displayed here are *sample* versions of these tools. You can [download the electronic HIT Workbook](#) and then enter data, reorganize contents, and manipulate information to customize your own search. These tools are yours to use however they work best for you. The end product—your own CHC’s prioritized list of “Must Have” features and functionality—will help you create your RFP, guide your comparison of vendor RFP responses, and create clinical, operational, and financial scenarios for your team to “test” during vendor demonstrations.

[Download the HIT Workbook](#)

Used on  
page 15

### CLINICAL REQUIREMENTS EXAMPLES

Feature	Category	Must Have	Nice to Have	Not Needed
Integration of digital images within the chart	Image Management	✓		
Multiple users can access the same radiographs simultaneously	Image Management	✓		
Ability to annotate images	Image Management		✓	
Real-time medication lists	Medication Management	✓		
Drug allergy checking	Medication Management	✓		
Generic equivalents	Medication Management		✓	
Real-time presentation of informed consent	Patient Education	✓		
Multimedia patient education material	Patient Education			✓
Ability to log into patient account on multiple computers at once	Chart Access		✓	



## 1. ASSIGNING SCORES TO FEATURES

Used on  
page 18

Requirement Description	Category	Priority			Availability		Score
		Must Have	Nice to Have	Not Needed	Yes	No	
Clinical dashboard provides a patient summary view	Charting	✓			✓		10
User can designate certain data entry fields as required	Charting	✓			✓		10
Hands-free perio probing foot integration	Charting			✓	✓		0
Progress notes narrative can be edited	Charting	✓				✓	0
Customizable progress note structure	Charting	✓				✓	0
User-friendly progress note template editor	Charting		✓		✓		5
Audit of chart changes	Charting	✓			✓		10

## 2. ASSIGNING SCORES TO INDIVIDUAL CATEGORIES

Used on  
page 19

Charting	Vendor A	Vendor B	Vendor C	Possible Score
Score	85	70	60	95
Score Percentage	89%	74%	63%	
Must Haves - Number	6	5	4	6
Must Haves - Percent	100%	83%	67%	
Image Management	Vendor A	Vendor B	Vendor C	Possible Score
Score	195	170	150	215
Score Percentage	91%	79%	70%	
Must Haves - Number	17	17	16	18
Must Haves - Percent	94%	94%	89%	

## 3. ASSIGNING SCORES TO FUNCTIONAL AREAS

Used on  
page 20

Clinical	Vendor A	Vendor B	Vendor C	Possible Score
Score	1320	1020	1150	1775
Score Percentage	74%	57%	65%	
Must Haves - Number	100	79	90	127
Must Haves - Percent	79%	62%	71%	
Registration & Scheduling	Vendor A	Vendor B	Vendor C	Possible Score
Score	1815	1290	1125	2190
Score Percentage	83%	59%	51%	
Must Haves - Number	147	129	118	171
Must Haves - Percent	86%	75%	69%	

Click here to [download the entire HIT Workbook](#). See other appendices for additional resources.

# Appendix B

## Request for Proposal: Sample Questions

The RFP should be created by the entire team, including your Executive Committee and Information Systems team members. Your IT staff and executives may well have technical and legal questions in addition to the suggestions below.

Questions are organized here by category, which may render a useful structure for you as well. In addition to topical questions, remember your RFP should also include the customized list of Software Features and Functionality Requirements your team will develop, as well as any other information/guidance unique to your CHC and its needs.

### Company Profile

1. How long has your company been doing business under this name? Are there past names?
2. Total number of customers using your Practice Management System (PMS)?
3. Total number of customers using your Electronic Health Record (EHR)?
4. Total number of customers using your Electronic Dental Record (EDR)?
5. Total number of CHC customers?
6. Has your company been involved in any litigation in the past five years? (If yes, explain)

### Financial Profile

1. What has been your total corporate revenue for the past 3 fiscal years?
2. What percent of your revenue is derived from Practice Management Systems?
3. What percent of your revenue is derived from Electronic Dental Records?
4. How much do you invest per year in research and development? (% of revenue)
5. Have you experienced any financial difficulties such as bankruptcy, restructuring, or defaults on loans over the past 3 years?

### Employment profile

1. What is the total number of current:
  - a. Employees? (full-time, part-time, contractor, etc.)
  - b. Executives?
  - c. Marketing/Sales staff?
  - d. Implementation staff?
  - e. Development staff?
  - f. Support staff?
  - g. Dentist staff?
  - h. Hygienist staff?
  - i. Other clinicians?
2. Are your staff fluent in dental terminology, processes, and protocols?

### Software Development

1. Number of major releases in the past 3 years?
2. Major releases planned for the next 2 years?
3. Are all modules developed in-house?

### Technology

1. Is your system cloud-based or server-based? (If server-based, is the server hosted at your facility or the client's?)

2. Do all tables for EHR and PM reside on one integrated database?
3. Does the system provide for direct query of database elements through third-party tools and report writers?
4. Can chart components be exported in standardized formats (CSV, Excel, XML, etc.)? How do third-party applications/tools interface?
5. What major technical enhancements/changes to your product are you planning or contemplating for the next 2 years?
6. What mobile devices and/or device languages do you support?

## Implementation & Training

1. Describe the project lifecycle including testing.
2. What is a typical implementation timeline? *(Be sure you have shared with the vendor the number of locations and users that you expect will use the new system.)*
3. Describe the data conversion process. How long will this take?
4. How do you support ongoing operations during implementation? What hardware environments are necessary during implementation? Describe the customer acceptance process.
5. What is the definition of “Go Live” in your organization?
6. What percent of training is performed onsite? Virtually?
7. Will we need to modify patient scheduling or consider a moratorium of patient services during the implementation and training stage?

## Issue Resolution

1. How are implementation issues resolved?
2. How are changes to the implementation plan documented?

3. Describe a few implementation issues that your customers have experienced over the past year and how you resolved them.
4. What response time should we expect for software issues?

## Resources

1. What is your staffing plan for implementation?
2. How many vendor staff will be available during implementation?
3. Who is the main point of contact for your team?
4. Are there any subcontractor vendor resources or are all members of your organization? What are *our* responsibilities during implementation?
5. If necessary, how could we request the removal of a vendor resource from the project?
6. When does “yearly” support and maintenance begin?
7. What hours are support services available? Are there additional charges for after-hour support requests?
8. Are there additional charges if vendor staff must come onsite if requested?
9. What third-party interfaces, applications, and databases that are supported? Please name all of them—imaging apps, drug databases, report modules, etc.

## Documents

Request all boilerplate contracts and agreements from the vendor including:

1. Software Service-Level Agreement with response and resolution metrics
2. Hosting Service-Level Agreement with response and resolution metrics
3. Managed IT/hosting services provided
4. Licensing or SaaS Agreements

Important: Understand that in preparing their response to your RFP, some vendors will follow your outline directly, which can make it easy for you to assemble follow-up reports for vendor comparison, while other vendors will answer your questions in a format or progression that they choose.



# Appendix C

## Vendor Demonstrations: Sample Scorecards

As noted in *Appendix A*, the NNOHA HIT Workgroup has developed several hands-on tools to help guide your critical thinking process and document findings during your search for a new software solution for your CHC.

Vendor demonstration scorecards, which also appear in the [electronic HIT Workbook](#), are intended to aid the vendor demonstration phase (*Chapter 3, Step 4*). Displayed here is a *sample* version of the scorecards. You can [download the electronic HIT Workbook](#) and then enter data, reorganize contents, and manipulate information to customize your own analysis. All NNOHA-supplied tools are yours to use however they work best for you.

The end product—your CHC’s vendor scorecards—will help guide your comparison of vendor presentations and also help your team develop clinical, operational, and financial scenarios to “test” during vendor demonstrations.

[Download the HIT Workbook](#)

### 4. SAMPLE VENDOR DEMONSTRATION SCORECARD: OPERATIONS

5 = Exceeds Expectations    3 = Meets Expectations    1 = Below Expectations

Used on  
page 21

Vendor A			
Category	Functionality	Ease of Use	Comments
Practice management dashboards/summaries	3	3	Dashboards missing
Patient registration and information retrieval	3	5	Simple process to enter info
Patient call record	3	5	Simple process to enter info
Scheduling template creation and edit	1	1	Difficult to understand/use
Patient scheduling and appointments	5	5	Excellent process
Patient check-in	5	5	Well designed
Patient check-out	3	3	More difficult than it should be
Practice operations task and workflow support	3	1	Too difficult to use
Practice internal communications	3	3	Appears somewhat useful
Treatment planning and management	5	3	Nice presentation of treatment plans
HIPAA-compliant patient communications	3	3	Adequate

## Appendix D

# Vendor Demonstrations: NNOHA Observations & Recommendations

In order to test the demonstration process that NNOHA is recommending, the NNOHA HIT Workgroup invited multiple HIT vendors to respond to a hypothetical RFP and then demonstrate their products in simulated vendor demonstrations.

The NNOHA HIT Workgroup evaluated the RFP responses and determined which vendors to invite for a demonstration of their respective systems. As intended, the RFP process proved instrumental in narrowing the field of vendors making it to the demonstration stage. Vendor selection was also informed by NNOHA survey responses (see *Appendix G*) so that a few commonly used products could be tested, along with newer options that were recommended by NNOHA's HIT consultant.

The following vendors agreed to demonstrate their products to the NNOHA HIT Workgroup:

- CareStack
- Carestream
- Dentrax Enterprise
- eClinicalworks
- OCHIN (EPIC)
- Planet DDS

Vendor demonstrations were attended by members of the NNOHA HIT Workgroup with expertise in clinical, operational, and/or billing functionality of electronic records. Vendor demonstrations were videorecorded so Workgroup members who were unable to attend the live demonstrations could still view the recordings and provide feedback. Because

it can be just as difficult for you to get all *your* important personnel to attend each vendor demonstration, recording these sessions can be extremely helpful.

The NNOHA HIT Workgroup used the Vendor Demonstration scorecards displayed in *Chapter 3* and *Appendix C* to evaluate each vendor demonstration. Using the scorecards for these demonstrations provides an objective and consistent way to compare vendors, plus keep track of notes and impressions. Keep in mind you may need to adapt the sample scorecard to align with your CHC's needs and priorities before you reach the vendor demonstration phase.

One very strong recommendation from the NNOHA HIT Workgroup is for the CHC team to lead the vendor demonstrations, rather than having each vendor dictate what is shown and how the time is utilized. Vendors tend to spend most of their time showcasing their best features, which may or may not match up with what you really want to see. If your CHC leads the demonstrations, then you are more likely to see the features you have determined are "Must Haves" and more likely to get the answers you are seeking.

The NNOHA HIT Workgroup noticed some key differences between vendors already working with FQHC clients and vendors that focused more on private groups and practices. Given this, it is critical during a demonstration to ask questions about things like tracking quality measures and caries risk assessments that are uniquely relevant to a CHC

environment. It was helpful to provide the vendors with clinical scenarios and ask them to demonstrate EHR workflows that could be utilized during these scenarios.

In summary, the NNOHA HIT Workgroup felt that the vendor demonstrations were a very important step in the selection process for a new HIT system. Adequate preparation is needed to make the most of the vendor's time and effort, and a considerable investment in time is required by your team in order

to be thorough and consistent with your evaluations. It is recommended that as many members of your team as possible are able to attend the live session so questions can be asked and answered on the spot.

By using or adapting the samples provided in the HIT Workbook to methodically evaluate each vendor through a standardized process, your CHC has a valuable tool for selecting your new electronic record. *See Chapter 3, Step 4, for more insights and suggestions for vendor demonstrations.*



# Appendix E

## Site Visits: Tips & Sample Questions

After you have narrowed your vendor search to one or two contenders, it is highly recommended that you visit another clinic or dental practice that is currently using the software you are considering (the more similar to your own operation, the better). Conducting site visits is a common practice of professional courtesy adopted across many industry sectors; just as you will observe the software in use and consult with peers about their experiences, you may be asked to do the same at some point in the future.

Start by asking the vendor to recommend some existing clients for you to visit. As you might expect, most (if not all) users they recommend will be satisfied customers who have mostly positive things to say. You can also search for clinics/practices using that vendor's software through NNOHA's Listserv (see *page 21*) if you are interested in broader feedback.

For each site visit, be sure your hosts know how many visitors from your CHC you would like to bring to their facility, and confirm they can accommodate that number. Having outside people shadowing staff can be problematic and occasionally disruptive, so be very sensitive to their needs. Be clear about how long your requested visit will last, and do not overstay your welcome. Ask to whom follow-up questions can be directed. In the interests of safety and expense, you may also consider a virtual visit with hosts sharing their screens to demonstrate the new system.

Your vendor will have already shown you the screens you are most interested in. *It is the perceptions and experiences of actual users—your site visit hosts—that are most important for you to collect during this time.* As with all other NNOHA-supplied resources, this list of questions is intended to get you started; feel free to customize your own list in whatever manner will suit your own selection process.

### General Questions

1. What is your role at the health center?
2. Tell us about your health center and how you utilize the software.
3. Are you receiving any compensation, discount, or other perk from the vendor for being a reference?
4. Were you a decision maker in the selection of this software?
5. Describe your selection process... Who was on the team? How long did the process take?
6. Why were you looking for new software at that time?
7. What other vendors did you consider?
8. What were some of the major factors in your decision to choose this vendor?
9. How has the system performed to your expectations? Where, if anywhere, have you been disappointed?

## Features

1. Are you using most, or all, of the system's features?
2. Which features do you really like?
3. Which features have been more difficult to use than expected?
4. Have you had to customize any features? Did you do the customization yourself, or did the vendor do it for you?
5. Have the features worked as described in the vendor's documents?
6. What feedback have you received from staff?
7. Can you now create all the reports you would like?
3. What issues, if any, did you experience during implementation and training?
4. Did the vendor assign a project manager to lead implementation and training? What is your assessment of that person's performance?
5. What information was migrated from your previous system? How did that go?
6. How well did the vendor resolve problems that came up during implementation?
7. Was the original timeline and budget met?

## Implementation & Training

1. Did the vendor organize a training plan for your team to follow?
2. Did you use a train-the-trainer approach, or did the vendor train the whole staff?
1. What additional comments can you offer regarding the vendor's communication and customer service?
2. What, if any, improvements to the software have you identified?
3. Having been through this experience, would you choose this vendor again?

## Post Mortem Follow-Up

# Appendix F

## NNOHA HIT Survey Results

In February 2021, NNOHA conducted a survey of its members to learn which electronic dental records (EDRs) were being used and to assess members' satisfaction with their current system. Responses were received from 117 members. The responses to selected quantitative questions are included below, which significantly informed the development of this HIT Resource Guide. Numerous open-ended questions were also included in the survey.

The complete set of responses to all survey questions is available on the [NNOHA website](#).

### What electronic medical record (EMR) is your health center using?

117 answered, top 5 responses listed

eClinical Works	28
Wisdom (EPIC)	22
NextGen	22
GE Centricity	22
Athena	12
Total Responses Displayed	106

### Does your health center use an integrated Practice Management System (PMS) and Dental EHR System or do you have separate Vendor Practice Management and Dental EHR systems?

116 answered

Integrated system (one vendor)	73
Separate systems (two vendors)	33
I don't know	10
Total Responses Displayed	116

### What Practice Management System (PMS) and Dental EHR System is your health center using?

116 answered, top 5 responses listed

Dentrix Enterprise	30
eClinical Works	19
QSI (NextGen)	16
Wisdom (EPIC)	15
VisDental	11
Total Responses Displayed	91

### What practice management software do you use?

106 answered, top 5 responses listed

eClinical Works	22
Wisdom (EPIC)	18
QSI (NextGen)	17
GE Centricity	11
Dentrix Enterprise	10
Total Responses Displayed	78



**Is your PMS/Dental EHR client-server based?**

105 answered

Yes	81
No	24
Total Responses Displayed	105

**Have you recently switched or do you plan to switch PMS/Dental EHR systems in the last/next 12 months?**

100 answered

Yes	31
No	69
Total Responses Displayed	100

**Please rank the level of importance of the following components to your site when considering purchasing a new PMS/Dental EHR.**

110 answered, ordered by score

Consideration	Rank							Total	Score
	1	2	3	4	5	6	7		
Ease of use by clinical staff	43	32	12	7	5	4	1	104	5.82
Fully integrated with medical EHR	41	21	11	9	8	9	6	105	5.26
Reporting capability	5	20	26	28	18	4	2	103	4.48
Cost	6	20	12	24	20	12	7	101	4.05
Billing through medical billing system	2	2	18	16	17	27	20	102	2.99
Billing directly from EDR	2	6	13	10	19	29	28	107	2.79
Capability to integrate with HL7	5	3	12	9	16	17	41	103	2.64
Total Responses Displayed	105	106	107	103	103	102	105		

**What radiograph (x-ray) software is your health center using?**

103 answered, top 5 responses listed

Dexis	48
MiPacs	10
Apteryx	6
Xray Vision	5
Patterson	4
Total Responses Displayed	73

**Is your x-ray software integrated with your PMS/Dental EHR?**

103 answered

Yes	77
No	21
I don't know	5
Total Responses Displayed	103

**Are you using the NNOHA Dental Dashboard Metrics?**

90 answered, top 5 answers displayed

EDR Vendor	Using Metrics
Dentrix Enterprise	11
QSI (NextGen)	8
Wisdom (EPIC)	7
eClinical Works	6
Open Dental	4
Total Responses Displayed	36

Below are some of the open-ended questions asked:

- **What are the top 3 things you like about your current PMS/Dental EHR?**
- **How do you customize and/or build clinical templates?**
- **What data are you able to view/share across medical and dental departments?**

[Click here](#) to view the survey in its entirety.

# Credits & Acknowledgements

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Members of NNOHA's HIT Workgroup, in particular, volunteered their time and expertise to lead this project. Their considerable input ensures that this Resource Guide offers useful, practical, and actionable information as a valuable resource for NNOHA members.

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Mr. Mike Uretz is a nationally recognized dental software and EHR expert. Having worked in both the medical and dental software industries, Mike also has unique experience and perspective in dental-medical interoperability.

As an industry consultant and educator, Mike has helped FQHCs, multi-location groups, and health-care practices properly evaluate and select dental and medical EHR vendors and solutions, structure and negotiate pricing and contracts, and provide implementation and vendor management.

Mike has successfully obtained Meaningful Use program subsidies for many of his clients. He founded [DentalSoftwareAdvisor.com](http://DentalSoftwareAdvisor.com), which is a trusted industry resource for dental software information. Mike has developed a number of tools for vendor evaluation and selection. *Selection tools illustrated in this manual were developed by Mike in conjunction with the NNOHA HIT Workgroup.*

## Participating Vendors

CareStack

Carestream

eClinicalworks

Dentrix Enterprise

OCHIN (EPIC)

Planet DDS

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The National Network for Oral Health Access (NNOHA) is a nationwide network of dental professionals and supporters in safety-net settings. These providers understand that oral disease can affect a person's speech, appearance, health, and quality of life, and that inadequate access to oral health services is a significant problem for low-income individuals. The members of NNOHA are committed to improving the overall health of the country's underserved individuals through increased access to oral health services.

For more information, visit [NNOHA.org](http://NNOHA.org), email [info@nnoha.org](mailto:info@nnoha.org), or call 303-957-0635.

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