

Electronic Medical Records – Transition Support Program

# EMR Solution Selection Guide and Workbook



## About this Guide

OntarioMD has created the EMR Solution Selection Guide and Workbook to provide physicians with an overview of points to consider when selecting an EMR solution for their practice. This guide focuses on all aspects of the process from selection, contract negotiation, to implementation and training

This guide should be used as an important resource throughout the selection and contract negotiation process.

The Guide forms part of OntarioMD's change management methodology and is critical in preparing a practice to select the right EMR to meet the overall needs of the practice.

Our experienced team of physician mentors, Practice Advisors, and change management experts will work with you to make your transition from paper to electronic records as seamless as possible.

Please Note: This guide is meant to serve as a resource to assist physicians through the EMR Solution Selection process. We encourage physicians to consult with legal, accounting and IT professionals as required.

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# Introduction

Purchasing an Electronic Medical Records Solution (EMR) is a significant undertaking for many physicians and may represent their largest technology investment to-date. The Transition Support Program (TSP) at OntarioMD supports the adoption of EMRs for community-based Primary Care and Specialist physicians in Ontario. The program helps guide physicians through the adoption process by providing tools and services to help determine their specific requirements and decide which EMR is right for them.

Choosing an EMR may seem challenging due to the number of solutions available, the various services offered by the vendors, prior experience with EMRs and the ease of use of the EMR itself.

The process of selecting an EMR can be made more straightforward through planning and investigation.

The purpose of this Guide is to provide relevant tools and information to assist physicians in the EMR selection process. OntarioMD Practice Advisors are available to assist you in the planning required for you to identify a short list of vendors, visit established EMR sites, and to prepare you for contract negotiations with your preferred vendor.



# OntarioMD Validation Process

OntarioMD has created a Validation Process designed to ensure that EMR solutions that are eligible for funding under the EMR Adoption program meet or exceed specific functionality requirements defined in the Ontario EMR Specification. Eligible physicians will only receive funding if they implement a funding-eligible EMR. OntarioMD does not certify the vendor itself but rather validates the software version from the vendor.

EMR vendors must apply for validation and must prove that their current EMR offering meets the requirements of the current specification. Each requirement has been categorized as either mandatory, weighted (value for scoring) or profile (used for information only) questions. Validation is based on the vendor's offering meeting all the mandatory requirements and also meeting a minimum total score with respect to the weighted requirements. Additional information on OntarioMD's Validation Process can be found at [www.ontariomd.ca](http://www.ontariomd.ca).

## Overview of this Guide

There are many benefits that result from moving patient records from paper to computer-based systems. These benefits accrue to patients, physicians, other health care providers and to the health care system as a whole. In addition, implementing electronic medical records will improve the clinical and business processes within your practice.

Implementing an EMR is not about technology per se. It is about how technology affects the way that physicians work and the organization and processes of the people involved. Important factors in the success of an EMR implementation include having the proper skills in place, implementing an effective planning process and instilling a desire to improve patient care and office efficiency.

It is important to not underestimate the impact that adopting an EMR will have on a practice. This impact is not just to the clinical staff but to office clerical and administrative staff as well. The EMR will not replace all of the functions in your practice, and good planning will be required to identify exactly where the impacts will be.

There are three areas that will be discussed in this Guide:

1. People:  
Who will use the EMR? How will their work be affected?
2. Planning  
Have we examined our workflows and planned out the implementation for the practice?
3. EMR Selection  
What are the functions that meet our needs?

We will now look at each of these areas.

## **Leadership**

No EMR implementation can succeed without a strong leader to drive the change process from beginning to end. Identifying that person is the first step. In a sole practitioner environment, this is typically the physician him or herself. In multi-physician sites, leadership can come from a computer-savvy physician, the clinic manager or an outside IT project manager hired for the duration of the implementation.

## **Build Commitment**

Another important success factor is having all staff participate in the planning, training and implementation of the EMR. EMR systems change many roles and responsibilities and some staff are concerned about losing their jobs. Having staff involved from the beginning helps reduce fear, improves communication and builds commitment.

In some large practice settings, it may also be helpful to create a working group that devotes the time needed for the planning process.

## **Create a Vision**

A vision is a statement of what you are trying to achieve in a global sense. What do you want your practice to look like once the EMR is implemented? What do you want improve with an EMR? Patient care? Billing? Patient reminders? Medication management? All of the above? Once you have set out your vision, ensure that everyone in the practice knows what it is and understands it.

## **Set Goals**

Goals are measures that you want to achieve as a result of the EMR implementation. In setting your goals, you may wish to focus on clinical care, office efficiency, responses to external organizations and overall productivity. Specifying the goals will assist in identifying the EMR that best matches your needs. Having goals also helps create and manage the expectations of your staff and patients. Later on, the goals provide you with the baseline against which to assess the success of the EMR implementation.

# Planning

Before planning for the future, it is important to understand how things work in the present. By conducting a review of your current clinical and practice processes, you will gain a better understanding of the state of your current operations, the problems to be resolved and the potential for improvements. The readiness assessment focuses on a number of components within the practice: knowledge readiness, technical readiness, operation readiness, functional readiness, resource readiness and internal readiness.

You may also want to look at your past experience with introducing changes to your practice. What did or did not work successfully in those situations? Those previous experiences may serve as a useful guide in formulating your approach to EMR implementation.

If you have existing organizational or procedural problems within your practice, it is better to address and resolve them prior to the EMR installation. EMR is not meant to resolve those types of issues.

Keep in mind the importance of good communications during the readiness phase. The project lead should ensure that all staff and physicians understand what is going on and what to expect.

## Workflow Analysis

EMRs affect physician and staff workflow. Workflow covers such aspects as clinical processes, business processes and office operations. Different EMRs manage workflows differently. Some do it better than others, particularly the ones that can be customized to match physician preferences. However, all EMRs are effective at reducing paper handling and streamlining processes by removing duplication and repetitive tasks.

Understanding workflow involves the whole team: physicians, nurses, office managers, and administrative staff. Inadequacies in workflow should be corrected at this stage, before the EMR implementation. Failing to do so leads to delays, frustration and retraced steps later on. Some of the areas covered by a workflow analysis include:

1. Patient flow: Examining the roles and functions of the various people who interact with patients at different points through their visit.
2. Point of care: Examining the various documents that record the details of the patient visit.
3. Office communications: Examining the flow of information in the office.
4. Document management: Examining the movement of paper coming into the office, going out of or around the office and into the chart.

Refer to **OntarioMD's Practice Workflow Tool** for more information.



# Planning

## Privacy and Security Considerations

The privacy and security obligations with an EMR are much the same as those for paper charts. Additional considerations, however, are needed for passwords, access to the system and security of sensitive material.

Refer to **OntarioMD's Privacy & Security Guide** and Workbook for more information.

## Creating a Plan

After completing the current state assessment and practice workflows, the next step is to create a project plan. Some practices find that it is helpful to divide the project plan into manageable components (Months 1-2, 3-4, 5-6, etc.) with identified resources, responsibilities and measurable targets. There are a number of different software tools for creating project plans. The plan should be flexible, allowing for changes to be made based on the specific EMR software selected for the practice and for contingencies that arise along the way.

As mentioned earlier, having a clearly identified and committed physician lead is essential for a successful introduction of an EMR. This lead person serves as the project manager. The responsibilities include providing the business and clinical expertise, building consensus, communications and other activities required to keep the implementation of the EMR on track.

Some practices hire an outside IT specialist on a contract basis to serve as the EMR project manager for the period of implementation. OntarioMD has project managers available to assist with the technical aspects of more complex implementations. Factors influencing the decision to hire an outside IT specialist include the size and complexity of the practice, the skill sets of the existing staff and the amount of time that the existing staff has available to devote to the implementation process.

Refer to **OntarioMD's Practice EMR Adoption Plan** for more information.

## Managing the Transition

Although EMRs help simplify many tasks in the practice, it will take time and effort for both physicians and staff to become accustomed to and proficient with the EMR. It may take several months for this to happen, which will have an impact on either the number of patient visits or length of time per visit. Practices should be prepared for this period of disruption by planning the implementation during slower time periods, or reducing workloads for a time in order to ease disruption during the transition period.

# EMR Selection

After reviewing your current state, examining your workflows, identifying your requirements and having developed a plan to move forward, it is time to choose the EMR solution that best meets your needs. The best way to approach EMR selection is through a structured process.

## Why Have a Process?

Physician offices are bombarded by EMR marketing, sales and promotional material. As with any solution, it is important to have a solid process for assessing the functionality of the EMR against the clinical and business requirements of the practice. Having a good understanding of these requirements and a preset process for selecting the right solution will ultimately save time and money and will produce a better result in the end.

The solution is to create a set of selection criteria developed from the practice assessment and workflow analysis. We will discuss this in more detail later in this section.

## Creating an EMR Selection Team

We recommend that you create a selection team to investigate, assess and select the EMR solution. The team should consist of representatives from both the clinical and non-clinical staff. In smaller offices, the selection team could be comprised of everybody in the office.

The selection team should be intimately aware of the overall EMR vision, the numeric goals and the results of the needs analysis and workflow assessment. As well, the team should possess the business judgement to decide what features are nice-to-haves versus must-haves and the consequences of those decisions.

## Types of EMR Service Models

There are two types of EMR service models, Local Solution (LS) and Application Service Provider (ASP).

With the Local Solution, you own and manage the computer server yourself. The server is physically located in a secure spot in your facility. You are responsible for the maintenance of the server, software updates, disaster recovery and data security.

With an ASP model, the server and all the software resides at the secure eHealth Ontario data centre. You own the data but not the server or software. Everything that is outside of your facility is managed for you on a fee-for-service basis. Your vendor, in collaboration with eHealth Ontario, looks after the server's disaster recovery, software updates, etc.

## Vendor Demonstrations

This is an important first step in the selection process, typically providing you with a basic introduction of the EMR solution. It is useful to provide direction to the vendor as to what areas of the EMR you want to focus on, for instance, priority of functions such as creating a clinical encounter with a patient or booking an appointment.

To further refine your selection process, you may want to develop patient samples or scenarios that illustrate your current methods or sequences for collecting and recording information. These scenarios or demonstration scripts should be based on the workflow in your practice and used to test the functionality of the EMR. Refer to Appendix 4 for examples of demonstration scripts. By having each vendor work through your sample patients, you will gain a better understanding of the logic inherent in the EMR as well as the number of keystrokes or mouse clicks required to capture and view the information.

## Vendor References

Reference sites provided by a vendor should be similar to your practice in terms of: size, type, volume of activity, number of physicians/locations and group type. Reference sites provided by vendors should provide a breakdown of the characteristics of the reference sites submitted. (One or more site visits may be requested to gain information regarding business profile as well as workflow). Reference sites may request a fee from the visiting physician or group to compensate them for their time.

Sites visits should be planned in advance to ensure physician needs are met during the visit to a reference site. Both the physician and administrative staff should participate in visiting a reference site. It is important to view a clinical encounter from a physician perspective and administrative staff should review the practice's document management procedures, (i.e., scanning, faxing) the EMR messaging system, and billing modules (including processing a Remittance Advice).

## Vendor Profile

The overall success of the project will be influenced by the Vendor staff who work with you during the entire adoption process. The Vendor identifies the Team that will be responsible for implementing the system and providing training and post-implementation support.

Details about each individual should include years experience in Electronic Medical Record systems, years of employment with the Vendor, and other key-related experiences. A brief resume of the following key individuals should be provided:

- Project Manager
- Trainer(s)
- IT implementation resources
- EMR implementation resources
- Post-implementation support

# EMR Selection

You should request a profile of the Vendor including:

- Corporate marketing information that summarizes solutions offered, geographic markets covered, and overall size of the company including number of employees
- Number of Physicians using the EMR in their practice setting (not Billing and Scheduling only), including the number in Ontario
- Number of employees located in Ontario and the number of employees dedicated to support (e.g. telephone support, typical response times, etc.)
- The closest support location to the clinic for on-site support of the:
  - \* EMR
  - \* Hardware
- What systems and modules to interfaces have already been built and are in use elsewhere in Ontario, such as:
  - \* Pharmacies
  - \* Patient Portals
  - \* Hospital Lab Interfaces
  - \* Labs
  - \* OntarioMD's Hospital Report Manager

## Proposal

Proposals submitted by a vendor should provide as much detail as possible to ensure the physician can make an informed decision. The proposal should include:

Minimum hardware requirements for servers, workstations and peripherals (i.e. printers, keyboards, scanners, etc.) to support the group over a three year period. Hardware specifications should take into account growth of the practice.

Realistic bandwidth (i.e. data transfer rate) requirements including upload/download specifications for each location in the group.

Pricing and details of software ownership and licensing for both Physicians and support staff.

Detailed pricing of any third party software or services provided or required to make the system functional.

All vendor contracts must contain a Mandatory EMR Funding Eligible Schedule and a Vendor and Physician Checklist (Appendix A). The Mandatory EMR Funding Eligible Schedule is an addendum to the Applicant and Vendor contract and contains the Technical Implementation Dates for the EMR for each clinic location of the Group. The Vendor and Physician Checklist (Appendix A) forms part of the EMR agreement between the Applicant and the Vendor and sets out what the Applicant and the Vendor and its suppliers must do to implement the EMR Product.

# EMR Selection

Funding provided by OntarioMD is a subsidy and available to offset a portion (approximately 70%) of the costs of EMR adoption. Physicians should negotiate a payment schedule based on the successful delivery of milestones defined in the Mandatory EMR Funding Eligible Schedule, Vendor and Physician Checklist (Appendix A), and the EMR Vendors implementation plan. Often these payment plans are based on a deposit, and then payments based on the successful completion of the deliverables.

Clear identification of vendor and physician obligations including roles and responsibilities of those roles should be identified.

To avoid any ambiguity, unfamiliar terms used in a proposal should be clearly defined.

Vendors need to include a working copy of the agreement they expect to sign with the physician and one that clearly states contract term, renewal and termination provisions.

## Service and Support

A copy of the vendor's Service Level Agreement (SLA), support, and maintenance schedules should be included in the final proposal. The SLA, support agreement or policy should detail:

- The support model to be put in place for the physician including identification of first and second level support.
- Hours of Coverage:
  - \* On-site support
  - \* E-mail support
  - \* Telephone support
  - \* Remote support through the Internet
  - \* Identification of the vendor's closest office to the physician with support resources
- Definition and costs for after-hour coverage:
  - \* On-site
  - \* Telephone support
  - \* Definition of support work that may be out of scope with the proposal (and ultimately contract) and associated costs for this out of scope activity
- Escalation policy
  - \* Definition of severity levels
  - \* Response time commitments based on severity level
  - \* How does on-site support get invoked by the physician, by the vendor?
  - \* What happens if a service level target is missed?
- Hardware and EMR Solution
  - \* Describe the interface support process in place between hardware vendor and EMR vendor
  - \* Describe who the physician interfaces with when a problem is triaged and determined that it is not an EMR problem. Who will interface with the third party to resolve the problem?

# EMR Selection

A tentative timeline for installation of the proposed solution including the identification of areas that may impact the timeline should be provided by the vendor.

## Training

A detailed training plan that outlines the training model to be used (train the trainer vs. group training) and the number of sessions being envisioned to ensure all users receive adequate training in all necessary facets of the system with respect to their work.

The types of training services available and related costs should be included in the proposal:

- Online demonstration and testing system
- On-site training
- Web-based training
- Telephone-based training
- Workflow redesign training
- Availability of evening or weekend training, if applicable
- Advanced user training

Physicians should consider a refresher training service or a second round of more advanced training within three months of going-live with their EMR. Typically, one or two individuals (super users) will be trained to a higher level.

Where possible, the total cost of training should be identified including the cost of any refresher training. Depending on the training payment schedule, the total costs should be detailed to match planned training dates.

Costs for trainer's travel and living should be included and clearly identified. The Vendor should provide the company's Travel Expense Policy.

Vendors should provide a list of equipment they provide for training purposes or facilities required to complete the proposed training.

Installation and set-up of the EMR system by the Vendor must be completed prior to commencement of training.

NOTE: Training can be done in stages, administrative staff first followed by nursing staff and allied health professionals and finally physicians. This style of training, although very effective, could increase travel and living costs.

Refer to **OntarioMD's Training Requirements Guide** for more information.

## Risk Management

There is inherent risk in any IT project. Vendors are encouraged to identify the risks they consider to be important and to anticipate when managing an implementation of this scale and scope. The Vendor should indicate how it expects to mitigate such risks, and further indicate the risks it believes should be mitigated by the physician, if any.

Physicians and Vendors are encouraged to review the Contract Negotiations section of the Transition Support Guide available on the OntarioMD.ca portal prior to requesting and/or submitting a proposal.

## EMR Contracts

In the process of selecting an appropriate Electronic Medical Record (EMR) system, physicians are typically focused on the practical elements of the proposed system. Very little discussion occurs between the physician and vendor as to the terms and conditions in the agreement that will govern the relationship between them. The discussion is based almost entirely upon the system itself. However, most agreements offered by EMR vendors contain provisions that may be onerous to physicians and with significant consequences to them. Moreover, it is unlikely that the EMR vendor representative will explain these clauses to physicians.

Below, we provide a non-exhaustive list of terms that may be of concern to physicians signing EMR vendor contracts.

### Termination Clauses

Currently, in most contracts, funds payable on termination are not limited to those owed up to the termination date. Rather, the physician is responsible for paying the balance of the contract upon termination, whatever the reason for termination. We suggest that the physician attempt to negotiate that only those funds owed up to the date of termination shall be payable upon termination.

Further, most contracts have no provision for early termination by physicians. As most contracts are for several years duration, this can be problematic when physicians are unsatisfied with poor service or operation of the system. As such, we recommend pursuing the inclusion of an early termination clause in negotiations with the vendor.

Finally, most contracts do not require that the vendor provide a copy of the physician's EMR in its entirety in a transferable electronic format that is convertible/compatible with a new vendor upon termination. Because physicians have considerable requirements for chart maintenance under both PHIPA and CPSO policy, we strongly recommend ensuring the inclusion of such a clause in an EMR contract. You may also wish to include language regarding the costs of such a transfer, which we believe should be covered by the vendor.

Note: In certain circumstances, OntarioMD provides an exit clause allowing you to terminate your contract with a vendor if your Vendor's EMR offering is suspended or withdrawn and the Vendor has not achieved the Technical Implementation Date (TID) or Upgrade Date.

# EMR Selection

## Warranties

Contracts often contain clauses on “warranties”, which usually limit the guarantee made to the language set out in the contract. Warranties are generally not written in plain language and are broad in scope and difficult to understand. This makes it difficult for a physician to compare the verbal promises made by the EMR vendor to what is actually set out in the Agreement.

It is important to ensure that all promises made to you by the vendor are contained within the contract, and that anything contained within the contract is consistent with what has been represented to you verbally.

## Limitation Of Liability

In most Agreements, vendors exempt themselves from any liability—even those liabilities they are responsible for creating, including injuries causing harm to patients. Liability is also usually limited to a prescribed dollar value.

We advise that, at a minimum, the contract clearly indicates that the vendor will accept liability for all problems caused as a result of their negligence or misconduct. Furthermore, any responsibility should not be limited to the cost of the contract, as cases may arise where the damages are significant and exceed such costs.

## Policies

Many Agreements incorporate terms of policies that are not included directly within the Agreement itself. Further, the Agreements will often state that such policies can be changed by the Vendor at any time. This amounts to providing the Vendor with the ability to unilaterally amend the Agreement.

We recommend ensuring you have been provided with copies of any and all policies referred to in a contract. Further, “policies” should not be referred to in a general or vague manner within a contract. All policies referred to should be clearly indicated. Finally, the contract should contain language indicating that such policies may not be revised without your consent, or, at a minimum, notice to you.

## Jurisdiction

Some EMR vendors are not based in Ontario. The governing law of these contracts may therefore not be of Ontario, but of another jurisdiction (e.g. another province). This is problematic not only from a compliance standpoint, but, considering travel costs, it would be a considerable burden for the physician should the parties ever go to court. If a physician signs a contract that agrees to the jurisdiction of another province, it would be exceedingly difficult, if not impossible, to arrange for a change in forum to Ontario.

All EMR contracts signed by Ontario physicians should be governed by Ontario law.



# EMR Selection

## Payment

Payment terms may be vague and undefined, and costs are not always itemized and explained. Further, immediate payment upon receipt of invoice may be required by the Vendor, despite potential dissatisfaction of the physician with the Vendor's services. As well, physicians should be aware that large up-front payments may be concerning in that if a physician is later unhappy, the monies already paid will likely not be recoverable.

We recommend ensuring that all payment terms are clearly laid out in the contract or in a schedule to the contract. This should include an itemized list of costs, including such things as training (i.e. what training is included, number of hours, location, etc). We also recommend that clauses demanding payment upon invoice even in situations where the physician has expressed dissatisfaction be deleted. Finally, physicians should be aware of the consequences of signing contracts that require large payments at the start of the contract as opposed to monthly payments throughout a contractual term.

When inquiring about payment structure, it is important to understand who exactly you will be paying. Some EMR vendors require you to enter into a loan agreement with a third party financial institution. In these cases, the vendors have made arrangements with financial institutions whereby the institution makes full payment on the contract to the vendor, and then you agree to make payments on that loan directly to the financial institution on a monthly basis. The concern with such arrangements is that even if you are able to terminate the agreement with the EMR vendor, you continue to be responsible for the balance of the loan. Therefore, you may find yourself in a situation where you have terminated an EMR vendor contract due to dissatisfaction with the services, but are required to continue to make monthly payments on the loan, as it is an entirely separate obligation. The details of this arrangement may not be clearly explained to you at the time you are contemplating signing. Many physicians often have no idea they have signed such an agreement. Physicians should be sure to inquire about who payments will be made to prior to signing any documents.

## PHIPA

The Personal Health Information Protection Act (PHIPA) sets out privacy requirements for all medical records, including electronic records. PHIPA compliance is not always clearly indicated in EMR contracts. We recommend ensuring the EMR contract clearly indicates the EMR vendor's compliance with PHIPA.

As previously stated, this article does not address all the concerns that may exist in an EMR vendor contract. The terms of each EMR vendor contract vary. The impact of these terms will also vary for each customer, as the circumstances for each are unique. Therefore, it is important for each physician and/or group of physicians considering the purchase or lease of an EMR system to seek legal advice on the proposed contract. OMA Legal Services is available to assist physicians in reviewing proposed contracts.

## Summary

Successfully implementing the right EMR and creating an effective working relationship with your vendor requires thoughtful negotiation and communication with them. It is important to make the process and information you require work for your practice. The preceding information is by no means an exhaustive list of considerations but should be considered a valuable starting point in developing an effective relationship.

OntarioMD can provide additional information on the available funding for community based physicians by accessing [www.ontariomd.ca](http://www.ontariomd.ca)

# Appendix A

## Vendor Interview Questions – Basic Company and Solution Information

Name of Vendor:	Vendor Contact Person:
Questions	Response
<b>General Company Information</b>	
How long has your company been in the EMR industry?	
What was your company's annual revenue last year end for : .....Ontario .....Canada wide	
Has your company installed the EMR software in practices in Ontario for practices of: •.....3-9 physicians •.....10-19 physicians •.....20 or more physicians	
Has your company installed the EMR software in practices in Canada for practices of: •.....3-9 physicians •.....10-19 physicians •.....20 or more physicians	
How many physicians are currently running your EMR system in: .....Ontario ..... Canada wide	
Do you have at least 3-5 client references close-by that have approximately the same type and size of practice?	
<b>Solution Information</b>	
How is the solution licensed? Software? Hardware? Other?	
What are the terms of the license?	
What does each license actually provide?	
What are the annual and renewal costs of the licenses?	
Can you access the system remotely? How?	
Do you offer ASP and Local Solutions?	
The EMR ASP can provide a shared or discrete Central Patient database housed in an eHealth Ontario secure datacentre. How many sites in Ontario have you installed EMR ASP?	

# Appendix A

Name of Vendor:	Vendor Contact Person:
Questions	Response
<b>Vendor and Solution Support</b>	
What hours do you provide phone support in Ontario?	
Do you have multiple levels of support?	
What are the average wait times for your first level support?	
How many resources do you have dedicated to providing support? By phone? Online? On-site?	
What is the wait time to get on-site support?	
Under what conditions will hardware be replaced if required?	
How quickly can hardware be replaced?	
What are the additional support costs not covered in the support contract?	
What is the typical install time and disruption to the physician office?	
How much lead time is given to the practice for installation or upgrades?	
<b>Technical Requirements</b>	
Does the system use industry standard operating systems, hardware and peripherals?	
What custom drivers or other software is required?	
How do you provide virus protection, firewalls, etc.	
Which interfaces to other systems are supported?	
How is data conversion handled from this EMR to another solution? Imported from other solutions?	
What data can be transferred to a new solution (e.g. demographics, scheduling information, rostering information, scanned documents, notes, etc.)?	
What issues exist when exporting data?	
What is the quality assurance or verification process of the data conversion?	
Describe the hardware platform used for the support of the EMR solution including: Data server requirements Peripheral requirements such as fax servers, dedicated scan workstations, printers, scanner, card readers, other devices, etc. Workstation platforms and supporting operating systems and minimum requirements	

# Appendix A

Name of Vendor:	Vendor Contact Person:
Questions	Response
<b>Training</b>	
What training materials are offered (e.g. outlines, reference guides, FAQ's, videos, etc.)	
How are training costs calculated?	
How do you negotiate training needs and provide training for the practice? Physicians Administrative staff Nurses or other clinical staff?	
What background and qualifications do your trainers have?	
Does the EMR have a built-in Help capability?	
Is there on-line support as well?	
Where is the training held (on-site; vendor setting?)	
How is training scheduled? (e.g. basic functions first, advanced features later)	
What are the costs for additional training?	
<b>Other Practice Based Questions</b>	
1.	
2.	
3.	
4.	

# Appendix B

## Vendor Interview Questions – Administration and Practice Management

Name of Vendor:	Vendor Contact Person:
Questions	Response
<b>Managing Patient Appointments</b>	
How does your solution identify and validate information upon patient arrival?	
What indicators are used for patient status (arrived, exam room #, etc.)	
Can you view day, week, month-at-a-glance appointments?	
How do you view multiple physician schedules on one screen?	
Can the patient record be opened from the schedule?	
Can you track patient appointment history?	
Can you search all appointments by patient name?	
Can the EMR track cancellations and no-shows?	
What happens when an appointment is double-booked?	
Does the scheduler integrate with patient registrations, billing and clinical systems?	
Does the EMR support health card validation?	
<b>Billing and Financial Reporting</b>	
Does your company electronically update the Schedule of Benefits? If yes, how often?	
Does the EMR support billing macros or shortcuts?	
How do third party claims get handled? Example?	
How are third party invoices, receipts or statements handled? Example?	
How does the EMR manage Electronic Transfer (EDT) claims processing and validation?	
How are billing histories handled?	
What diagnostic code standards that are supported? (e.g. ICD-9; ICD-10, ENCODE-FM;SNOMED-CT)	
How are uninsured services, codes and fees handled?	
How are audit trails created and presented?	
Can the physician bill from the patient encounter?	

# Appendix B

Name of Vendor:	Vendor Contact Person:
Questions	Response
<b>Security and Audit Trails</b>	
What types of role-based security functions are within the EMR?	
How are access rights managed?	
Do audit trails indicate who accesses the EMR?	
Does the EMR provide automatic log-out?	
Are there multiple levels of access to patient records?	
Does the EMR provide access to only certain parts of the record depending on access rights?	
How are notes signed and filed?	
Can I have tasks assigned to specific roles? (e.g. Nurse, Admin. Staff)?	
<b>Letters and Forms</b>	
How are referral notes, back to work notes, etc. produced from the clinical encounter?	
Is there a referral tracking capability in the EMR?	
What basic templates are included? (e.g. lab requisition, public health form, etc.)	
How are templates created? Are there additional costs for updating or creating templates?	
<b>Other Practice Based Questions</b>	
1. Can you create flow sheets? (i.e. labs, INR, diabetes, etc.)	
2.	
3.	
4.	
5.	
6.	

# Appendix C

## Vendor Interview Questions – Clinical Functions

Name of Vendor:	Vendor Contact Person:
Questions	Response
<b>Cumulative Patient Profile</b>	
How is the Cumulative Patient Profile (CPP) created?	
What information is contained in the CPP?	
Can the CPP be customized? How and by whom?	
Is the CPP updated during a patient visit? How?	
Can only parts of the CPP be printed or sent to others?	
Which standard templates are available?	
<b>Medication Management</b>	
Which drug database do you use?	
How frequently is it updated?	
Does the EMR have alerts for: Drug to drug Drug to allergy Inappropriate use	
How can searches on drugs be done (e.g. generic name, brand name or both)?	
Does the EMR provide recommended dosages?	
Can I create a user-specific formulary?	
Does the EMR medication list get automatically updated from the encounter?	
Can patient information on medication be provided?	
How are medications renewed? Cancelled?	
Will the EMR be ready for e-prescribing?	
<b>Lab and Test Results</b>	
Is there EMR able to accept lab tests directly? Which interfaces exist? Hospital; community lab?	
How are scanned lab tests handled?	
How are scanned lab tests accessed?	
Can previous lab tests be displayed?	
Are scanned lab results searchable?	
How are incoming labs stored for review by the physician?	



# Appendix C

Name of Vendor:	Vendor Contact Person:
Questions	Response
How are abnormal lab results brought to the attention of the physician?	
How can lab results be trended?	
How are lab tests ordered from the EMR?	
How are test results communicated to someone else in the practice [e.g. Nurse]?	
<b>Other Practice Based Questions</b>	
1.	
2.	
3.	
4.	
5.	
6.	

# Appendix D

## Sample Demonstration Scripts

### User Scenario #1: Viewing a Patient Record (CPP and chart review)

John Doe was recently treated for an exacerbation of his COPD. He goes to his family practice clinic because his symptoms have not improved despite being on an antibiotic for 10 days. John continues to have a productive cough for increased sputum and shortness of breath. He checks in at the clinic's registration desk.

John is assessed by Dr. Smith, who is filling in for his regular doctor Dr. Barnes, who is on vacation. She attempts to take the history and get more details on John's COPD. Unfortunately, John is a poor historian and doesn't recall in any detail the tests he has had done, his diagnosis or the medications he has been prescribed. To try to clarify these issues, Dr. Smith logs into the CMS.

Dr. Smith reviews the patient's CPP and the most recent visits to the practice. She is able to follow links within each of these records to access more detailed information about each encounter. She learns what tests were completed, the results of those tests, the medications that have been prescribed and filled, and the history of the most recent illness. She is able to bring up the chest x-ray and associated report from the radiologist. She also reviews a consultation note from the patient's respirologist. Using this information along with her own exam, Dr. Smith feels there is likely resistance to the antibiotic recently prescribed, in addition to poor compliance with the inhalers.

By the end of this scenario, clinicians should have an understanding of:

- The cumulative patient profile (questions you might want to consider: how was this compiled? can it be customized? can it be reformatted? can it be printed? )
- The content of the patient record (e.g., correspondence, images, clinical notes, problems, test results)

By the end of this scenario, administrative staff should have an understanding of:

- Checking in a patient at registration

Evaluation of this scenario is on the next page →

# Appendix D

## Evaluation of Scenario #1

For each question, circle one number per vendor. On a scale of 0 to 5, where:

0 is “complete disaster”,

3 is “works OK – I can live with it”, and

5 is “works perfectly”,

How would you rate the simplicity of use of the software for this scenario?

Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5

Does the general workflow make sense to you in how the tasks are accomplished?

Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5

Is the layout of information easy to read?

Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5

Are all the information elements you would like in this scenario present?

Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5

What information is missing, or would be nice to have?

# Appendix D

## User Scenario #2: E-Prescribing and Documenting an Encounter

Based on her assessment of John in User Scenario #1, Dr. Smith identifies that the patient is c/o a cough which is productive of green sputum. The cough is worse at night. There is no associated chest pain but he is mildly short of breath. He denied fever but has noted occasional chills at night. His throat is mildly sore.

Physical findings include: A BP of 150/90, Pulse 90 and regular and respiratory rate of 15. He appears mildly short of breath at rest. No cervical nodes were identified. Chest exam revealed occasional expiratory wheezes but no focal consolidation. Heart sounds were normal.

Dr. Smith e-prescribes a different antibiotic and counsels John on using the inhaled medications and quitting smoking. She orders a chest x-ray. Dr. Smith completes her record of the encounter in John's electronic medical record (EMR).

By the end of this scenario, clinicians should have an understanding of:

Documenting an encounter

Various methods of data entry – free text, templates, structured data, codified data – used by physicians within the practice

How to document elements of the SOAP (Subjective, Objective, Assessment & Plan) electronically.

How to order a simple prescription

How to order a diagnostic test

Evaluation of this scenario is on the next page →

# Appendix D

## Evaluation of Scenario #2

For each question, circle one number per vendor. On a scale of 0 to 5, where:

0 is “complete disaster”,

3 is “works OK – I can live with it”, and

5 is “works perfectly”,

How would you rate the simplicity of use of the software for this scenario?

Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5

Does the general workflow make sense to you in how the tasks are accomplished?

Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5

Is the layout of information easy to read?

Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5

Are all the information elements you would like in this scenario present?

Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5
Vendor	0	1	2	3	4	5

What information is missing, or would be nice to have