

# Contracting Guidelines and Checklist for Electronic Health Record (EHR) Vendor Selection

## Guidelines and Checklist

### Provided By:

The National Learning Consortium (NLC)

### Developed By:

Health Information Technology Research Center (HITRC)

Iowa Foundation for Medical Care (IFMC)

Stratis Health

Arkansas Foundation for Medical Care (AFMC)

*The material in this document was developed by Regional Extension Center staff in the performance of technical support and EHR implementation. The information in this document is not intended to serve as legal advice nor should it substitute for legal counsel. Users are encouraged to seek additional detailed technical guidance to supplement the information contained within. The REC staff developed these materials based on the technology and law that were in place at the time this document was developed. Therefore, advances in technology and/or changes to the law subsequent to that date may not have been incorporated into this material.*

## NATIONAL LEARNING CONSORTIUM

The National Learning Consortium (NLC) is a virtual and evolving body of knowledge and tools designed to support healthcare providers and health IT professionals working towards the implementation, adoption and meaningful use of certified EHR systems.

The NLC represents the collective EHR implementation experiences and knowledge gained directly from the field of ONC's outreach programs ([REC](#), [Beacon](#), [State HIE](#)) and through the [Health Information Technology Research Center \(HITRC\)](#) Communities of Practice (CoPs).

The following resource is an example of a tool used in the field today that is recommended by "boots-on-the-ground" professionals for use by others who have made the commitment to implement or upgrade to certified EHR systems.

## DESCRIPTION & INSTRUCTIONS

The contracting guidelines and checklists are intended to aid providers and health IT implementers during the EHR vendor selection process. They can be used to structure and complete EHR implementation contracts with vendors.

The first section, Contracting Guidelines, provides detail on how to write a contract to select an EHR vendor. The next section, Contracting Checklist, provides a checklist to assist with negotiating a favorable contract with an EHR vendor of choice. The final section provides a template to establish goals that will guide EHR vendor selection.

## TABLE OF CONTENTS

1	Contracting Guidelines .....	4
1.1	General .....	4
1.2	Software.....	4
1.3	Support .....	5
1.4	Interfaces .....	5
1.5	Training .....	5
1.6	Implementation .....	6
1.7	Caveats.....	6
2	Contracting Checklist.....	6
2.1	Before Contract Neogotation .....	6
2.2	Tasks During Negotiation .....	8
2.3	Negotiation Tips.....	9
2.4	Approval To Sign .....	11
2.5	Post Negotiation Tasks.....	11
3	Preparation for Vendor Selection Personal Goals List .....	12
3.1	Possible EHR Features .....	13
3.1.1	Functional.....	13
3.1.2	Technical.....	19

## LIST OF EXHIBITS

Exhibit 1 Example Spreadsheet .....	8
Exhibit 2 Functionality Goals.....	12
Exhibit 3 Usability Goals .....	12
Exhibit 4 Practicality Goals.....	13
Exhibit 5 Reputation Goals.....	13

# 1 Contracting Guidelines

---

In general, if a contract is presented to a practice from an electronic health record vendor, it will be written from the perspective of the vendor. A practice can request language changes to make the intent of the contract more “equal,” although many companies may not be flexible about language changes. Do not be afraid to seek legal guidance.

## 1.1 GENERAL

- The contract should have bi-lateral termination clauses without penalty given within a certain notice period.
- The contract should stipulate that it may not be transferred by one party without written approval of the other party.
- The contract should have a definition section for anything that is not readily understandable.
- The contract should spell out what happens in the event of default by either party and should be as evenly weighted as can be possibly negotiated.

## 1.2 SOFTWARE

- The contract should spell out who owns the data (clinic should have complete data ownership) and that the data will be returned in a nonproprietary form (standard, interoperable) should the agreement between the two parties be terminated for any reason.
- The contract should also include language regarding the vendor turning over source code, data models, design documents, etc. should it, for whatever reason, go out of business or cease to operate.
- The contract should spell out whether the cost of the system includes upgrades, patches, etc. and, if so, how many, who is responsible for applying them, at what cost, and what happens if an upgrade negatively impacts the system.
- The contract should spell out how non-vendor upgrades, patches, etc. (such as for the operating system, reporting software, or database management system) are handled, who is responsible, etc., similar to above.
- If the system includes third party software and/or content, the contract should spell out the associated costs, who is responsible for those costs, and how updates are handled.
- The contract should include language regarding the vendor ensuring the confidentiality of patient and practice information. The vendor should be willing to execute a separate HIPAA Business Partner Agreement.
- The contract should state that the vendor agrees to comply with HIPAA requirements and to make the necessary modifications to ensure compliance at no additional cost to the practice.
- The contract should state that the vendor agrees to comply with the Consolidated Health Informatics (CHI) standards for interoperability and to make the necessary modifications to ensure compliance at no additional cost to the practice.
- The contract should be structured to include a progressive payment schedule based on the achievement of certain implementation milestones.

- Example:
  - 15% Signing of contract
  - 10% Installation of software and hardware
  - 20% Completion of training
  - 25% Completion of system testing
  - 30% Final system acceptance
- The contract should recognize the need for additional template development and screen customizations and specify vendor/client responsibilities. If the vendor is to provide assistance with template development, include this step as a payment schedule milestone (example above).
- The contract should specify the conditions under which a breach of contract has occurred, such as the system not performing as specified, consistent poor performance, etc. and at what point money is refunded, or payments may cease.

### 1.3 SUPPORT

- The contract should outline what support hours will be available (including time zone) and what level of support is included.
- Costs for additional support should be itemized on the contract.
- The contract should clearly outline the terms of the support agreement.

### 1.4 INTERFACES

- For each interface to another system, e.g., laboratory, billing, scheduling, etc., the contract should indicate whether the cost of the interface includes interface programming time and, if so, how many hours are included. It should detail what happens if and when those hours and the associated costs are exceeded.
- The contract should also identify what is included with the interface, for example interface specifications.
- The contract should state what happens if subsequent programming is needed either because of initial errors or if additional modifications are needed.
- The contract should stipulate who owns the interface and who will troubleshoot it when it goes down or errors occur.
- Each interface should have terms outlined regarding which party is responsible for upgrading it, and which party will assure that it functions with new upgrades of main products.

### 1.5 TRAINING

- The contract should identify how many training hours are included, who is covered, and what is included with the training, e.g., training material, customized cheat sheets, etc.
- The contract should explain what happens if additional training is needed and what the billing rate is for additional time.

- The contract should spell out what are acceptable and non-acceptable costs and establish a per diem rate for trainers (if there are on-site sessions).
- The contract should stipulate what (if any) follow-up training is provided and at what cost.

## 1.6 IMPLEMENTATION

- The contract should spell out what is and is not included in the implementation costs: what services will be received, how many hours, who the resources will be, what sort of materials will be provided (e.g., project plan, implementation guides, specifications), etc.
- The contract should spell out what are acceptable and non-acceptable costs and establish a per diem rate for implementation staff.

## 1.7 CAVEATS

- Look at the warranty, disclaimer and limitation of liability sections very carefully. Usually these are written all in caps or bold type, and they severely limit vendor's liability. Vendors are not likely to change either section substantively (if at all) even if a practice requests it, so read and understand this part and what it means for the practice.
- Check carefully to see what the vendor warrants to the practice and what the practice's responsibilities are with regard to it.
- Look to see if the contract specifies minimum hardware requirements and be prepared to meet them. If a practice uses what a vendor considers to be "substandard" equipment (to try to save some money), it may invalidate the agreement.
- Read the indemnification section carefully as well. This is another section that vendors are not likely to change, so a practice should understand what it is stipulating.
- Check the duration and termination clauses – again a practice should be able to "free" itself from this with relatively little organizational pain. (No handcuffs or shackles.)
- Understand the different ways in which the vendor can terminate the agreement and make a contingency plan for this.

# 2 Contracting Checklist

---

Use this tool to assist with negotiating a favorable contract with your vendor of choice. Ideally, the individual conducting a contract negotiation for a health information technology (HIT) project should have prior experience in contract negotiation. Whether you plan to use a consultant and/or an attorney to assist you or designate one or more persons in your organization to do the negotiation—the chief financial officer, procurement manager, or other individuals—reviewing this checklist can aid your preparation for contracting and help you understand the process.

## 2.1 BEFORE CONTRACT NEGOTIATION

Before contract negotiations begin, determine the following:

Do you have approval to proceed with negotiations from your board of directors (if applicable) or others as required?

- HIT steering committees should present their recommendation for a vendor of choice to both senior leadership and the board to get the green light to proceed. The HIT steering committee can aid the approval process by describing the process it went through to select the vendor of choice and the due diligence performed. Explain the attributes of the product you are recommending, including a realistic picture of strengths and weaknesses, accurate cost estimates, and how much you think you can negotiate for price and services provided, and the level of effort associated with implementation, including other costs (e.g., IT application staff, phone system upgrades, physical changes to exam rooms, creating a wireless environment). The presentations are to ask for approval of the vendor already selected by the steering committee, not to require leadership to make the selection. They have not been through the same level of due diligence as the steering committee. Nor will they likely be the end users. However, they have to pay for the system and weigh this expenditure against all other factors.

Will contract negotiation be performed with one vendor or two?

- Even if you have a clear “winner,” you probably want to consider your second choice as a viable option in the event of contract negotiation failure with the first. Although this rarely happens, having a second can make you more comfortable negotiating what you want. Vendors negotiate all the time; your organization does not negotiate at this level very often. As a result, vendors can sense when you only have one vendor of choice or if you are confident enough to have another waiting in the wings. If you are undecided between two final vendors, negotiating with both vendors simultaneously is possible, though difficult (you may forget all the little details of what you negotiated with one and not the other), and potentially costly if negotiation assistance and legal counsel are engaged.

Will price or terms be the kick-off strategy?

- Starting with price can put the organization at a disadvantage when negotiating terms. If you strongly desire one vendor that is clearly out of your price range, give it an opportunity to meet a ballpark budget before starting full negotiations. In general, the best process is one in which all issues are put forth up front in an issues letter that you ask the vendor to address in its entirety. In using this approach, you will not get the best price at the expense of terms you really need, nor will the vendor constantly be adjusting the price because of terms brought up later.

Who will be included in the negotiation process?

- Legal counsel should always review the final contract, but may not be the ideal resource for identifying clinical information system issues. An experienced consultant or coach can be very helpful.

Are all the contract elements specified in your RFP included in the offered contract, including the best offer from the vendor that has been tailored to your situation (e.g., the specifics of what you are buying and revised pricing)?

- Ensure that the vendor understands that the response to the RFP and implementation plan will become part of the contract, and allow it to make any changes necessary to conform to this requirement.

Keep track of any issues that arise during the selection process that you may want to negotiate or attach to the contract.

- For example, if the vendor said it would do something unique for you; add a feature/function for you, or affirm that the system will be able to handle a key requirement for you—get that in writing in the contract. If you have such promises in writing from the salesperson, they can be attached to the contract, but make sure the contracting agent from the vendor understands what is attached.

Prepare for the vendor to be surprised by your negotiation prowess.

- Many small health care organizations, such as small doctors' offices, critical access hospitals, or independent nursing homes, are not known for approaching contract negotiation from the perspective of a well-informed consumer. Do not fall for any vendor tactics, such as "no one else has ever objected to these terms."

## 2.2 TASKS DURING NEGOTIATION

When you receive the contract (which should be in an electronic format so you can add line numbers or have the vendor add line numbers prior to sending its final contract to you), set up a spreadsheet or table to capture your concerns. This can be as simple as the following example. Some issues have been added in italics as illustrations.

**Exhibit 1 Example Spreadsheet**

Line Number	Topic	Issue/ Concern	Vendor Response
2	Parties	<i>Incorrect spelling of name of organization throughout</i>	Click here to enter text.
32	Maintenance Fees	<i>What is the basis for annual fee increases?</i>	Click here to enter text.
92	Modules	<i>What is the alerting module? Is this included in price?</i>	Click here to enter text.

To develop a list of issues, build off the list started during the selection process. Add issues based on a thorough review of the contract, such as:

- Product capabilities
- Cost and payment terms
- Technical issues
- Installation and implementation



- Legal issues, including the HIPAA business associate agreement
- Other business and contractual terms
- Develop a negotiation strategy and target timeframe. Do not back yourself into a corner with an unrealistic deadline.
- Submit a written list of issues to the vendor and schedule a target date for their written response. Consider conducting a meeting to present and clarify issues.
- Conduct formal negotiation sessions after reviewing the revised contract.
  - This is an iterative process that typically takes at least three drafts, sometimes more
  - Ask for redlined drafts showing changes from prior draft
  - Take good notes during the meetings, covering both intent and specific wording offered to resolve issues
  - Assure that the vendor's written response is consistent with its verbal one
- Clarify exactly what you are buying and what the vendor is selling, including:
  - Hardware – what devices
  - Software – what applications
  - Implementation support
  - Interfaces
  - Data and chart conversions
  - Customizations
  - Networks/infrastructure
  - Testing
  - Training
- Conduct implementation planning concurrent with contract negotiations, and attach the plan to the contract. At a minimum, the implementation plan should include:
  - Project phasing (if any)
  - Project start and go-live dates
  - Key milestones
  - Level of effort for buyer
  - Level of effort for seller
  - Recommended project organization chart

## 2.3 NEGOTIATION TIPS

- Remember, everything is negotiable, although you probably want to focus on those areas most important to the organization. YOU are in charge of the negotiation process.
- Beware of concentrating on cost issues too early. Once the vendor agrees to a cost, the vendor has an easier time either refusing other issues or re-opening costs if an issue has a cost impact.

Try to find win-win solutions whenever practical. Remember that once the contract negotiation is over, you will be in a partnership situation with this vendor. A one-sided win is never successful.

Request a complete set of product documentation—and arrange for users to read it. This will help clarify what you are buying in terms of features and functions. Legally speaking, most vendors usually specify that what you are buying is the product as defined in the documentation—hence the need to read it.

Consider a final due diligence product demonstration to respond to any final questions or concerns you may have about product capabilities before getting too deep into contract negotiations.

The terms of the agreement can have financial implications far beyond the price. The following contract items need to be carefully negotiated.

- Payment terms equal pay for performance
- What/when is final system acceptance
- Maintenance/support fees and inflation clauses
- Price protections
- Fixed fee for implementation? Expense controls/cap?
- Term or perpetual license if an application service provider (ASP)

Define performance criteria, remedies, and dispute resolution processes in terms you can understand and measure.

Get out your crystal ball—plan for contingencies.

- Is your organization going to change (grow, shrink, refocus, etc.)?
- Ensure the contract has provisions for the vendor to keep the product current with federal, state, and regulatory requirements
- What if the vendor leaves the business (software replacement clause, escrow, etc.)?

Beware of last minute product substitutions, when vendors push you to buy a newer and better product than the one you have evaluated. If a newer version is going to be released soon, even though it may have features you desire, you generally do not want to be among the first to go live with the latest version. Get the stable version implemented and adopted, and you can then migrate to the newer version. Some vendors will offer a better deal for you to be among the first to implement a new version, but this is often not the best deal if you will struggle to get it implemented and potentially have to pay more in implementation overage costs, hire someone to help you, pay overtime for staff, etc.

Beware of evergreen clauses (automatic renewals).

Beware of vendors evoking the Sarbanes-Oxley Act as a payment-scheduling tactic. Sarbanes-Oxley only relates to when vendors can post payments, not when you owe payments.

Beware that vendors want to front load the payment schedule, while you want a payment schedule that is, at a minimum, tied to performance of the system and ideally backloads payments. Some tips to consider include:

- A schedule that calls for a percentage of payment down and a percentage on installation of software is effectively calling for a down payment of both percentages. Installation is only installing the software on hardware, which may not even be performed at your location. A down payment and installation fee should not exceed 20 percent.
- Tie payments to key milestones of performance, such as completing system testing, training, and going live. Avoid tying payment to specific dates, although you may be required to meet certain deadlines to achieve the milestones or payment penalties may be applied. An organization can be as much to blame for delays as the vendor, so be sure you hold up your end of the deal after the contract is signed.
- Hold some percentage of payment (at least 10 to 20 percent) until a period of time after the go-live date. Ideally for a clinical information system this would be 90 days following go live or a certain percentage of users (e.g., 90 percent) having fully adopted the system.

## 2.4 APPROVAL TO SIGN

The final step in contracting is obtaining approval to sign the contract. This applies to both the vendor and your health care delivery organization. The salesperson will likely have latitude to negotiate price and terms within a given range. Beyond that, approval will be required from a sales manager. After all final elements of the contract are agreed upon by both parties, the final contract must be reviewed and approved by the sales manager or other person within the vendor organization.

Once the vendor-approved version of the contract is presented to you, you may need to have it approved by your CEO and/or board of directors. Many factors can play at this point, including whether financing has been obtained, a grant award has been made, other capital requirements preclude approval, or a key staff member is not able to be hired. Be aware that the contract usually has a “valid until date,” after which it will need to be renegotiated. Obviously, you want to avoid this, but extenuating circumstances can preclude approval. To aid the approval process, communicate regularly about contract negotiation progress and prepare a summary of key terms.

## 2.5 POST NEGOTIATION TASKS

Assuming a successful contract is negotiated and approval obtained, the contract becomes a living document that should work for you.

On the final version of the contract, highlight any changes you have succeeded in obtaining, major tasks or responsibilities you have agreed to, and key terms/conditions that you feel need to be closely monitored. Move these to your own implementation plan so you can check them off.

- Review key terms and conditions of the contract with the vendor’s implementation manager/ specialist. Do not assume the implementation manager will have read it. Typically they are familiar with the standard contract and may not have read your final contract with any special terms.
  
- Periodically, review the contract to refresh your memory on terms, conditions, and special items you have negotiated. The contract’s not a hammer, but it can help clarify issues during disputes.

### 3 Preparation for Vendor Selection Personal Goals List

---

This tool is meant to help clinics outline the goals that will guide them in selecting an EHR vendor. The goals are separated into four categories that represent four aspects of EHR: functionality, usability, practicality, and reputation. The “List of Possible Features” will help you recall some of the available features of EMRs. The “Examples of Goal Statements” handout gives some examples. Goals can be general, and if they do name specific features, make sure the goal is stated as well.

**Functionality (features):** This list should include, but is not limited to goals about: patient encounter documentation, automating and facilitating office workflow, decision support during patient encounters, reporting that supports care management, and template customization.

#### Exhibit 2 Functionality Goals

**My goals that relate to functionality:**

Click here to enter text.

Click here to enter text.

Click here to enter text.

Click here to enter text.

**Usability (speed and ease of use):** This list should include, but is not limited to goals about: tasks often done that must be done fast, peculiarities of the practice such as computer literacy, and desired input method that impact usability.

#### Exhibit 3 Usability Goals

**My goals that relate to Usability:**

Click here to enter text.

Click here to enter text.

Click here to enter text.

Click here to enter text.

**Practicality (price, interfaces, support):** This list should include, but is not limited to goals about: price, integrated versus interfaced practice management system, interfaces with labs, etc., internal resources needed to customize and maintain the database, etc., overall support needs.

#### Exhibit 4 Practicality Goals

**My goals that relate to Practicality:**

Click here to enter text.

Click here to enter text.

Click here to enter text.

Click here to enter text.

**Reputation (company history, longevity, etc.):** This list should include, but is not limited to goals about: how established the vendor needs to be (level of risk adversity), what sort of relationship you would like to have with the company—you're not just buying software; you're forming a relationship with a company whose software will change over time.

#### Exhibit 5 Reputation Goals

**My goals that relate to Reputation:**

Click here to enter text.

Click here to enter text.

Click here to enter text.

Click here to enter text.

## 3.1 POSSIBLE EHR FEATURES

### 3.1.1 Functional

- General Features
  - For multiple office locations
  - For multiple users simultaneously
  - Multiple encounter records on the same patient to be open simultaneously (e.g., phone call plus office visit)
  - Multiple patient records to be open simultaneously
- Workflow Management Tools
  - Provider schedules
  - Prioritized task lists by user
  - On-screen flags to indicate patient visit status
  - Customized work flows by provider/clinician
- Documentation Methods
  - Note templates

- Templates customizable by practice
  - Templates customizable by provider
  - Ability to insert free text within templates
  - Pick lists customizable by practice
  - Pick lists customizable by provider
  - Smart lists (e.g. learn / add items as you type)
  - Free text
  - Speech recognition for dictation
  - Dictation / transcription
  - Anatomical drawings
  - SOAP charting
  - Addendum to closed record
  - Free-hand drawings
  - Scanned images
  - Annotations to images
  - Integrated video imaging
  - Track episodes of care such as pregnancy
  - Recall patient's last menstrual period (LMP) and statuses such as post-hysterectomy, post-menopausal or pregnancy all without user re-entry
  - Support repeat vital signs readings on the same visit (e.g., repeat pulse, blood pressure)
  - Support error checking for vital sign data entry
- Documentation/results reporting types
    - Chart notes for visits
    - Chart notes for phone calls
    - Emergency room reports
    - Lab results
    - Radiology reports
    - Consultation reports
    - Discharge summaries
    - Medication lists
    - Allergy lists
    - Problem lists
    - Growth charts
    - Patient telephone messaging
    - Blood pressure lying, sitting, standing
    - Pulse: oral, radial, pedal, femoral
    - Temperature: Fahrenheit, Celsius
    - Height: feet / inches, centimeters
- Generating forms
    - Referral letters
    - Letter summaries for referring physicians

- Summaries for patients
- Test report letters to patients
- Prescriptions
- Forms and letters modifiable by practice
- Forms modifiable by location and site
- Ability to create custom forms for any purpose
  
- Prompts, Alerts & Reminders
  - Unfinished patient chart documentation
  - Spellchecking
  - Provider alerts for missing charting elements
  - Electronic team messaging
  
- Medical History
  - Capture of history & physical exam data
  - Risk factor tracking
  - Import of history
  - Hospital data
  - Allergy types
  - Immunizations
  - Genogram capture
  - Family history
  
- Charting
  - Problem-oriented format
  - Multiple measures of functional status
  - Health surveys
  - Current health status
  - Problem lists
  - Progress notes
  
- Medication/ Prescription Writing
  - Drug database
  - Maintains multiple formularies
  - Formulary linked to patient benefits
  - Cost information
  - Dosage algorithms
  - Allergen type
  - Drug-allergy checking
  - Drug-drug interaction checking
  - Drug-food checking
  - Drug administration info

- Weight-based dosing
- Prescription renewal
- Access to online Rx reference tools
- BSA (body surface area) calculation
- BMR (basal metabolic rate) calculation
- Co-signature required based on security
- Identifies current, expired, historical medications
- Notes “Dispensed as Written”
- Fax and remote printing of prescriptions
- Order Management
  - On-line ordering
  - Order cancellation
  - “Most common list” of orders
  - “Most common list” varied by provider/clinician
  - Automatic suggestion of orders required to satisfy protocols
  - Future orders
  - Notification to provider for tests not completed within specified time frame
  - Trending & graphing of discrete results data
  - Graphing of results to medications and other clinical data
- Printing & Transmission Of Full Patient Record
  - Print full patient record
  - Transmit patient record electronically
  - Transmit with encryption
  - Print user selected patient record items
- Coding
  - Current diagnosis and procedure codes built-in
  - Coding updates
  - E&M coding advice to providers based on documentation
  - Automated translation of the following codes to data:
    - ICD9-CM
    - CPT (4 and 5)
    - ICD-10
    - SNOMED (11 and 111)
    - APG
    - NDC
  - Data validation of :
    - Procedure to diagnosis



- Procedure & diagnosis to patient age and gender
- Dictation
  - Support voice recognition software
  - Support integration of transcription
  - Create placeholder tag in medical record for dictation text to be inserted later
  - Notify provider when dictation available in medical record for review and signature
  - Audit report for dictation not yet inserted in medical record
- Signing/ Authentication
  - Electronic signatures
  - Allow signing of individual sections
  - Separate signatures for each provider/clinician
  - Records locked after signature
  - Co-signature of records
  - Authentication required when medication ordered
  - Authentication required when orders transmitted
  - Authentication required when electronically signing chart
- Clinical Reporting
  - Query function and customizable report writer
  - Mail merge
  - Exporting of data for further analysis
  - Patient population profiles
  - Productivity by provider, site, practice
  - Utilization tracking
  - Protocol adherence reports
  - Comparative reports
  - Ability to schedule reports for regular production
  - Ability to save and rerun reports
  - Supports use of third party query / reporting tools (e.g. Crystal reports)
- Clinical Decision Support
  - Point of care decision support tools
  - Patient registry and outreach reports
  - Practice analysis tools & reports
  - Plotter support capability
- Reminders
  - Reminders based on health plan
  - Reminders based on protocols
  - Reminders based on preventative health indicators

- Reminders by phone
- Patient Access to Information
  - Practice-controlled patient access to actual medical records
    - Access at practice location
    - Access via Internet
  - Provides printed summary for patient after visit
- Practice Management (PM)
  - Integrated with PM system
  - Demographics uni-directional interface (PM to EMR)
  - Demographics bi-directional interface
  - Billing / coding interface (EMR to PM)
  - Access to PM financial / insurance information
  - Access to PM appointments and scheduling
- Other Interfaces & EDI
  - Lab orders (EMR to Lab)
  - Lab results (Lab to EMR)
  - Radiology orders (EMR to X-ray)
  - Radiology reports (X-ray to EMR)
  - Diagnostic images (X-ray to EMR)
  - Other diagnostic tests
  - Hospital records system
  - Transcription system
  - Encrypted email
  - Direct internet access
  - Referral authorization requests & approvals/denials
  - Electronic payer connectivity
- Display Options (In addition to text)
  - Tables / flowsheets
  - Graphics
  - Free-hand drawing
  - Stored images
  - Annotations to images
- Custom Views
  - Views customizable by user
- Patient Identifiers (for accurate searching)

- Patient identification number
  - Health plan member ID number
  - Patient name
  - Patient AKA
  - Social Security number (patient's)
  - Social Security number (responsible parties)
  - Account number
  - Patient name by Soundex
  - Medical record number
  - Family identification number (separate from responsible party)
  - Wildcard search on patient name
  - Merge charts if patient has more than one record
- Data Searching
    - By date
    - By problem
    - By text search
    - By encounter type
    - Confidentiality
    - Word protection
    - Required password changes
    - Access limited by user function
    - Access limited by patient record type
    - Access limited by encounter type
    - Screen time-outs
    - HIPAA compliant access audit trail

### 3.1.2 Technical

- Security
  - Support inquiry, update and delete capabilities for all information entered based on user security level
  - Provide multiple levels of security with definable levels of privilege (e.g., application, function, job function, functional group, screen, user)
  - Support a security reporting function including, but not limited to:
    - User audit trail
    - All users who have used a given function
    - All users who have updated a given record
  - Provide security to control remote access (e.g., dial back, VPN)
  - Support the creation and use of “profile templates” and provide a method for defining access privileges for groups of users

- Report Writer
  - Provide one integrated report writer with access to all fields within all modules
  - Provide a report writer that is menu driven
  - Provide a report writer for use by end users
  - Have a report writer that allows users to use programming level commands, if desired
  - Have help text available within the report writer
  - Provide the capability for the user to select whether the report will run immediately or in batch
  - Allow report to be scheduled to run at a specific date/time
  - Allow report writer to be defined by the user to the data element level of detail (field level security)
  - Allow the user to prepare reports using any combination of data elements whether those elements are standard or user-defined
  - Allow elements to be defined as a variable parameter that prompts the user for values at report execution time
  - Allow downloading/ exporting of current and historical data in standard PC formats for use by standard PC packages
  - Provide generation of output files that can be saved for further report production with the ability to increment monthly totals
  - Provide templates (e.g., “Query for Example”) for customization and the creation of new reports
  - Boolean logic included as a report writer capability including:
    - “if / then / else”
    - “equal to”
    - “greater / less than”
    - “and / or”
    - “not”
  - Allow selection criteria that include macros to automatically indicate current month, last month, etc., so that requests do not need modification before execution each month.
  - Allow the use of formatting functions
  - Provide sorting by any data element within the report
  - Allow reports to be placed on a menu for repeated use
  - Allow arithmetic functions to be performed within the report writer
  - Include a date routine which performs calculations against dates
  - Permit the generation and print of subtotals for sort breaks as well as page breaks
  - Allow the user, when executing a report, to direct the output to any given device
  - Allow reprinting of all reports on demand
  - Allow the user to search and report contents on the screen
  - Support a web based report distribution mechanism
  - Allow reports to be viewed on-line
- Hardware
  - Support the use of portable devices (e.g., pen tablets, PDAs) for the collection of data for subsequent upload to the appropriate module

- Application and Imaging
  - Support digital imaging
  - Support video imaging
  - System fully integrates and supports web based technology. Please explain functionality provided.
  - Allow reports to be viewed on-line?
  
- Network Access
  - Application can be executed in a thin client environment such as Citrix. Please describe.
  - System allows for full automated backups
  - System allows for incremental automated backups
  - System able to send messages to users through the corporate mail server
  - Firewall between Internet and corporate network
  - User authentication is supported for data access
  
- Documentation and Tutorials
  - Provide summarized user guides:
    - For each screen/series of screens
    - For specific functions (e.g., documenting with a template)
  - Provide a dictionary/ glossary for each field discussed in the above user guide
  - Provide a hard copy tutorial/study for use during training and subsequent reference by the end user
  - Provide on-line tutorial for self-paced, self-directed training by end user (i.e., Computer Based Training (CBT))
  - Provide the capability for the end user (non-programmer) to customize the tutorial
  - Control access to customization of tutorial by security
  
- On-Line Help
  - Provide on-line prompting for menu-screen selections
  - Provide “pull-down” menus for screen prompting
  - Provide on-line help at the screen level (e.g., when the user selects “help” from within a screen, the help text is specific for that screen and related topics)
  - Provide prompting for field level entry
  - Provide on-line help at the field level (e.g., when the user selects “help” with the cursor on a particular field, the help text is specific for that field and related topics)
  - Offer on-line user & technical support