

# Installation and Maintenance of Health IT Systems

## Unit 8-3

### System Selection – Functional and Technical Requirements

Component&Unit3

Health IT Workforce Curriculum  
Version 1.0 Fall 2010

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## 12 Steps to Evaluating EHR Systems

1. Identify the decision makers
2. Clarify your goals
3. Determine functional requirements & write a request for proposal (RFP)
4. Determine RFP recipients
5. Review RFP responses
6. Attend vendor demonstrations

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## 12 Steps to Evaluating EHR Systems (cont'd)

7. Check references
8. Rank vendors
9. Conduct site visits
10. Select finalist
11. Solidify organizational "buy-in"
12. Negotiate the contract

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## #1: Identify Your Decision Makers

- Many are resistant to change. Create a committee to assist in the selection process.
- Make selection process a physician-led effort.
- Invite “movers and shakers” onboard in the decision-making process.
- Your committee should be diverse.

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## #2: Clarify Your Goals

- What are your current limitations?
- Think about what the technology should **achieve** in the practice/institution.
- Be sure your EHR selection aligns with the overall business strategy.

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## #3: Determine Functional Requirements

3-step process to identify functional & non-functional requirements:

1. Understand existing standards
2. Understand the marketplace
3. Apply “use cases”

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## Functional Requirements from Existing Standards

- Identify the problems and issues within your practice, which the system needs to solve.
- Conduct a needs assessment and prioritize the practice's needs.
- Identify the must-haves, want-to-haves, and not-criticals.
- Map identified needs to system features and functionality which will address those needs.

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## Functional Requirements: Scan the Marketplace

- Browse the internet for ideas
- Trade publications
- Specs and vendor guides

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## "Nonfunctional" Requirements

- Usability - ease with which a system can be learned and used
- Reliability - the degree of uptime the system must provide for the users
- Performance - how well the system works for the user
- Supportability - the system's ability to be easily modified or maintained interoperability

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## “Nonfunctional” Requirements (cont’d)

- Scalability - the ability to increase the number of users or applications associated with the product
- System requirements - operating systems, specific hardware or platform requirements, and any special environmental requirements
- Legal and regulatory requirements – telecommunication requirements, HIPAA compliance, etc
- Security - ability to provide confidentiality, data integrity, and data availability (HIPAA)

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## HL7 Standard for Functional Requirements

The Health Level Seven (HL7) functional model:

- can prove very useful to organizations as they migrate to EHRs.
- does not distinguish functions applicable for specific types of care delivery organizations.

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## Steps for using HL7 as a baseline for your EHR requirements

1. Learn the language
  - “Shall” -- indicates a mandatory requirement for an EHR system to achieve conformance with the standard
  - “Should” -- indicates an optional recommended action for an EHR system
  - “May” -- indicates an optional or permissible action for an EHR system

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## Steps for using HL7 as a baseline for your EHR requirements (cont'd)

2. Learn to read the model
  - Hierarchical list
  - Three sections: direct care, supportive, & information infrastructure
3. Review and select relevant sections

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## Use Cases

- Documented scenarios that explain how the system should interact with the end user or another system element to achieve a specific goal or function
- Usually written in simplistic terms
- Focus on correspondence between workflow and system processes

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## Use Cases – An Example

PRE-EHR
Joe pulls out his prescription pad and pen.
Joe consults with a pocket drug reference to check the usual dosing.
Joe glances at Jane's allergy list to make sure she is not allergic to the new medication.
Joe handwrites the drug name and "sig" (e.g. dose, route, frequency, quantity, refills).
Joe hands the handwritten prescription paper to Jane for her to bring to the pharmacy.

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## Use Cases – An Example

POST-EHR
Joe activates the e-prescribing module within the EHR.
Joe searches for and selects the drug he wants to prescribe, and he sees the usual doses, frequencies, etc, presented as options on-screen
The e-prescribing system checks behind the scenes to see whether Jane is allergic to the selected medication or whether it has any significant interactions with her other current prescriptions.
Joe fills in the required data to complete the prescription. If it is a commonly prescribed medication, he quickly selects a complete prescription (i.e. drug, dose, route, quantity, refills, etc) from a list of common options for that drug.
Joe asks Jane from which pharmacy she would prefer to pick up the medication, selects that pharmacy in the system, transmits the e-prescription, and tells Jane it should be available for pickup shortly.

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## Write a Request for Proposal (RFP)

- Items typically covered in a RFP:
  - Cover letter
  - Introduction and selection process
  - Background information, including organization size and specialty, along with current systems and hardware in place
  - Desired EHR functionality
  - Vendor information

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## Write a Request for Proposal (RFP)

- Items typically covered in a RFP (cont'd):
  - Product description
  - Hardware and network components needed
  - Customer maintenance, support, and warranties
  - Training available
  - System implementation plan
  - Proposed costs
  - Sample contract

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## #4: Who Gets an RFP?

- Ask 4 questions:
  1. Does the software have a history of interfacing with your practice management system?
  2. Is the EHR typically marketed to practices of your size?
  3. Does the EHR have favorable published ratings?
  4. Does the EHR system meet your functionality needs?

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## #5-6: Review RFP Responses & Attend Vendor Demonstrations

- Committee review of responses to RFP to choose best candidates
- Attend vendor demonstrations.
  - Present a couple patient visit scenarios to document...being sure to be consistent from one vendor to another.
  - Use standardized questions.
  - Prepare a ratings form.

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## #7: Check References

- Check at least three references for every vendor.
- Ask standardized questions.
- Categories to rank:
  - Background
  - Provider usage
  - Training and support
  - Implementation & hardware
  - Satisfaction

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## #8-10: Rank Vendors, Conduct Site Visits, and Choose a Finalist

- Use a simple ranking tool.
- Characteristics to rank:
  - Functionality
  - Total cost
  - Vendor characteristics
- Set up site visits with the top 2-3 contenders.
- Select a finalist and a runner up.

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## #11-12: Solidify Organizational Commitment & Negotiate the Contract

- Selling the organization on the EHR system
  - Discuss the committee’s recommendations with stakeholders.
  - Be prepared to “sell” your organization on the EHR concept and this particular vendor.
- Negotiating the contract
  - Contracts typically span 10 years or more.

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