

Installation and Maintenance of Health IT Systems

Unit 8-2 System Selection- Software and Certification

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What We'll Cover...

- COTS vs in-house software products
 - "COTS", "MOTS", and "in-house" defined
 - Advantages and disadvantages
 - Associated costs of each
 - Costs of impact
- Estimating costs
- Vendor documentation
 - System functionality
 - System requirements

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What We'll Cover...

- System compliance - CCHIT
 - What is CCHIT?
 - Determining system compliance
- ARRA "Meaningful Use"
 - What is ARRA?
 - Determining eligibility
- Typical costs

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Advantages of Using COTS

- Development costs are lower
- Wider “test market” to find bugs and limitations
- Producer training and product support – bug fixes
- Easier learning curve
- Eliminate development time

COTS Software

- COTS stands for “Commercial Off-the-Shelf” software.
- MOTS stands for “Modifiable Off-the-Shelf” software.
- More than 200 companies claim to make an EHR.
- May include freeware software with commercial support

Disadvantages to COTS

- Source code may be unalterable
- Compatibility Issues
- Uncertain Upgrade Schedules
- Business practices may have to be modified, and workflow often has to be adapted to the particular design of the COTS product.

Advantages to In-House Solutions

- In-house software is developed wholly by the operating institution.
- Design is specifically tailored to meet institution objectives.
- Can mesh comfortably with existing workflow processes

Disadvantages to In-House Development

- Development costs are incurred by the institution and continued throughout the product lifecycle.
- Dependent on expertise of in-house development staff
- Bugs and limitations must be dealt with
- Producer support – bug fixes
- Training must be developed in-house.
- Longer development time

What is CCHIT?

- CCHIT stands for Certification Commission for Health Information Technology
- Private nonprofit organization
- Created in 2004 by the HIMSS, AHIMA, and the Alliance.
- In 2005, CCHIT was awarded a 3-year, \$7.5M government contract to develop certification criteria and inspection process
- Partnered with the US Department of Health and Human Resources

The Role of CCHIT

- Defines minimum EHR functionality
- Promotes minimum interoperability and security standard
- Rigorous inspection of integrated EHR functionality, interoperability, and security according to criteria independently developed by CCHIT

Why Certification?

- Reduce risks to physicians investing in EHR products
- Qualifies institutions for stimulus money (ARRA)
- Facilitate interoperability of EHR products
- Enhance availability of EHR adoption incentives and relief from regulatory barriers
- Ensure that EHR products and networks are secure and protect privacy

Why Certification?

- Probably spend your evaluation time more efficiently
- Narrow the initial field of vendors
- Assure basic functionality and interoperability, allowing you to focus evaluation more on special or unusual needs of your institution

Getting Certified by CCHIT

- EHR software can be certified in any combination of three domains:
Ambulatory, Inpatient, and Emergency Department.
 - All three = *Enterprise*
- The CCHIT Certified 2011 program includes “core” plus “optional” certifications.
- Average certification costs \$29,000.

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What are ARRA and “Meaningful Use”?

- ARRA (American Recovery and Reinvestment Act) passed by Congress in February 2009
- Over \$22 billion allocated to modernize health information technology system
- HITECH Act initially rewards institutions for switching to EHRs, then by 2015 imposes penalties.

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Meaningful Use Criteria (Stage 1)

Starting with Stage 1, hospitals are required to adhere to the following criteria:

1. Improve quality, safety, efficiency, and reduce health disparities
2. Engage patients and families in their health care
3. Improve care coordination
4. Improve population and public health
5. Ensure adequate privacy and security protections for personal health information

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Meaningful Use Criteria (Stage 1)

1. Improve Quality, Safety, Efficiency, and Reduce Health Disparities

- Use CPOE for at least 10% of all orders (any type), directly entered by authorizing provider
- Implement drug-drug, drug-allergy, drug-formulary checks
- Maintain up-to-date problem list of current and active diagnoses based on ICD-9 or SNOMED
- Maintain active medication list
- Maintain active medication allergy list

Meaningful Use Criteria (Stage 1)

1. Improve Quality, Safety, Efficiency, and Reduce Health Disparities (cont'd)

- Record demographics: preferred language, insurance type, gender, race, ethnicity, date of birth, date and cause of death in the event of mortality
- Record and chart changes in vital signs: height, weight, blood pressure; calculate and display BMI; plot and display growth charts, including BMI, for children 2-20 years

Meaningful Use Criteria (Stage 1)

1. Improving Quality, Safety, Efficiency, and Reduce Health Disparities (cont'd)

- Record smoking status for patients 13 years old or older
- Incorporate clinical laboratory test results in EHR as structured data
- Generate lists of patients by specific conditions
- Report hospital quality measures to CMS or the states
- Implement five clinical decision support rules relevant to specialty or high clinical priority, including for diagnostic test ordering, along with the ability to track compliance with those rules
- Submit claims electronically to public and private payers

Meaningful Use Criteria (Stage 1)

2. Engage Patients and Families in Their Health Care

- Provide patients with an electronic copy of their health information (including diagnostic test results, problem list, medication lists, allergies, discharge summary, procedures) upon request
- Provide patients with an electronic copy of their discharge instructions and procedures at the time of discharge, upon request

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Meaningful Use Criteria (Stage 1)

3. Improve Care Coordination

- Electronically exchange key clinical information
- Perform medication reconciliation at relevant encounters and each transition of care
- Provide summary care record for each transition of care and referral

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Meaningful Use Criteria (Stage 1)

4. Improve Population and Public Health

- Capability to ...
 - Submit electronic data to immunization registries
 - Provide electronic submission of reportable (as required by state or local law) lab results to public health agencies
 - Provide electronic syndromic surveillance data to public health agencies
- ... and actual submissions under certain circumstances

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Meaningful Use Criteria (Stage 1)

5. Ensure Adequate Privacy and Security Protections for Personal Health Information

- Protect electronic health information created or maintained by the certified EHR technology through the implementation of appropriate technical capabilities.

ARRA Stages 2 and 3 Implementation (2013 and 2015)

- Stages 2 and 3 Meaningful Use requirements are not yet officially defined.

Typical Costs to Consider

- Start up costs
 - Initial hardware and network upgrades
 - Initial software and licensing
 - Initial interfaces
- Maintenance costs
 - Annual software licensing, upgrades, support
 - Annual interface upgrades and support

Typical Costs to Consider (cont'd)

- Training costs: administrators, users
- Productivity costs: lost during transition
- Consultant fees
