Curriculum Development Centers Program

Awardee of The Office of the National Coordinator for Health Information Technology

HEALTH IT WORKFORCE CURRICULUM
COMPONENT BLUEPRINT
Version 2.0/Spring 2011

Component Number: 11
Component Name: Configuring EHRs

Component Description (from FOA):
A practical experience with a laboratory component, addressing approaches to assessing, selecting, and configuring EHRs to meet the specific needs of customers and end-users.

Assigned Institution: Oregon Health & Science University
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Workforce Roles
- Implementation Managers
- Implementation Support Specialist
- Practice Workflow and Information Management Redesign Specialist
- Technical/Software Support

Component Objectives
Upon completion of this component, the student will be able to:
1. Describe the process of migration to an electronic health record (EHR) from organizational strategy, planning, analysis of EHR options, decision-making techniques, training, and implementation strategies.
2. Given a case study of a facility moving from a paper health record to an EHR, discuss the migration path from organizational strategy to implementation, including meaningful use criteria.

This material was developed by Oregon Health & Science University, funded by the Department of Health and Human Services, Office of the National Coordinator for Health Information Technology under Award Number IU24OC000015.

3. Discuss the importance and use of clinical decision support systems for clinical and administrative use.
4. Given an EHR system, configure the system to achieve features required for meaningful use, including labs for:
    a. Building of order sets
    b. Data entry templates
    c. Generate quality reports
    d. Implementation of clinical decision support
5. Understand data infrastructure including data architecture, data sets, data repositories, data standards, data types and data dictionaries

Component Topics

1. Migrating to the EHR
2. Meaningful use-practical implementation
3. Clinical Decision Support (CDS)
4. Lab: Implementation of clinical decision support
5. Lab: Health summary and clinical reminder reports
6. Lab: Data entry templates
7. Lab: Building order sets
8. Data infrastructure
9. EHR implementation in specific settings

Component Units with Objectives and Topics

Unit 1: Migration to an Electronic Health Record System

Description:
This Unit focuses upon the process of migrating to an Electronic Health Record System, or EHR, and The Electronic Health Record Life Cycle.

Objectives:
At the end of this unit the student should be able to:

a. Discuss the migration to the EHR
b. Determine appropriate members for a steering committee planning for an electronic health record
c. Develop and apply criteria for selecting an appropriate vendor for the electronic health record
d. Define the steps in a basic strategic management plan.
e. Develop a timeline for choosing and implementing an electronic health record
f. Discuss the components of contract negotiation.

Topics:

- EHR Information System Life Cycle (user needs assessment, proto-type development, system selection, system implementation, maintenance)

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- Choosing the EHR system steering committee
- Developing and using criteria to select vendor
- Steps in strategic management
- Development of timelines for choosing and implementing and EHR
- How to choose a system: RFI/RFP
- Choosing a vendor
- Contract negotiation

Unit 2: Meaningful Use – Practical Implementation

Description:
This unit provides an overview of the five guiding principles for meaningful use and defines the metrics that will be used to measure meaningful use. Additionally, this unit covers the timeline and incentives for meeting meaningful use criteria as defined by the Centers for Medicare and Medicaid Services (CMS) and describes the value and qualities provided by a certified EHR.

Objectives:
At the end of this unit the student should be able to

a. Describe the 5 underlying healthcare goals to which all meaningful use criteria map
b. Understand the process and purpose of EHR certification and the work of CCHIT and other possible certifying bodies
c. Understand how the exchange of electronic health data relates to meaningful use
d. Understand how clinical quality measures relate to meaningful use

Topics:

- The 5 underlying healthcare goals for meaningful use
- Essential components of meaningful use, including:
    - Use of certified EHR technology
    - Utilizing EHR technology allowing for electronic exchange of health data
    - Using the EHR to submit clinical quality measures

Unit 3: Clinical Decision Support

Description:
This unit focuses initially on defining clinical decision support (CDS) and providing an historical perspective, the early approaches to clinical decision support that tended to focus mostly on diagnosis. The focus progresses to more recent approaches, including those that are used with modern electronic health record systems that are somewhat more focused on treatment. This unit is completed with a discussion on computerized provider order entry, or CPOE *[C-P-O-E]*, which brings clinical decision support to the point of care.

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Objectives:
At the end of this unit the student should be able to

a. Define what is meant by clinical decision support (CDS) systems
b. Discuss key factors in the development of CDS for clinical and administrative use
c. Implement clinical decision making tools including computerized provider order entry (CPOE)
d. Implement CDS rules, alerts, and reminders
e. Given a case study, analyze the issues related to provider fatigue related to alerts and reminders

Topics:

- Definition of CDS systems
- CDS tools and their implementation
- Implementing decision support rules, alerts, and reminders
- Implementing computerized provider order entry (CPOE)

Unit 4: Lab: Implementing Clinical Decision Support

Description:
This unit discusses implementing clinical decision support, which broadly refers to providing clinicians or patients with computer-generated clinical knowledge and patient related information, intelligently filtered and presented at appropriate times, to enhance patient care. A short lecture is followed by a series of hands-on labs and exercises through which students will learn how to configure and use three tools for decision support implemented in the EHR: Alerts or Notifications, Order Checks and Clinical Reminders.

Objectives:
At the end of this unit the student will be able to

a. View and create Alerts/Notifications in a VistA simulation EHR environment
b. View and create Order Checks in a VistA simulation EHR environment
c. View and resolve reminders in a VistA EHR simulation environment
d. Discuss the value of these EHR functions as clinical decision support tools

Topics:

- Alerts/Notifications
- Order Checks
- Clinical Reminders
- Alerts/Notifications, Order Checks, and Clinical Reminders as clinical decision support tools

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Unit 5: Lab: Health Summary and Clinical Reminder Reports

Description:
This unit focuses on reviewing basic information related to the creation of quality reports. In addition, the labs and exercises describe how to create and view Health Summary and Clinical Reminder reports - two basic types of quality reports.

Objectives:
At the end of this unit the student will be able to

a. View and create Health Summary reports in the VistA EHR simulation environment.
b. View and create Clinical Reminder reports in the VistA EHR simulation environment.
c. Describe how these EHR functions support quality care, patient safety and efficiency

Topics:

- Ad hoc health summary reports
- User-customized health summary reports
- Clinical reminder reports

Unit 6: Lab: Data Entry Templates

Description:
This unit will focus on the creation and use of data entry templates. Templates are important tools for collecting data entered into the system manually, as they can help to ensure the quality of the data and provide data capture efficiencies through effective design and use.

Objectives:
At the end of this unit the student will be able to:

a. Access and use the template editor
b. Effectively use the different field controls to promote data quality and efficiency of data entry
c. View and create personal and shared templates for data entry
d. View and create shared templates
e. Describe how these EHR functions support quality care, patient safety and efficiency

Topics:

- Document templates
- Shared templates
- Personal templates

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Unit 7: Lab: Building Order Sets

Description:
This unit focuses on the value of order sets through Lab exercises designed to instruct students on how to build order sets within a typical Electronic Health Record, or EHR *[E-H-R]*. Typically, order sets would be created by clinicians with expertise in treatment plans and they would be able to take those plans and put them into specific order sets within the EHR system.

Objectives:
At the end of this unit the student will be able to:

a. Define and describe an order set
b. Describe the benefits and costs associated with order sets
c. Demonstrate the ability to build order sets in VistA, a simulation EHR environment

Topics:

- Building order sets
- Creating and customizing order (menu) screens
- Creating laboratory quick orders
- Creating medication quick orders
- Combining quick orders in an order set

Unit 8: Data Infrastructure

Description:
This unit focuses on important terminology related to data and the parts of data infrastructure and architecture; definitions, development, and use of a data dictionary; and the collection of data for secondary use.

Objectives:
At the end of this unit the student should be able to

a. Discuss the concepts of data infrastructure including data architecture, data sets, repositories, data dictionary, data standards, and data types.
b. Given a case study, produce a sample data dictionary.

Topics:

- Data architectures
- Data sets
- Repositories
- Data dictionary (with application practice on developing a data dictionary)
- Implementing data standards (e.g., HL7)

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- Data types- structured and unstructured

Unit 9: EHR Implementation in Specific Settings

Description:
This unit focuses on the implementation of Electronic Health Records systems in specific settings including acute care settings such as ambulatory care, physician practices, and critical access hospitals, as well as non-acute care settings such as home health care, extended care, rehabilitation facilities, long term care facilities, and the growing area of senior residence housing.

Objectives:
At the end of this unit, the student should be able to

a. Discuss key issues in electronic health record development and implementation affecting acute care
b. Discuss key issues in electronic health record development and implementation affecting long term care including interchange of health information with acute care
c. Discuss key issues in electronic health record development and implementation affecting ambulatory care including interoperability with acute care, ASP and community offerings for an EHR.
d. Discuss key issues in electronic health record development in other health care settings including physician practice, home health and hospice, behavioral health, and health departments

Topics:

- Acute care: critical access, EHR, components, interfacing with other care settings
- Long Term Care: EHR components, HIE with acute care
- Ambulatory Care: EHR components, interoperability and interfaces with acute care, ASP and community offerings for an EHR
- Other settings: physician practice, home health and hospice, behavioral health facilities, health departments.

Unit Elements:
Instructor manual, lectures, self-assessment questions, discussion questions and/or activities, assignments and exercises

Format:
Slides with narration (voiceover PowerPoint in Flash format), suitable for lecture, team-based learning, or online independent study; labs and exercises are Word documents that are to be used with the VistA for Education system; lecture transcripts (MS Word documents); and audio files in mp3 format for each lecture; self-assessment and discussion questions and keys (MS Word documents).

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Local Resources Required for Implementation(online):
Computer, Microsoft Office, PowerPoint, Flash player (free download), **VistA for Education installer v1.03**, mp3 player (free download), Learning Management System (optional)

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