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: 14
Component Name: Special Topics Course on Vendor-Specific Systems

Component Description (from FOA): Provides an overview of the most popular vendor systems highlighting the features of each as they would relate to practical deployments, and noting differences between the systems.

Assigned Institution: Columbia University

Team Lead(s):
David Vawdrey, PhD, Columbia University
Bob Sideli, MD, Columbia University and Columbia-Presbyterian Medical Center

Team Members:
Sarah Collins, PhD (Content Specialist)
Rita Kukafka, Dr.Ph (Principal Investigator)
Syncia Sabain, EdD (Project Manager)
Michael Buck, PhD, New York City Department of Health and Mental Hygiene (NYCDHMH)
Lynda Carlson, BMCC (Content Specialist)
Madhabi Chatterji, PhD (Curriculum Developer)
John Allegrante, PhD (Curriculum Developer)
John Zimmerman, DDS (Instructional Design Specialist)
Cindy Smalletz, MS (Instructional Design Specialist)

Workforce Roles:
Implementation support specialists, secondary for Implementation Managers

Component Objectives
Upon completion of this component, the student will be able to:
1. Assess and compare common commercial Electronic Health Record (EHR) systems using KLAS ratings in training and organizational decision-making contexts.

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2. Apply Certification Commission for Health Information Technology (CCHIT), meaningful use, Joint Commission and National Patient Safety Goals to decisions about commercial EHR vendor selection, when given typical workplace scenarios.
3. Evaluate key factors (costs of an EHR, including capital, licensing, maintenance and staffing, and stakeholder needs) into workplace decisions for selecting vendor-specific systems
4. Analyze the functionality of a vendor EHR system, given a set of user needs
5. Compare database architectures employed by different vendor applications to evaluate how these impact performance and extensibility
6. Evaluate EHR systems based on vendor strategies for terminology management, knowledge management and data exchange
7. Compare decision support capabilities and customizability, given different vendor EHRs
8. Evaluate training and go-live strategies of different EHR vendors in terms of impact on cost, workflow, and patient safety.

Component Units with Objectives and Topics

Unit 1:
Common commercial electronic health record (EHR) systems used in ambulatory and inpatient care settings

Description:
Assess and compare common commercial EHR systems using KLAS ratings during training or to facilitate organizational decision-making.

Objectives:
Students will be able to:
1.1 Describe the most common commercial electronic health record (EHR) systems used in ambulatory and inpatient care settings
1.2 List HIMSS resources available on EHR systems
1.3 Describe functions and applications of HIMSS resources available on EHR systems
1.4 Describe functions and applications of KLAS ratings available on EHR systems
1.5 Apply KLAS rating system to evaluate software selections for ambulatory and acute care EHRs.
1.6 Provide a summary of inpatient and ambulatory vendors

Topics:
A. KLAS ratings
B. Healthcare Information and Management Systems Society (HIMSS)
C. Summary of inpatient and ambulatory vendors

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Unit 2:
Certification of commercial Electronic Health Records (EHRs)

Description:
Apply Certification Commission for Health Information Technology (CCHIT), meaningful use, Joint Commission and National Patient Safety Goals to decisions about commercial EHR vendor selection.

Objectives:
Students will be able to:
2.1 Describe the Certification Commission for Health Information Technology (CCHIT)
2.2 Describe or give examples illustrating how CCHIT criteria are used for certification of EHR systems
2.3 Identify the benefits of 'meaningful use' of EHRs and identify examples of 'meaningful use' of EHRs in given scenarios
2.4 Identify the three stages of implementation requirements for 'meaningful use' of EHRs
2.5 Identify the role of governing bodies certifying commercial EHRs, including FDA oversight, the Joint Commission and National Patient Safety Goals

Topics:
A.CCHIT
B. Meaningful Use
C. Safety/FDA oversight/Joint Commission/National Patient Safety Goals

Unit 3:
How do organizations select an EHR? Lessons from the front lines

Description:
Evaluate key factors (costs of an EHR, including capital, licensing, maintenance and staffing, and stakeholder needs) into workplace decisions for selecting vendor-specific systems.

Objectives:
Students will be able to:
3.1 Demonstrate concept knowledge of the RFP process
3.2 Identify the key stakeholders involved in EHR selection and the roles they each play
3.3 Identify and give examples of the categories of project costs when selecting vendor-specific EHR systems
3.4 Analyze the financial components that strengthen an EHR vendor
3.5 Identify the key steps in the selection process for choosing a vendor EHR

Topics:
A.RFP process

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B. Stakeholders involved
C. Cost (capital, licensing, maintenance, staffing)
D. Financial strength of vendor

Unit 4:
Electronic Health Record (HER) Functionality

Description:
Analyze the functionality of a vendor EHR system, given a set of user needs.

Objectives:
Students will be able to:
4.1Describe EHR functionality of Results Review
4.2 Describe the EHR functionality of Computerized Provider Order Entry (CPOE)
4.3 Describe the EHR functionality of Documentation
4.4 Describe the EHR functionality of Messaging among different vendor systems
4.5 Describe the procedures for billing supported by EHR vendor systems.

Topics:
A. Results Review
B. Computerized Provider Order Entry (CPOE)
C. Documentation
D. Messaging

Unit 5:
System and database architectures used in commercial EHRs

Description:
Compare database architectures employed by different vendor applications, for fulfilling different user purposes.

Objectives:
Students should be able to:
5.1 Demonstrate concept knowledge of system and database architectures used in commercial EHRs
5.2 Describe the health information systems landscape, including CPOE, Pharmacy, Lab, etc.
5.3 Identify the different EHR hardware platforms
5.4 Compare different EHR operating systems and databases
5.5 Articulate how system and database architectures impact security, auditing and performance monitoring

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Topics:
A.EHR modules and the health information systems landscape (CPOE, Pharmacy, Lab, etc.)
B. Thick/thin client (Citrix, Web)
C. Operating systems, databases (SQL Server, Oracle, Cachet)
D. Security, auditing, performance monitoring

Unit 6:
Vendor strategies for terminology, knowledge management, and data exchange

Description:
Evaluate EHR systems based on vendor strategies for terminology management, knowledge management and data exchange.

Objectives:
Students should be able to:
6.1 Describe the three types of interoperability
6.2 Describe vendor strategies for terminology and knowledge management and how these impact interoperability
6.3 Describe processes and requirements for exchanging data with personal health records

Topics:
A. What is interoperability?
B. Clinical knowledge sources (EBM) - Advanced clinical automation systems
C. Clinical Measurement - from Discern Expert to HealthFacts
D. Exchanging data with personal health records (PHRs)

Unit 7:
Assessing decision support capabilities of commercial EHRs

Description:
Compare decision support capabilities and customizability, given different vendor EHRs.

Objectives:
Students will be able to:
7.1 Describe the applications of clinical decision support systems
7.2 Describe decision support capabilities and customizability of different vendor EHRs
7.3 Describe the challenges of implementing clinical decision support alerts in EHR systems

Topics:

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A. Basic Clinical Decision Support
B. Custom Clinical Decision Support
C. Medical Logic Modules (MLMs)
D. Case Study: Eclipsys Sunrise: Helios Open Architecture for Custom Development

Unit 8:
Vendor-specific training and go-live strategies

Description:
Evaluate training and go-live strategies of different EHR vendors in terms of impact on cost, workflow, and patient safety.

Objectives:
Students will be able to:
8.1 Describe characteristics of vendor-specific training and go-live strategies that would facilitate implementation of a new Electronic Health Record (EHR) system
8.2 Compare the advantages and disadvantages of a big-bang roll-out versus a phased roll-out and vice-versa
8.3 Identify staffing, command center and on-site consultant considerations in the EHR vendor selection process
8.4 Compare vendor strategies for monitoring system usage and change management

Topics:
A. Big-bang vs. phased roll-out
B. Staffing, command center, on-site consultants
C. Monitoring system usage
D. Change management

Unit Elements:
Instructors manual, self-assessment questions, and application activities

Format:
Slides with narration; video including screen shot simulations

Size/Contract Hours:
8 units; each with 20-25 minutes of lecture, 5-10 self-assessment questions and approximately ½ hour homework per unit

Local Resources Required for Implementation:
Computer; Internet connection (optional)

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