

Slide 1

**Health Management  
Information Systems**

Unit 3  
Electronic Health Records

Component #C6403 Health IT Workforce Curriculum  
Version 1.0/Fall2010 1

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Slide 2

**Objectives**

- Discuss how health information exchange (HIE) and Nationwide Health Information Network (NHIN) impact health care delivery and the practice of health care providers
- Outline issues regarding governmental regulation of EHR systems such as meaningful use of interoperable health information technology and a qualified EHR

Component #C6403 Health IT Workforce Curriculum  
Version 1.0/Fall2010 2

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Slide 3

**Objectives continued**

- Summarize how the Institute of Medicine's *Vision for 21st Century Health Care and Wellness* may impact health management information systems.
- Identify how ongoing developments in biomedical informatics can affect future uses and challenges related to health information systems.

Component #C6403 Health IT Workforce Curriculum  
Version 1.0/Fall2010 3

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Slide 4

**Health Information Exchange  
(HIE)**

- Electronic movement of health-related information among organizations according to nationally recognized standards

Defining Key Health Information Technology Terms  
[http://healthit.hhs.gov/portal/server.pt/gateway/PTARGS\\_0\\_10741\\_848133\\_0\\_0\\_1810\\_2\\_hi\\_ser.ms.pdf](http://healthit.hhs.gov/portal/server.pt/gateway/PTARGS_0_10741_848133_0_0_1810_2_hi_ser.ms.pdf)

Component #13463 Health IT Workforce Curriculum Version 1.0/Fall2010 4

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Slide 5

**Perspectives on Health  
Information Exchange**

- Models of HIE architecture
  - Centralized
    - Shared repository
  - Federated (or decentralized)
    - Data source organization maintains custodianship and control over the patient's medical record
  - Hybrid
    - Mixture

Health Information Exchanges: Similarities and Differences  
[http://www.himss.org/content/files/RHO/HIE\\_CommonPracticesWhitePaper20090330.pdf](http://www.himss.org/content/files/RHO/HIE_CommonPracticesWhitePaper20090330.pdf)

Component #13463 Health IT Workforce Curriculum Version 1.0/Fall2010 5

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Slide 6

**HIE Impact**

- Health care delivery
  - Clinical and financial
- Practice of health care providers
  - Real-time patient data at the point-of-care
  - Access to patients' longitudinal test results
  - Productivity gains

Component #13463 Health IT Workforce Curriculum Version 1.0/Fall2010 6

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Slide 7

**Nationwide Health Information Network (NHIN)**

- Standards
- Protocols
- Legal agreements
- Specifications
- Services



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Version 1.0/Fall 2010

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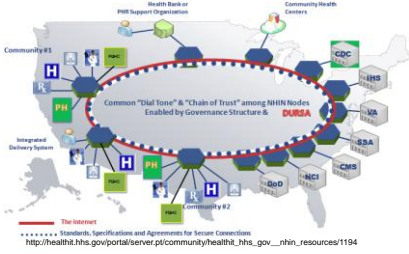
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Slide 8

**Nationwide Health Information Network (NHIN)**



..... Standards, Specifications and Agreements for Secure Connections  
[http://healthit.hhs.gov/portal/server.pt/community/health\\_hhs\\_gov\\_nhin\\_resources/1194](http://healthit.hhs.gov/portal/server.pt/community/health_hhs_gov_nhin_resources/1194)

Component 6/Unit 3  
Health IT Workforce Curriculum  
Version 1.0/Fall 2010

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Slide 9

**Perspectives on the NHIN**

- Helps achieve the goals of HITECH
- Critical part of the national health IT agenda
- Enable health information
  - To follow the consumer
  - Be available for clinical decision making
  - To support appropriate use of health information

Component 6/Unit 3  
Health IT Workforce Curriculum  
Version 1.0/Fall 2010

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Slide 10

**NHIN Evolution**

- Driven by emerging technology, users, uses, and policies
- NHIN Direct Project
  - Expand the standards and service descriptions available
  - Address the key Stage 1 requirements for meaningful use
  - Provide an easy "on-ramp"

Component 6/Unit 3 Health IT Workforce Curriculum Version 1.0/Fall 2010 10

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Slide 11

**Impact of NHIN**

- Health care delivery
  - Establishes a standards-based infrastructure
  - Increases the ability to collect and store aggregated data
- Practice of health care providers
  - Provides a care coordination exchange platform

Component 6/Unit 3 Health IT Workforce Curriculum Version 1.0/Fall 2010 11

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Slide 12

**Governmental Efforts Related to EHRs**

- Office of the National Coordinator (ONC) Initiatives
  - Nationwide Health Information Network (NHIN)
  - State-Level Health Initiatives
    - State-level Health Information Exchange Consensus Project
    - State Alliance for e-Health
    - Health Information Security and Privacy Collaboration (HISPC)

Component 6/Unit 3 Health IT Workforce Curriculum Version 1.0/Fall 2010 12

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Slide 13

**Governmental Efforts Related to EHRs**

- ARRA
  - HITECH Programs
    - Meaningful use of interoperable health information technology and qualified EHRs
      - Certified electronic health record technology
      - “qualified EHR”
  - HIT Advisory Committees



Component 6/Unit 3 Health IT Workforce Curriculum Version 1.0/Fall 2010 13

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Slide 14

**Governmental Efforts Related to EHRs**

- Office of the National Coordinator Authorized Testing and Certification Body (ONC-ATCB)
  - Established to ensure that “Certified EHR Technology” will be available for adoption

Component 6/Unit 3 Health IT Workforce Curriculum Version 1.0/Fall 2010 14

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Slide 15

**Certified EHR Technology**

- Complete EHR or a combination of EHR Modules, each of which:
  - Meets the requirements included in the definition of a Qualified EHR; and
  - Has been tested and certified in accordance with the certification program established by the National Coordinator as having met all applicable certification criteria adopted by the Secretary

Federal Register, July 28, 2010 <http://edocket.access.gpo.gov/2010/pdf/2010-17210.pdf>

Component 6/Unit 3 Health IT Workforce Curriculum Version 1.0/Fall 2010 15

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Slide 16

**“Qualified EHR” Definition**

- Electronic record of health related information
  - Patient demographic and clinical health information
- Capacity to provide specific functions

<http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&sid=5b9aefc6043381ace3db87411a83891&rgn=div5&view=text&node=45:1.0.1.4.73&idno=45>

Component 6/Unit 3 Health IT Workforce Curriculum Version 1.0/Fall 2010 16

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Slide 17

**Governmental Efforts Related to EHRs**

- Federal Advisory Committees
  - HIT Policy Committee
  - HIT Standards Committee

Component 6/Unit 3 Health IT Workforce Curriculum Version 1.0/Fall 2010 17

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Slide 18

**A Vision for 21st Century Health Care and Wellness**

- IOM vision
  - Systematically organized and acculturated health care system
  - Easy and rewarding for providers and patients to do
    - the right thing
    - at the right time
    - in the right place
    - in the right way

Computational Technology for Effective Health Care: Immediate Steps and Strategic Directions. <http://www.ncbi.nlm.nih.gov/books/htb.fcgi?book=rlap1257&part=200167&id=500032>

Component 6/Unit 3 Health IT Workforce Curriculum Version 1.0/Fall 2010 18

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Slide 19

**Information-intensive Aspects of IOM's Vision**

- Important health care IT capabilities
  - Comprehensive data on patients' conditions, treatments, and outcomes
  - Cognitive support for health care professionals and patients
  - Cognitive support for health care professionals
  - Instruments and tools

Component 6/Unit3 Health IT Workforce Curriculum Version 1.0/Fall2010 19

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Slide 20

**Information-intensive aspects of IOM's vision**

- Important health care IT capabilities
  - Rapid integration of new instrumentation, biological knowledge, treatment modalities, etc.
  - Accommodation of the growing heterogeneity of locales for the provision of care
  - Empowerment of patients and their families in effective management of health care decisions and execution

Computational Technology for Effective Health Care: Immediate Steps and Strategic Directions. <http://www.ncbi.nlm.nih.gov/books/bslib.fcgi?book=nap12572&part=2001167:95530032>

Component 6/Unit3 Health IT Workforce Curriculum Version 1.0/Fall2010 20

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Slide 21

**Guiding Principles of IMO's Vision**

- Principles for evolutionary change
  - Focus on improvements in care
  - Seek incremental gain from incremental effort
  - Record available data
  - Design for human and organizational factors
  - Support the cognitive functions of all caregivers

Computational Technology for Effective Health Care: Immediate Steps and Strategic Directions. <http://www.ncbi.nlm.nih.gov/books/bslib.fcgi?book=nap12572&part=2001167:95530032>

Component 6/Unit3 Health IT Workforce Curriculum Version 1.0/Fall2010 21

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Slide 22

**Guiding Principles of IMO's Vision**

- Principles for radical change
  - Architect information and workflow systems
  - Archive data for subsequent re-interpretation
  - Create technologies that identify and eliminate ineffective work processes
  - Create technologies that clarify the context of data

Computational Technology for Effective Health Care: Immediate Steps and Strategic Directions.  
<http://www.cdc.gov/nchs/ehi/bookshelf/full/Bookshelf/2272/pain-w0010107/00000002>

Component 6/Unit 3 Health IT Workforce Curriculum Version 1.0/Fall 2010 22

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Slide 23

**Summary**

- External Influences
  - HIE
  - NHIN
  - ARRA/HITECH
  - IOM's Computational Technology for Effective Health Care: Immediate Steps and Strategic Directions

Component 6/Unit 3 Health IT Workforce Curriculum Version 1.0/Fall 2010 23

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