Curriculum Development
Centers Program

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

Component 6 - Health Management Information Systems

Unit 3-2
Electronic Health Records

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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

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

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_18/10_2_hit_ter ms.pdf

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/RHIO/HIE_CommonPracticesWhitePaper20090330.pdf

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
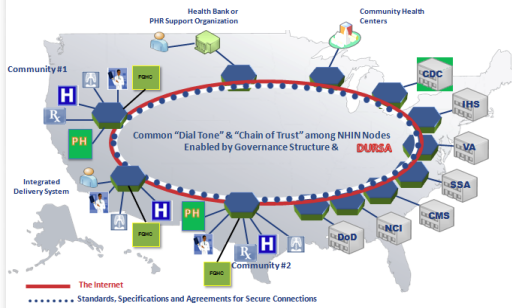 - Productivity gains

Nationwide Health Information Network (NHIN)

- Standards
- Protocols
- Legal agreements
- Specifications
- Services

NHIN
Nationwide Health
Information Network

Nationwide Health Information Network (NHIN)

http://healthit.hhs.gov/portal/server.pt/community/healthit_hhs_gov__nhin_resources/1194

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

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"

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

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)

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

Connecting America for Better Health

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

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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

"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/text-
idx?c=ecfr&sid=5b9aefc60433f81ace3db87411a83891&rgn=div5&view=text&node=4
5:1.0.1.4.73&idno=45

Governmental Efforts Related to EHRs

• Federal Advisory Committees
  – HIT Policy Committee
  – HIT Standards Committee

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/bookshelf/br.fcgi?book=nap12572&part=a20016f7dddd00032

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

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/bookshelf/br.fcgi?book=nap12572&part=a2001617dddd00032

Guiding Principles of IOM'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/bookshelf/br.fcgi?book=nap12572&part=a2001617dddd00032

Guiding Principles of IOM'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.ncbi.nlm.nih.gov/bookshelf/br.fcgi?book=nap12572&part=a20016f7dddd00032

Summary

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