Introduction to Health Information Exchange

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Health Information Exchange (HIE)
Health Information Organization (HIO)

• Health information exchange describes an action
  – Provider orders a lab test
  – Lab result is delivered to Provider
  – Patient views the result

• Health information organization describes a business entity that operates the technology that supports the action(s)
  – Coordinates the different systems that collect and send information
Critical IT Capabilities for New Models of Care

Patient Engagement

- Web portal
- Mobile technology
- Social Networking
- Patient messaging/communication
- Patient self-service

Analytics

- Data exchange
- Data standardization
- Provider messaging/communication
- Patient and provider index

Health Information Exchange

- Data repository
- Data normalization
- Statistical software

11/15/12
Generations of HIE

Citation: The new model of health information exchange: Using data and analytics to improve health care delivery. eHealth Initiative. 2012
Types of HIOs

- **Community-based HIO**
  - Typically non-profit
  - Representative Board of Directors
  - Seeks to support all healthcare providers in a geographic region

- **Enterprise HIO**
  - Sponsored by a particular organization
  - Supports the organization’s business needs
  - At maturity, may branch into community

- **HIO to HIO**
  - Support HIEs to connect to other HIEs
HIE Technical Architecture Choices

• Centralized
  – Data received from provider connections is stored within a single central repository that is owned and managed by the HIE. Data is usually partitioned to allow for participants to be added or to leave at will.
HIE Technical Architecture Choices

- Federated
  - Most data remains in repositories that exist behind each provider’s firewalls. Pointers to current information are sent to the HIE.
HIE Technical Architecture Choices

- Hybrid
  - Some data is stored centrally, and other data is either stored in edge servers unique to the provider within the central facility, or is in edge servers or in the native EHR available in XDS.b repositories.
NwHIN Clinical Messaging – **Direct**

- Data exchange scenarios requiring point to point messaging can be accomplished through a combination of NwHIN **Direct** and **Connect** messaging protocols.

> “The Direct Project specifies a simple, secure, scalable, standards-based way for participants to send authenticated, encrypted health information directly to known, trusted recipients over the Internet.”


Slide from HIE Primer, David Minch
CONNECT is an open source software solution that supports [bi-directional] health information exchange – both locally and at the national level. CONNECT uses Nationwide Health Information Network standards and governance to make sure that health information exchanges are compatible with other exchanges being set up throughout the country.”

Quote taken from About CONNECT, on the Connect Web Site: http://www.connectopensource.org/about/what-is-connect
Discussion

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