Health Information Exchange and Directory Services: Public Health's Role

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What are directory services?

- Directory services allow lookup of
  - Users or individuals (sometimes called "White Pages")
  - Organizations and organization locations (sometimes called "Yellow Pages")
  - Data services offered by organizations or service providers
  - Semantics or terminology, along with translation services if appropriate (we won't deal with this topic here)
What do directory services help achieve?

- Facilitate interoperability
  - Identify destinations for sending data
  - Ensure that recipients are who they say they are

National discussion is focused primarily on entity-level provider directories (i.e., directories about organizations) and individual-level provider directories (i.e., directories about individuals)
Where might directory data come from?

- Licensure databases
- Medicaid directories
- Public Health Information Network (PHIN) or Health Alert Network (HAN)
- Public health registry users (e.g., IIS)
- Regional Extension Center (REC)
- National Provider Identifier (NPI, from NPPES)
- CMS National Level Repository (NLR)
- Private sources (medical societies, CAQH®, payers)
How do directories work?

Provider Directory Continuum*

- Facilitate Manual Look-up
  - A human readable directory to support point-to-point Health Information Exchange.
  - A web-based directory of providers who wish to send & receive clinical messages

- Facilitate Automated Look-up/Routing
  - A machine readable directory to support point-to-point Health Information Exchange
  - A HISP-based directory of Providers who wish to send & receive clinical messages utilizing the NwHIN Direct Project and other HIS supported protocols.

- Facilitate Full Push/Pull Exchange
  - Machine and Human readable Directories for future state vision of Networked exchange.
  - The much discussed Entity Level Provider Directory (ELPD) / Individual Level Provider Directory (ILPD) Infrastructure.

* Adapted from ONC Provider Directory Community of Practice, March 2010
How do directories support “push” transactions?

- Used to identify intended recipient if you don’t know who that is
- Used to locate digital certificate for encryption and identify validation
- May be manual or assisted (continuum)
- NwHIN Direct
  - Likely consumer of these services
  - Directory excluded from initial project scope
  - S&I Framework Project completing this
How do directories support “pull” transactions?

- Usually within the context of full HIE
- Used to identify source of data received from query
- HIE products usually have embedded directory within the product
- Less compelling need for external directories unless cross-HIE query is anticipated
What technologies exist to provide these capabilities?

- **Universal Discovery and Description Services (UDDI)**
  - Used by IHE services and NwHIN CONNECT
  - Limited to SOAP-based web services
  - No general purpose person or organization directory

- **Domain Name System (DNS)**
  - Low-level service used by the Internet
  - Can store digital certificates for organizations and individuals
  - Used by NwHIN Direct
  - Tools not very well developed and may be difficult to use

- **Lightweight Directory Access Protocol (LDAP)**
  - Internet standard for multi-purpose directory query
  - Requires agreement about directory structure
  - Used by IHE Healthcare Provider Directory (HPD)
What are some of the open issues?

- Lack of harmonized standards
- Lack of products
- Directory maintenance
  - Who maintains the information?
  - Who validates its accuracy?
  - What if “reliable sources” are contradictory?

Increasing cost, longer to implement, more difficult to use BUT more secure

Strength of
Identify Proofing
(“I am who I say I am”)
So what does this mean to me in public health?

- Public health increasingly drawn into HIE world (e.g., MU reporting, shared connections/interfaces)
- Public health is a potential source of directory information
- Public health is a potential user of directory information
Where can I find more information?

- HLN HIE and Directory Services Page
  http://www.hln.com/resources/hie-dir.php

- ONC S&I Framework Provider Directory Project
  http://wiki.siframework.org/Provider+Directories

- The Direct Project
  http://directproject.org/
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