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Section D

HIEs and HIOs
Why Is all this so Important?

- The Health Information Exchange Network (HIEN) operated by The Health Information Organization (HIO)

- HIENs will be the context in which public health and provider systems will interoperate
Provider systems evolved from focus on administration to clinical support.

- Now systems have to be certified.
- Many different solutions available.
- Limited penetration.
- CMS incentives → meaningful use.
What Is HIE?

- HIT: infrastructure and data that help automate health care processes
- HIE: part of HIT that enables interoperability between systems and organizations

The action is at the boundary!

- Improved healthcare quality
- Better control of cost
- Improved health outcomes
- Lower HIT investment risk
- Improved efficiency
- Enhanced value of health information
- More informed policy
What Is HIE?

- Both a verb *and* a noun
- Supported by Health Information Organizations (HIO)
- May be driven by types of stakeholders, including clinicians, hospitals, labs, pharmacies, patients, public health, payers
- May be geographically-bound (city, region, state)
- May be population-bound (underserved, veterans, IDN)
HIENs come in different sizes and shapes, but usually share these core components.

Together, when interconnected, they will form Nationwide Health Information Network.
Health Information Organization (HIO)

- A collaborative organization focused on health data exchange
- Participants: physicians, labs, hospitals, pharmacies, patients, public health, payers
- Primarily driven by the private sector but often has public health involvement (and may be driven by the public sector)
- Usually focused on clinical data exchange but may focus on health services data in addition or instead
- Can span a metropolitan area, region, or a state
Brief History of HIE in the US: Before HITECH

- Initial slow pace of HIT and HIE growth
  - Targeting health care efficiencies
  - Organized to support defined business relationships/interests
  - Financed largely by providers (some limited grants/contracts)
  - Some “proto-HIEs” in public health (immunization registries)

- State-level HIE initiatives coalesce

- Focus on requirements for realizing broad HIE benefits

- Some early efforts thrived, some failed

- Enablers of success
  - Shared vision
  - Incremental approach
  - The Internet: ubiquitous and pervasive
  - In some cases, tightly coupled to health care delivery
  - Strong commitment to medical informatics
HIEs: Early Examples

- Success: Indiana Network for Patient Care
  - Strong informatics perspective: Regenstrief
  - Use of standards
  - Incremental approach
  - Embedded in care delivery processes

- Failure: Santa Barbara County Care Exchange
  - Over-reliance on grant funding
  - Lack of sustained local community leadership
  - Technology limitations
  - Lack of compelling value proposition
HIE “Golden Rule”

- Health Information Exchange must deliver clear value to its participants
HIEs Today

- Driven from many directions

- Spurred on by various ARRA/HITECH funding programs
  - CMS Incentive Program for Electronic Health Records
  - State Health Information Exchange Cooperative Agreement Program
  - Beacon Community Program

- Encouraged by health care reform in many states

- Cautiously flourishing in many parts of the country
Enablers and Barriers of HIE Development

- **Enablers of HIE**
  - Interest and momentum—is it enough?
  - Standards—march continues on
  - Public health expertise—leverage possible
  - The Internet—pervasive and ubiquitous

- **Barriers to HIE**
  - Financial—need strong business case
  - Standards—not fully developed
  - Identification—no national patient identifier
  - Authentication—of participants
  - Organizational—public-private boundaries
  - Vocabulary and terminology—language
  - Technology—limited, but improving, interoperability
Contributions by public health
- “Quick start” by leveraging existing activities, including interfaces to labs and providers
- Existing data, including consolidated data and population-based data
- Expertise: de-duplication, database management, web applications, data exchange including HL7
- Existing relationships with many relevant stakeholders:
- Hospitals, providers, payers, professional associations
- Governance: experience in negotiating and implementing data sharing agreements
Benefits to public health

- Better to be an insider than an outsider: public health risks being left out as the medical community moves ahead
- Meaningful use: facilitate achievement
- Can help achieve key public health goals
- Many of public health’s data trading partners will choose to interoperate with an HIEN and reduce (or eliminate!) superfluous connections
- Public health can gain access to data and trading partners who previously might not have participated in its initiatives
Meaningful Use and Public Health

- Policy priority: “Improve population and public health”

- Three Stage 1 objectives:
  - Submit data to Immunization Registries (Eligible Providers, Hospitals)
  - Submit reportable lab results (Hospitals only)
  - Submit syndromic surveillance data (Eligible Providers, Hospitals)

- Proviso: unless PH does not have the capacity to receive the data
Meaningful Use and Public Health

- Stage 1 requirements relatively light, with a big “escape clause”
- Stage 2 requirements likely to be more stringent
- NIST has established a guidance document and testing tools
- Many public health agencies under-funded to enable data exchange capacity in their systems or to refocus data exchange to an HIE, though CDC Interoperability Grants will help
Risks to Public Health

- Public health applications targeted at these users may have slower uptake as organizations encourage (or require) users to stay with institutionally-supported applications.

- Pressure will build for providers to interoperate solely through HIENs.

- Public health systems run the risk of becoming focused as data repositories as users over time lose access to their distinctive features.

- While many specialized features are part of the approved HL7 EHR specification they are not yet required for certification.