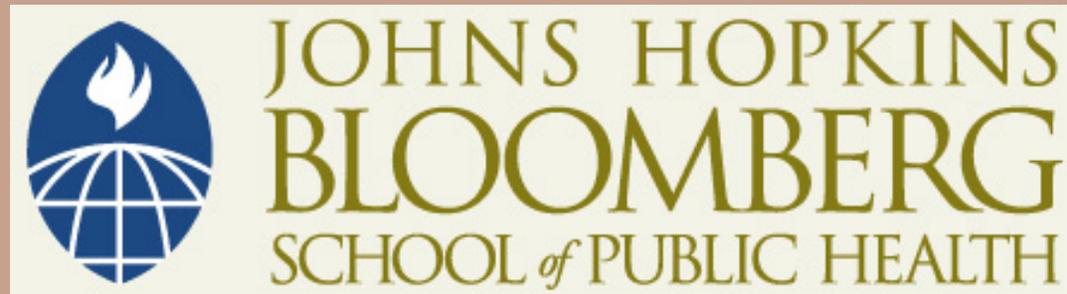


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JOHNS HOPKINS
UNIVERSITY

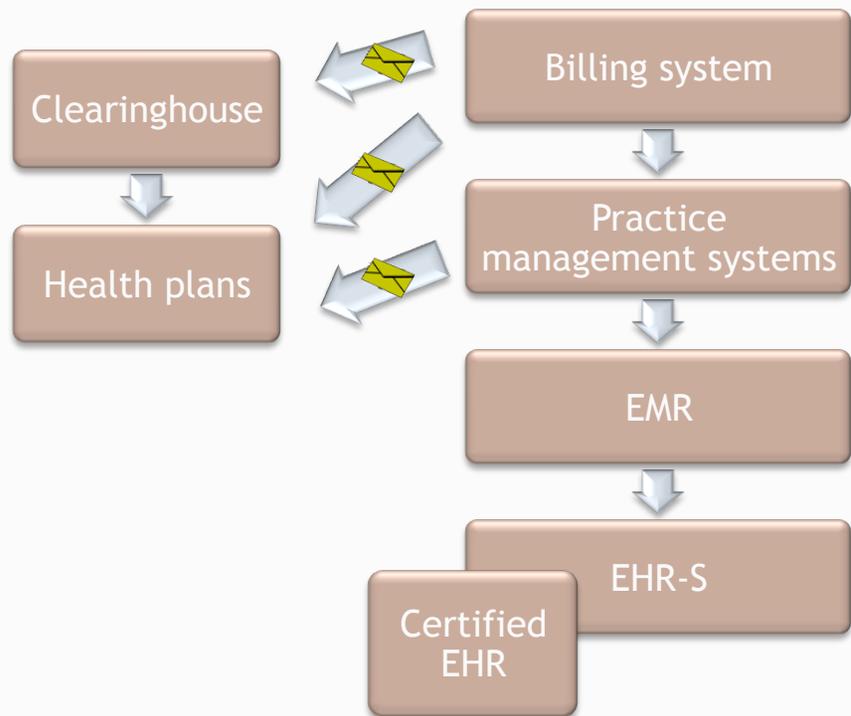
Section D

HIEs and HIOs

Why Is all this so Important?

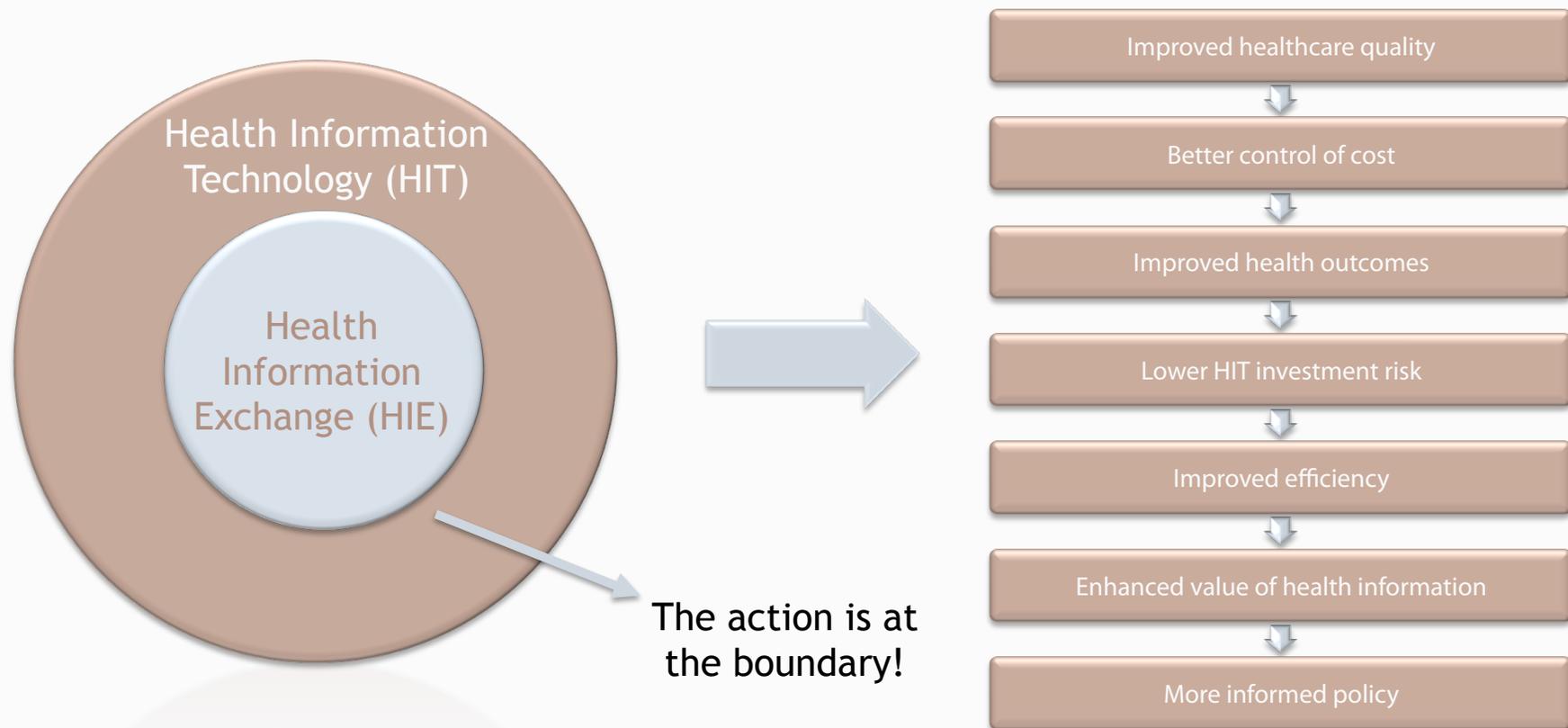
- The Health Information Exchange Network (HIEN) operated by The Health Information Organization (HIO)
- HIENs will be the context in which public health and provider systems will interoperate

Evolution of Provider Systems



- 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?

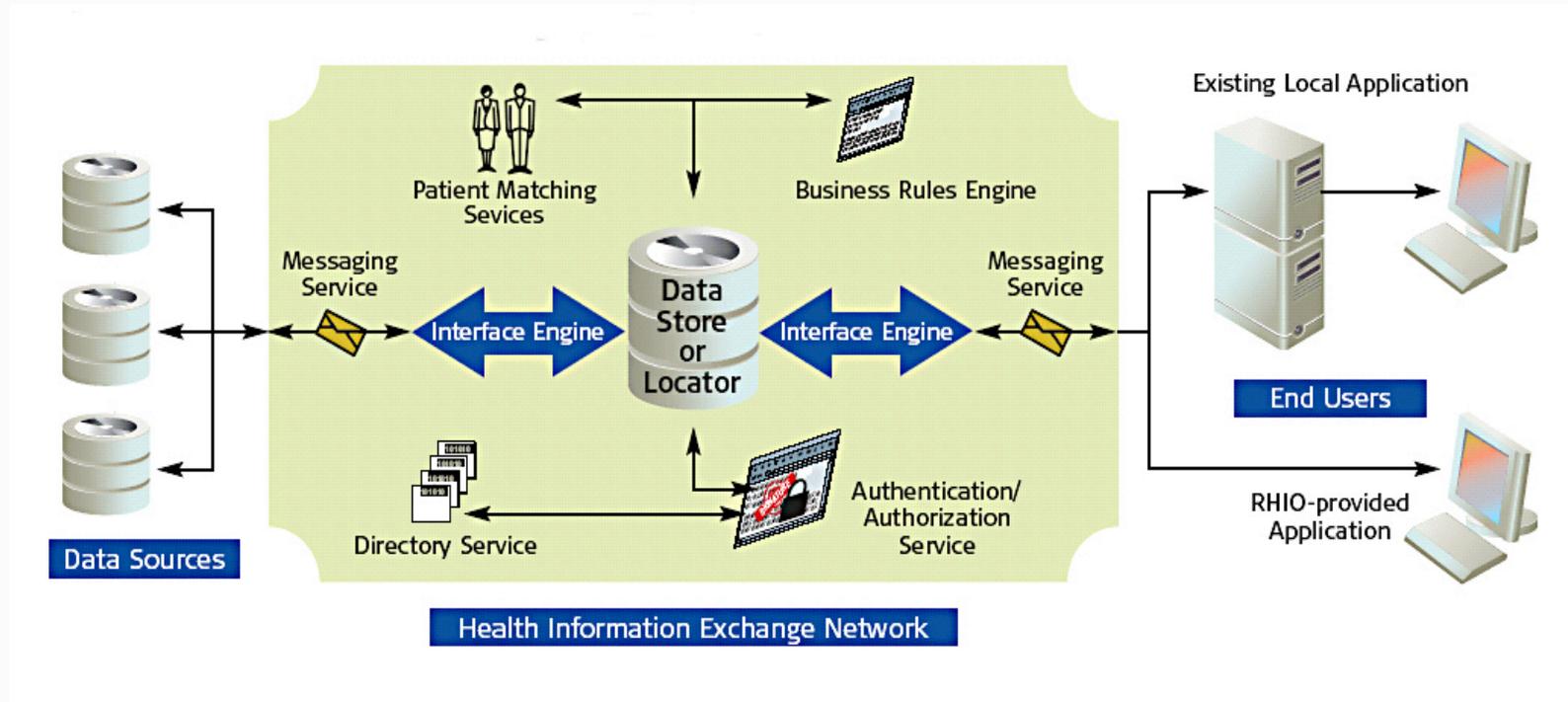


- HIT: infrastructure and data that help automate health care processes
- HIE: part of HIT that enables interoperability between systems and organizations

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)

Health Information Exchange Network (HIEN)



- 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

Public Health and HIEs

- 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

Public Health and HIEs

- 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