



Health Information Exchange
Brownsville Medisys Use Case

July 13, 2009

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Overview of New York's Approach to HIE

- The Brownsville (a part of the PCHIC CHITA) and Medisys (a BHIX stakeholder) use case is a part of Healthcare Efficiency and Affordability Law – New York (HEAL – NY)
- Brownsville and Medisys is utilizing HIE to improve quality of care by exchanging key clinical information through BHIX modeled after AQOG
- This exchange will be modeled after the transactions known as Common Health Information Exchange Protocols (CHIxP) according to a network based approach which makes up the Statewide Health Information Network of New York (SHIN-NY)
 - Open and flexible architecture designed to support rapidly changing business processes faced by healthcare organizations and statewide agencies
 - Service driven in order to provide core health information exchange services in a system neutral manner
- Utilize healthcare exchange standards to establish a “build once, use many” infrastructure
 - BHIX technical architecture supports standard-based interactions between entities, including healthcare providers, payers, government agencies and consumers

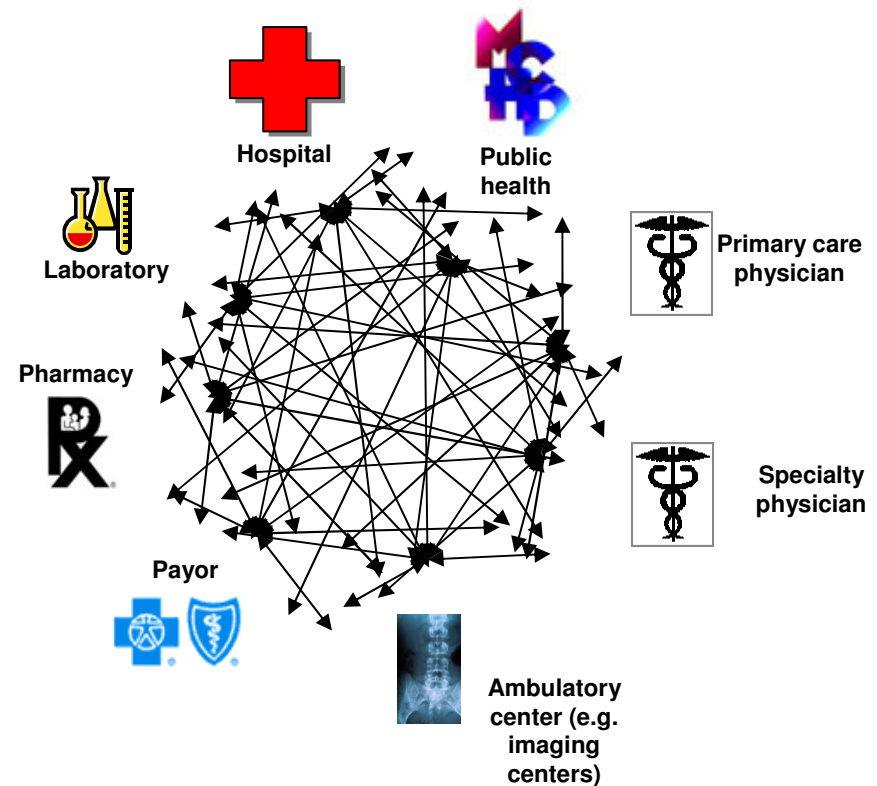
Existing Approaches to Clinical Data Exchange

Existing approaches:

- Mail
- Fax
- Telephone
- Point to Point Interfaces

Challenges to existing approaches:

- Costly
- Inefficient
- Difficult to scale
- Inflexible



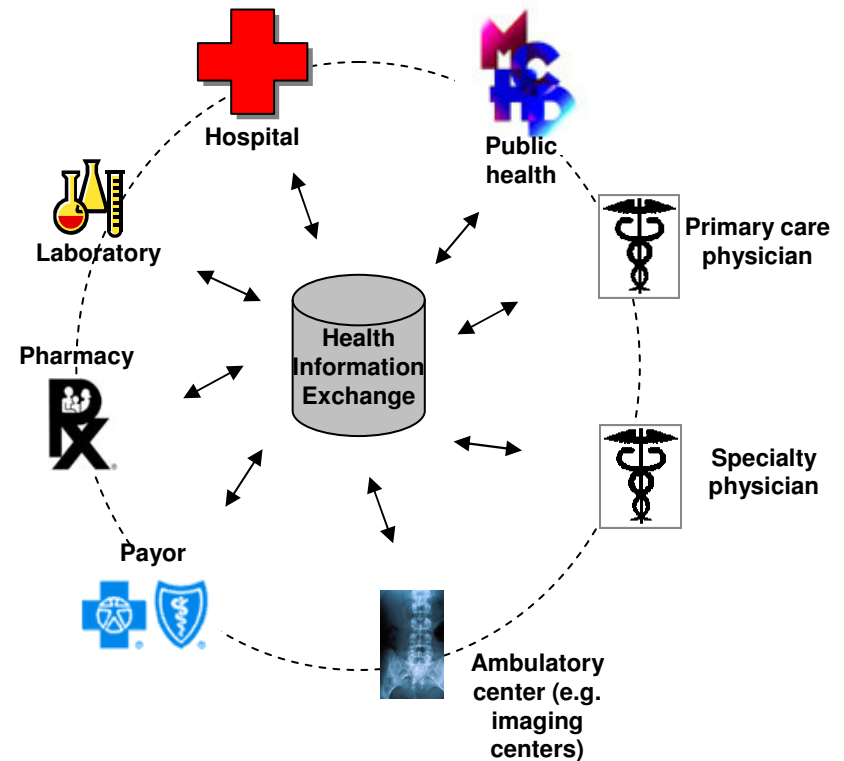
BHIX Approach to Clinical Data Exchange

BHIX approaches:

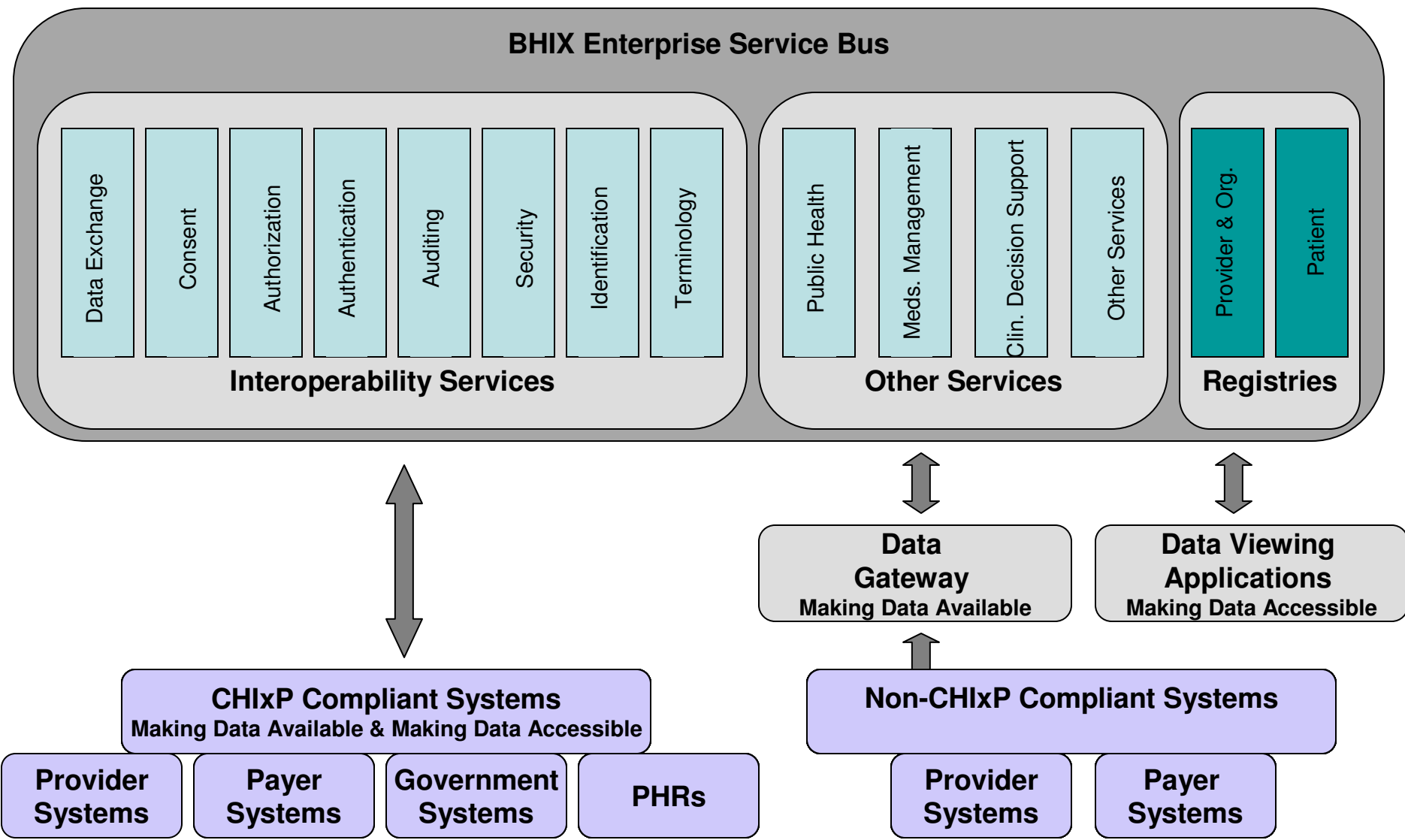
- Facilitated data exchange
- Standards-based
- Cohesive policies and standards
- On ramp to SHIN-NY

Benefits to BHIX approaches:

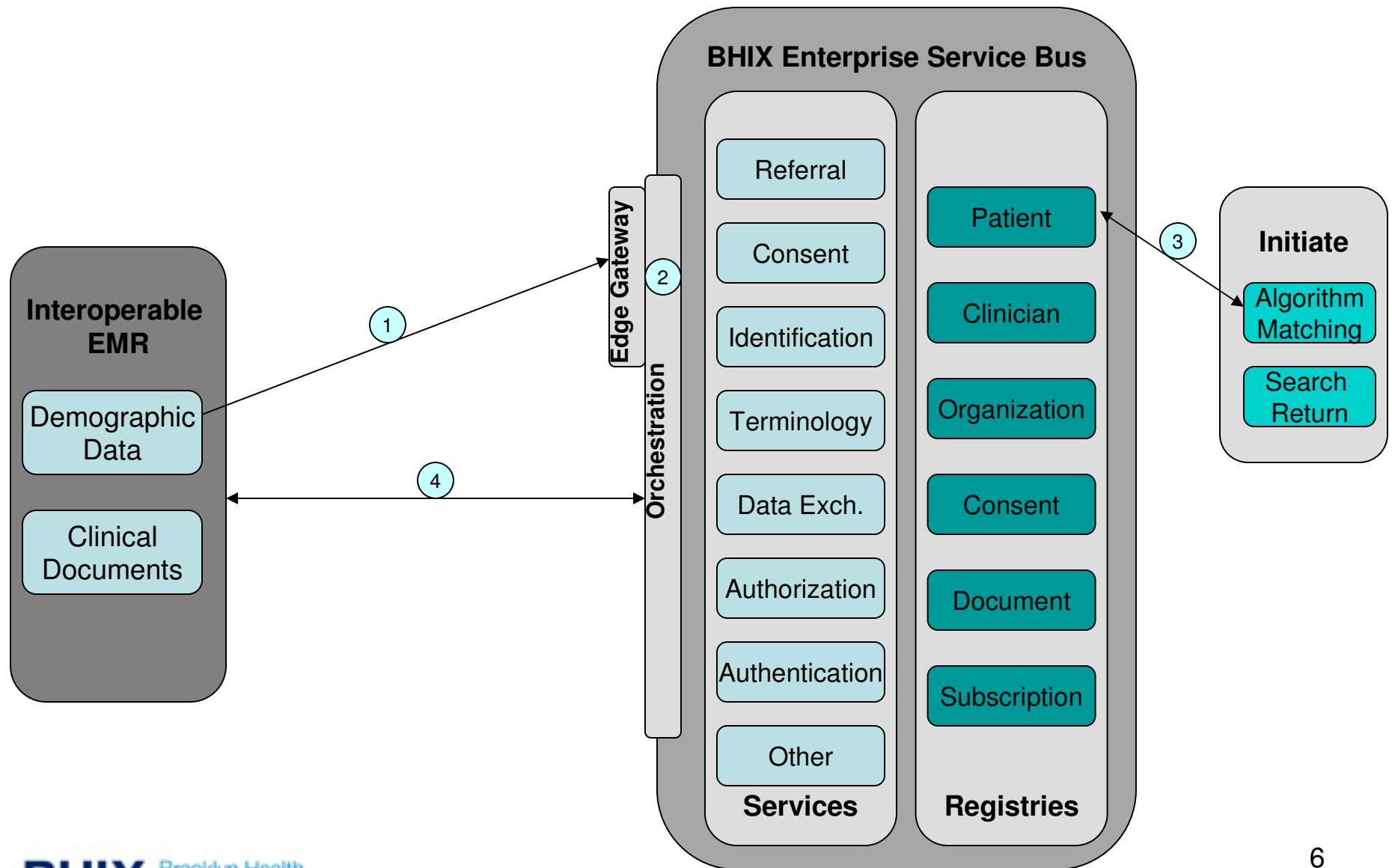
- Cost effective
- Efficient
- Improved quality and safety of care



BHIX HIE Technical Services



CHixP Inbound and Outbound Data Flow



CHiXP Data Exchange: Registering Your Patients

Note: Assume privacy and security standards are met

1. Patient registers at practice.

- EMR sends BHIX an IHE Patient Identity Feed with minimum demographics
 - Consent may be included in this feed. If so, BHIX will update its Consent Service and Registries.
 - Consent may alternatively be transmitted to BHIX via a web service call from EHX to the BHIX Consent Service
- BHIX ESB will orchestrate calls to update appropriate BHIX Services and Registries

2. EMR registers clinical information with BHIX.

- At a pre-defined trigger, EMR registers an IHE clinical document to the BHIX Document Registry using a RegisterDocumentSet
- Registration transmitted through an asynchronous standard web service

CHIXP Data Exchange: Getting BHIX Data

Note: Assume privacy and security standards are met

1. EMR indicates updated clinical information on RHIO.
 - EMR sends BHIX a PDQv3
 - BHIX responds with a C32 document containing aggregated information from BHIX data sources
 - EMR filters payload to display meta-data
 - Consideration: alternately a RegistryStoredQuery may be utilized

2. Provider requests all available information.
 - EMR displays full BHIX payload obtained above
 - Consideration: in alternate scenario above, EMR sends BHIX a RetrieveDocumentSet Request for patient data and BHIX acts as a proxy, returning a C32 document containing aggregated information from BHIX data sources

CHIxP Data Exchange: Making Your Data Available

Note: Assume privacy and security standards are met

1. BHIX queries the EMR for clinical documents.
 - BHIX sends EMR (and other data sources) a RetrieveDocumentSet request for patient data
 - EMR responds with a C32 document

BHIX Data Sources

- Types of Data Sources Potentially to be Integrated
 - Advanced Directives
 - Allergy / Drug Sensitivity
 - Conditions (Problem List)
 - Healthcare Provider (Care Team)
 - Immunizations
 - Information Source
 - Language Spoken
 - Medications
 - Encounters/Visit
 - Person Information (Identity and Demographics)
 - Plan of Care
 - Procedures
 - Results
 - Labs
 - Radiology
 - Vital Signs

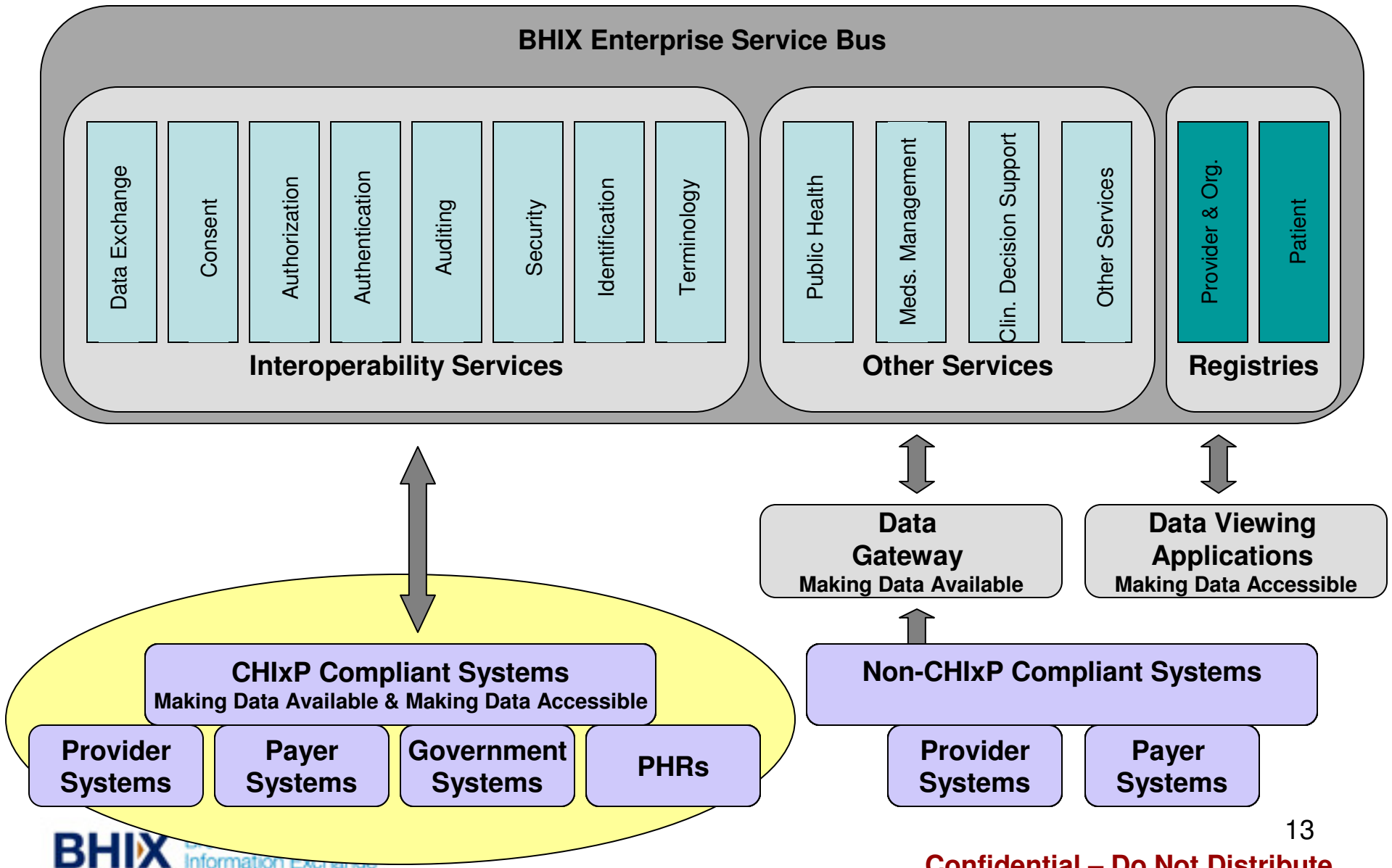
Key Challenges and Responses

- Implementation Experience Gaps
 - SHIN-NY utilizes some new approaches to messaging based on web services standards
 - E.g. Asynchronous messaging via WS-Base and Subscribe/Notify
 - Through Protocols and Services, multiple prototypes are being developed with leading vendors
 - Medicaid Medication Management
 - Universal Public Health Node
- Ability of current EMR systems to exchange information utilizing CHIxP or any other data standard
 - Even recently deployed EMRs may not have CHIxP developed
 - Nextgen EMR focused on CCHIT 2009
 - E&C Systems as a specialized EMR primarily recognizes inbound HL7 2.3.1
 - Interoperability workgroup formed to establish roadmap for vendors and provide implementation assistance

Key Challenges and Responses

- Utilizing existing data standards for high value transactions
 - AQOG form contains highly specific transfer of care elements
 - Effort / standardization to map a specialized clinical exchange form to HITSP C32 content modules

Vision and Goal: Networked systems as an enabler of meaningful use



References

- Healthcare Information Technology Standards Panel (HITSP)
 - <http://www.hitsp.org/>
- IHE
 - <http://www.ihe.net/>
- New York e-Health Collaborative (NYeC)
 - <http://www.nyehealth.org/>