



# SHIN-NY Statewide Patient Record Lookup

Technical Webinar  
July 20, 2015

# Agenda

- Webinar Objectives
- SHIN-NY Overview
- Statewide Patient Record Look-Up
- Q&A

# Webinar Objectives

- Increase awareness of ***Statewide Health Information Network of New York (SHIN-NY)*** technical capabilities and framework
- Provide technical perspective on core SHIN-NY capabilities
- Present new SHIN-NY capabilities to be implemented in 2015

# SHIN-NY Overview

# The SHIN-NY

- A secure network of HIEs for sharing electronic clinical records in New York State since 2008
- With patient consent, electronic health records can be accessed and exchanged securely between healthcare providers
- Having access to clinical records through this network improves collaboration and care coordination.
- In sum, the SHIN-NY can help reduce healthcare costs, meet new value-based payment goals, and increase the quality of care for patients in New York State



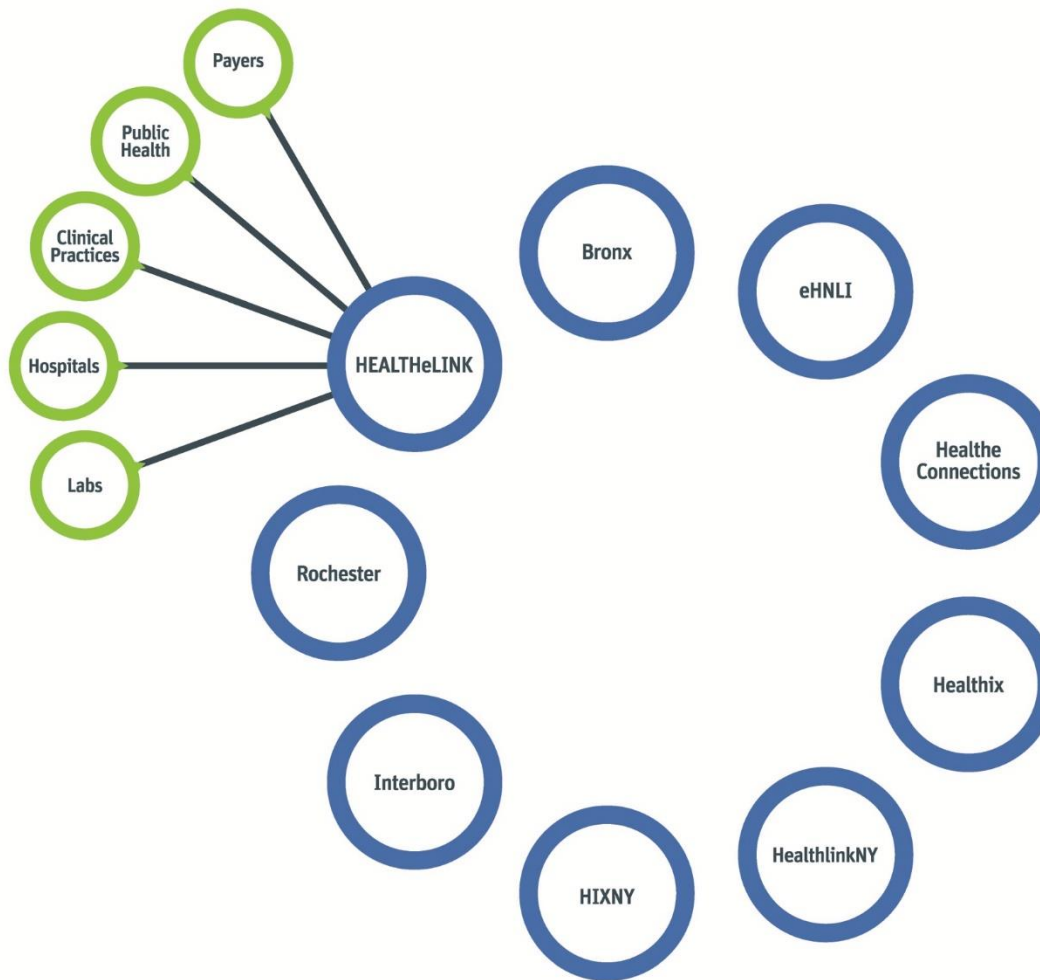
# Why The SHIN-NY is an Essential Tool for Healthcare Systems

- Value-based payments and collaborative models
- Meeting Delivery Reform Incentive Payment (DSRIP) metrics
- Performing Provider System (PPS) requirements for standardized data sharing

# Management of the SHIN-NY

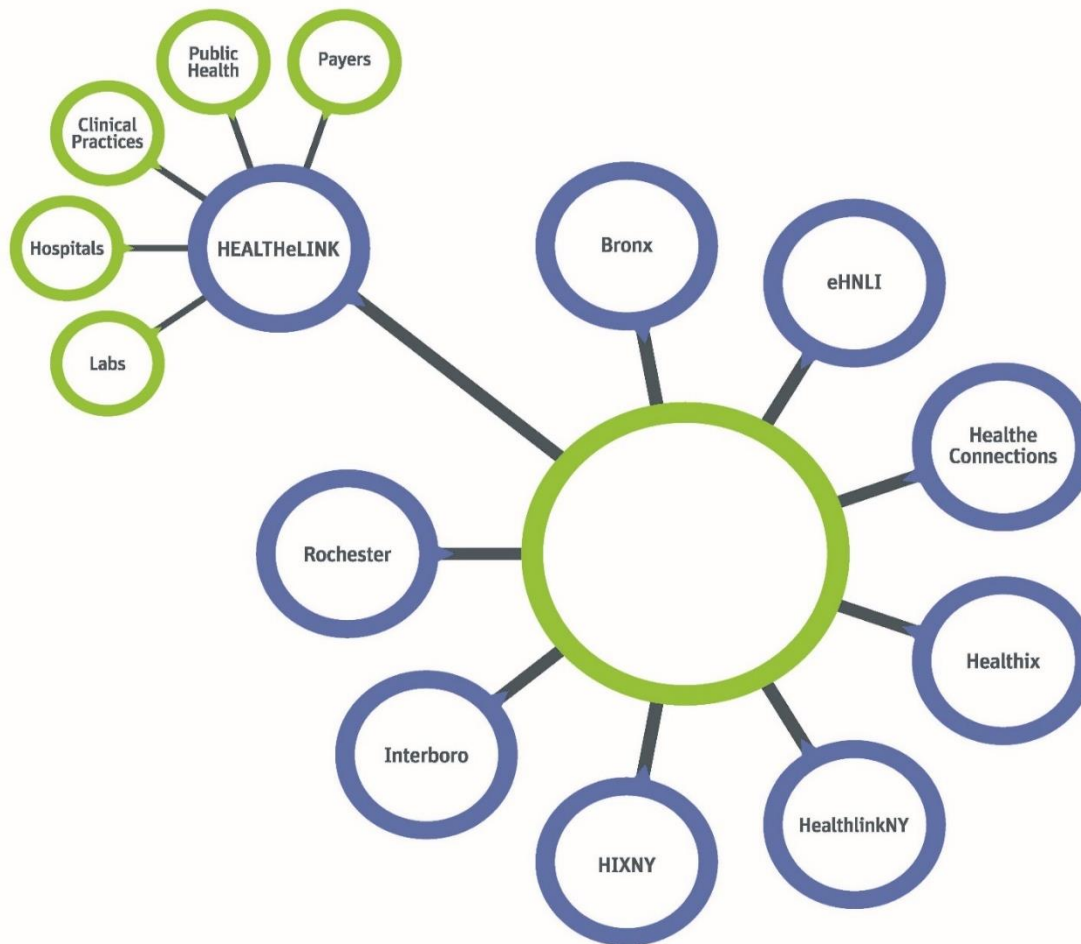
- State and Federally funded
- New York State Department of Health oversees operations, policy, and direction by ensuring:
  - Secure technical infrastructure
  - Set of regulations to govern the network
  - Policies which allow flow of information while safeguarding all patients' information and right to privacy
- Key healthcare providers give input through a statewide collaboration process
- Comprised of 9 regional hubs (RHIOs) certified by the Department of Health

# SHIN-NY Structure Yesterday





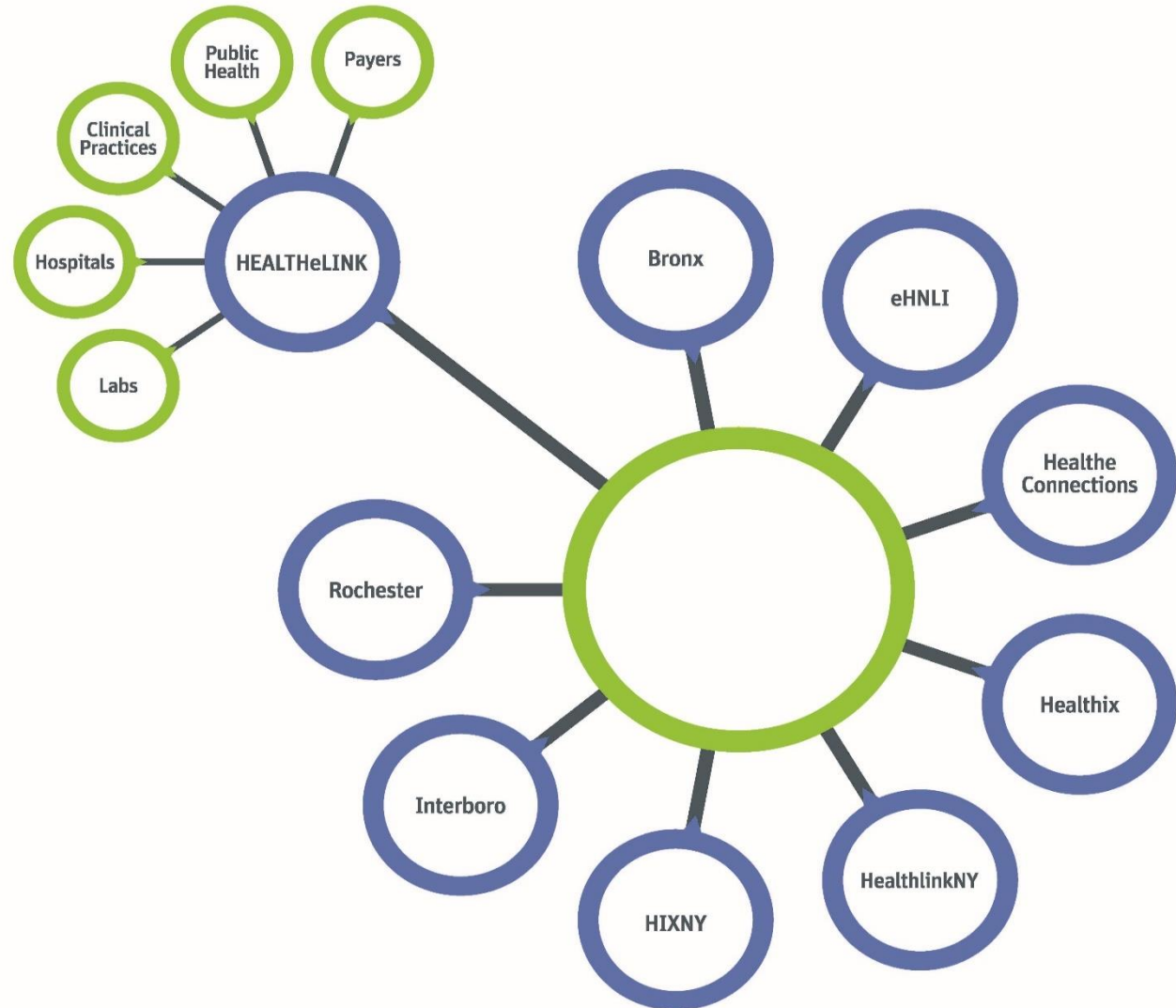
# SHIN-NY Structure Tomorrow



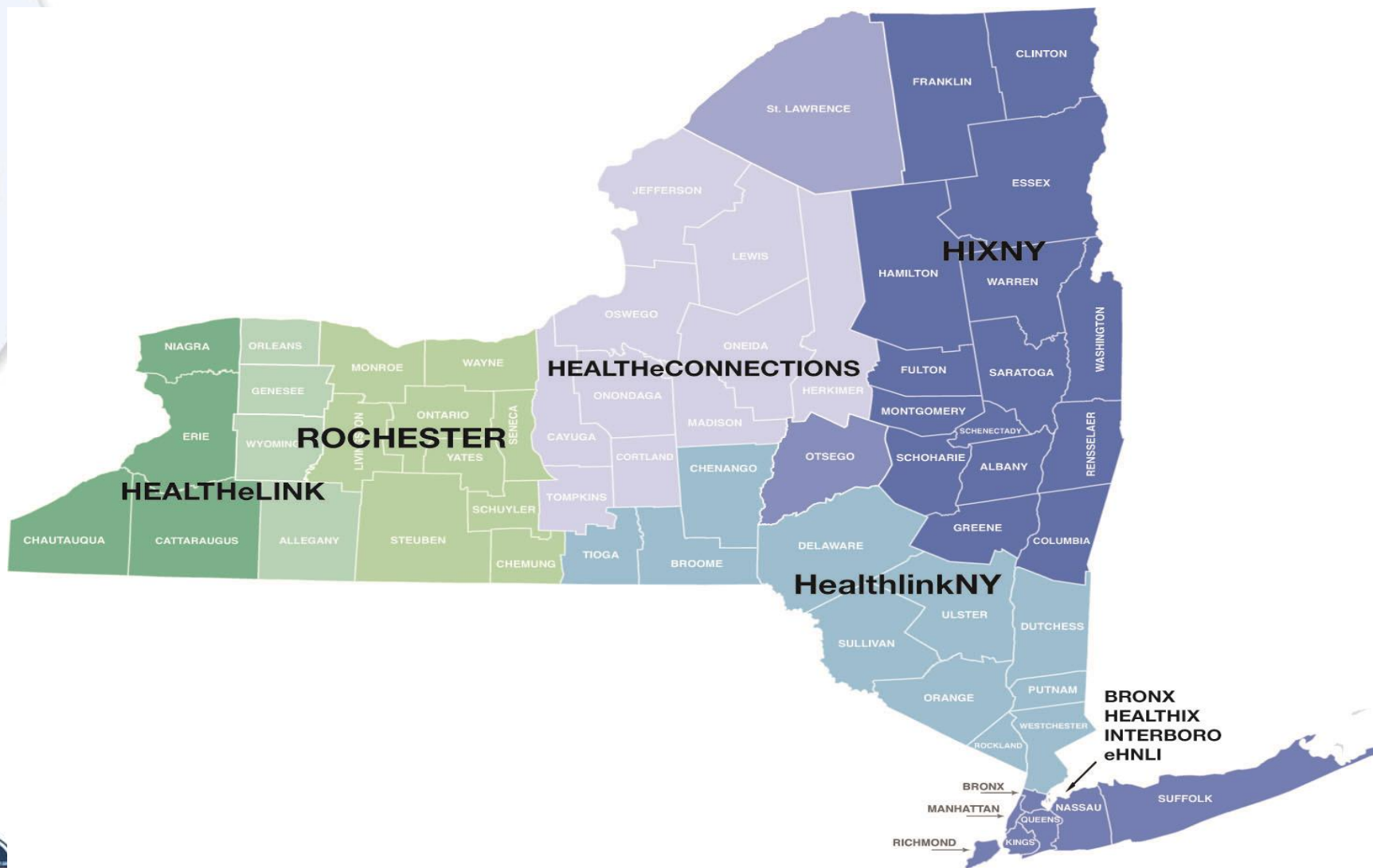
We are now connecting RHIOs to the SHIN-NY BUS:

- Enables bi-lateral exchange between connected RHIOs
- Enables Statewide Patient Record Look-up

# Coming Soon: Statewide Interconnectivity



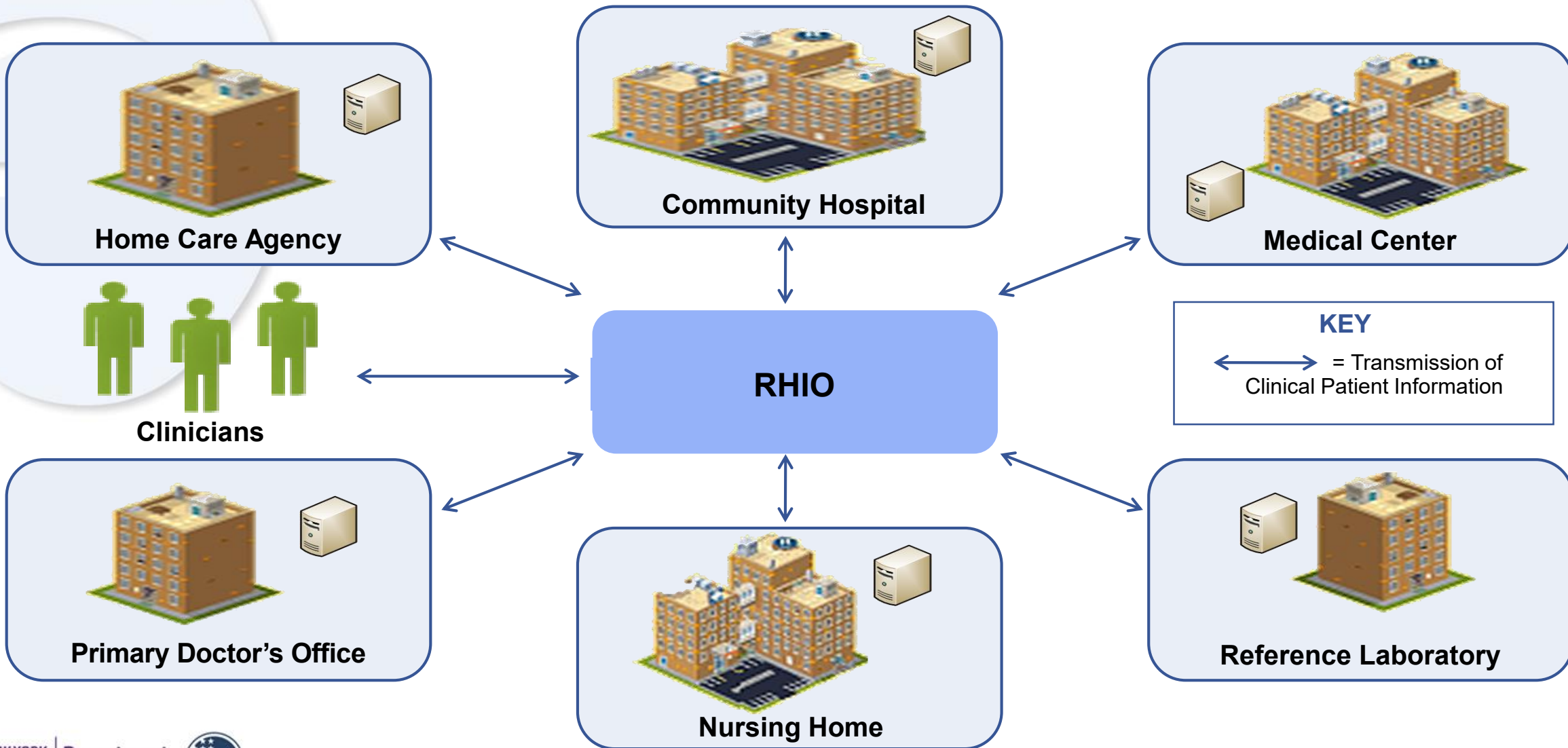
# Geographic Location of Regional HIEs



# RHIOs: Affiliated HIEs That Form the SHIN-NY

- Non-profit, Regional Health Information Exchanges
- Originally established by local healthcare stakeholder communities to serve their health IT needs
- Key Services:
  - Aggregate electronic health records from participating healthcare providers
  - Provide access to network via EHRs and/or portals
  - Allow providers to search for and access electronic health information from other providers
  - Makes available patient contributed data to patient's other providers
  - Deliver notifications (alerts) and secure message exchange (DIRECT)
  - Each RHIO may have additional custom services such as analytics

# Types of Providers Connecting to a RHIO





# Examples of Patient Data Available Through RHIOs



# Services Offered by All RHIOs

Services	Definition
<b>Patient Record Lookup</b>	Search for existing patient records within the local RHIO
<b>Secure Messaging</b>	Send (push) peer-to-peer messages between two trusted providers
<b>Notifications (Alerts)</b>	Allow users to establish subscriptions to pre-defined events (currently related to admission and discharge) and receive notifications when those events occur
<b>Lab Results Delivery</b>	Deliver diagnostic results and reports back to ordering providers and others designated to receive results

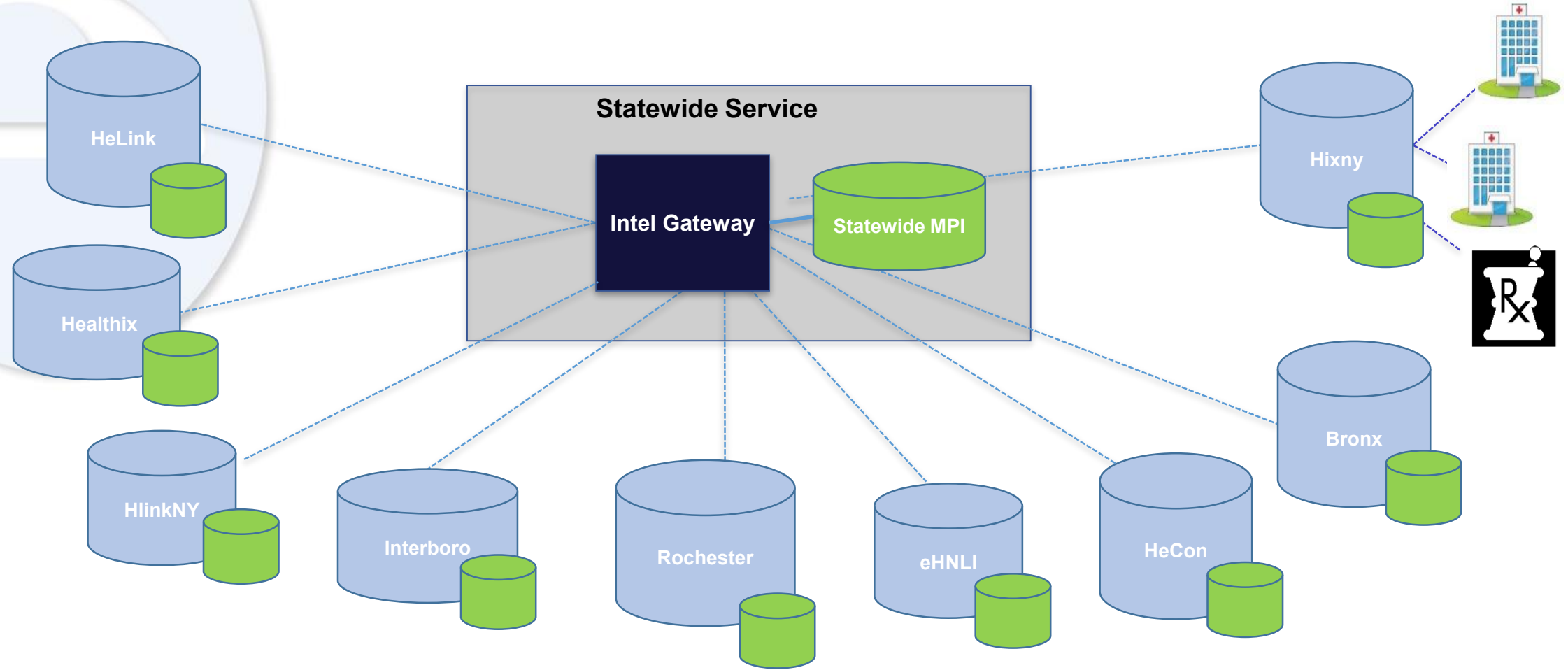
# How Services Translate for Healthcare Providers

- **Participants can:**
  - Send/receive direct messages
  - Deliver diagnostic results/reports
  - Receive Notifications and Alerts on a specific patient
  - Provide data for public health reporting
  - Access immunization data and reporting
  - Track patient consent to access records
  - Rely on identity management and security



# Statewide Patient Record Look-Up Technical Perspective

# Enabling Data To “Flow” Statewide Between RHIOs



# Statewide Patient Record Look-Up Overview

- The Statewide “hub” enables physicians to search for a patient’s medical records across New York State
  - All RHIOs connect to a statewide “hub” (Intel Gateway)
  - Healthcare provider organizations connect to each RHIO and request patient data
  - The querying RHIO requests the patient data from the statewide service
  - A “Master Patient Index” (MPI) identifies those RHIOs which have a patient’s data
  - The statewide “hub” distributes the patient data request to the other RHIOs (“responding RHIOs”)
  - Statewide “hub” forwards patient data from responding RHIOs to the RHIO that originated the query

# RHIOs Manage Data Exchange

RHIOs use HIE software and components to manage data exchange

## RHIO Roles:

### Governance:

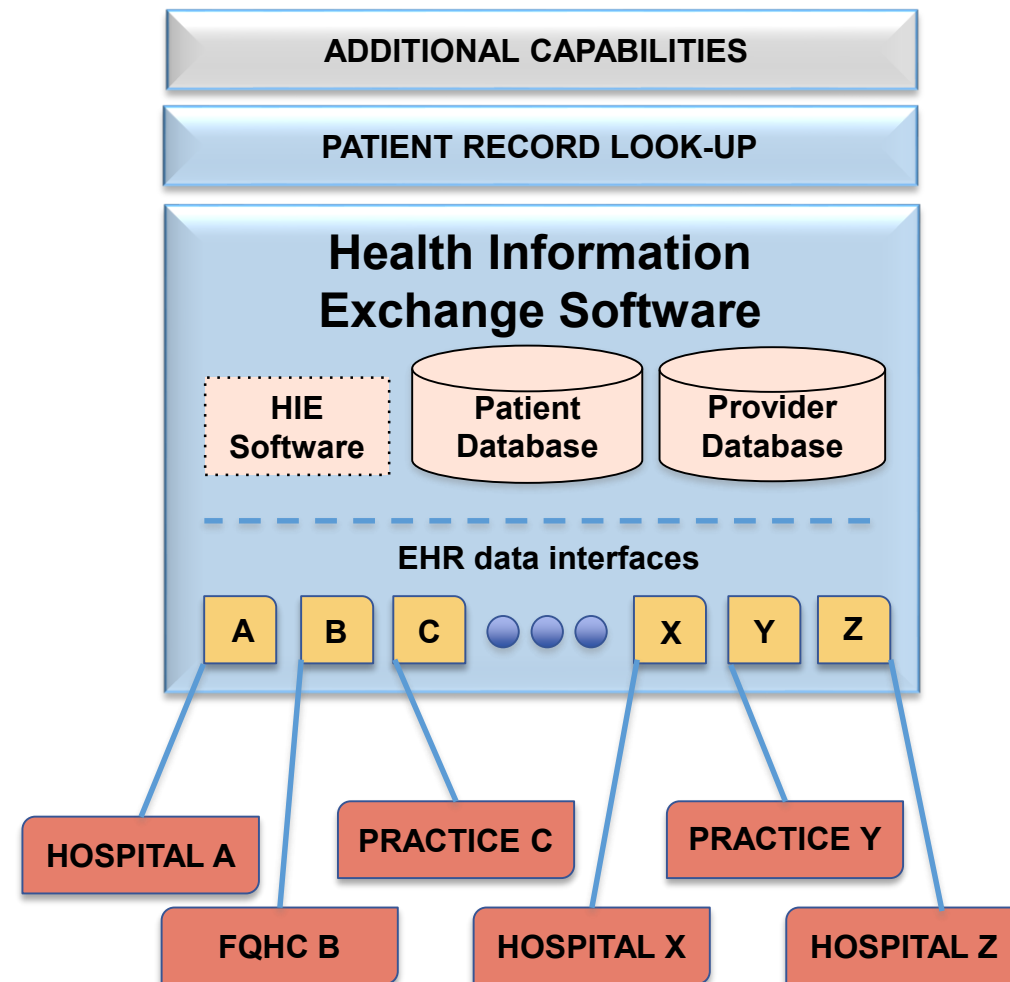
- Each RHIO is a non-profit company with a community led Board of Directors.

### Technical:

- Connect healthcare providers to the HIE and provide access to patient records from across the community.

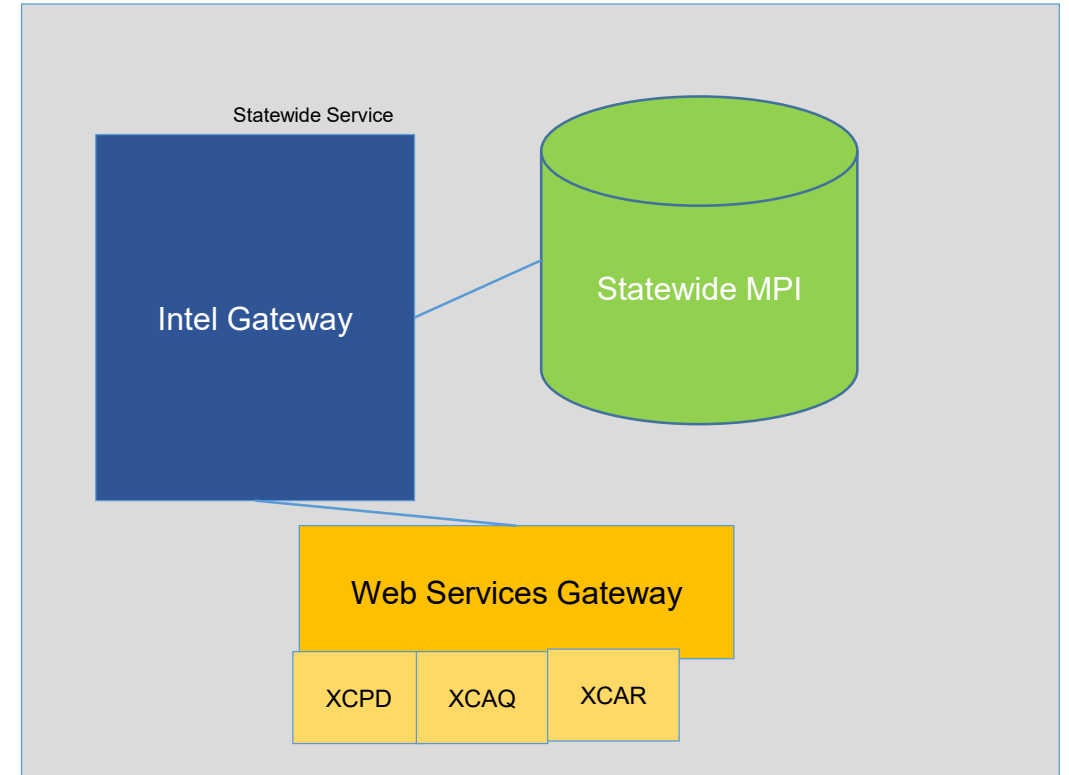
### Business Operations:

- RHIOs provide participant services
- Resolve data integrity issues,
- Manage consent and implement statewide policies
- Process connection for new participants
- Develop new participant capabilities.



# Web-based Services Used To Exchange Data

- Statewide web services gateway
  - SOAP-based web services used for queries, responses and patient lookups
- Intel Enterprise Service Gateway
  - Routes RHIO requests and responses
- Statewide Master Patient Index (IBM Initiate)
  - Facilitates patient matching across NYS
- Security
  - Web Services Security
  - 2-way TLS (Transport Security)
  - SAML Assertions (User Authentication)



# Statewide Master Patient Index

- RHIO maintains a local Master Patient Index (MPI) including facility-level demographic detail from patients
- A separate statewide Master Patient Index (sMPI) includes demographic records loaded from each RHIO and is continuously updated with feeds from the individual systems
- A statewide algorithm matches patient records within the sMPI so sPRL queries return records from across the state

# MPI Matching Process

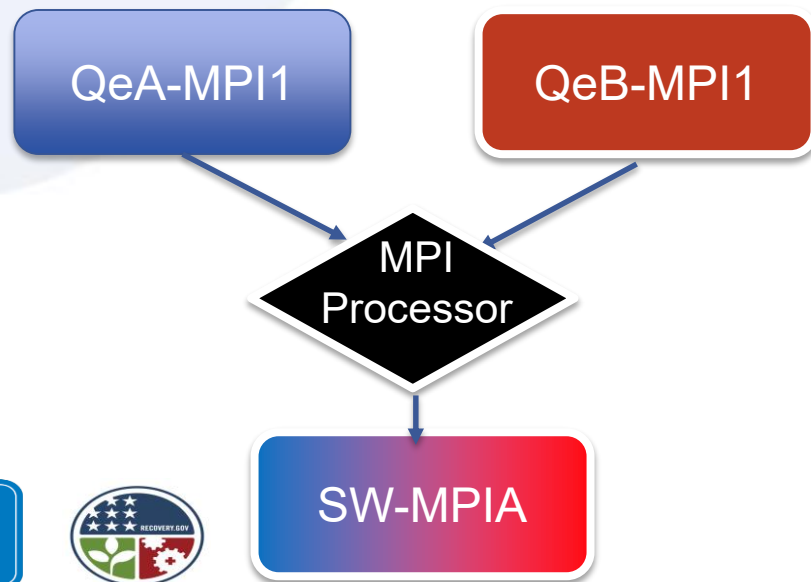
## One Person, Two QE MPIs

- Two QEs send an MPI for the same patient to the statewide MPI
- The statewide identifies these are the same and auto matches

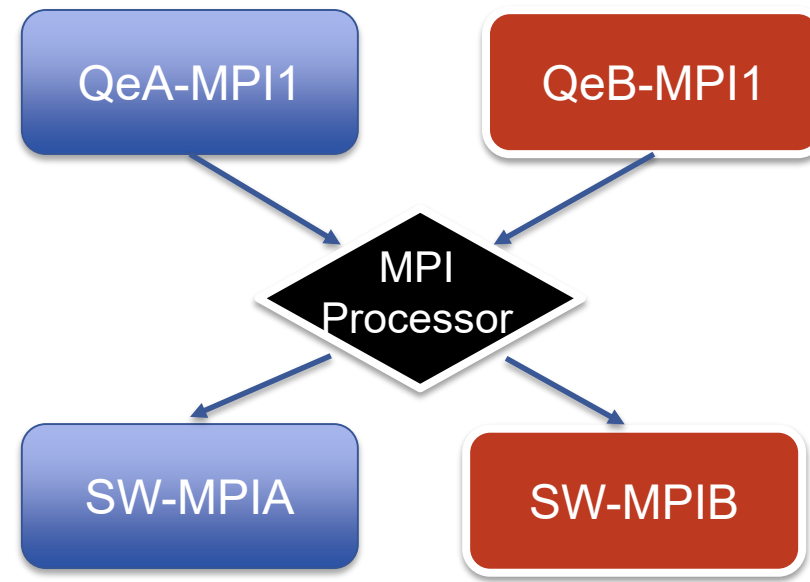
## Two People, Two QE MPIs

- Different People
- Two QEs send an MPI for two people that are not the same person
- SW MPI does not match these and we create two SW IDs

### High Matching Score



### Low Matching Score



# MPI Matching: General Principles

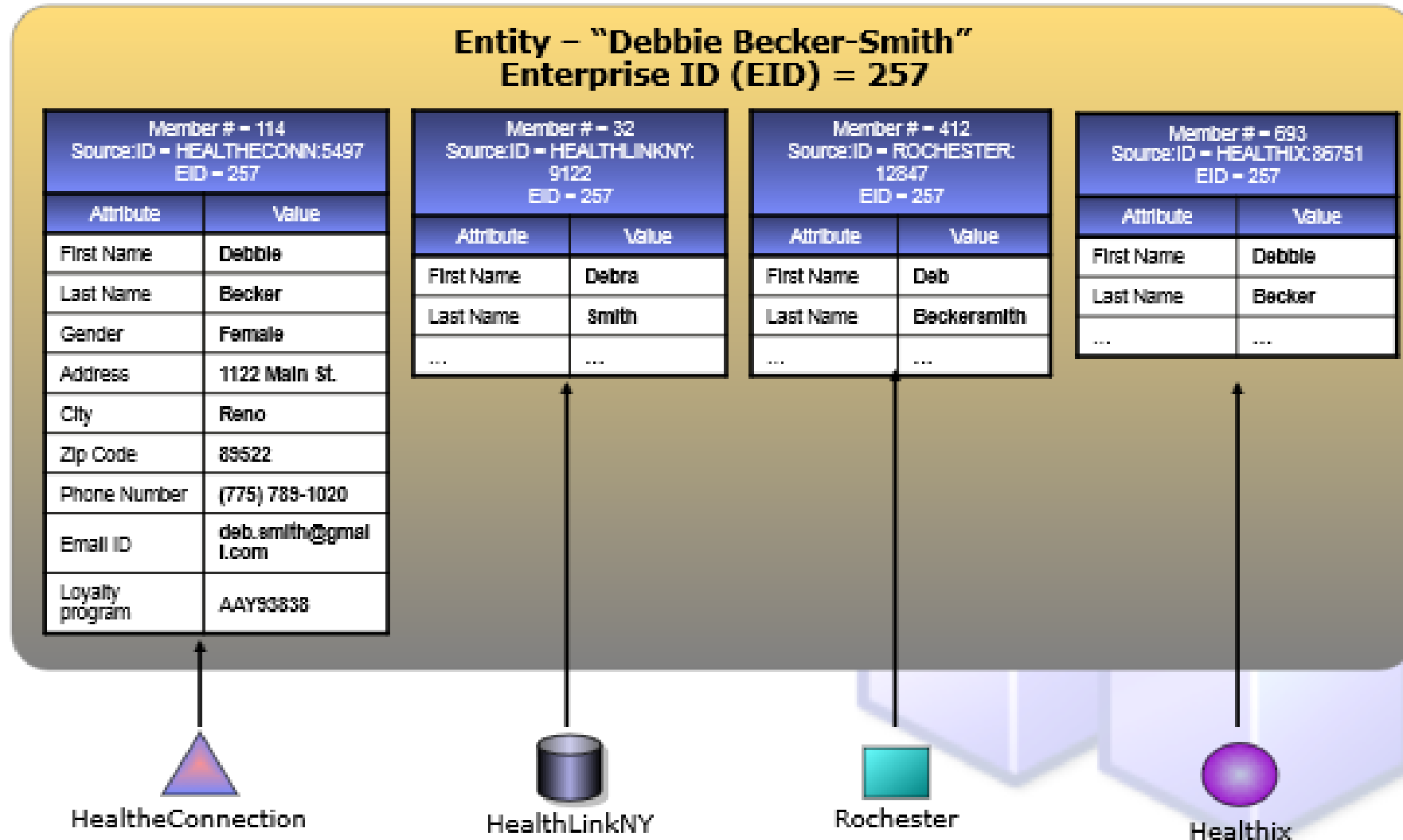
- Generally, we want the MPI to work autonomously
- The MPI creates a matching score for every patient that comes in against all the other patients it already knows about
  - Points are given for matched demographics (name, address, birthdate, gender, phone numbers, etc, etc)
  - These points are combined for a total score
- Three general results for an incoming new patient record
  - Low Matching Score: create a new patient record
  - High Matching Score: the two patient records go to a manual review queue (staff or contracted entity reviews the entry manually)
  - Really High Matching Score: the two records are merged to one statewide patient ID automatically

***Two RHIO MPIs from the same RHIO are not allowed to auto-match to each other – these are flagged for manual review***



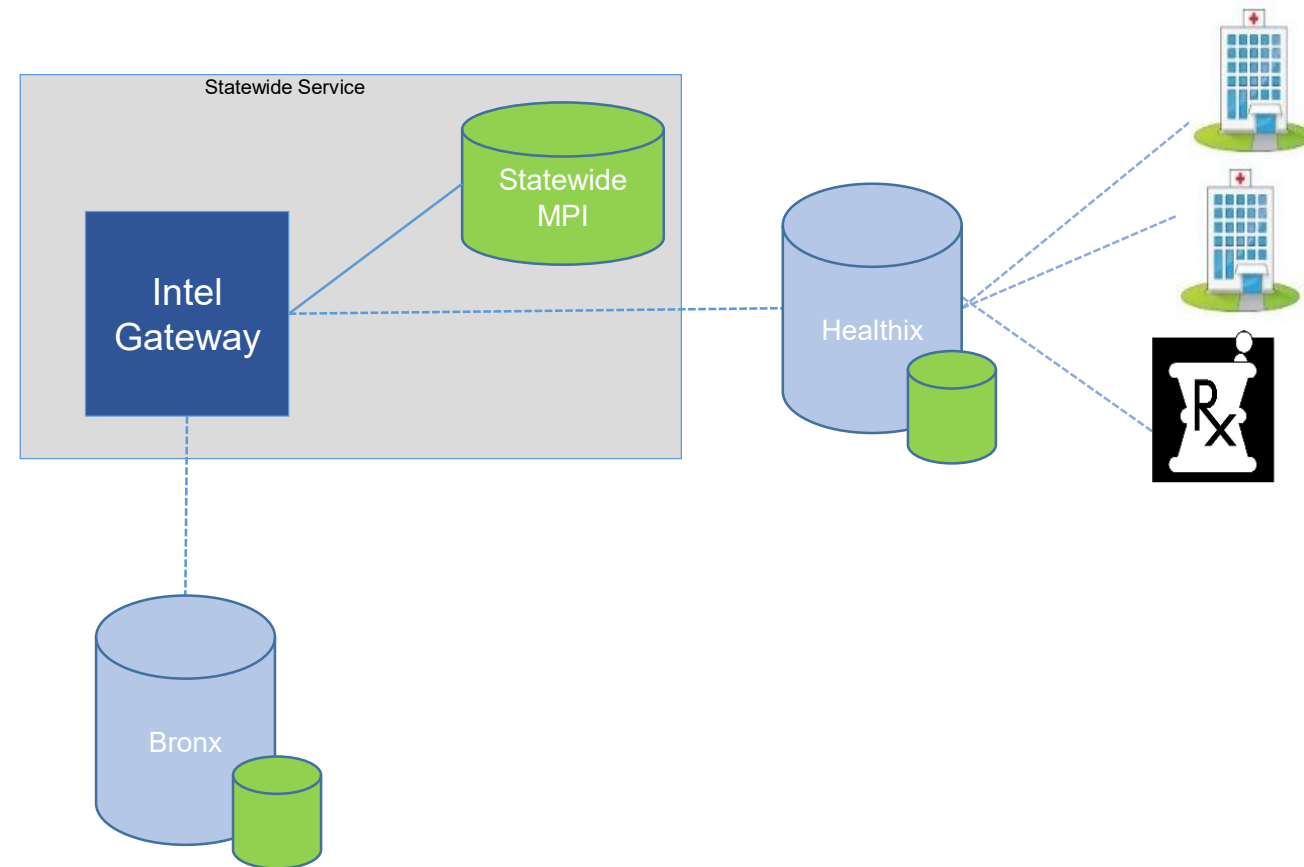
# Statewide Master Patient Index

## Entity – “Debbie Becker-Smith”



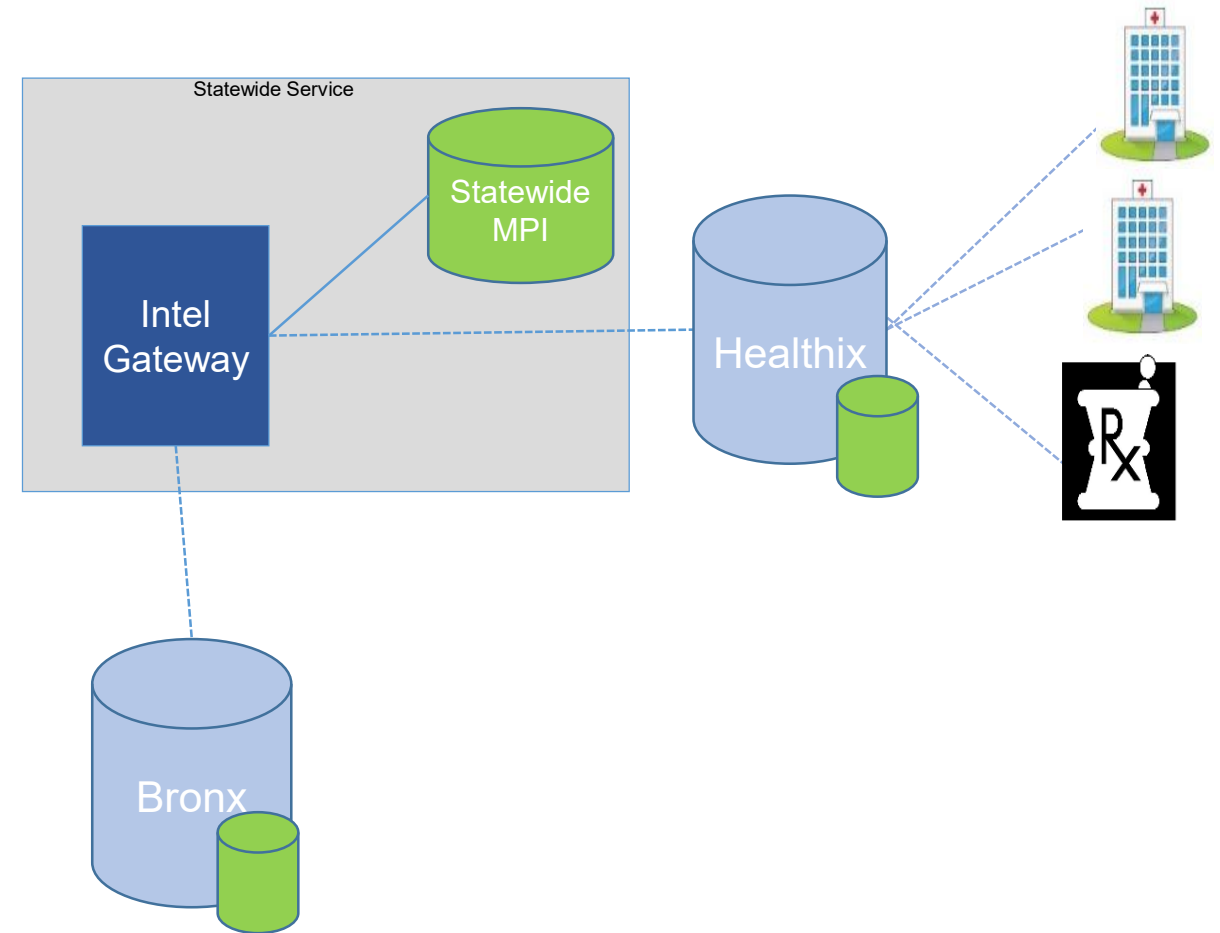
# Clinical Data is Maintained at the RHIO

- Participants connect to the RHIO – not the central hub
- All clinical data is collected from participants, indexed and distributed from the RHIOs
- Data (demographic and clinical) is sent from Participants to RHIOs via traditional HL7 (v2) transactions, v3 CCD/C-CDA documents and PIX
- The RHIO queries the statewide “hub” to obtain clinical data from other participating RHIOs
- No clinical data is stored centrally. Hub passes through data provided by each in the form of a consolidated CCD
- Data access is controlled by the RHIO



# Consent Management

- Consent is stored and authenticated at the local RHIO
- Patient provides consent for provider to access their data
- RHIO captures patient consent and validates that the querying clinician has the proper authority to access data
- When a RHIO queries the statewide service, it passes along an authorized “Purpose of Use” in its SAML assertion
  - Examples of “Purpose of Use” include treatment, public health and emergency
- The responding RHIO trusts authorization from originating RHIO

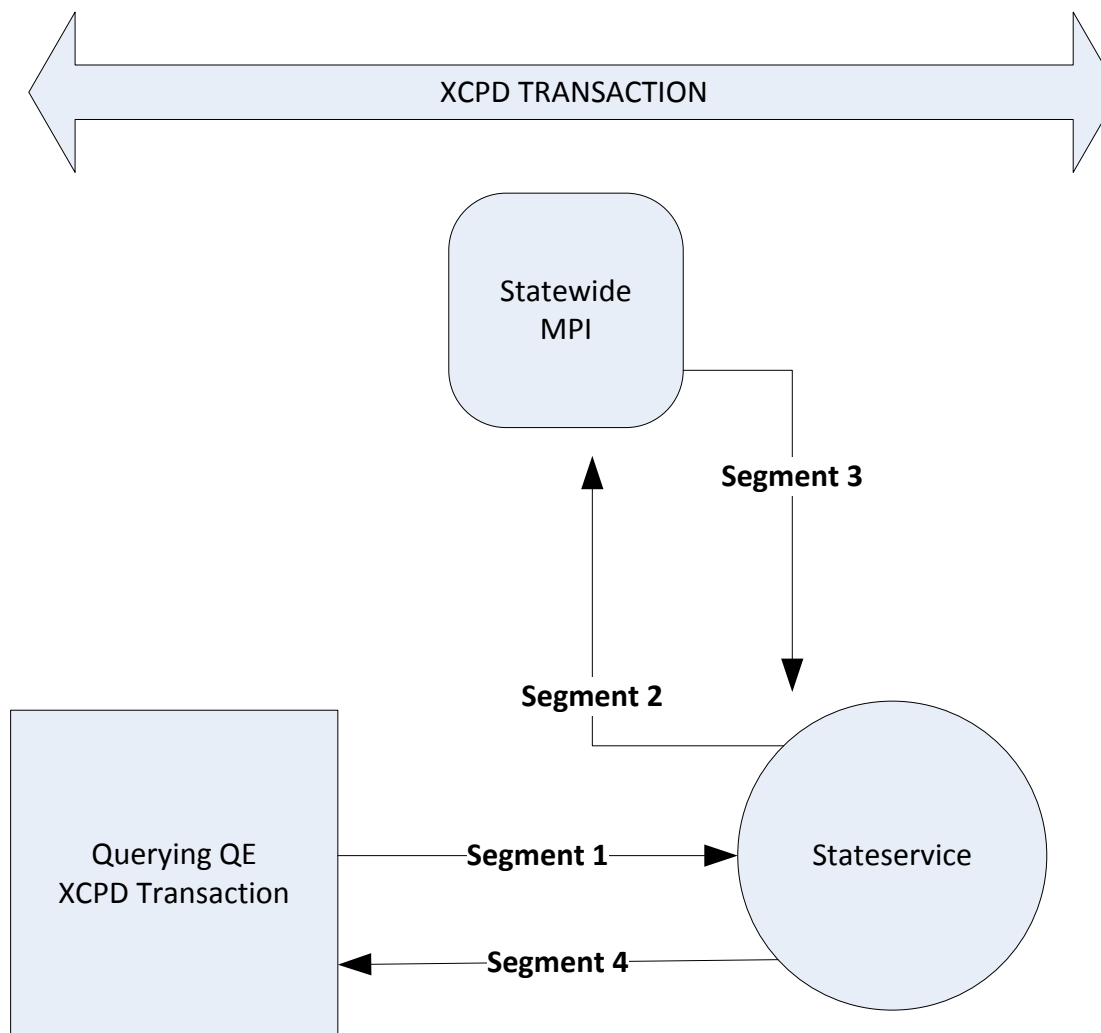


# Data Flow is 3 Steps

1. Patient Discovery (XCPD or PIX)
  2. Document Query (XCA Query)
  3. Document Retrieve (XCA Retrieve)
- Process leverages existing IHE workflows

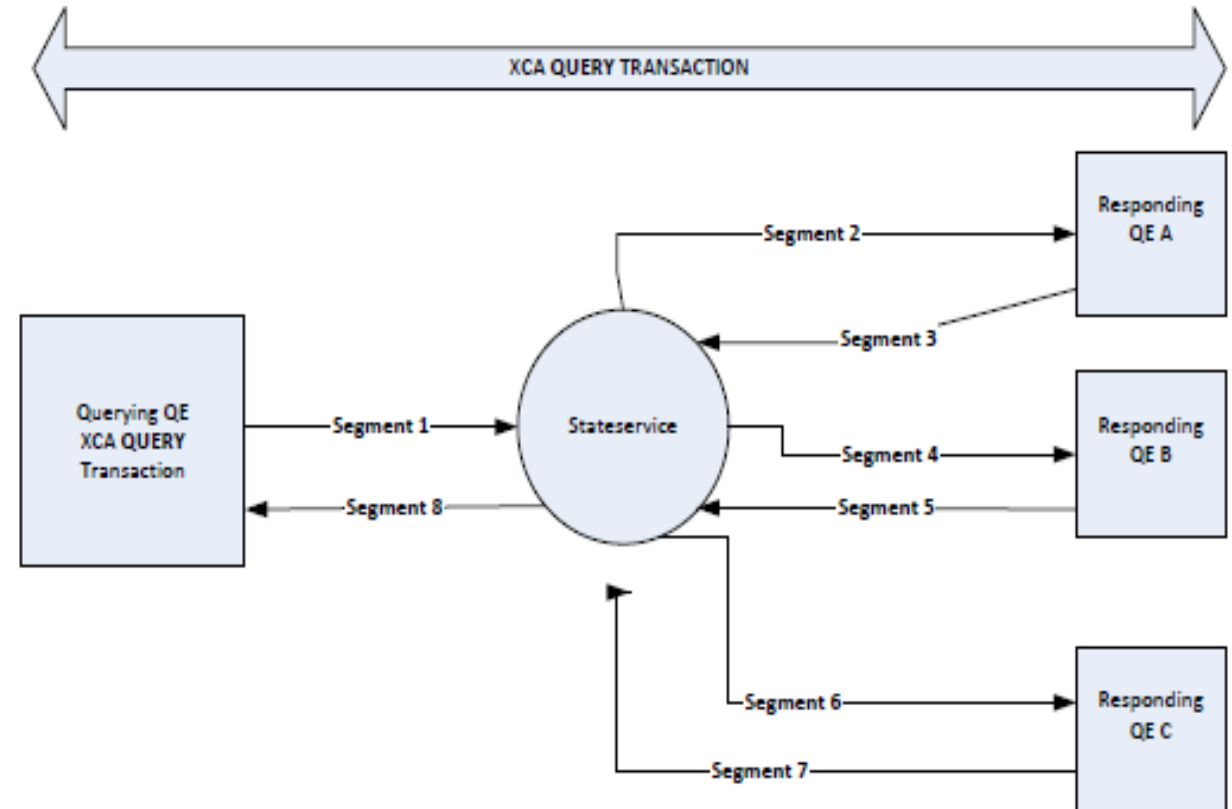
# Statewide Process Flows XCPD

- RHIOs use web services (IHE profiles) for demographics queries on the state
  - Submit patient demographics in the request
  - Retrieve sMPI ID and RHIO IDs in the response
  - The Statewide Bus also supports PIX queries and some RHIOs use this alternate method



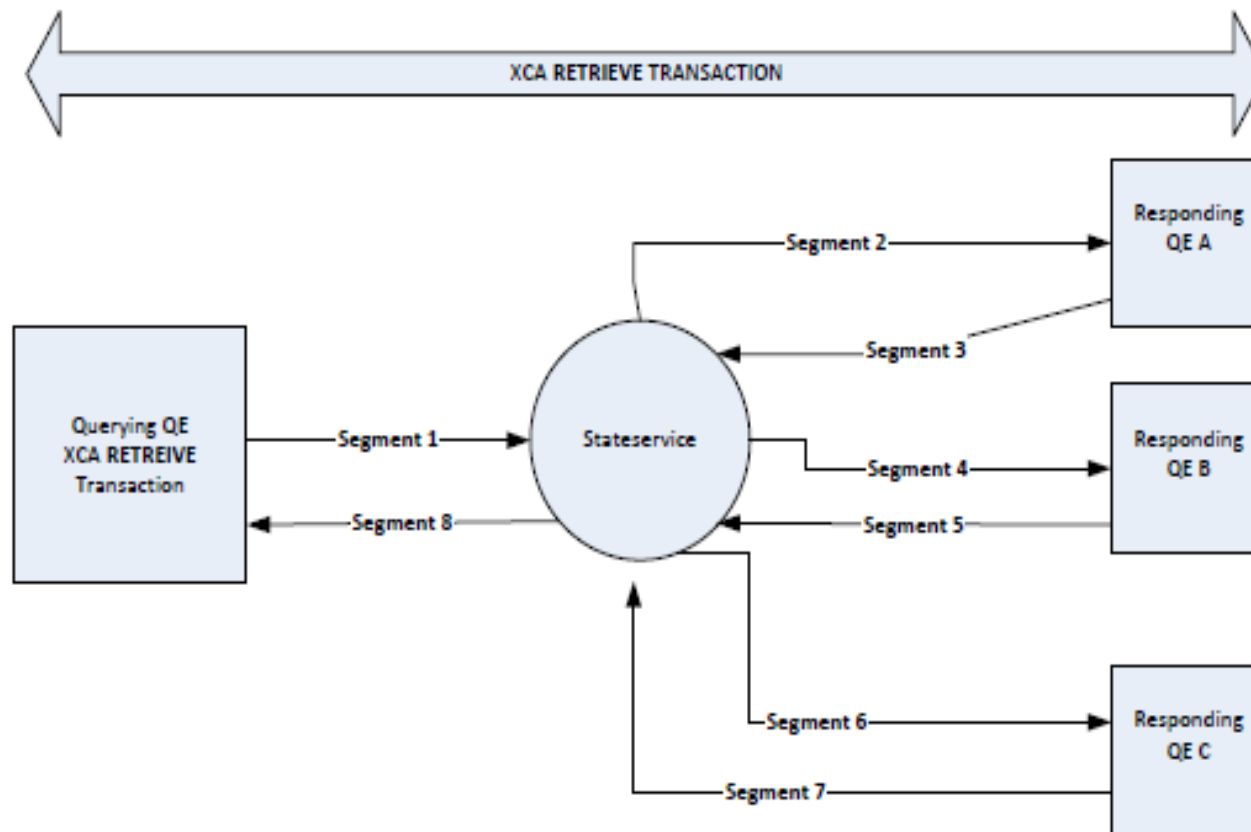
# Statewide Process Flows XCA Query

- RHIOs use web services (IHE profiles) to query document IDs from the state
  - Submit patient sMPI ID in the request
  - Retrieve document locations and document IDs in the response



# Statewide Process Flows XCA Retrieve

- RHIOs use web services to retrieve CCD documents from the state
  - Submit patient document IDs and home community IDs in the request
  - Retrieve CCDs documents in the response



# sPRL Security Measures

- RHIOs secure all participant connections
- RHIOs connect to the statewide bus via private TLS v3, point-to-point connections
  - Firewall only allows connections from trusted (whitelisted) IP endpoints.
- All RHIOs have passed technical certification tests requiring that they only accept:
  - TLS encrypted connections with a valid certificate
  - SAML messages that are digitally signed using a pre-defined certificate
  - QE messages with a valid, digitally-signed timestamp



# Implementing sPRL

- RHIOs will be connected to the statewide “Bus” in 3 waves beginning July 7<sup>th</sup>.
- Wave groupings were chosen by their likelihood to have patient overlap
- **Wave 1: (8/4/15)**

**Southern Tier (Binghamton), Hudson Valley, Central (Syracuse), Capital District (Albany)**

- HealthlinkNY (STHL & THINC, previously)
- HealtheConnections
- Hixny

- **Wave 2: (8/25/15)**

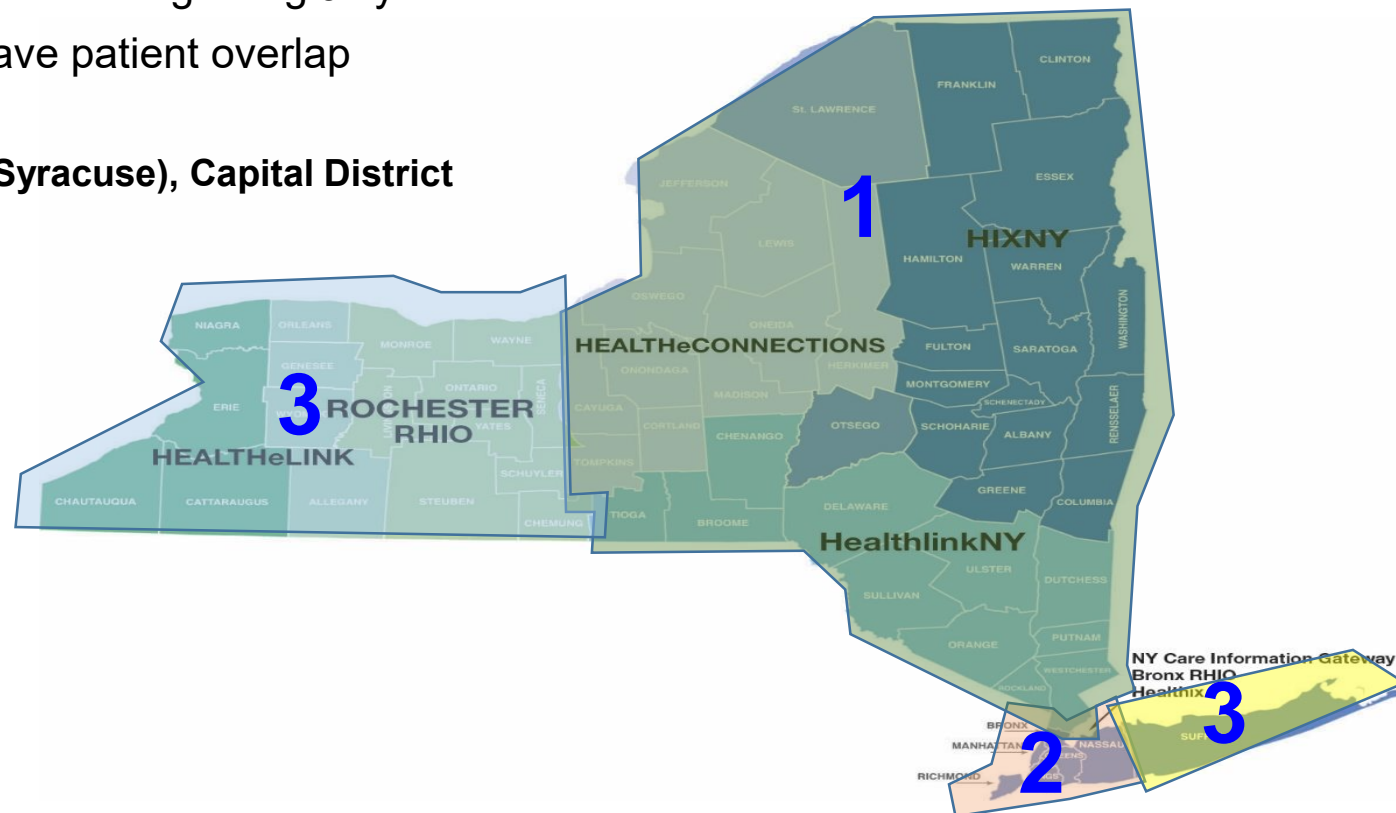
**NYC and Long Island**

- NY Care Information Gateway 1 (Interboro)
- Healthix
- Bronx RHIO

- **Wave 3: (9/15/15)**

**Western Region, Finger Lakes, Eastern Long Island**

- NY Care Information Gateway 2 (eHNLI)
- Rochester RHIO
- HEALTHeLINK



# Questions and Answers