



# Health IT/Health Information Exchange Technical Assistance

March 20, 2018

**Topic:**

**Health Information Sharing-the Sequoia Project**

# Agenda

- Introduction
- Health Information Exchange:
  - Vision: Where we are and where we are going.
  - How the Sequoia Project and CommonWell Health Alliance initiatives will support this vision.

## HIE Vision

- HIT/HIE used to support the achievement of each of the Medicaid Transformation objectives and health system transformation
- The State strives to have all portions of the health care system connected and actively participating in HIE
- HIE is more than just one entity and there are many types of health information exchange that will help us achieve a connected health care system
- HCA believes a network of networks approach will support regional, statewide, and national health information exchange.

## HIE Vision

- HCA believes OneHealthPort is the central focus for HIE in Washington
  - CDR, PDMP, etc.
- Other exchange of health information can and should exist, including:
  - Local, Regional, and Nationwide exchanges
- Health information exchange requires use of: health IT standards, legal agreements, and governance processes for exchange participants.
- Work will be needed (by HCA, OHP and ACHs) to leverage all exchange capabilities to support robust statewide health information exchange



# Nationwide Network Initiatives of The Sequoia Project and CommonWell Health Alliance

Washington State ACH Technical Assistance Session  
20 March 2018



# Disclaimer

- Consultant to the Office of the National Coordinator for Health IT
  - » Support SIM states, including Washington State, with technical assistance
- Work in other states not connected to SIM or ONC
  - » Executive Director, California Association of Health Information Exchanges
  - » Contracted with Oregon supporting HIT strategy
- Volunteer in nationwide initiatives
  - » CTO of NATE, supporting patient access
  - » Member of The Sequoia Project's Carequality Advisory Council
  - » Member of The Sequoia Project's PULSE Advisory Council

# Agenda

## Focus on 3 Nationwide Network Initiatives

1. eHealth Exchange
2. Carequality
3. CommonWell
  - » How they work  
(and what use cases they support)
  - » How they are governed
  - » Who participates today

*Think of these as “HIE as the verb”*

# The Sequoia Project



*We'll talk about these today*

- **eHealth Exchange** is a community of exchange partners who share information under a common trust framework and a common set of rules
- **Carequality** is a collaborative developing a common interoperability framework that enables seamless exchange among networks
- **RSNA Image Share Validation** is a conformity assessment program that tests the compliance for accurate and efficient exchange of medical images

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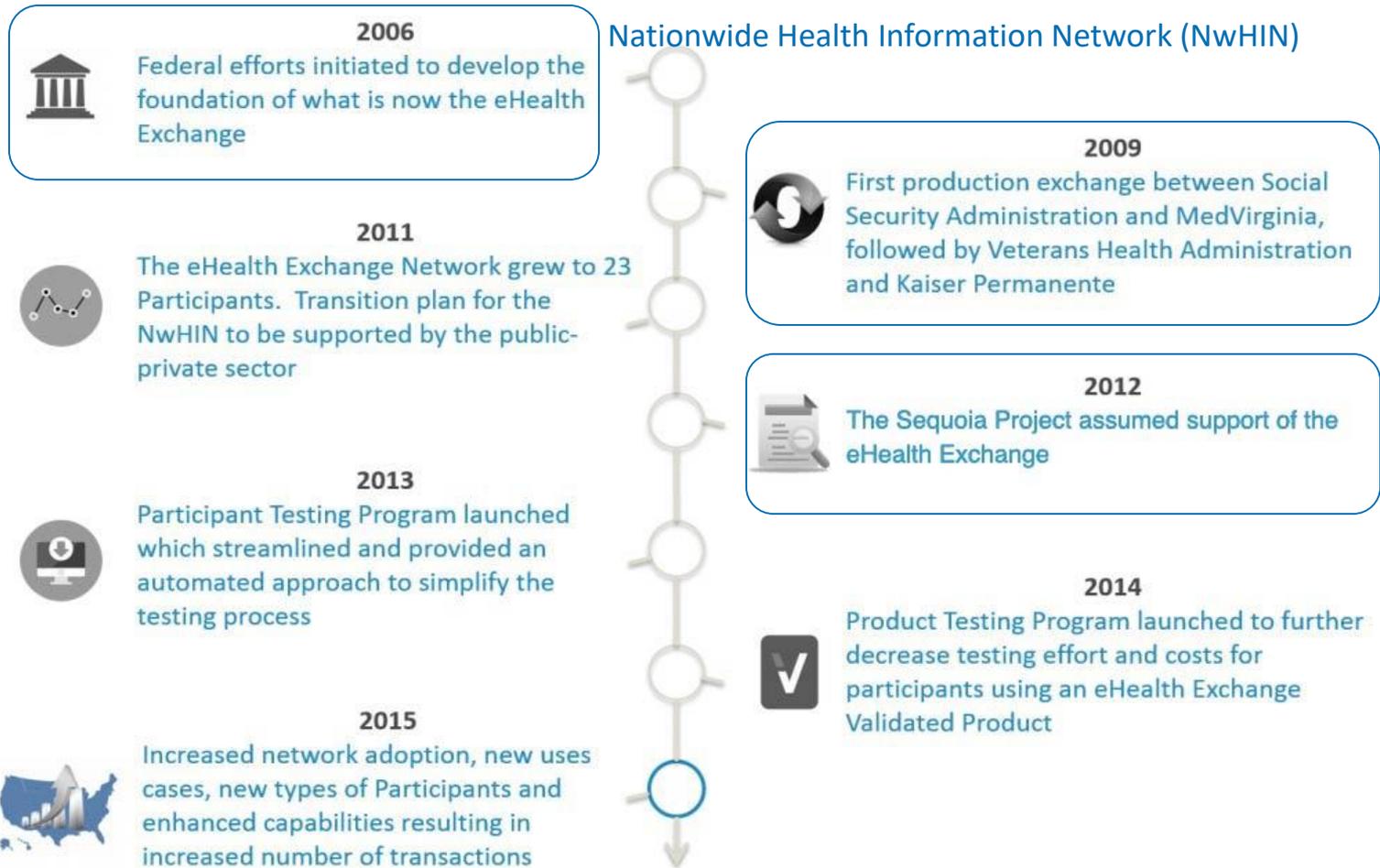
*Sometimes, when people say “Sequoia”, they mean “eHealth Exchange”*

# Goal of the eHealth Exchange



Creating a trusted exchange framework, using a common legal agreement (the DURSA), to support the secure exchange of health information in a technology agnostic manner, over the Internet, using a standardized approach that works across diverse geographies, architectures, and technology platforms

# History of the eHealth Exchange



Taken from <https://sequoiaproject.org/ehealth-exchange/about/history/>  
Annotations added by author

# Exchanging Information via eHealth Exchange

## How It Works

- Directed data query/response among participants

## Purpose for Use

- Permitted purposes are defined at the network level and include:
  - » Treatment
  - » Payment (for a provider)
  - » Operations (limited compared to HIPAA)
  - » Public Health Activities
  - » Any purpose to demonstrate Meaningful Use
  - » Uses and disclosures pursuant to an authorization

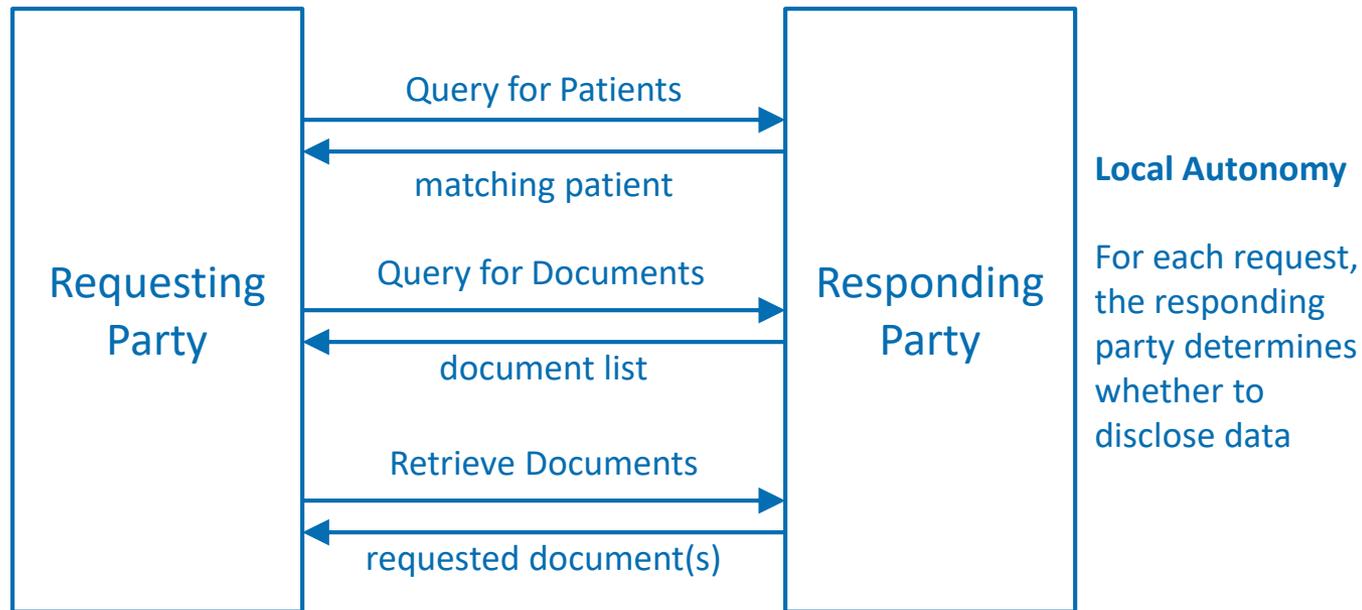
eHealth Exchange

# Exchanging Information via eHealth Exchange

## How It Works

- Directed data query/response among participants

eHealth Exchange



**Authorization Framework:** For each request, the requesting party asserts provider identity, role, purpose-for-use, etc.

# Exchanging Information via eHealth Exchange

## How It Works

- Peer-to-peer network  
Each participants queries one or more other participants for information
- Little centralized infrastructure  
eHealth Exchange maintains a Certification Authority (CA) and Services Registry to identify approved participants
- Local autonomy  
Participants disclose data based on asserted authorization and local policy and regulation

eHealth Exchange<sup>®</sup>

# Governing eHealth Exchange

eHealth Exchange<sup>®</sup>

- Exchange is governed by a multiparty data sharing agreement, the Data Use and Reciprocal Support Agreement or DURSA
- Includes a certification program
- Activities are governed by the Coordinating Committee, comprising elected representatives from eHealth Exchange participants

# eHealth Exchange Participants

- Participants must be a valid legal entity, have the ability to govern the use of its network, sign the DURSA, have the ability to enforce the flow-down provisions in the DURSA, and pass applicable testing
- Primary participants are federal agencies, health systems, health information exchanges, pharmacy chains
  - » More than 200 organizations, many with multiple facilities

See <https://sequoiaproject.org/ehealth-exchange/participants/> for participants e.g. Providence-Swedish Health System

# Exchanging Information via eHealth Exchange

## How some participants are leveraging eHealth Exchange...

eHealth Exchange is a peer-to-peer network, designed for one organization to search for patients and retrieve documents by sending directed queries to another

- Orchestrated queries  
PULSE may use eHealth Exchange to query multiple organizations in time of disaster or emergency
- Alert-driven exchange  
Some Patient Centered Data Home (PCDH) participants retrieve information using eHealth Exchange with known patient identifiers based on alerts

See <http://www.ca-hie.org/initiatives/pulse/> for more on PULSE

# Joining the eHealth Exchange

eHealth Exchange<sup>®</sup>

- Sign the DURSA (and any other agreements)
- Pay annual participant fees (based on annual revenue)
- Complete certification testing (including fees)

# The Sequoia Project



*We'll talk about these today*

- **eHealth Exchange** is a community of exchange partners who share information under a common trust framework and a common set of rules
- **Carequality** is a collaborative developing a common interoperability framework that enables seamless exchange among networks
- **RSNA Image Share Validation** is a conformity assessment program that tests the compliance for accurate and efficient exchange of medical images

# Goal of Carequality



Developing a comprehensive policy and operational framework, with a common legal agreement, to enable seamless exchange across different health data sharing networks, programs, and services

# Exchanging Information via Carequality

## How It Works

- Initial use case enables network-to-network directed queries/responses among implementers

## Purpose for Use

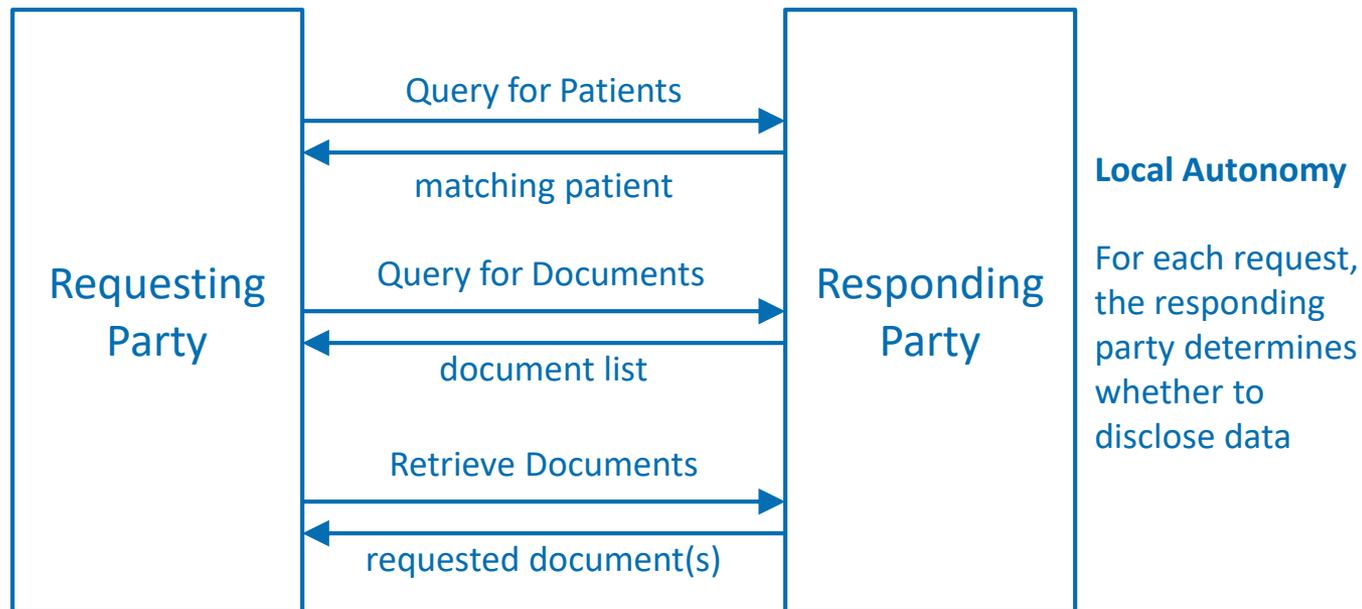
- Established in each Implementation Guide (i.e. use case)
- Initial Query-Based Document Exchange IG allows:
  - » Treatment
  - » Payment
  - » Health Care Operations
  - » Public Health Activities
  - » Authorization Based Disclosures



# Exchanging Information via Carequality

## How It Works

- Directed data query/response among participants



**Authorization Framework:** For each request, the requesting party asserts provider identity, role, purpose-for-use, etc.; perhaps consent, etc., in the future



# Exchanging Information via Carequality

## How It Works

- Peer-to-peer network  
Each participants queries one or more other participants for information
- Little centralized infrastructure  
Carequality maintains a directory to identify approved participants
- Local autonomy  
Participants disclose data based on asserted authorization and local policy and regulation
- Non-discrimination  
Organizations that request information for treatment purposes must also respond to requests



# Governing Carequality



- Exchange is governed by
  - » A multiparty data sharing agreement, the Carequality Connected Agreement or CCA
  - » An Implementation Guide for each specific use case
- Includes participant data exchange testing
- Activities are governed by the Steering Committee, elected from Carequality members and implementers, and advised by the Advisory Council appointed from a broader range of stakeholders

# Carequality Implementers



- Permitted users are identified in each IG (for each use case)
- Query-Based Document Exchange has no limitations, and may include government agencies, HIT developers, HIOs, national networks, etc.
- Primary implementers are HIT vendors and networks
  - » >20 implementers, 9 in production, all with multiple facilities

See <https://sequoiaproject.org/carequality/members-and-supporters/> for members

See <https://sequoiaproject.org/carequality/active-sites-search/> for current active facilities

# Carequality Implementers



See <https://sequoiaproject.org/carequality/active-sites-search/> for current active facilities

# Exchanging Information via Carequality

## How some implementers are leveraging Carequality...

Carequality is a peer-to-peer network, designed for one organization to send directed queries to another

- Regional queries  
Some implementers are automating the process of identifying Carequality connections in a specific geography and querying them all



# Joining Carequality



- Use a vendor or network that participates
- Agree to the terms of the Connected Terms and Conditions, flow-downs from the CCA
- Fees may be absorbed by the vendor or network, or passed on to the provider

# Goal of the CommonWell Health Alliance



Making health data available to individuals and providers regardless of where care occurs, enabling use by a broad range of health care providers and the people they serve

# Exchanging Information via CommonWell



## How It Works

- Query across members using a master patient index (MPI) and record locator service (RLS)

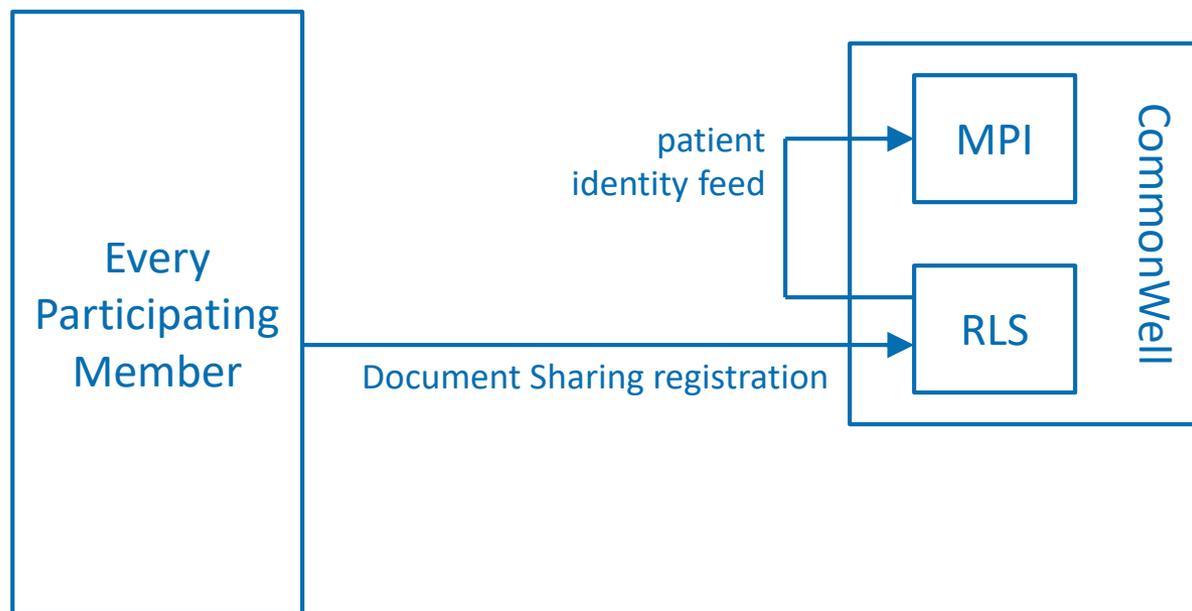
## Purpose for Use

- Permitted purposes include:
  - » Treatment
  - » Patient access

# Exchanging Information via CommonWell

## How It Works

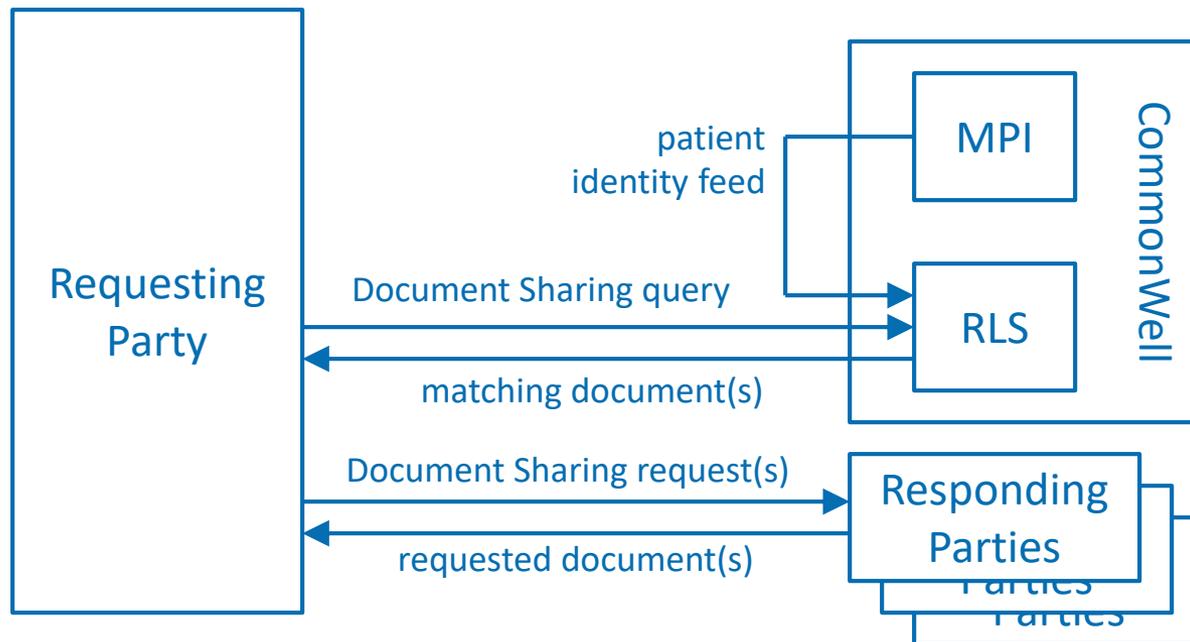
- Register patients and documents in the MPI and RLS



# Exchanging Information via CommonWell

## How It Works

- Query across members using the MPI and RLS



# Exchanging Information via CommonWell



## How It Works

- Query via MPI and RLS  
Each participant queries a centralized registry for documents that match demographics of the patient in question
- Significant centralized infrastructure  
CommonWell maintains the MPI and RLS, which contain PHI; allows for network monitoring
- Confirmed matching  
In most cases, providers will confirm with a patient that the records identified actually belong to them before retrieving them

# Governing CommonWell



- Exchange is governed through a common set of legal agreements
- Includes certification, an onboarding process, network monitoring, and reporting
- Activities are governed by the CommonWell Board or Directors, advised by an Advisory Board of provider representatives

# CommonWell Participants



- Members are health IT developers that subscribe to CommonWell services (i.e., MPI and RLS) and can enable their end users to access services through the developer's product
- Primary members are HIT vendors and service providers
  - » Approximately 25 founding and contributing organizations, many with multiple facilities

See <http://www.commonwellalliance.org/members/> for members



- Use a vendor that participates
- Agree to the terms and conditions of the network
- Fees may be absorbed by the vendor or network, or passed on to the provider

# CommonWell and Carequality



CommonWell and Carequality announced on Dec 13, 2016 that CommonWell would become a Carequality implementer

# Summary

eHealth Exchange	Carequality	CommonWell
Peer-to-peer network	Network-of-networks with peer-to-peer exchange	Network with centralized MPI and RLS
Query-based document exchange	Query-based document exchange, more coming	Query-based document exchange
Provider-centric query model	Provider-centric query model	Patient-centric query model
Federal agencies, health systems, HIEs	HIT vendors, networks	HIT vendors
eHealth Exchange specifications	eHealth Exchange specifications	IHE specifications

# Benefits

## Common Benefits

- Provide access to health information for patients nationwide
- Based on documents that EHRs support today
- Based on commonly-implemented technical standards

## eHealth Exchange, Carequality

- Support TPO, public health, MU (but primarily via query)

## eHealth Exchange

- Provides exchange with federal agencies

## CommonWell

- Provides access to patients

# Limitations

## Common Limitations

- Use cases limited to query-based exchange
- Standards based on document architecture, not granular data exchange

## Carequality, CommonWell

- Only open to providers using participating vendors or services

## eHealth Exchange, Carequality

- Peer-to-peer architecture
- Provider-centric query model

## eHealth Exchange

- Many participants white-list
- Allows only a single patient match (no ambiguous matches)

# Contrasting with HIE

## HIE

- **Connect a variety of organizations**  
(hospitals, clinics, labs, radiology centers, practices, EMS, payers, state and local public health, consumers, social services)
- **Connect a variety of systems**  
(EHRs, PMSes, LIMSeS, RISes, registries, PHRs, people with no system)
- **Flexible on standards**  
(HL7 v2, HL7 v3, SSO, IHE, proprietary standards, maybe even FHIR)
- **Meet a variety of use cases**  
(results delivery, alerting for care coordination, query-based exchange for care coordination, public health reporting, community-wide record, population health, registry access, patient access, consent management, research, social determinants)

## eHX, Carequality, CommonWell

- **Connect covered entities, BAs**
- **Connect EHRs and HIEs**
- **Use a networks-specific version of IHE standards**
- **Meet a single use case of query-based care coordination**

# Other Nationwide Provider-based Networks



- **DirectTrust**  
Enabling trusted nationwide exchange using Direct secure messaging via a Federated Services Agreement and accreditation of CAs, RAs, and HISPs



- **SHIEC Patient Centered Data Home**  
Alerting providers of a care event has occurred outside of the patient's "home" HIE and confirming the availability and the specific location of the clinical data



The Office of the National Coordinator for  
Health Information Technology



## Nationwide Network Initiatives

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