

CommonWell Health Alliance®

Overview of CommonWell Services

Vision

CommonWell Health Alliance® is a not-for-profit trade association devoted to the vision that all patient data should be available to patients and providers regardless of where care occurs. Additionally, we believe that access to this data must be made available at a reasonable cost for use by the broadest possible range of health care providers and the patients they serve. By retrieving data from remote points of care that were previously inaccessible, providers can easily access a more comprehensive picture of their patients' clinical histories.

Organizations interested in participating in CommonWell Health Alliance have the following characteristics:



The BELIEF
that health information
should be accessible
– regardless of where
care occurs.



The NEED for their
products to have built-
in interoperability
to maximize data
exchange for providers
and patients.



The COMMITMENT
that their customers,
technologies and
resources are ready to
implement interoperable
solutions.

An Inflection Point in Standards

Since the emergence of electronic records, patients and providers have been challenged by the task of moving data between systems and technologies that are not able or willing to work together. Only recently have interoperability standards converged to empower health IT systems to parse clinical data from remote, heterogeneous systems.

CommonWell puts this within the reach of HIT developers. Its services make it possible for clinicians to obtain a more complete picture of a patient's history by including remotely-sourced, aggregated data within familiar systems and workflows. It provides a simple way to positively impact the quality and the overall cost of care for providers who face declining insurance reimbursements and outcome-based payments. For example, a new care provider might not have easy access to a given patient's allergy profile or medication history, introducing risk. CommonWell can make this historical clinical information available within the provider's normal workflow.

Let's explore some key concepts to see how CommonWell-enabled health IT solutions, referred to in our context as ***Edge Systems***, use the platform to address today's interoperability challenges. ***To help identify terms that are used in a unique way by the Alliance, CommonWell-specific terms are italicized when they first appear.***

What new value does CommonWell provide?

Today, the following scenarios have been made possible by CommonWell, solving widespread interoperability problems:

- As a health care provider, I can discover where my patient has been seen across remote settings of care.
- As a patient, I can affirm that I have been treated at specific remote points of care in order to make more of my care history available to all of my provider(s).
- As a health care provider, I can review the available clinical artifacts and select those that best improve my ability to provide care from all of my patient's available historical content.
- As a patient, I can find and review documents via a connected Portal web application.
- As a health care provider, I can retrieve and view the selected clinical data.
- As an HIT system, I can make my data available for consumption by other CommonWell-connected systems.

CommonWell is continuously trying to improve its offerings by supporting additional use cases, implementing improvements to performance and stability, and providing improvements in security as demanded by modern HIT products and policies.

CommonWell Services

CommonWell provides value through the services described below. In order to fully participate in the CommonWell Health Alliance network, participating products must support some or all of these actions. Each service adds value by enabling or accelerating the flow of data across health care systems that provide patient identity information. CommonWell refers to these systems as **Organizations**.

1. Person Enrollment
2. Record Location
3. Patient Identification & Linking
4. Data Query & Retrieval

For further reading please visit:

<http://www.commonwellalliance.org/specifications/>

1. Person Enrollment

On behalf of providers, **Edge Systems** send identifiers, demographics, and encounter data to CommonWell. Since CommonWell doesn't store patient data, this is limited to Admit, Discharge, Transfer (ADT) messages and additions or changes to demographic data only. Messages (sent via the FHIR or IHE PIX protocols) pre-populate CommonWell with demographic and encounter data from each connected system.

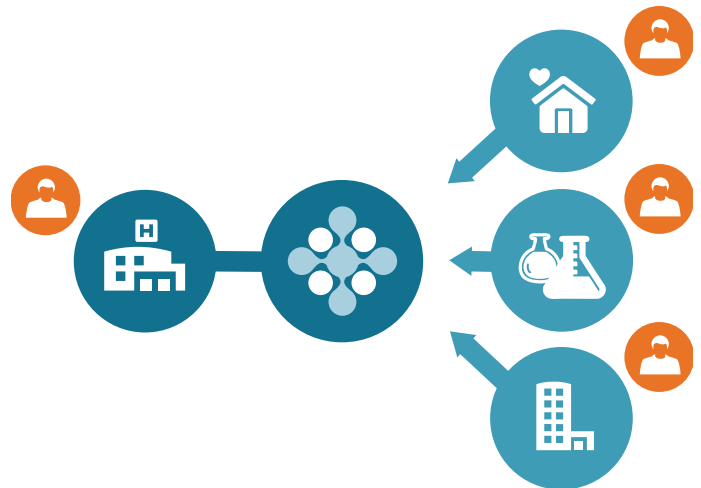
CommonWell supports consumer-driven preferences for data sharing. Users of connected systems (for example, front-desk staff at a clinic) **enroll** an individual into CommonWell with that person's cooperation, ideally using a **strong identifier** (like a driver's license) to ensure that their records are accurately linked. This action can be accomplished through their local HIT system's interface or through an optional CommonWell-provided Web interface.



Person Enrollment uniquely identifies each individual in the CommonWell network.

2. Record Locator

Once enrollment is complete, providers can search for matches across the country using the CommonWell record location service. This nationwide service enables providers and patients to efficiently discover where a patient's data might be found by creating a "virtual table of contents" that specifies the available locations of patient data, regardless of where care occurred.



Record Location creates a "virtual table of contents" to available locations of patient data.

3. Patient Identification & Linking

With the patient's participation, a user of the connected HIT system can now:

- Link the local patient's record to records at remote Organizations, enabling the remote practices to reciprocally retrieve data from the enrolling point of care, or
- Explicitly mark an incorrect match with a remote system, preventing this search result from being returned again in the future for this patient.

These states are referred to as **Levels of Link Assurance**, or **LOLA**, by CommonWell.



Patient Identification & Linking connects each individual's clinical records across care settings.

4. Data Query & Retrieval

Once links have been created, connected systems can request a list of available remote patient content using either XCA or FHIR queries. These actions are brokered by the CommonWell infrastructure to simplify the work required by participating systems: to the requesting HIT product, these transactions appear to be no different than a standard query against any remote HIT system, although the responses are being aggregated from many responding systems. As shown in the diagram, CommonWell uses the flows defined by XCA to distribute or **fan out** ITI-38 queries to all known remote systems where content for the patient might be available. Queries return aggregated metadata about all available clinical data to the requesting system where the requesting user can potentially select the data most valuable to them from a list, all within the familiar interface of the local HIT system.

When a user initiates a retrieval, files are escorted through the CommonWell network (but are not stored or cached there), and their contents are only accessible by the receiving system. CommonWell APIs are designed to meet today's HIT security expectations, and ATNA audit records are stored for possible future review.

While CommonWell itself never stores clinical data, the platform uses a layered security approach to help ensure the safety of the clinical and demographic data being transferred. Client certificates, Java Web Tokens, and SAML are used to authenticate a given Edge System to the CommonWell services. Only trusted systems are permitted to execute requests against the platform.



Data Query & Retrieval enables caregivers to receive the patient data they need, when and where they need it.