CommonWell Health Alliance Specification
Use Cases (Part 2 of 2)

Version 2.15

Contents

The Use Cases (Part 2 of 2) are part of and are incorporated into the CommonWell Health Alliance Specification. The Use Cases described in this Appendix have been approved by the CommonWell Health Alliance.

CommonWell Permitted Purposes Overview

CommonWell Service Adopters and their customers are made up of many different types of health care providers and services organizations including provider organizations, the foundation upon which the network was built, consumer applications, personal health records (PHRs), and data retrieval vendors with the task of collecting records on behalf of payers. CommonWell currently supports transactions for the following NHIN Authorization Framework purposes of use:

Purpose of use vocabulary	Code
Treatment	TREATMENT
Payment	PAYMENT
Healthcare Operations	OPERATIONS
Request of the Individual	REQUEST

Permitted Purposes Definitions

CommonWell supports the Permitted Purposes identified above: Treatment, Payment, Healthcare Operations, and Request of the Individual (Patient Access) (the "Permitted Purposes"). The definitions are from the HIPAA Privacy Rule for Uses and Disclosures for Treatment, Payment, and Health Care Operations and the Individual's Right under HIPAA to Access their Health Information. Excerpts from the HHS sites previously linked are below. References to the HIPAA Privacy Rule are located at 45 CFR Part 160 and Subparts A and E of Part 164 and referenced documentation for the full language of Treatment, Payment, and Health Care Operations along with Individual Right to Access.

Uses and Disclosures for Treatment, Payment, and Health Care Operations

"Treatment" generally means the provision, coordination, or management of health care and related services among health care providers or by a health care provider with a third party, consultation between health care providers regarding a patient, or the referral of a patient from one health care provider to another.

"Payment" encompasses the various activities of health care providers to obtain payment or be reimbursed for their services and of a health plan to obtain premiums, to fulfill their coverage responsibilities and provide benefits under the plan, and to obtain or provide reimbursement for the provision of health care. In addition to the general definition, the Privacy Rule provides examples of common payment activities which include, but are not limited to:

- Determining eligibility or coverage under a plan and adjudicating claims;
- Risk adjustments;
- Billing and collection activities;
- Reviewing health care services for medical necessity, coverage, justification of charges, and the like;

- Utilization review activities; and
- Disclosures to consumer reporting agencies (limited to specified identifying information about the individual, his or her payment history, and identifying information about the covered entity).

"Health Care Operations" are certain administrative, financial, legal, and quality improvement activities of a covered entity that are necessary to run its business and to support the core functions of treatment and payment. These activities are limited to the activities listed in the definition of "health care operations" at 45 CFR 164.501, including:

- Conducting quality assessment and improvement activities, population-based activities relating to improving health or reducing health care costs, and case management and care coordination;
- Reviewing the competence or qualifications of health care professionals, evaluating provider and health plan performance, training health care and non-health care professionals, accreditation, certification, licensing, or credentialing activities;
- Underwriting and other activities relating to the creation, renewal, or replacement of a contract of health insurance or health benefits, and ceding, securing, or placing a contract for reinsurance of risk relating to health care claims
- Conducting or arranging for medical review, legal, and auditing services, including fraud and abuse detection and compliance programs;
- Business planning and development, such as conducting cost-management and planning analyses related to managing and operating the entity; and
- Business management and general administrative activities, including those related to implementing and complying with the Privacy Rule and other Administrative Simplification Rules, customer service, resolution of internal grievances, sale or transfer of assets, creating de-identified health information or a limited data set, and fundraising for the benefit of the covered entity. General Provisions at 45 CFR 164.506.

Individual's Right under HIPAA to Access their Health Information

The Privacy Rule generally requires HIPAA covered entities (health plans and most health care providers) to provide individuals, upon request, with access to the protected health information (PHI) about them in one or more "designated record sets" maintained by or for the covered entity. This includes the right to inspect or obtain a copy, or both, of the PHI, as well as to direct the covered entity to transmit a copy to a designated person or entity of the individual's choice. Individuals have a right to access this PHI for as long as the information is maintained by a covered entity, or by a business associate on behalf of a covered entity, regardless of the date the information was created; whether the information is maintained in paper or electronic systems onsite, remotely, or is archived; or where the PHI originated (e.g., whether the covered entity, another provider, the patient, etc.).

Individuals have a right to access PHI in a "designated record set." A "designated record set" is defined at 45 CFR 164.501 as a group of records maintained by or for a covered entity that comprises the:

- Medical records and billing records about individuals maintained by or for a covered health care provider;
- Enrollment, payment, claims adjudication, and case or medical management record systems maintained by or for a health plan; or
- Other records that are used, in whole or in part, by or for the covered entity to make decisions about individuals. This last category includes records that are used to make decisions about any individuals, whether or not the records have been used to make a decision about the particular individual requesting access.

Permitted Purposes and Reciprocity

CommonWell operates under a general understanding that all health organizations connected to the network that have data for shared patients should make that data available when queried by initiating gateways. Therefore, CommonWell has the following requirements to ensure that there is reciprocity in data sharing across the network and connected organizations. The terms Must, May and Should have the meanings as provided in RFC 2119.

- Treatment
  - o A Query Initiator MUST also be a Query Responder
  - o Exceptions that MAY permit an organization to be a Query Initiator only
    - Treatment eligible organizations without Electronic Clinical Information (e.g., 42 CFR Part 2 providers, Emergency Medical Service providers)
  - o Organizations with a fully connected EHR acting as a Query Responder may have additional connected products ("Adjacent Products") acting as Query Initiators (e.g., population health, medication reconciliation, document aggregators)
- Payment and Health Care Operations
  - o A Query Initiator MAY also be a Query Responder
  - o If an organization responds for Treatment, that organization SHOULD also respond for Payment and Operations
- Request (Patient Access)
  - o A Query Initiator MAY also be a Query Responder
  - o If an organization responds for Treatment, that organization SHOULD also respond for Request

1 Person Enrollment

As an Edge System user, I can manage enrollment of Persons into CommonWell.

1.1 Overview

The workflow by which an individual person participates in the CommonWell system is distinguished from any Patient Records that may already exist for this person in any particular Edge System. Ideally, a fundamental requirement for enrollment is the presentation and validation of an authoritative identifier (e.g., a state-issued ID with a photograph). However, we decided that a person can enroll without a strong identifier to drive an increase in overall participation rates.

Registration clerks are often frustrated when they are asked to add new steps to their workflow without receiving any benefit from the activity. By including a point-in-time indicator of network value for a single person, registration clerks can focus on enrolling those who immediately benefit from interoperability. The service returns an indicator that the patient's demographics match possible network patients inside the system. Note that the indicator does not tell the clerk the names or the provider locations where links are found as this violates HIPAA rules. These potential links with named provider organizations are only visible to the clerk after the patient has provided consent to join CommonWell.

The enrollment of a Person to CommonWell is a global attribute of the person. Once completed, all participating Organizations have access to this information by way of the Edge System Registry.

A prerequisite to enrolling Persons is that the Organization has registered itself as a participating Organization with the CommonWell network.

If a user decides to unenroll from CommonWell, some information about that unenrolled Person is retained by CommonWell. Data retained after unenrolling must be in a format that is not accessible by Edge Systems until such a time that the Person re-enrolls from a participating Organization.

1.2 Narrative

A registration clerk at a provider organization can check for the presence of potential patient matches before deciding to enroll a person into CommonWell. It is a point-in-time indicator of network value for a single person. By returning an integer instead of a Boolean value for potential links, the service will enable members to innovate around how they use this link count. This number only represents the number of unique orgs visited. It doesn't reflect how many visits happened at that organization. For example, 12 visits in the last 12 months across two organizations returns a value of two.

A user at a participating Organization must be provided the capability to enroll a Person in CommonWell. Organizational enrollment of a Person in CommonWell allows access to Patient Records from other participant Organizations at which the Patient has been registered. Enrollment

will expose an authoritative ID (if available) for use in defining links to other Patient Records accessible via CommonWell.

A user at a participating Organization must be provided the capability to unenroll a Person from CommonWell. During unenrollment, any LOLA 2 or higher links (to the Person) are removed and the Person Record is disabled. After unenrollment, CommonWell can still return the Person Record as part of a LOLA 1 Patient Match (using patient-level demographics information).

1.3 Scenario 1 – As an Edge System user, I can check for possible Patient matches prior to enrolling a Person into CommonWell.

1.3.1 Pre-conditions
The patient presents him/herself at the physical location of a participating Organization.
The Person is not yet enrolled in CommonWell.
The Patient is registered with their local Organization.
The Organization is registered with CommonWell.
At least one of the Patient's other providers is registered with CommonWell.

1.3.2 Scenario
Frank Nolan is a patient of Dr. Jeffrey Geiger, a general practitioner working in the Chicago area. During an encounter at Dr. Geiger's office, an authorized Edge System user in Dr. Geiger's office checks for possible patient matches prior to enrollment and before giving Frank any information about CommonWell.

The pre-enrollment check service uses the demographics captured by the Edge System during registration to query the CommonWell API in the background.

1.3.3 Post-conditions
The query response indicates the number of possible patient matches.

Reference added to CommonWell Services Specification v2.1.

1.4 Scenario 2 – As an Edge System user, I can enroll a Person into CommonWell.

1.4.1 Pre-conditions
The patient presents him/herself at the physical location of a participating Organization.
See the Patient Search use case.

1.4.2 Scenario
Frank Nolan is a patient of Dr. Jeffrey Geiger, a general practitioner working in the Chicago area.
During an encounter at Dr. Geiger's office, an authorized Edge System user in Dr. Geiger's office
gives Frank a high-level overview of CommonWell and explains what it means to be enrolled.

Frank agrees to enrollment and provides his driver's license, which is an authoritative ID, to the Edge
System user for scanning. Information related to enrollment and details from Frank's authoritative
ID are sent to CommonWell.

1.4.3 Post-conditions
Frank is enrolled as a new Person in CommonWell.
The authoritative ID is consumable in CommonWell.

1.4.4 Alternate Flows
The Organization would like to enroll a population of its patients into CommonWell via an attended
patient kiosk. The enrollment does not happen on the healthcare organization's premises. For
instance, the patients can present an authoritative ID to the kiosk that can enroll them at the local

mall. Messages are still submitted one at a time to CommonWell. Per Policy Sub Group, a human will need to validate the ID at the kiosk.

1.4.5 Exception Cases

If the Edge System enrolls a Person who is already enrolled, CommonWell gracefully handles the duplicate enrollment. This is transparent to the Edge System user. Lab systems are not allowed to enroll patients during the pilot.

Negative Test
Internal error: Respond with "500" status code for internal error; Forbidden error: Respond with "403" status code for forbidden error; Conflict error: Respond with "409" status code for conflict error; Unauthorized Access: Respond with "401" status code; Bad Request: Respond with "400" status code.

1.4.6 Expected Actions

1.4.7 Transactions
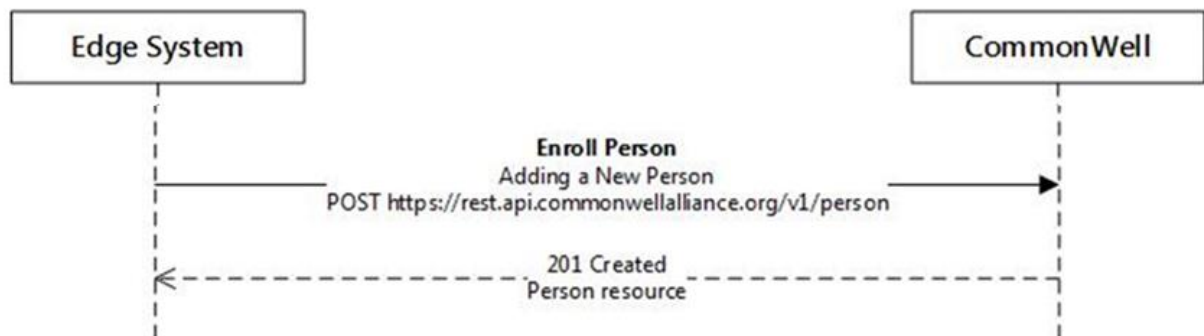
Reference pulled from CommonWell Pilot Services Specification v1.16.

1.5 Scenario 3 – As an Edge System user, I can unenroll a Person from CommonWell

1.5.1 Pre-conditions

The person has enrolled in CommonWell.
The person presents him/herself at a participating Organization.

1.5.2 Scenario

Barbara Hyland initially agreed to enroll in CommonWell at a kiosk in the mall near where she lives in Cincinnati, OH. When she goes to her primary care provider (PCP) the first time after she enrolls, Barbara tells one of the office staff that she is concerned about her privacy and wishes to opt out of sharing of information in the network.

The authorized Edge System user verifies Barbara's identity. The user unenrolls Barbara.

1.5.3 Post-conditions

Any LOLA 2 or higher links (to the Person) are removed.

The Person Record is disabled.

The Person consent is revoked.

CommonWell retains some information about that Person (hashed/encrypted strong-id and core demographics).

1.5.4 Alternate Flows

The patient was not enrolled as a Person. CommonWell returns that the Person is not found.

1.5.5 Exception Cases

1.5.6 Transactions
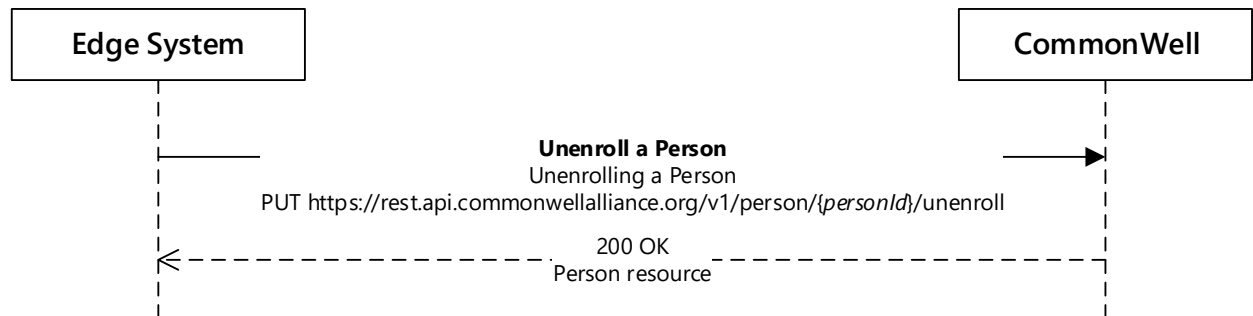
Reference pulled from CommonWell Pilot Services Specification v1.16.

Unenrolling a Person from CommonWell will remove all links to associated Patient resources. The Person may still appear in searches, but with its *enrolled* status set to *False*. A person can be re-enrolled by following the workflow described in the Enroll Patient use case section 1.4 again.

1.6 Scenario 4 – As an Edge System registration clerk, I can enroll a Person following an enrollment directive from his or her authorized proxy

1.6.1 Pre-conditions

Patient is registered at a CommonWell-enabled facility.

Authorization for the proxy individual is verified and documented by the registering provider.

When linking visits, patient is already enrolled in CommonWell.

1.6.2 Scenario

Registration clerk verifies proxy rights of patient's proxy during registration process.

Registration clerk obtains permission to enroll patient in CommonWell network.

Registration clerk obtains proxy's full name and relationship to the patient.

Registration clerk enrolls the patient, recording the acquired proxy information.

CommonWell creates the person record, including the proxy's full name, relationship, and the date of this enrollment activity.

Narrative Example – Minor/Parent or Guardian

Child Jones is a 5-year-old girl brought to the Emergency Department for treatment of an asthma attack. She is accompanied by her mother, Susan Jones.

The ED registration clerk admits Child, documenting that Susan is her parent and has guardianship of Child.

As part of the admission process, the registration clerk asks if Child may be enrolled in CommonWell. Susan agrees and verifies links for two (2) other organizations where Child has been seen.

CommonWell creates a person record and links the three (3) patient records (two remote and one local) to Child.

Narrative Example – Incapacitated Adult:

An incapacitated adult patient is brought to the cardiology clinic for evaluation. The patient is accompanied by an individual who has been given medical power of attorney.

During the registration process, the office receptionist verifies that this proxy has legal authority to provide consent for treatment. The receptionist asks if the patient can be enrolled in CommonWell. The patient's proxy gives permission and verifies six (6) out of ten (10) potential links.

CommonWell creates a person record and links the seven (7) patient records (six remote and one local).

1.6.3 Post-conditions
The patient is enrolled in CommonWell.

1.6.4 Alternate Flows

1.6.5 Exception Cases

1.6.6 Expected Actions

1.6.7 Transactions

1.7 Scenario 5 – Self-service enrollment
As a patient of a CommonWell-connected "tethered" patient portal (TPP) associated with my care team, I can enroll myself in CommonWell in order to begin the process of allowing my providers to more efficiently share my health data.

1.7.1 Pre-conditions
The TPP is provided by a site of care where I have previously been seen.

The TPP in question has been extended to add interface elements related to this process.

In the case that the patient portal is provided by a third party, this product must be able to be extended to afford these interactions, or the CommonWell member must be capable of providing these interfaces to the patient in some other manner.

The "local" Organization is a participant in CommonWell.

The patient is not a minor and is not incapacitated.

The TPP is capable of initiating CommonWell transactions.

The TPP patient is identified and authorized to use this service by the TPP product, and no new authorization mechanism is required in the CommonWell platform.

1.7.2 Scenario

Frank Nolan is a patient of Dr. Jeffrey Geiger. Dr. Geiger's office provides patients access to a Web portal that Frank uses to find information about his care at that Organization.

Within that Web experience, Frank finds a branded control that represents CommonWell (for example, a button or tab) alongside a control that he understands to mean "information." After learning more about CommonWell, Frank returns to that interface and agrees to terms and conditions by checking a box. Frank then clicks Submit in order to enroll himself in CommonWell.

1.7.3 Post-conditions

The patient is enrolled as a new Person in CommonWell.

1.7.4 Alternate Flows

1.7.5 Exception Cases

1.7.6 Expected Actions

1.7.7 Transactions

2 Person Management

As an Edge System user, I can manage Person information (search and update).

2.1 Overview

Enables an authorized user within an Organization to search by key demographic attributes or strong ID.
The key demographics are defined as the required demographics in the enrollment use case.

2.2 Narrative

An Edge System can search for an existing Person based on demographic information and optionally a strong identifier. This is typically the first step in a Person Enrollment workflow, wherein the Edge System finds out whether or not an individual has already enrolled in CommonWell. The key value of a strong identifier is stored in CommonWell as a hashed value for use in search algorithms and never returned in search or get operations.

2.3 Scenario 1 – As an Edge System user, I can search for a Person in CommonWell

If a provider doesn't have a valid patient relationship, there is no business reason for searching for an enrolled Person inside CommonWell. However, if a new person is present in front of the provider with a strong ID, the person represents a potential patient and searching is appropriate.

2.3.1 Pre-conditions

The Organization is a member of CommonWell.
The person has a strong id available for the authorized user to access.

2.3.2 Scenario

Frank Nolan requests the authorized Edge System user in Dr. Geiger's office to confirm his enrollment status with CommonWell. The authorized Edge System verifies the identity of the patient using the strong ID. The user searches for Frank Nolan.

2.3.3 Post-conditions

CommonWell returns 0 or more Person resources.
If any Person resources are returned, each resource contains:

- Person-level demographics
- The Person CommonWell resource ID
- Date of enrollment and Organization name
- Date of last change in enrollment status

2.3.4 Alternate Flows

No strong id is available for the person.

Returns from queries without strong ID will be limited (by a security constraint) to patients who are registered to the local Organization.

Note that the use of DL card reader and scanning devices is out of scope for pilot.

2.3.5 Exception Cases

2.3.6 Expected Actions

Negative

- Internal error: Respond with "500" status code for internal error.
- Forbidden error: Respond with "403" status code for forbidden error.
- Conflict error: Respond with "409" status code for conflict error.
- Unauthorized Access: Respond with "401" status code.
- Bad Request: Respond with "400" status code.
- Not Found: Respond with "404" status code.
- Presumed deleted: Respond with "410" status code.
- 410 (Gone) when Person has been logically deleted.
- 412 (Precondition Failed) if update is happening and eTag value of Person doesn't match with server (basically, they're working with a stale copy of the Person data).

2.3.7 Transactions
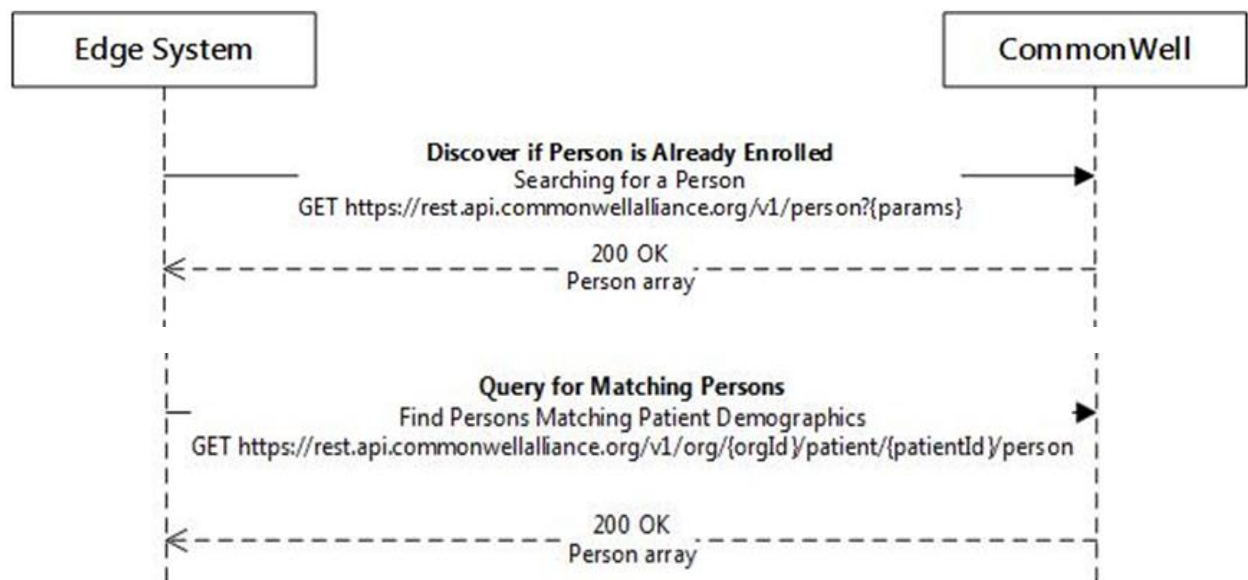
Reference pulled from CommonWell Pilot Services Specification v1.16.

2.4 Scenario 2 – As an Edge System user, I can update a Person resource

2.4.1 Pre-conditions

Person exists inside CommonWell.
The Edge System has the Person resource ID, for instance, using the PERSON Search use case.

2.4.2 Scenario

Juan Valdez is already registered with an authoritative identifier from California. Juan moves from California to Colorado and gets a new driver's license. Juan then presents at a CommonWell-enabled Organization in Colorado with a new address and a new driver's license.

The authorized Edge System user verifies the Person identity.

The authorized Edge System user updates Person-level demographic detail and strong ID using the Person CommonWell ID.

2.4.3 Post-conditions

Person-level detail is updated with new authoritative ID and new demographic address.

2.4.4 Alternate Flows

Person is not updated.

2.4.5 Exception Cases

Without minimum required demographics, CommonWell returns an error.

Negative Test
- Internal error: Respond with "500" status code for internal error.
- Forbidden error: Respond with "403" status code for forbidden error.
- Conflict error: Respond with "409" status code for conflict error.
- Unauthorized Access: Respond with "401" status code.
- Bad Request: Respond with "400" status code.

2.4.6 Expected Actions

Negative
- Not Found: Respond with "404" status code.
- Presumed Deleted: Respond with "410" status code.

2.4.7 Transactions
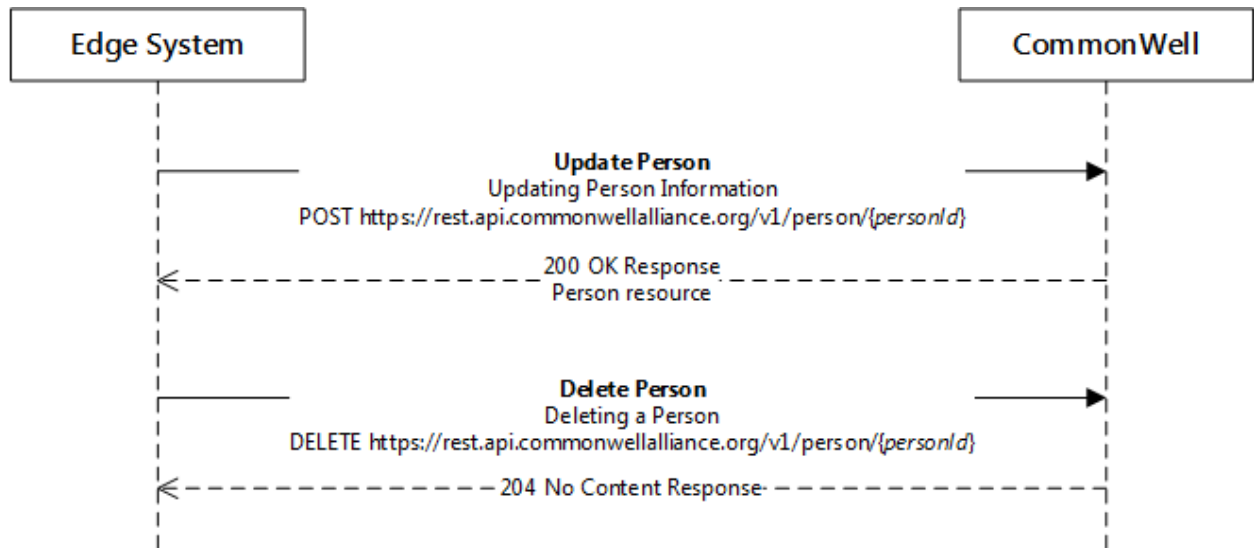
Reference pulled from CommonWell Pilot Services Specification v1.16.

3 Patient Registration

As an Edge System Organization, I can register and manage a Patient with CommonWell.

3.1 Overview

CommonWell enables an authorized user within an Organization to create, update or merge a Patient that has a unique enterpriseID assigned by their Organization. Also, CommonWell enables an Edge System organization to add, edit or remove encounter dates for that Patient.

By creating an up-to-date copy of Patient enterpriseIDs, demographics and encounter dates in CommonWell, Edge System organizations will benefit from a more accurate Patient Matching service that provides greater context about the relevancy of each Patient Record match.

As a platform for record matching across healthcare organizations, CommonWell supports acting as a clearinghouse of patient demographic and identifier information. Specifically, CommonWell acts as a service that stores encounter context for specific patients within an Edge System organization.

CommonWell exposes a publicly available service that can process patient identity feeds with patient encounter information from identity source organizations. As an outcome of this feature, CommonWell builds an exhaustive and up-to-date data store of patient encounter metadata for each of the Edge System organizations that have been registered on the CommonWell platform. The purpose of this use case is to let an Organization send to CommonWell information about its patients.

CommonWell stores the information that contains patient encounter information. Sending registration information is subject to local Edge System policies, but it is not affected by enrollment and consent values. Business Associate Agreements enable the push of encounter date information into CommonWell.

3.2 Narrative

3.3 Scenario 1 – As an Edge System user, I can register a new Patient (no Visit information)

3.3.1 Pre-conditions

Assumes the Patient does not exist in the local Organization system.
Assumes the Patient does not exist in CommonWell.
Assumes the Edge System registration system can provide the specific minimum data set to CommonWell. The minimum data set is listed below:

- Patient Demographics
    - First Name
    - Last Name
    - Date of Birth
    - Gender ←Optional for Registration
    - Home Zip Code ← Optional for Registration

- Local Patient Identifier ID
- Assigning Authority (e.g., Organization A)

3.3.2 Scenario

Patient Sean Thomas comes to Dr. Jeffrey Geiger, his primary care provider (PCP), for a first Visit. At the front desk, the authorized Edge System user looks up Sean in the local registration system. Sean is not found, so the authorized Edge System user proceeds to create the Patient. The registration system and/or Edge System send(s) the Patient information to CommonWell. The CommonWell Patient Matching service processes the information and creates a record for this patient. This is happening at each new CommonWell-enabled Organization Sean visits for patient care.

3.3.3 Post-conditions

The Patient exists in the Organization registration system and/or Edge System.
The Patient Record exists in CommonWell. The Person does not exist in CommonWell as that Person Enrollment has not occurred yet.

3.3.4 Alternate Flows

3.3.5 Exception Cases

The CommonWell service is busy, unavailable, or under maintenance.
The Edge System messaging system is busy, unavailable, or under maintenance.
The message is missing required demographic information (e.g., First name, last name, date of birth, enterpriseID, Assigning Authority).
Samples of known errors are available inside the technical spec.

3.4 Scenario 2 – As an Edge System user, I can register a new Patient (with Visit information)

3.4.1 Pre-conditions

Assumes the Patient does not exist in the local Organization system.
Assumes the Patient does not exist in CommonWell.
Assumes the Edge System registration system can provide the specific minimum data set to CommonWell. See demographic information below:
- Patient Demographics
- First Name
- Last Name
- Date of Birth
- Gender ← Optional for Registration
- Home Zip Code ←Optional for Registration
- Local Patient Identifier ID
- Assigning Authority (e.g., Organization A)

Assumes the Edge System registration system can provide the Visit required data set to CommonWell:

- Start Date: The date the patient started to receive care.
- Organization: The location where the service was provided.

3.4.2 Scenario

Patient Anya Stark decides to see a podiatrist that her PCP recommended for lingering foot pain. At the front desk, the authorized Edge System user looks up Anya in the registration system. Anya is not found in the local system. The authorized Edge System user proceeds to create the Patient and her Visit. This activity is happening at each new CommonWell-enabled Organization Anya visits for patient care.

3.4.3 Post-conditions

The Patient exists in the Organization registration system and/or Edge System.
The Patient Record exists in CommonWell.
The Person does not exist in CommonWell as that Person Enrollment has not occurred yet.
The Patient has an encounter date inside CommonWell.

3.4.4 Alternate Flows

3.4.5 Exception Cases

The CommonWell service is busy, unavailable, or under maintenance.
The Edge System messaging system is busy, unavailable, or under maintenance.
The message is missing required demographic information.
Samples of known errors are available inside the technical spec.
The sending system did not provide the minimum set of Visit information. The receiving system sends a negative Acknowledgement.

3.4.6 Transactions
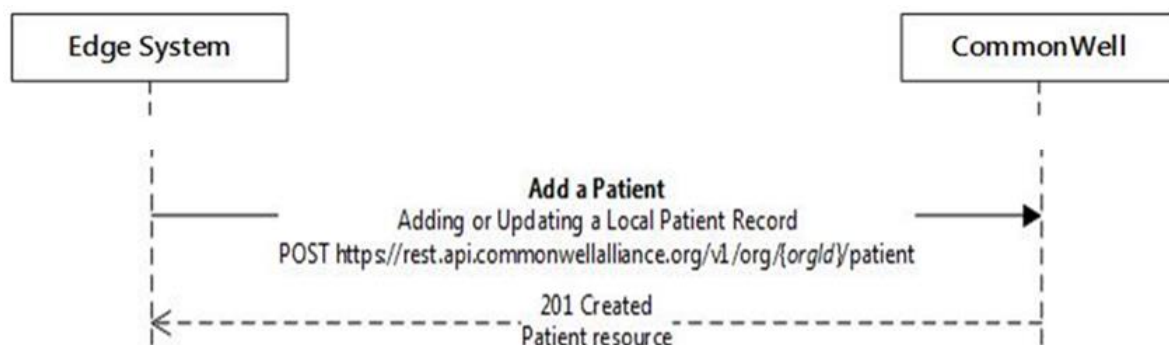
Reference pulled from CommonWell Pilot Services Specification v1.16.

3.5 Scenario 3 – As an Edge System user, I can merge two Patient Records that exist in the Organization and CommonWell

Misspelling of key demographic details and name change activities (such as marriage) drive the need to merge patients over time. In this scenario, the merge message results in a survivor and non-

survivor pair of patient records. Merge transactions are generated exclusively via HL7 ADT interfaces.

Assumptions

- CommonWell will not be responsible for merging demographic/encounter details. This decision is controlled by local EHR. Survivor demographics will be updated with the details of the A40 from PID3 and may be subsequently updated with an A08.
- Edge System cannot reuse the local patient ID of the non-surviving patient.
- Downgraded links will carry forward from non-surviving patient to surviving patient unless surviving patient has an active link to the remote patient.

3.5.1 Pre-conditions
Tyrel Lannister is Patient A in the local Organization and CommonWell.
Tyrell Lannister is Patient B in the local Organization and CommonWell.

3.5.2 Scenario
Patient Tyrel Lannister comes to Peachtree Hospital for a spider bite that occurred on a weekend. At the front desk, the authorized Edge System user looks up Tyrel in the registration system. Tyrel is found in the local Edge System but his first name is incorrectly spelled with two "l" letters. The authorized Edge System user initiates a patient merge activity within the registration system and selects Patient A. Now the demographic data for Tyrell Lannister is replaced with the name Tyrel Lannister. The merge request updates data in the local Edge System and the merge request is propagated to CommonWell.

3.5.3 Post-conditions
Tyrel Lannister is Patient A in the local organization and CommonWell.
Patient B no longer exists in the local organization and CommonWell.
Any network link request that previously returned the non-surviving Patient will no longer return the Patient because the non-surviving Patient ID is no longer valid.

3.5.4 Alternate Flows
Multiple local Patients linked to a single CommonWell Person. The two Patients intended for merge already contain Person links, and they point to the same CommonWell Person Record. Person index links are updated (carried-forward) to surviving patient ID (all found from MRG-1 segment).

Multiple local Patients linked to multiple CommonWell Persons. The two Patients intended for merge already contain Person links, and they point to different CommonWell Person Records. Person index link does not get carried forward to surviving patient ID.

Two local Patients merged; survivor is not linked to a CommonWell Person. Of the two Patients being merged, the Patient intended to survive does not have a Patient link relationship to a CommonWell Person Record, but the non-surviving Patient Record does have a link to a

CommonWell Person Record. Person index links are updated (carried-forward) to surviving patient ID (all found from MRG-1 segment).

3.5.5 Exception Cases

The merge process fails inside CommonWell due to a missing required data field, or an incorrect data type is passed in. A negative acknowledgement is returned to the sender (verified).

One of the identifiers is not registered.

4 Historical Data Backload

As an Edge System vendor, I can backload historical Patient and Visit information into CommonWell.

4.1 Overview

Batch loading a pool of data from prior Visits into CommonWell will seed the patient population for an Organization in CommonWell. As such, it will "kick-start" the matching of Patients and accelerate the time-to-value of the service. CommonWell provides two primary interfaces for managing patient identify data: (1) HL7 V2.x ADT and (2) a REST-based service. For each type of interface, CommonWell will provide a dedicated endpoint for this type of data feed.

4.2 Narrative

4.3 Scenario 1 – As an Edge System Organization, I can upload and register a batch of new Patient Records with Visit information.

4.3.1 Pre-conditions

Organization has registered inside CommonWell.
The Organization has identified the population of Patients to upload to CommonWell based on policies.

4.3.2 Scenario

Edge System vendor would like to backload their existing Patient Records data into CommonWell.

4.3.3 Post condition

CommonWell accepts the backloaded data from the Organization and makes the data available in the network.
Patients are registered inside CommonWell.

4.3.4 Transactions

PIX-based Historical Feed
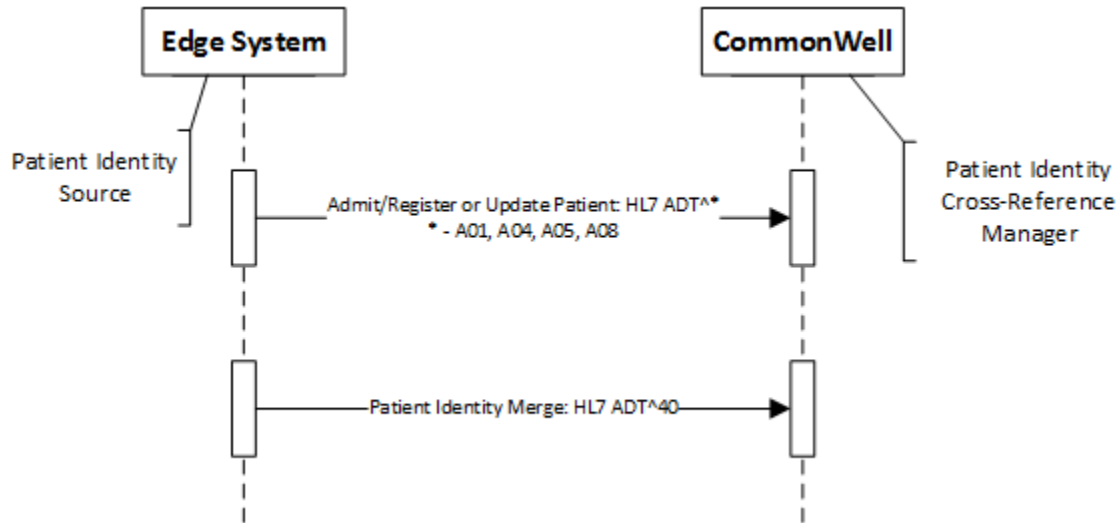
REST-based Historical Feed
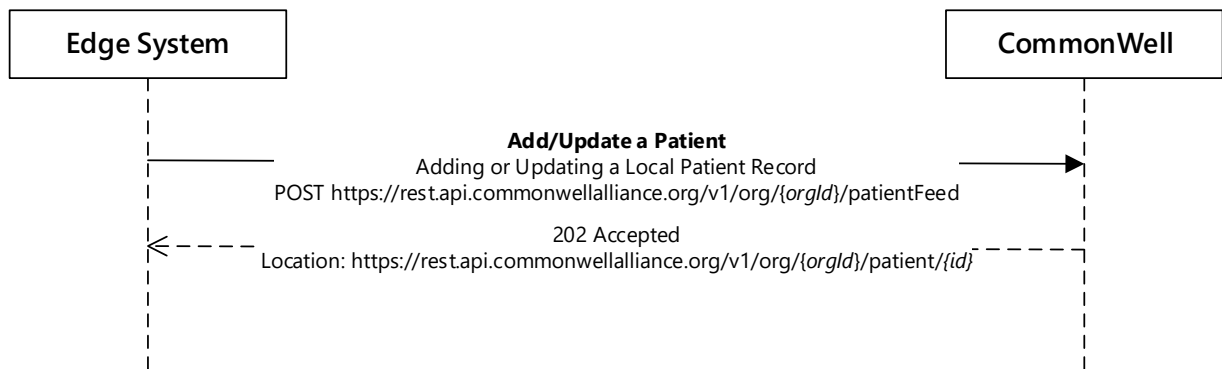
Reference pulled from CommonWell Pilot Services Specification v1.16.

5 Demographics Patient Update

5.1 Overview

The purpose of this use case is to let Organizations update existing Patient information in CommonWell. This information contains Patient demographics as well as encounter information.

5.2 Narrative

This is a separate workflow from updating a Person Record. There is a separate API for update of a Person resource via FHIR. This workflow is specific to the demographics associated with the Local Patient Record.

5.3 Scenario 1 – As an Edge System user, I can update Patient demographics for a registered Patient in CommonWell

5.3.1 Pre-conditions

The Patient exists in the local organization system.
The Patient is registered in CommonWell for the local Organization.

5.3.2 Scenario

Patient Anya Stark comes to her PCP for a scheduled Visit. At the front desk, the authorized Edge System user looks up Anya in the registration system. Anya is found, so she proceeds to review the patient information. The authorized Edge System user updates her home address and phone number. The Edge System sends the demographics to CommonWell. The CommonWell Patient Identity Service processes the information and updates the Patient information for this Organization.

5.3.3 Post-conditions

The Patient Record in CommonWell for this Organization is updated with new demographic data

5.3.4 Alternate Flows

If the Patient does not exist in CommonWell (e.g., the registration message did not get processed), CommonWell would process it as a new registration. This scenario falls in the Patient registration use case from an infrastructure perspective.

5.3.5 Exception Cases

The Patient does not exist in CommonWell. The message is treated as a registration message and follows the registration use case.

5.3.6 Transactions

Use the same technology as the Patient Registration use case.

Update a Patient
Adding or Updating a Local Patient Record
POST https://rest.api.commonwellalliance.org/v1/org/{orgId}/patient/{patientId}

200 OK Response
Patient resource
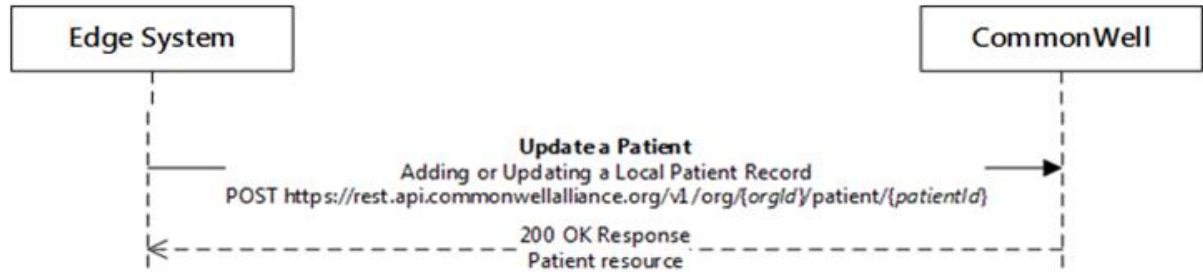
Reference pulled from CommonWell Pilot Services Specification v1.16.

6 Level of Link Assurance (LOLA) Management

As an Edge System Organization, I can manage the Level of Link Assurance in CommonWell.

6.1 Overview

The concept of LOLA is to leverage the innate power of the human network to improve the matching of Patient Records across encounters and over time. When a person has been enrolled into the CommonWell network, that same person may benefit from the linkage of future encounters. The concept of upgrading and downgrading a Patient Link directly improves the value of the CommonWell network.

6.1.1 Correlated Linking

Correlated Linking (section 6.7) supports the automated linking of patients to Organizations from whom they need to receive care but that they may not visit. The proposed approach is to create these links by sharing and comparing patient identifiers from an already-linked Organization, which is initiating an order or referral, and from the destination Organization that now needs access to the patient's clinical data. If the identifier can be sent by both systems and validated along with a demographic match, CommonWell dynamically creates a level 2 link between the acting systems.

Correlated Linking is intended to allow CommonWell-connected Organizations that do not routinely interact face-to-face with patients to obtain data via the CommonWell network. Many HIT workflows require providers to access clinical data although the patient has not yet (or will not) be present at their facility to authorize a CommonWell link.

For example, in a retail pharmacy context, pharmacists can be required to acquire additional clinical data points prior to filling a prescription, in order to be compliant with regulatory and payer requirements or to facilitate additional healthcare services to improve patient outcomes.

This is a separate use case from existing Patient-to-Person linking and relies on reliable and available patient identifiers to correlate a patient to a person in an automated fashion.

6.1.2 Shared ID Link

Shared ID Link (section 6.8) is an automatic confirmation of a patient link for patients that have already been validated by other endpoints within a large health organization. The larger health organizations in the country have many different clinical systems deployed across many facilities.

Large health systems typically have an enterprise/corporate MPI service that acts as the patient identifier "source of truth." Revenue cycle systems are typically assigned this duty. New enterprise identifiers are passed downstream via ADT interfaces to different vendor systems within the large health organization. This use case enables auto-confirmation of patient links that match enterprise/corporate MPI numbers and patient demographics.

This approach eliminates the need for manual linking of patients by registration clerks within the same enterprise. The unique identifier assigned by the enterprise is easy to validate and to correlate.

6.2 Narrative

LOLA refers to an integer value expressing CommonWell's level of confidence in a Network Link (the relationship between Patient Records across Organizational boundaries). These links will, in most cases, carry a LOLA level of 1, 2, or 3. A level 0 link is established only after a patient's explicit denial of the existence of a link between his or her Person and a given Patient entity.

Level 0: Identifies a false-positive match between a Local Patient Record and a Remote Patient Record. This level can only be established by user interaction, downgrading a higher LOLA (e.g., a registration clerk confirms with an individual that a presumptive LOLA 1 Network Link is NOT the same person. The clerk then initiates a command message from the Edge System to CommonWell to downgrade the Level 1 Network Link between the two Patient Records to a LOLA 0). Once a Network Link is demoted to LOLA 0, the Remote Patient Record referenced by that link will no longer appear in the Local Patient Record's list of Network Links in any Edge System.

Level 1: Established by CommonWell's probabilistic matching algorithm, this identifies a presumptive match between a Local Patient Record and a Remote Patient Record. Network Links with LOLA 1 cannot be used for document query and retrieval. Edge System users may either validate this as a match (promoting the Network Link to LOLA 2 or LOLA 3 with strong ID) or confirm this is a false positive (demoting the Network Link to LOLA 0).

Level 2: Identifies a network relationship between Patient Records that has been validated using demographic information. Validation MUST be confirmed by an authorized user of an Edge System (e.g., a registration clerk verifies with an individual that his or her street address in the Local Patient Record is the same as the one found in a Remote Patient Record. The clerk then initiates a command message from the Edge System to CommonWell to create the Level 2 link between the two Patient Records). This is a virtual, transitive link established from one Patient entity to another through a shared Person.

Level 3: Identifies a network relationship between Patient Records that has been validated using demographic information and an authoritative ID. A positive verification based on a person already known to an Organization, in addition to validation of demographic information, can also achieve a level 3. This is a virtual, transitive link established from one Patient entity to another through a shared Person.

Level 4 (not yet implemented): Identifies a network relationship between Patient Records that have been validated using biometric data.

Organization: A healthcare system that interacts with the CommonWell services as a provider of Patient Identity information and as a consumer of the CommonWell Patient discovery and record location services. This term is used interchangeably with Community. An Organization's Edge System acts as a source of Patient Record data to CommonWell. An Organization's Responding Gateway maintains publicly available service endpoint(s) for query and retrieval of clinical data related to

Patients maintained by the Organization. An Organization may represent a single healthcare facility or a Health Information Exchange (HIE) entity.

Patient Link: A Patient Link represents a relationship between a Person and a Patient Record. The existence of a Patient Link implies the acquisition of patient consent to establish the link. The level of confidence of this link is represented by its Level of Link Assurance (LOLA) value.

Network Link: A Network Link represents a transitive relationship between Patient Records that reference the same Person within CommonWell. The level of confidence of this link is represented by the Level of Link Assurance (LOLA) value.

Working Example: Assume Organization 1 has a LOLA 2 Patient Link; Organization 2 has a LOLA 3 Patient Link; Organization 3 has no Patient Link; Organization 4 has a LOLA 2 Patient Link. Network Links are defined by these Patient Links. These next diagrams define the World View of each Organization.

Person to *Patient Link* LOLA Defines
Future Patient to Patient *Network Links*

World View from Organization 1

Organization 1 Patient

Network Link LOLA =3

Organization 2 Patient

Patient Link LOLA 2

Patient Link LOLA 3

Network Link LOLA =1

Network Link LOLA =2

Longitudinal Person

Organization 3 Patient

Patient Link LOLA 2

Organization 4 Patient

NO Query and Retrieve   Can Query and Retrieve

World View from Organization 2

Organization 1 Patient

Network Link LOLA =2

Organization 2 Patient

Patient Link LOLA 2

Patient Link LOLA 3

Network Link LOLA =2

Longitudinal Person

Organization 3 Patient

Network Link LOLA =1

Patient Link LOLA 2

Organization 4 Patient

NO Query and Retrieve   Can Query and Retrieve

World View from Organization 3

World View from Organization 4

6.3 Scenario 1 – As an Edge System user, I can add a link (linking Patient to Person)

6.3.1 Pre-conditions

Organization 1, 2, 3 4 are members of CommonWell.
The Patient was enrolled in CommonWell in Organization 1 without a strong ID.
A Person resource exists in CommonWell.
The Patient exists in Organization 3, and Organization 3 sent a registration message to CommonWell.

World View from Organization 2
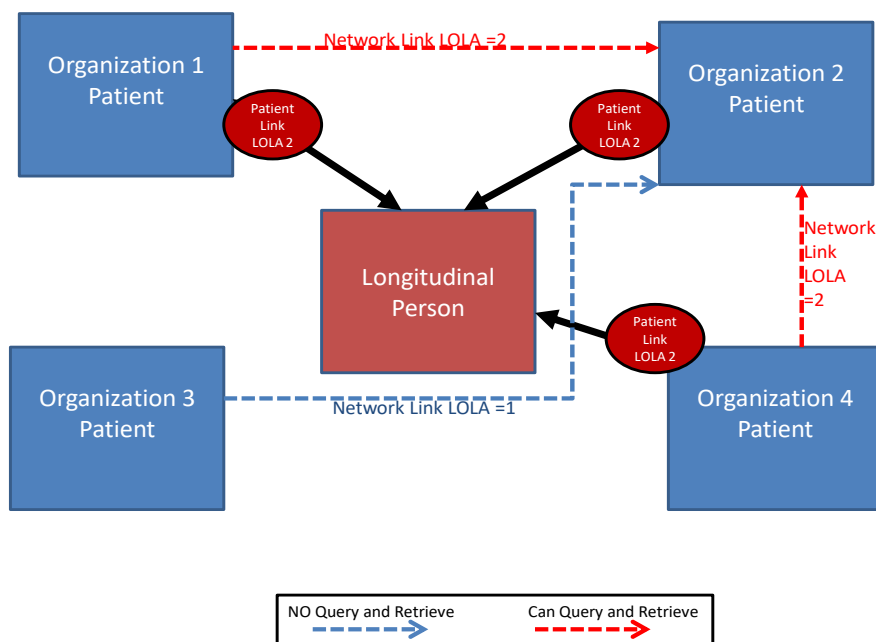
6.3.2 Scenario

The user at Organization 2 searches CommonWell for a matching Person.
CommonWell returns the Network Link (LOLA 1) from Organization 3 that matches the Patient.
The Edge System authorized user at Organization 2 verifies the patient identity.
The Edge System authorized user issues a command to link the Organization 3 Patient to the Person returned by the Patient Identity Service.

6.3.3 Post-conditions

Patient for Organization 3 has a new LOLA 2 Patient Link to the Person Record.
The Network Link from Organization 3 to Organization 1 is upgraded from LOLA 1 to LOLA 2.

Updated
World View from Organization 2

NO Query and Retrieve		Can Query and Retrieve
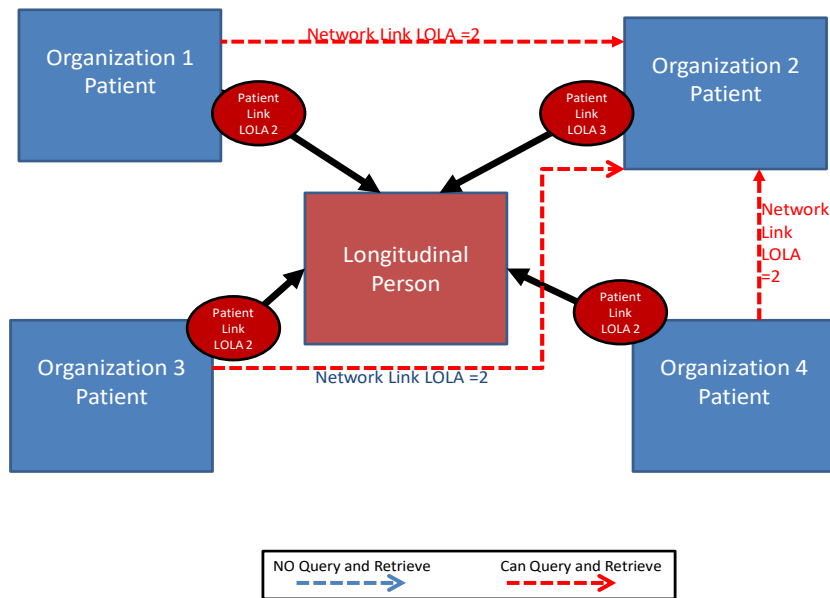
6.3.4 Alternate Flows

6.3.5 Exception Cases

Unauthorized access: CommonWell finds that the Edge System user is NOT authorized
Structural error:

- Incorrect formatting
- Missing required fields

System unavailable, Internal error, Conflict error in link request

6.3.6 Transactions:
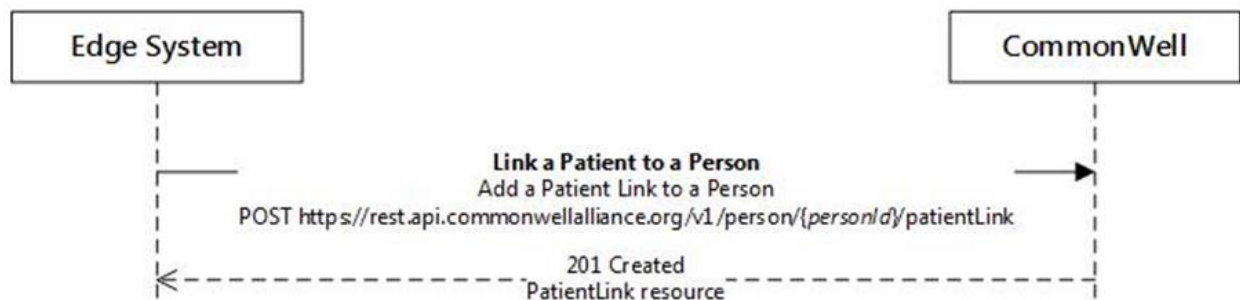
6.4 Scenario 2 – As an Edge System user, I can upgrade a Patient Link.

If an Organization registers patients into the CommonWell network, then they must accept that other Organizations can upgrade their LOLA network and Patient Links without their input. (Mental health operations should be careful not to register their patients with CommonWell).

6.4.1 Pre-conditions

Organization 2 is a member of CommonWell.
Person is enrolled in CommonWell.
Patient visited Organization 2 without a strong ID and was registered.
Authorized user verified demographic and Visit information during prior Visit.

World View from Organization 2
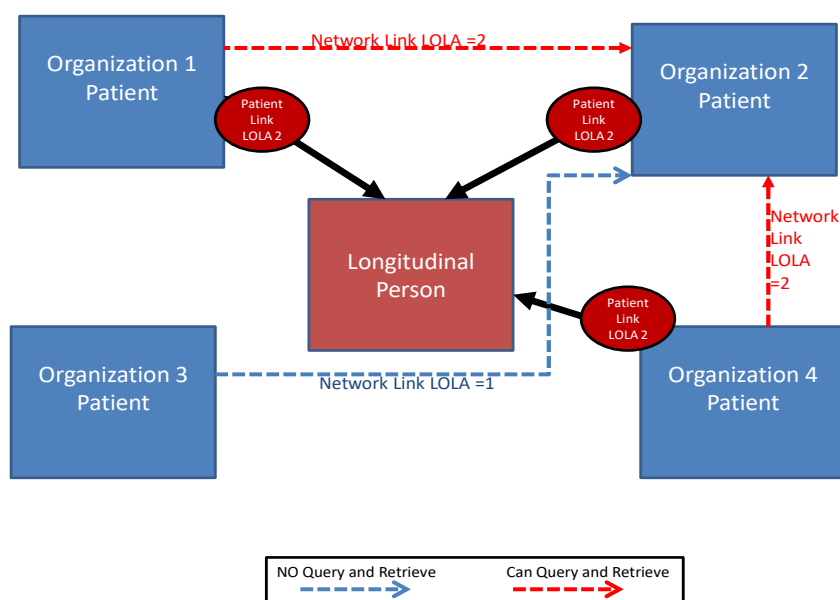
6.4.2 Scenario

Patient walks into Organization 2 again but with an authoritative ID.
The user at Organization 2 searches CommonWell for a Patient Match using demographics data that the person provides.
The Organization 2 user verifies the Visit information (Organization & date) along with the authoritative picture ID and upgrades the Person to Patient Link from LOLA 2 to LOLA 3.

6.4.3 Post-conditions

The Patient Link between Person and Organization 2 is upgraded from LOLA 2 to LOLA 3.

Update 2
World View from Organization 2

NO Query and Retrieve   Can Query and Retrieve
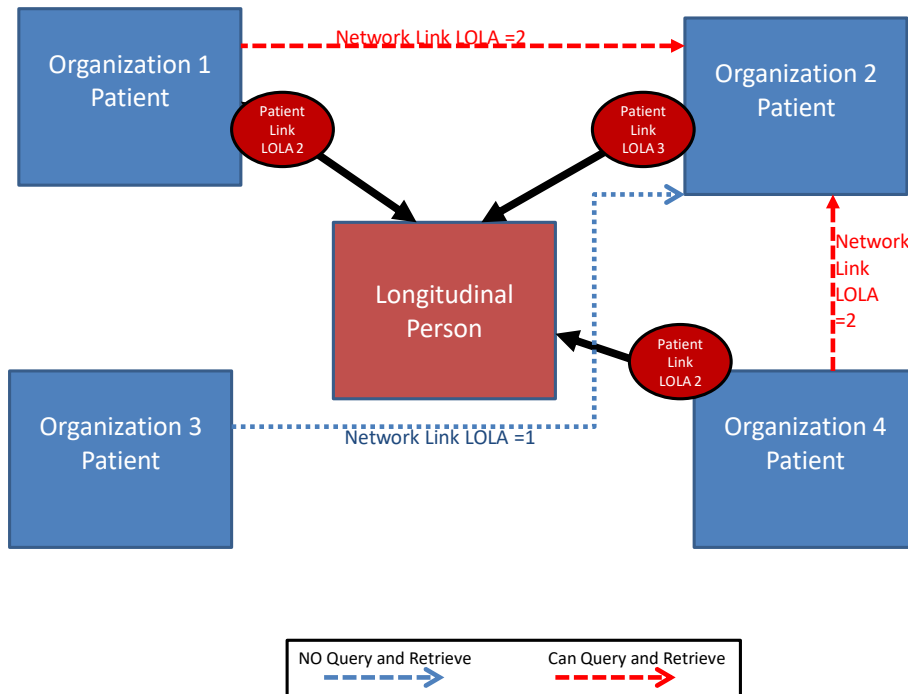
6.4.4 Alternate Flows

6.4.5 Exception Cases

Same as Scenario 1.

6.4.6 Transactions
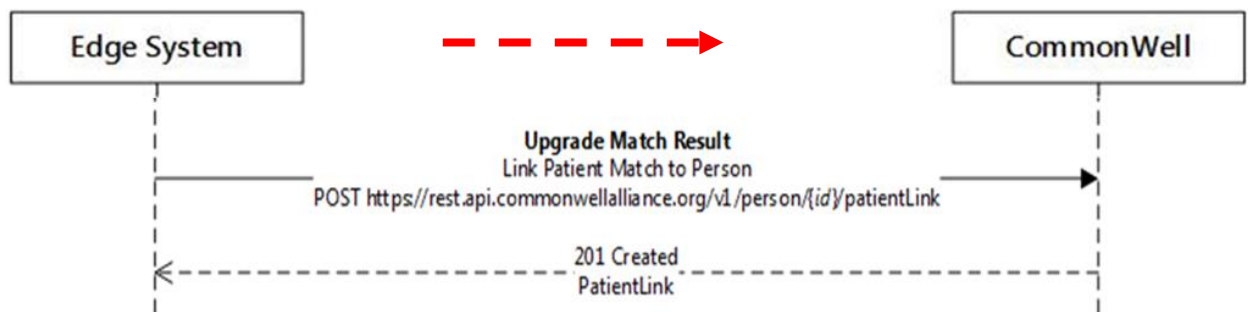
6.5 Scenario 3 – As an Edge System user, I can downgrade a link (linking Person to Patient)

6.5.1 Pre-conditions

Person is enrolled inside CommonWell and registered at Organization 2.
Patient is registered at Organization 1.
Patient came to Organization 1 impersonating Person at prior encounter.
The user at Organization 2 linked (LOLA 3) Patient to Person after verifying the authoritative ID.

World View from Organization 2
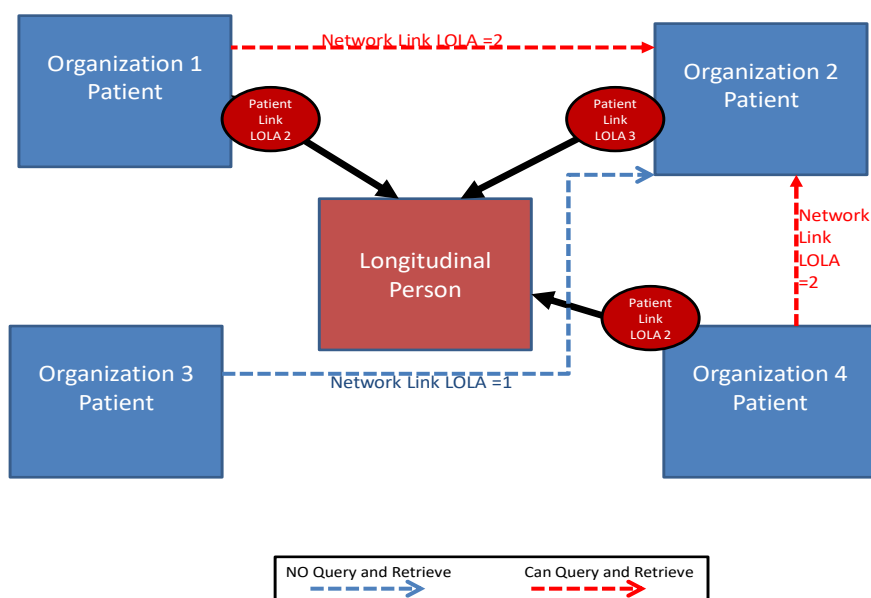
6.5.2 Scenario

The user at Organization 2 identifies the fraud from Organization 1 and downgrades the Patient Link from 2 to 0.

6.5.3 Post-conditions

The Network Link from Organization 1 to Organization 2 is downgraded from LOLA 2 to LOLA 0.

Update 3
World View from Organization 2

Organization 1 Patient — Network Link LOLA =0 → **Organization 2 Patient**

Patient Link LOLA 3 → Longitudinal Person

Network Link LOLA =2

Organization 3 Patient — Network Link LOLA =1

Patient Link LOLA 2 → Longitudinal Person

Organization 4 Patient

NO Query and Retrieve — — — →   Can Query and Retrieve — — — →
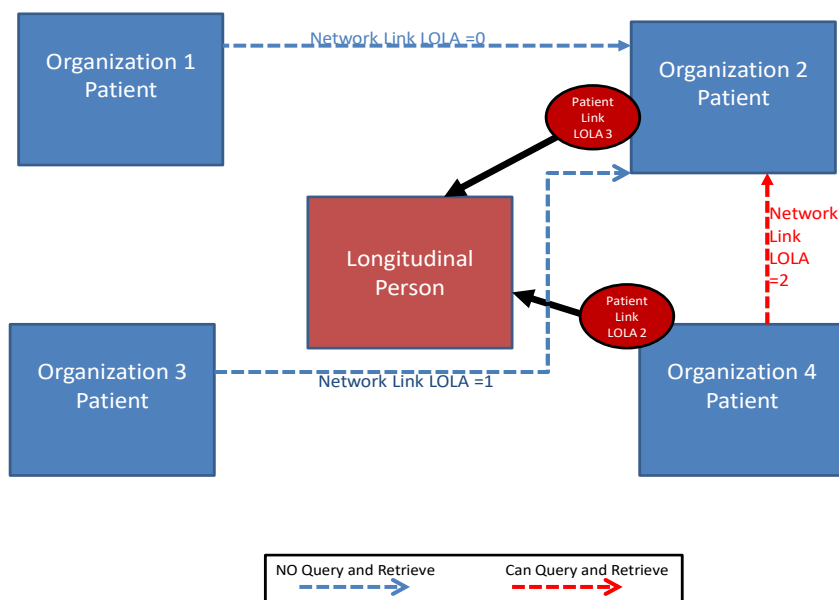
6.5.4 Alternate Flows

6.5.5 Exception Cases

Same as Scenario 1.

6.5.6 Transactions

Edge System   **CommonWell**

Invalidate/Hide Match Result
Downgrade Patient Match
PUT https://rest.api.commonwellalliance.org/v1/person/{id}/patientMatch/{patientId}/downgrade

204 No Content
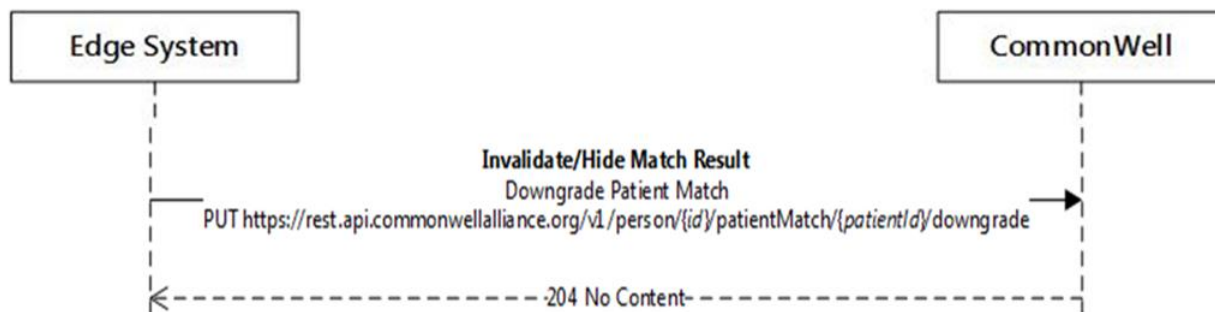
Reference pulled from CommonWell Pilot Services Specification v1.16.

6.6 Scenario 4 – As an Edge System user, I can remove a Patient from probabilistic matching (inactivate Patient)

6.6.1 Pre-condition

Organizations 2 and 3 are members of CommonWell.
Demographic detail was entered incorrectly at Organization 3.

World View from Organization 2
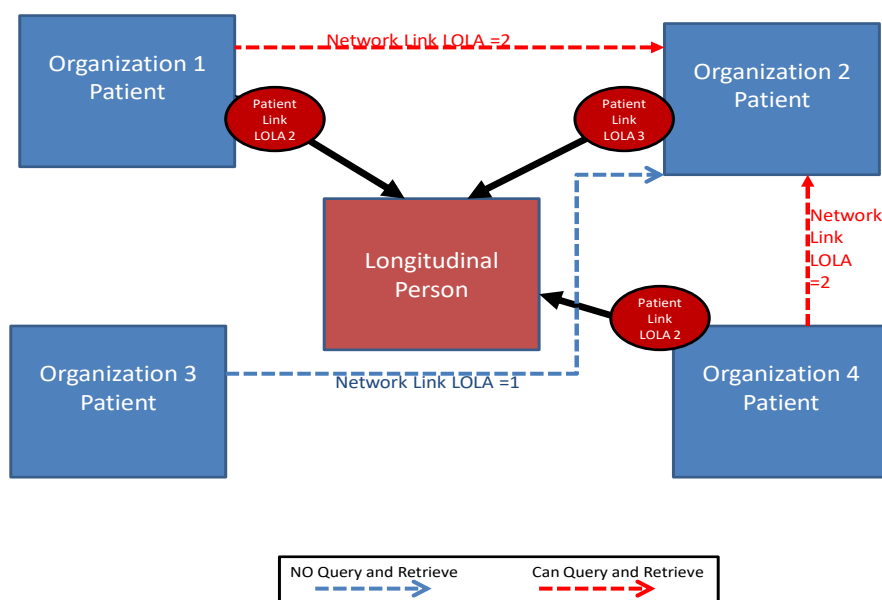
6.6.2 Scenario

Patient Record displays in matching because demographic was entered incorrectly.

Network Link needs to be removed (Level 1 to 0). An Edge System may delete a link relationship between a Person and a Patient. This action will indicate to CommonWell that the individual represented in the Person resource is not the same individual represented in the Patient resource, and CommonWell will downgrade the LOLA of this Patient to 0 for all subsequent match queries associated with the Person. This includes Patient match requests from the Person, as well as any Network Link requests originating from another Patient resource that is linked to this Person.

6.6.3 Post-conditions

Network Link from Organization 3 is no longer visible to Organization 2.

Update 2
World View from Organization 2
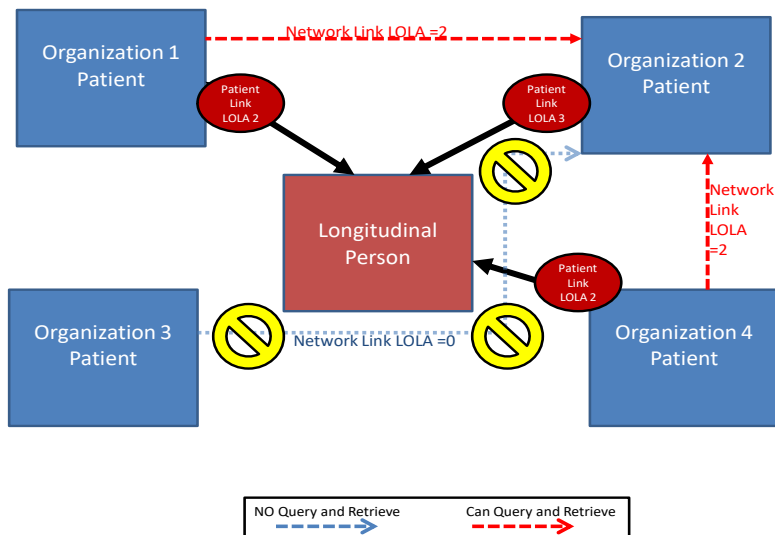
6.6.4 Alternate Flows

Patient wants to be inactivated from CommonWell (one of the 3 steps involved in unenrolling a Person).

6.6.5 Exception Cases

6.6.6 Transactions

Reference pulled from CommonWell Pilot Services Specification v1.16.

6.7 Scenario 5 – Automatic Correlated Linking

6.7.1 Pre-conditions

- The Patient is enrolled in CommonWell.
- The Patient is present in the upstream system.
- Both the upstream and downstream systems are running CommonWell-enabled services.

- The upstream system can include (within an order or referral) the necessary additional data elements to support Correlated Linking.
- The downstream system can consume the necessary data elements to enable Correlated Linking.
- The downstream system can transmit these data element(s) and identifiers to CommonWell.

6.7.2 Scenario

A referral or order is sent to a known downstream system. In the message associated with this order, the upstream system includes its local patient ID.

This same identifier is then sent to CommonWell from the downstream system along with its local patient ID within a PIX message. The upstream local ID, now as a shared identifier having been sent by both systems, can be used to validate the identity of the patient as the same person. To accomplish this, CommonWell validates that:

- These patient identifiers are the same.
- The demographic match meets current match criteria.

6.7.3 Workflow

An order or referral is created for a patient (either electronic or written).
The ordering system's local patient ID is sent to the downstream system within the order or referral. This same unique identifier for the patient is then sent to CommonWell from the downstream system within a PIX registration message. This shared identifier can be used to correlate the identity of the patient as the same person.
CommonWell validates the patient identifiers between the initiating and receiving Organizations.
CommonWell validates that the demographic match meets current match criteria.
CommonWell creates a LOLA 2 link between the two acting systems.

6.7.4 Post-conditions

- A LOLA 2 link is created between the upstream and downstream patient records.
- Downstream system has access to CommonWell document query and retrieval services.
- Other CommonWell Organizations will be able to query for documents from the downstream system.
- Query and retrieval actions that traverse correlated links are logged distinctly.
- Correlated link creation is logged distinctly from normal link creation.
- Correlated links are flagged as such.

6.7.5 Alternate flows

If no match to an enrolled person is found in CommonWell for the patient that is submitted, the registration message will be treated as a typical registration message and follows the Registration use case.

If a correlated link is incorrectly created, the existing 'downgrade' use case will support correcting the error.

Persons will not always be enrolled at the first provider encountered. The patient's registration details will still flow into CommonWell even when the person has not yet enrolled. These patient identifiers will flow into CommonWell via PIX, as well as in the order or referral. These values will still be available if the patient enrolls at the downstream system.

6.7.6 Exception Cases

6.7.7 Expected Actions

6.7.8 Transactions

6.8 Scenario 6 – Shared ID Link

6.8.1 Pre-conditions
- Patient is enrolled in CommonWell
- Patient is present in the enterprise MPI
- Both the upstream and downstream systems are running CommonWell-enabled services

6.8.2 Scenario
As a departmental EHR system, I can reuse an enterprise MPI number (already known to CommonWell) to automatically link a patient's records.

6.8.3 Workflow
0-Inpatient Provider Org A and Ambulatory Org B are both owned by Healthcare Corporation C. This parent organization assigns the EMPI identifiers for A and B systems.

1-Patient presents first at the outpatient pavilion and is registered with local EHR system A. The EMPI number from the enterprise registration system is generated for the patient and sent to EHR system A. Then EHR system A sends this EMPI to CommonWell via PIX/REST along with the patient's demographics. The patient has a provider visit where tests and observations are performed and then leaves. (STEPS 1-3 in diagram)

2-The patient presents next at an Ambulatory Care provider B in the same building complex. This provider shares the same enterprise MPI engine but not the same EHR software. The provider attempts to register the patient locally into system B and notices that an EMPI is already generated for the patient. The registration of the patient into EHR system B generates a new PIX/REST transaction to CommonWell along with the existing EMPI number. (STEPS 4-6 in diagram)

3-CommonWell receives both sets of demographics and matching EMPI numbers from the registration systems. The system compares the patient demographics from both providers and then

compares the EMPI numbers. IF they match, a LOLA equivalent link from the second provider is automatically processed and the provider can begin Query & Retrieve activities. (These links will be tracked independently) (STEPS 7-9 in diagram)

Historical backload model would automatically batch link the All PATIENTS with a new EMPI number.

6.8.4 Post-conditions

A LOLA2+ equivalent link is created for EHR B and the provider can begin query and retrieve capabilities. A LOLA2+ equivalent link is created for EHR B and the provider can begin query and retrieve capabilities.
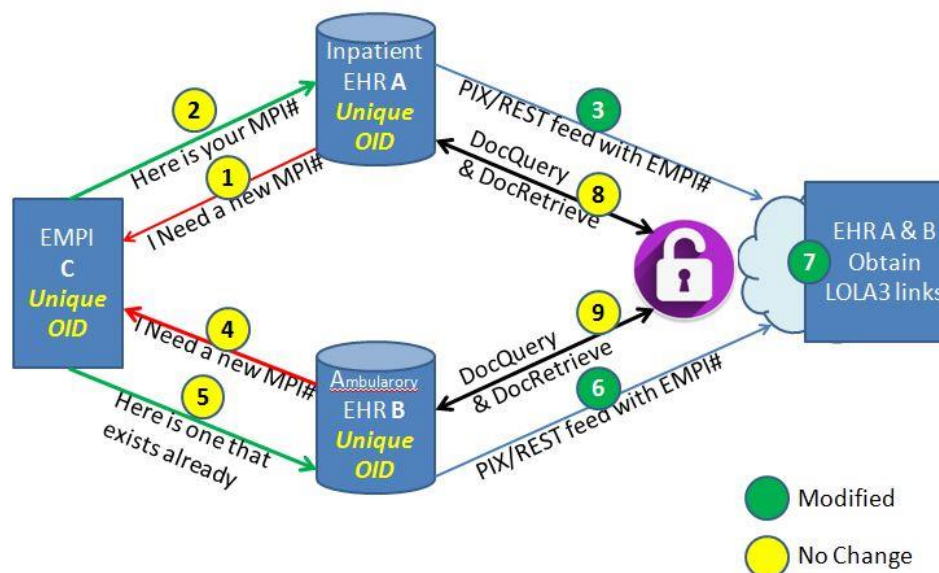
6.8.5 Alternate flows

An alternative to our core workflow is to require the Service Provider to return foreign identifiers every time a LOLA 1 match is found. This response to a probabilistic match could include a list of likely identifiers which can be used later to drive automated linking. This empowers the vendors to decide for themselves if they want to pursue Shared ID Link.

6.9 Scenario 7 – Patient-Directed Link Management

6.9.1 Pre-conditions
- Person is already enrolled in CommonWell.
- Person has a relationship with a portal vendor who is a member of CommonWell.

- Person had visits at one or more CommonWell-enabled provider sites.
- Person has authenticated to a member-provided Portal solution and this authentication meets NIST 800-63 standard level 3.

6.9.2 Scenario

In order to support patient-directed interoperability, CommonWell provides a "choose-ahead" approach for patient-initiated establishment of links. This model requires the patient to pre-select Organizations where they have been seen from a list of CommonWell-enabled facilities. After selecting these locations, live registration messages resulting from subsequent visits provide final confirmation and establishment of these patient-initiated links.

- Person selects points of care which they have visited from a list that does not include indication of potential matches. The endpoint will be responsible for supporting the and selecting the organizations. CommonWell already has an API supporting Organization management which can be queried to return a list of provider Organizations.
- CommonWell receives these link upgrade requests from the person. CommonWell already has received a PIX registration message from these provider Organizations for that person.
- The two lists are compared by CommonWell for overlap.

6.9.3 Workflow

Patient has already enrolled in CommonWell from within a connected Portal solution.

Patient's demographics can be used to identify a local geography to begin the search for potential providers.

Enrolled person flags both prior and future sites to engage. LOLA 2 links are created for prior visits where the demographic match is 100% (90% if PHR supports additional matching criteria such as cell phone, e-mail, etc.).

Patient visits their provider and registers normally.

PIX messages are sent to CommonWell as an outcome of these encounters.

Links are confirmed for these new care locations automatically.
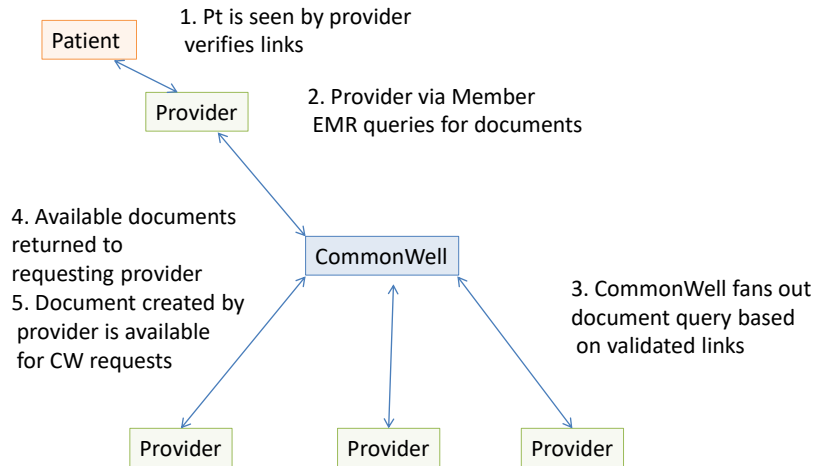
Current data flow
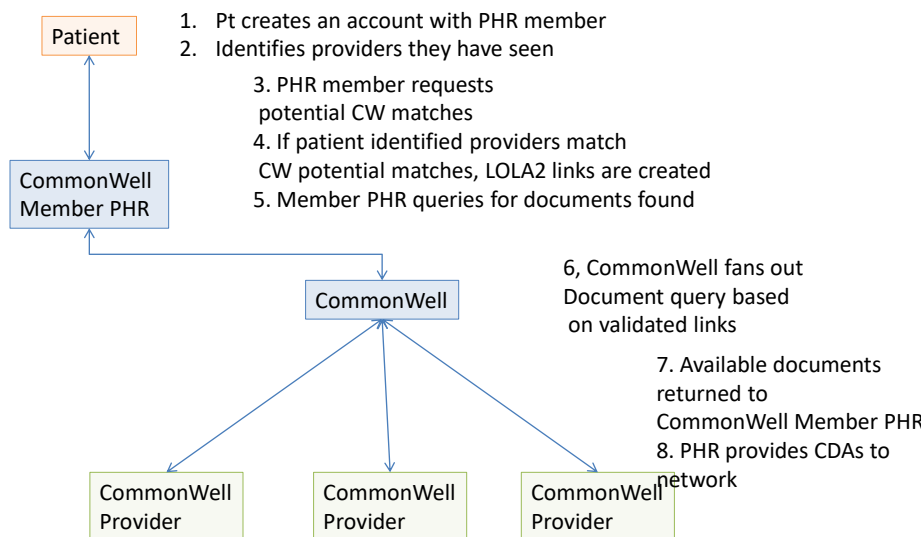
Proposed PHR data flow

6.9.4 Post-conditions

- LOLA 2 links are created for the facilities chosen by the patient which align with these registration messages. Points of care chosen by the patient which do not have a registration message will be ignored.
- Query and Retrieve capabilities are then activated for these facilities.

6.9.5 Alternate flows

6.9.6 Exception Cases

6.9.7 Expected Actions

6.9.8 Transactions
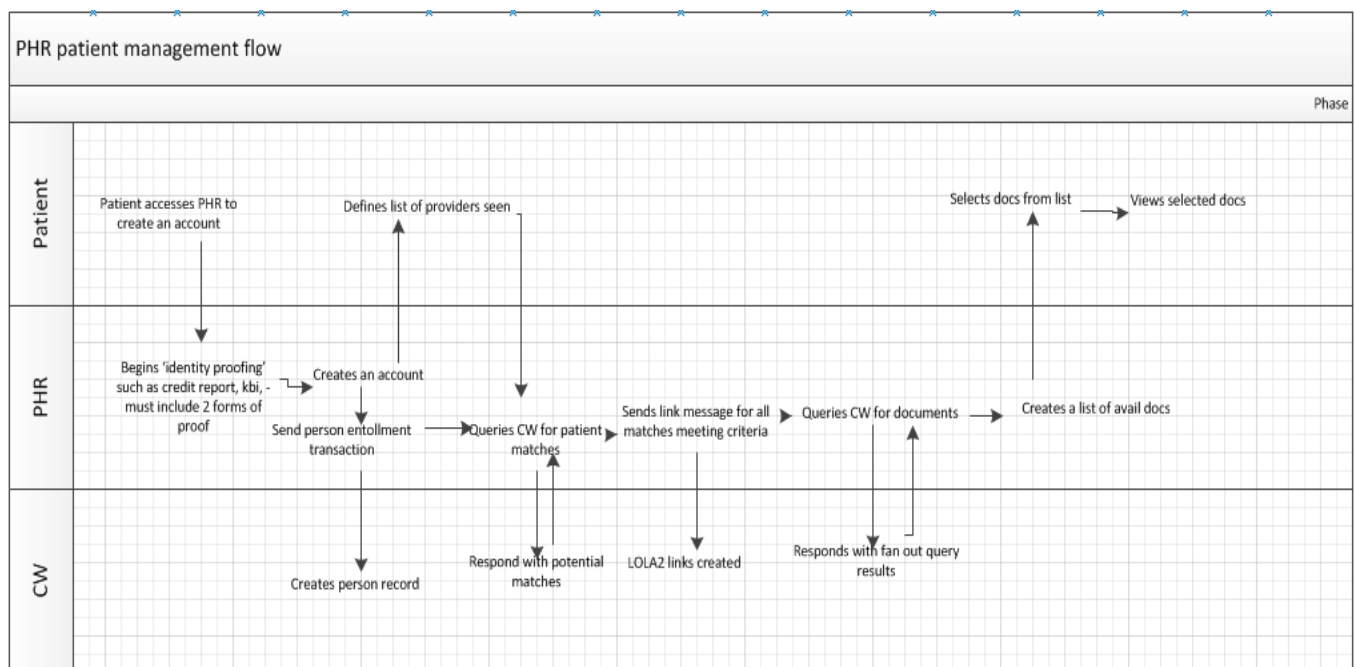
7   Patient Matches

As an Edge System organization, I can get a list of Patient matches.

7.1 Overview

Patient matching is the process of ensuring that entities on disparate systems both refer to the same individual. The ability to deliver high-assurance Patient Match results is the cornerstone of safe and effective document exchange. Participants must be able to understand how matches are established and their degree of reliability in order to trust the information that is obtained via the match.

7.2 Narrative

7.3 Scenario 1 – As an Edge System user, I can search for Patient matches (Patient is registered)

7.3.1 Pre-conditions

The Organization is registered with CommonWell.
The Patient is registered with CommonWell for this Organization.

7.3.2 Scenario

As an Edge System user, I can get Patient Matches using demographic and Visit attributes to help me identify the Patient.

Attributes include LOLA, Organization Name, Organization Location (optional), and Visit Date (optional).

7.3.3 Post-conditions

All possible matches for that Patient within the CommonWell network are returned along with key attributes.

7.3.4 Alternate Flows

No Match – In the event that the patient has no records in any other CommonWell Organization's repository, no matches will be returned.

Known CommonWell ID – In the event that the Patient's CommonWell ID is known, the participant may skip Patient Discovery and proceed to Patient Locator Query.

7.3.5 Exception Cases

Ambiguity – In the event that conflicting records or links to records result in a match ambiguity, no matches should be returned, and an alert should be raised to indicate a data integrity issue.

Unauthorized access: CommonWell finds that the Edge System user is NOT authorized.
Structural error:
- Incorrect formatting

- Missing required fields
- System unavailable
- Internal error

Conflict error in link request

8   Organization Management

As an Edge System vendor, I can manage my Organization.

8.1 Overview

Enables an Edge System vendor to create, edit, delete, and view their registered Organizations on the CommonWell network. By making this business workflow self-service, an Edge System vendor can more efficiently set up its participating Organizations, thus saving both time and money. (This will be done manually for the pilot.)

Edge System vendor	An Edge System vendor is a business entity that sells clinical software services to healthcare providers and/or Organizations.
Organization	An Organization is a Repository and Registry of Patient information that acts as an assigning authority for a specific patient population. An Organization can only be created by an Edge System vendor that has a contractual business relationship with the hospital, health system, or group of health systems to manage its patient population.

8.2 Narrative

8.3 Scenario 1 – As an Edge System user, I can register my Organization

8.3.1 Pre-conditions

Organization doesn't yet exist in CommonWell.
Required data is available for completion of registration.

8.3.2 Scenario

As an Edge System organization, I can provide the identifying information necessary to create an Organization on CommonWell, including:
- R: Organization name
- R: Organization type
- R: Assigning Authority of Organization
- R: Organization location (i.e., city, state)
- R: Edge System vendor name
- R: XCA Gateway HomeCommunityID (e.g., OID)
- R: XCA Gateway endpoint for Document Query
- R: XCA Gateway endpoint for Document Retrieve
- R: Technical support lead name, title & contact information (e.g., email and phone)
- R: X509 Client certificate w/ thumbprint

8.3.3 Post-conditions

Successful addition of the Organization to the CommonWell network.

8.3.4 Alternate Flows

8.3.5 Exception Cases

8.4 Scenario 2 – As an Edge System user, I am able to edit information about my Organization in CommonWell.

8.4.1 Pre-conditions

Organization exists inside the CommonWell network.

8.4.2 Scenario

A source system within an Organization requests that their Edge System vendor add another gateway to CommonWell. –OR- Organization A changes its operating name from A to B.

8.4.3 Post-conditions

Edge System vendor is able to modify the profile of the source system and add a gateway to the Organization and/or change their name. Pilot scope requires this to be done manually.

8.4.4 Alternate Flows

8.4.5 Exception Cases

8.5 Scenario 3 – As an Edge System user, I can disable my Organization from CommonWell.

8.5.1 Pre-conditions

The Organization is in the CommonWell network.

8.5.2 Scenario

An Organization goes out of business.

8.5.3 Post-conditions

The Organization is flagged as disabled in the Edge System Registry.
The Organization is no longer solicited in document queries.
All Patient Records in the Patient Identity Service are disabled for that Organization. The Organization's Patient Records are not available for use (e.g., Patient Matching).

8.5.4 Alternate Flows

8.5.5 Exception Cases

Cleanup of PIX feed Patient flows into CommonWell could be a challenge. If a resource disables an Organization, this doesn't automatically disable the PIX feed. Human intervention would still be needed to stop the flow. Scripted cleanup would be necessary to ensure compliance to privacy/security expected by members.

8.6 Scenario 4 – As an Edge System user, I can create relationships between a parent organization and facilities that are associated with the parent.

8.6.1 Pre-conditions

The parent organization is created in CommonWell.
Facility information is associated to the parent organization including name (text) and facility identifier (oid).

8.6.2 Scenario

An organization manages the patient identification for one or more child facilities where care is provided. The organization wishes to track activity at both the parent level including all of the associated child facilities as well as at each individual facility associated to the parent organization. The organization wishes to automatically link all facilities to the person when any of the facilties are identified as a LOLA2 match.

8.6.3 Post-conditions

All reports related to organizations will support the option of reporting at the parent organization level for both the organization only as well as the organization and all of its facilities.
All reports related to organizations will support the option of reporting at the individual facilty level.
Any linking of patients to the parent or the facilities will link the patient to all facilities and the parent organization.
CommonWell provides facility information for any patient match or potential link match request for display in the member product user interface.

8.6.4 Alternate Flows

8.6.5 Exception Cases

9 Document Query and Retrieval

As an Edge System user, I can query and retrieve medical records from other CommonWell member Organizations.

9.1 Overview

Enables an Edge System (or authorized user within that Organization) to get a list of the documents that exist for a specific Patient from another Organization. Document Query should result in a response that includes *zero or more* document names, each with a minimum set of attributes: document name, document type (e.g., CCDA, radiology report, radiology image), document creation date, and document source. By providing this document list (and additional document context), Organizations will benefit from more informed and more targeted data access (i.e., tell me what data exists, so I can decide what data I actually want to retrieve).

Upon viewing the list of documents returned, the Edge System (or authorized user within that Organization) selects the documents they would like to retrieve. The CommonWell Health Alliance (CHA) Broker, a mechanism used to securely broker the exchange, executes the request and returns the document(s). CommonWell will only return Patient documents if the Patient at this Organization has established a LOLA 2 link or higher with other Organizations.

9.2 Narrative

9.3 Scenario 1 – As an Edge System user, I can use CommonWell to query for documents

9.3.1 Pre-conditions

The Organization is already an active CommonWell-registered Organization.
The Person is enrolled.
The Organization has been granted rights internally to access CommonWell.
Pilot-only: The provider is issuing the query for direct treatment purposes.

9.3.2 Scenario

The patient presents him/herself for an episode of care. The Edge System user opens the patient's chart. The user queries CommonWell for documents.

9.3.3 Post-conditions

Provider is able to view a list of documents created by responding Organizations along with associated metadata.

9.3.4 Alternate Flow:

The person has not enrolled. The CommonWell services return an exception that the person is not enrolled.

As a clinical user, I need to find the clinical discharge summary documents for my patient.
[Document TypeCode]

As a clinical user, I need to find any documents that are relevant to the patient and created after a given date. (e.g. last query date) **[Doc Creation Date]**

As a clinical user, I need to find any documents that are relevant to the patient pertaining to treatment after a given date. (e.g. last local visit date). **[Service Start/Stop Dates]**

9.3.5 Transactions
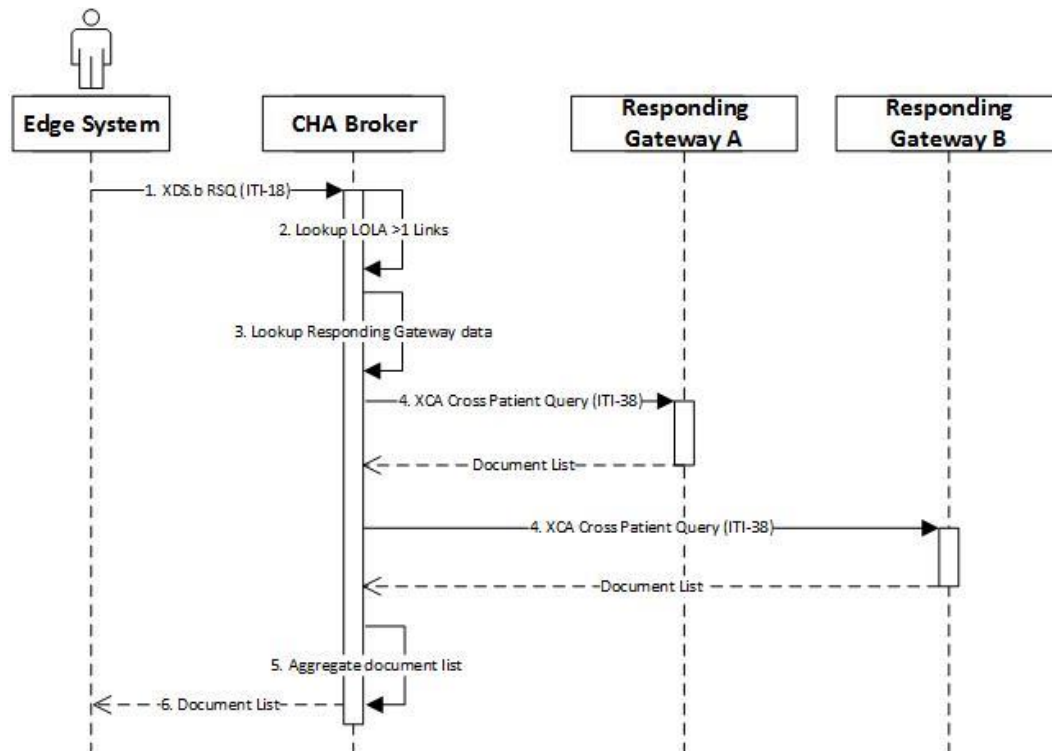
Reference pulled from CommonWell Pilot Services Specification v1.16.

1. The Edge System sends a FindDocuments Registry Stored Query (ITI-18) message to the CHA Broker. The request message contains the Local Patient Identifier for the patient.

2. The CHA Broker uses the Local Patient Identifier to lookup the Remote Patient Records with LOLA 2 or higher.

3. The CHA Broker references the Responding Gateway configuration for the Organizations corresponding to each of the Remote Patient Records.

4. The CHA Broker sends a Cross-Gateway Query (ITI-38) request to each of the Responding Gateways.

5. The CHA Broker aggregates the document lists returned by each of the Responding Gateways.

6. The CHA Broker returns the aggregated document list to the Edge System.

9.4 Scenario 2 – As an Edge System user, I can retrieve a patient document via CommonWell

9.4.1 Pre-conditions

The Edge System user has performed the query use case.

9.4.2 Scenario

As an Edge System user, I can retrieve a Patient document via CommonWell.

9.4.3 Post-conditions

The Initiating Gateway retrieves the Patient document from the source and returns it to the Edge System user (document consumer).

9.4.4 Alternate Flow

9.4.5 Transactions
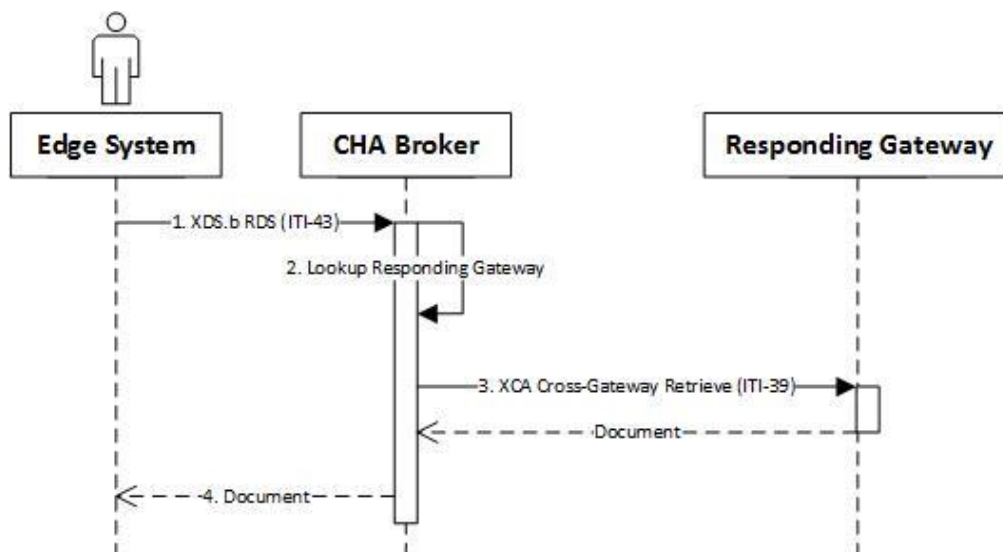
Reference pulled from CommonWell Pilot Services Specification v1.16.

1. The Edge System sends the CHA Broker a Retrieve Document Set (ITI-43) request message which includes the required identifiers: *HomeCommunityId, RepositoryUniqueId,* and *DocumentUniqueId*.

2. The CHA Broker looks up the Responding Gateway configuration for the Organization corresponding to the requested document.

3. The CHA Broker sends a Cross-Gateway Retrieve (ITI-39) request to the XCA Community's Responding Gateway service endpoint.

4. Once the document is received from the Responding Gateway, the CHA Broker forwards the response to the Edge System.

9.5 Scenario 3 (LAB) – As a source system for CommonWell, I can fulfill the request for documents via query and retrieve transactions.

9.5.1 Pre-conditions

The Edge System has registered as an Organization within the CommonWell network.
The person has been enrolled. The patient has provided consent for query and retrieval.

9.5.2 Scenario

As a Responding Gateway, I can fulfill the request for documents for a patient known to my Organization and to CommonWell.

9.5.3 Post-conditions

The Document Query returns a list of documents with metadata.

The Document Retrieve returns a document set to the CHA Broker.

9.5.4 Alternate Flows

No documents available.

9.5.5 Error Conditions:

Organization is no longer a member of CommonWell.

Patient has revoked consent. Document is corrupted. Endpoint is offline.

9.6 Scenario 4 – As a patient, I can find and consume documents via a connected Portal web application

9.6.1 Pre-conditions

- Person has already been enrolled in CommonWell
- Patient has an active account to a provider's patient web portal
- Portal vendor is a contributing member of CommonWell
- Patient has established an elevated LOLA with more than one provider
- Documents exist for that patient at the other provider locations in the network
- Documents have met the Member's 'delayed delivery' criteria

9.6.2 Scenario

The design of the CommonWell platform has always been explicitly patient-centric. Today, our patients are interrogated for their consent to join the network and for link validation, but although they make these care-enhancing contributions of time and information, patients see little immediate benefit from enrollment.

With this use case, the Alliance improves the tangible value of CommonWell participation to the patient by allowing them to retrieve and view their own information within the existing web portal experiences that are offered by their providers.

This patient engagement solution enables enrolled patients to finally access the clinical data payload which has historically been only available to the provider. This use case applies only to portals which already manage patient access and identity.

9.6.3 Workflow

- The connected patient portal product leverages the existing links within CommonWell to find and display a list of available documents from linked providers.
- The available metadata helps the patient identify the document she wants to retrieve.
- The patient selects a document from a list.
- The patient portal's server-side software initiates the transaction to retrieve the specified document through CommonWell, in the same manner that a conventional Retrieve transaction is initiated.

9.6.4 Post-conditions

- The portal processes the content within the CDA and renders a patient-friendly version for viewing

9.6.5 Alternate Flows

9.6.6 Exceptions / Negative Flow

The patient is deemed incapable of comprehending their own medical information.

The information remains provisionally viewable for the patient portal, but it can be viewed by a Proxy of record.

Its provisional status will persist until the patient is authorized by the source provider to view the document within the patient portal.

The standard flow of documents across providers remains unchanged by any of these suggested workflows.

9.6.7 Error Conditions

10 Release of Information – Payment and Health Care Operations

As a Data Retrieval Vendor requesting clinical data on behalf of Payers, I can use a directed query to retrieve data for patients.

10.1 Background – Payment and Health Care Operations

The Payment and Health Care Operations use case includes any activities as defined by Health and Human Services Uses and Disclosures for Treatment, Payment, and Health Care Operations. There are five example activities outlined below.

1. Risk Profiles – Health Plans need to create complete, accurate risk profiles for members to support value-based care contracts and population health adjustments, or to confirm the accuracy of a claim (MACRA).
2. Quality Management – Health Plans need to augment claims data to satisfy quality reporting requirements and improve quality care scores, and to reduce preventable medical errors (e.g., HEDIS, STARS, MACRA).
3. Care Coordination – Health Plans want to create a complete clinical record for each of their members to improve care coordination and provide optimum medical care (e.g., reduce redundant care; shift to more proactive/timely care; better informed, more accurate medical treatment recommendations) (MACRA).
4. Member Experience – Health Plans want to improve member experience by improving processes between the payer and provider so members have fewer issues, less waiting, better planning information, and more cost transparency.
5. Medical Necessity – Health Plans review select medical claims and associated medical documentation to ensure the services billed were medically necessary and in compliance with Payer rules.

10.2 Overview

The manual method of chart retrievals can take weeks to months. To accelerate the time-to-value in chart retrieval workflows, CommonWell will be inserted into the document retrieval process. This will drive business value for members, via a new revenue stream, and for providers, by reducing the cost of labor for servicing these requests manually.
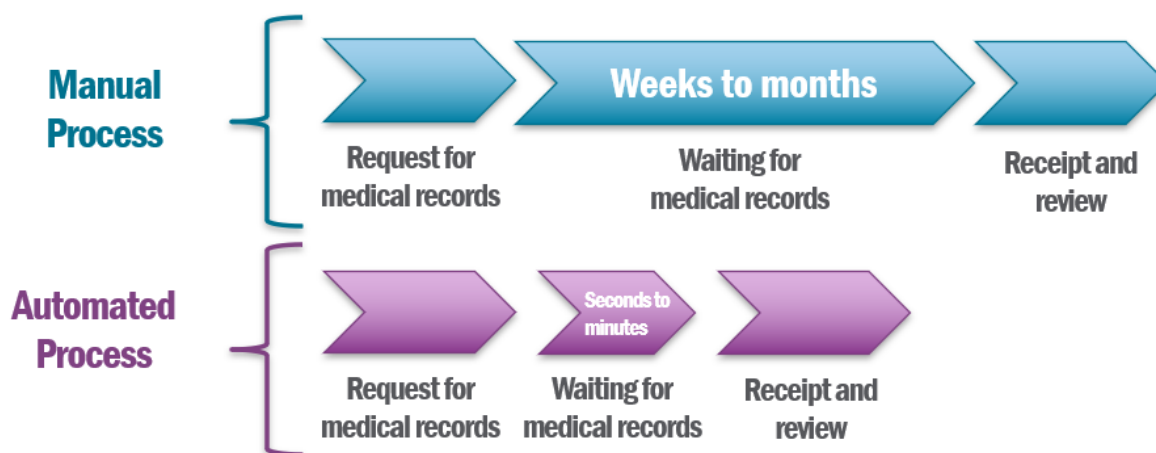
Purpose of Use

The applicable Purpose of Use for these requests will be either PAYMENT or OPERATIONS.

10.3 Narrative Example

- Data Retrieval Vendor (DRV) has an agreement with Payer to pull charts to support patient risk adjustments for CMS. DRV receives a roster of 10,000 patients and they want to use the CommonWell network to pull documents for these patients.
- DRV uses an ORG search API to lookup the Provider Organization for the targeted query.
- If the ORG is found, the DRV uses a patient search (XCPD) to find a patient match.
- If the patient is found, the DRV will query the network with the service date range.
- If documents are found, the DRV will retrieve the documents within the service date range.
- CommonWell creates a detailed audit message which captures documents pulled by the DRV. These audit messages will populate the disclosure reports when requested.

10.4 Scenario 1 – As a Data Retrieval Vendor, I can query and retrieve documents to support payer activities under Payment and Health Care Operations

Foundational Requirements

These requirements are considered essential to solve the problems and reach the goals above.

> **Requirement 1 – As a Data Retrieval Vendor, I can bypass Person Enrollment.**

> **Requirement 2 – As a Data Retrieval Vendor, I can use XCPD to find patients.**

10.4.1   Pre-conditions

- The DRV has electronically captured appropriate consent/authorization and full demographics for patients. The DRV does not have patient consent captured; the patient consent or authorization for the chart retrievals is granted between the patient and their payer.

- Provider Organizations (ORGs) that want to participate in the chart retrieval process for Payment and Health Care Operations will need to direct their EHR vendor to enable these Purposes of Use in the Management Portal.
- There is a BAA in place between the payer and the DRV. A record of authorization for the request between the payer and the DRV must persist after the transaction for auditing.
- There is an existing relationship between the patient, payer, and provider. Requestors must have authorization for the request prior to adding the patient and service date(s) to the patient roster that is provided to the CommonWell network and must be able to provide the audit data around that request.
- The network access granted to pull these clinical documents has not expired.
  o This space is heavily regulated, so we want to minimize the access window as much as possible (i.e., 180 days).
  o Queries are always presented to the network with a date range to maintain privacy.
- Properly formatted documents exist on the network for the patient.
  o Interested in both XML and static PDF docs.
  o Not interested in Longitudinal Patient Records.
- The ORGs targeted by the queries have signed a new data-rights addendum with their EHR vendor, if applicable.

10.4.2   Requirements

Requirement 1 – As a Data Retrieval Vendor, I can bypass Person Enrollment.

For Payment and Health Care Operations, chart retrieval requests will be bypassing the person enrollment requirement as the patient has already granted access via their agreement with their payer.

Workflow: A roster of patients with demographics is presented to the network. This is similar to a registration feed. This patient roster will also have:
1. ORG info to support targeted query
2. Service dates to constrain the query results

No enrollment will take place. The person consent was granted to the Payer to support operations and payment when they agreed to the Payer's terms.

The patient cannot get onto the roster without an existing relationship to the payer making the request. The roster indicates the patient, the organization, and the date of service.

Persons will still need to enroll if they want TREATMENT and PATIENT ACCESS transactions to flow as there is no overt consent provided.

Requirement 2 – As a Data Retrieval Vendor, I can use XCPD to find patients.

Use cross-community patient discovery (XCPD) to find patients based on authorized requestors patient roster.

Workflow: Authorized requestor will present a patient roster with service date(s) and provider organization and CommonWell will do a targeted lookup for that patient based on the data provided. The patient will not be linked to any care locations via the Payment and Operations path, unlike the Treatment and Patient Access path.

XCPD will be the only method to locate patients for the Payment and Operations Purposes of Use.

Risks and other considerations

CommonWell ORGs will need to opt-in via their EHR vendor to participate in this use case.

For the purpose of this Use Case, Carequality queries for Payment and Operations will not be supported.

10.4.3   Post-conditions

- Patient matches have been found.
- DRV can query and retrieve clinical documents for the patient.
- Documents are found by the network and retrieved.
- DRV maintains consent documentation that is made available for any future audit.
- Service Provider maintains audit records of disclosures.

11 Event Notifications

As an Edge System Organization, I can subscribe to event notifications for linked patients.

11.1 Overview

In an effort to improve patient care coordination and outcomes, the Event Notification Service publishes admission, discharge, and transfer notifications so that downstream providers can subscribe to receive alerts about their patients that are shared between care settings. The following events will trigger a notification:

- Admit/Visit
- Transfer
- Discharge
- Register
- Transfer – Outpatient to Inpatient
- Transfer – Inpatient to Outpatient

When the applicable event occurs, this service will notify care providers that are enabled with ENS for patients that are linked between care organizations.

11.2 Narrative

A patient has an existing care relationship with his cardiologist and regularly visits the practice for medication checks and echocardiograms. The patient and his family went on a hike two hours away and he suffered a myocardial infarction. He was rushed into the nearest medical center and was discharged after two days. Upon discharge, the medical center sent a discharge notification to CommonWell which was sent to the cardiologist. The patient's cardiology practice followed up with him to schedule him to come in the next week and was able to use the CommonWell network to retrieve his discharge summary in preparation for his ambulatory visit. The cardiology practice does not have a working relationship with the medical center as they were several hours apart, but CommonWell was able to bridge the gap by matching the patient within the RLS.

11.3 Scenario 1 – As an Edge System Organization, I can publish and/or subscribe to receive event notifications to the network.

11.3.1   Pre-conditions
The patient must be enrolled in CommonWell.
The provider sites intending to send and/or receive notifications to CommonWell must be enabled to publish notifications in Management Portal for the appropriate transactions.
Patients must be linked to organizations that are subscribed to ENS.

11.3.2   Scenario
The Medical Center sends all patient registrations into CommonWell and checks for enrollment and links all patients that are seen by the facility to ensure continuity of care within the CommonWell network. The Medical Center automatically sends admits, discharges, and transfer notifications to CommonWell which are then sent on to subscribing CommonWell sites.

The cardiology clinic receives all notification types from CommonWell for linked patients from publishing CommonWell organizations.

11.3.3   Post conditions

The cardiology clinic is able to review the data contained within the notification and determine the most appropriate next steps, including but not limited to querying the CommonWell network for clinical documents.

11.3.4   Alternate Flows

11.3.5   Exceptions / Negative Flow

ENS will not be supported for Carequality transactions.

11.3.6   Transactions
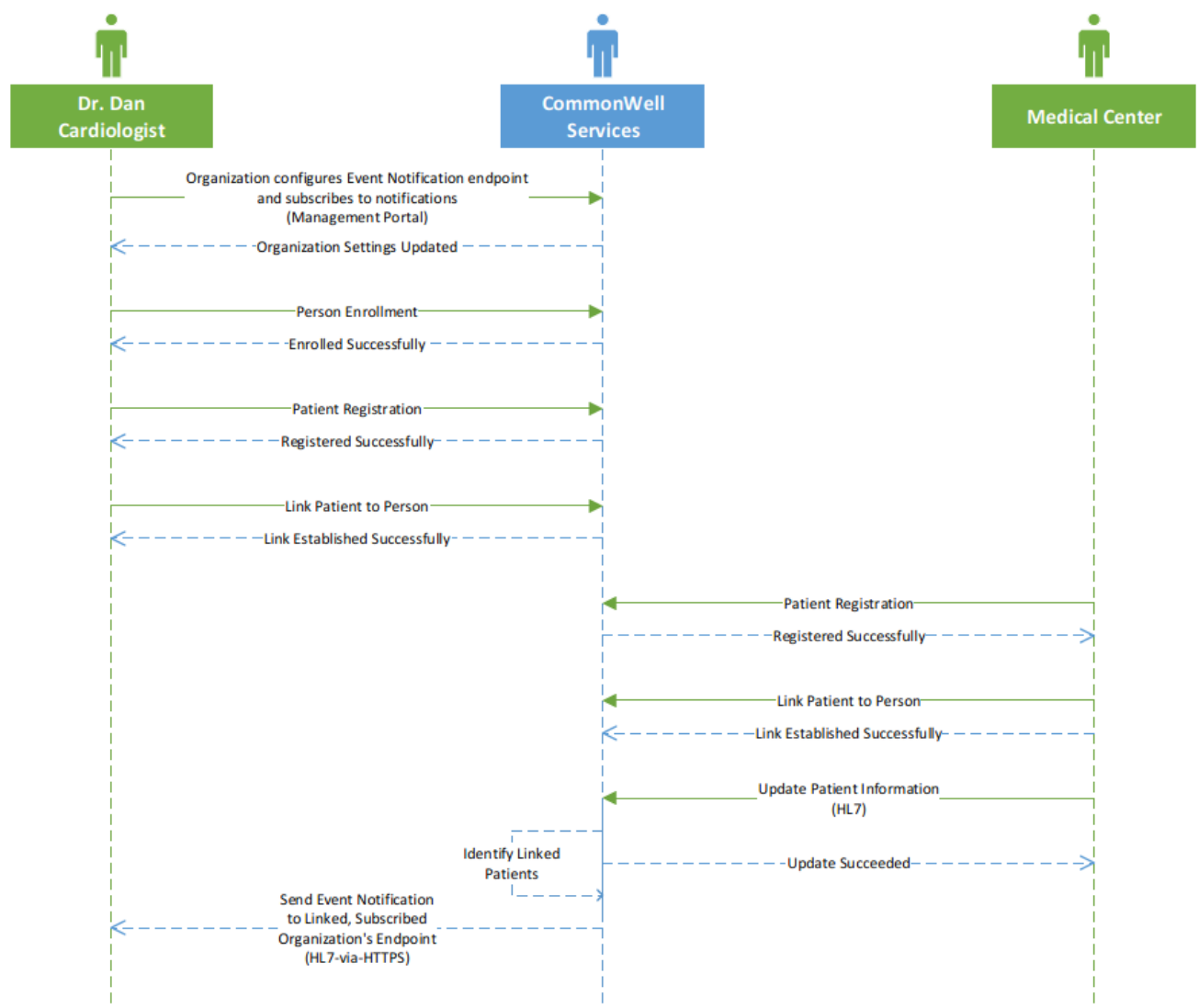
12 Patient Access

As a certified CommonWell Service Adopter, I can query the network on behalf of consumers searching for their own medical data.

12.1 Background

CommonWell has been a patient-centric network from day one, with the simple vision that health data should be available to individuals and caregivers regardless of where care occurs. The Alliance places significant value in permitting the use of query-based exchange to allow consumers (patients) the ability to find their own medical data. Too often, consumers struggle to collect their medical information that is critical to maintain their own health between medical appointments. They are also more likely to note when something is incorrect or incomplete within their own data set.

12.2 Overview

The Patient Access use case enables Personal Health Records (PHRs) and Consumer Apps to become certified Service Adopters and query the CommonWell network for clinical data by consumers. When patients have the ability to access and manage their own health information, they in turn become more active participants in their healthcare journey.

The CommonWell Patient Access Use Case offers consumers the ability to leverage the CommonWell network to query and retrieve their own clinical data for aggregation within a PHR or consumer app of their choice. The consumer must have an account with a PHR or consumer app, and complete identity verification to IAL2 or greater, in order to use the CommonWell network to find their clinical information.

Patient demographics	Patient verification	Patient match	Query and retrieve clinical data
• Patient demographics entered into the PHR or consumer app	• Demographics entered are used to complete IAL2 identity verification	• Verified demographics are used to match to existing patients within the CommonWell network	• Data can be pulled from care locations where patient match has been made
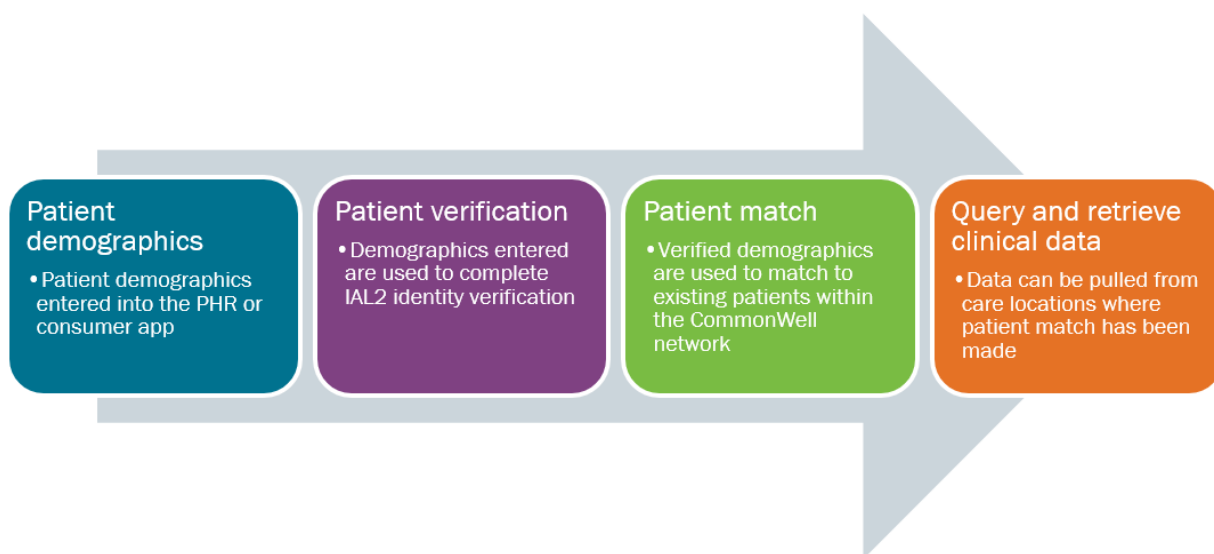
The applicable Purpose of Use for these requests is REQUEST (Patient Access).

Value set for Purpose of Use is from the [NHIN Authorization Framework Specification](#).

12.3 Scenario 1 – As a patient/consumer, I can query the CommonWell network using a certified Personal Health Record or Consumer App of my choice to retrieve my clinical data.

12.3.1   Pre-conditions

- PHR or Consumer App has a contractual relationship with a [Kantara](#) certified ID proofing solution that will perform identity verification to a minimum of IAL2 for each consumer that uses the application to query the CommonWell network.
- PHR or Consumer App certifies on the CommonWell network for the REQUEST purpose of use.
- Patient has a relationship with a PHR vendor or Consumer App that is a certified CommonWell Service Adapter.
- Patient has been enrolled in the CommonWell network by a provider organization.

12.3.2   Scenario

- Patient is primary account holder and completes the identity verification requirement within the PHR or Consumer App and passes the verification to IAL2 level or greater.
- Patient registration data that has been verified the ID proofing solution is sent to CommonWell to find patient matches at care locations.
  - If a patient's demographic information should be changed within the PHR or Consumer App, the ID proofing process will be required to occur again to ensure that the updated set of demographics passes ID proofing before being sent to CommonWell.
  - Updating the demographics will cause the PHR/Consumer App's patient link to be downgraded to a LOLA1 until it can be reassociated to the person as a LOLA2 once the demographics have been verified.
- PHR or Consumer App is enrolled in autolinking, and the receipt of the patient registration transaction kicks off the autolinking operation to match the patient to any existing patients where a match has not already been made.
- LOLA2 and greater matches are returned to the patient, indicating a known care location and existing link for which the patient can query and retrieve clinical documents.
- Patient can query and retrieve clinical documents and use the data retrieved within their PHR or Consumer App.

12.3.3   Post-conditions

- PHR or Consumer App maintains annual certification with CommonWell to ensure adherence to requirements and current contract with ID proofing vendor.

12.3.4   Alternatives Considered/Recorded Decisions

- PHR or Consumer App may want to check if there are any links established for a patient prior to completing the ID proofing step, which has a financial component. PHRs or Consumer Apps may leverage a Potential Patient Match API that exists for Treatment, which requires that the patient be registered, check for matches, and then un-registered if there are no matches found.

12.3.5   Risks and Other Considerations

- Patient Access enhancements should include:
  - Restricting the demographic workflow further in that if the registration message does not include the unique identifier (ID proofing receipt) that the transaction will be failed
  - Restricting sending LOLA1 links to PHRs and only sending LOLA2s and greater, rather than relying on PHRs to filter out LOLA1 to consumer
  - Creating a new API to use for potential patient match that does not require the registration and un-registration step; the current potential patient match API was built for the Treatment purpose of use
- Patient Access enhancements should be evaluated and added as prioritized by the Alliance.

13 Care Coordinator (Query-Initiator for Treatment without Reciprocity)

As a Provider Organization, I want the ability to use solutions outside of my EHR to query for my patient's clinical data for purposes such as care management, medication reconciliation, document aggregation and enhanced data viewers, and other lawful Treatment use cases for improved care coordination activities.

Purpose of Use

The applicable Purpose of Use for these requests is TREATMENT.

13.1 Background

CommonWell currently supports the Permitted Use of Protected Health Information (PHI) of Treatment, which includes the ability for provider organizations to query for clinical data for their patients for several activities including care coordination and population health. The Treatment use case includes reciprocity requirements to provide clinical data to the network if an organization queries for clinical data. The purpose of the Care Coordination Use Case is to define the constraints of products and solutions that are "adjacent" to the EHR ("Adjacent Products") as further defined, to ensure that Treatment-based queries made by solutions that are not the EHR understand the applicable requirements.

Adjacent Products are those that are only Query-Initiating and do not provide unique clinical data to the network. Products and solutions that do provide unique clinical data and query the network for the Permitted Use of Treatment SHALL follow the original Treatment use case and the reciprocity requirements associated with it.

For more information on the Permitted Uses, including Treatment, see the Permitted Purposes and definitions section of the specification.

Care Coordination. There are various definitions of care coordination within the healthcare system. A Technical Review on Closing the Quality Gap analyzed the components of Care Coordination and offers this definition:

The deliberate organization of patient care activities between two or more participants (including the patient) involved in a patient's care to facilitate the appropriate delivery of health care services. Organizing care involves the marshalling of personnel and other resources needed to carry out all required patient care activities and is often managed by the exchange of information among participants responsible for different aspects of care.[1]

Similarly, the National Association of Community Health Centers (NACHC) agrees that "health centers are using Care Coordination as one Population Health Management strategy to achieve the "Quadruple Aim" – improved patient experiences, improved clinical outcomes, and lowered costs while also improving the work life of health care providers."[2]

In order to improve Care Coordination, CommonWell seeks to expand upon the current use of the Treatment network to permit products and solutions to request clinical data where there is a treatment relationship between the provider and the patient, for the purpose of Care Coordination, under the Treatment Permitted Use of PHI. In these instances, the Adjacent Product may contribute to and improve Care Coordination, and, at the same time, not have unique clinical data to provide to the network; therefore, in such cases, in the Care Coordination Use Case, the Alliance provides an exception to the reciprocity requirements of the Treatment Use Case.

13.2 Overview

Definitions

- Adjacent Product – Solution that is not the primary data holder or producer, but is a product that provider organizations can develop, utilize, or purchase and benefit from being able to get data from the network, and which meets the below requirements.

- Adjacent Endpoint – The product instance for a particular customer that meets the below requirements.

Requirements for Adjacent Endpoints and Adjacent Products

- Adjacent Endpoints are query initiator only as they do not have clinically unique data to provide back to the network, and must meet the following:

    o All Adjacent Endpoints MUST be associated to a connected Provider Organization on the network as the primary source of clinical data.

    o The instance must below to an organization that is already onboarded and connected to the network (likely via their EHR) as the primary data source.

- Adjacent Products:

    o MUST provide proof of BAA in place with provider organization(s) and maintain an associations list between the adjacent endpoint and the EHR endpoint in Management Portal.

    o MAY act as a Connector in addition to offering adjacent solutions in order to connect provider organizations' EHRs that are not already on the network; or may work with existing Connectors to get those provider organizations connected.

        ▪ If acting as Connector for provider organizations, source data connection would fall under traditional Treatment use case and applicable reciprocity requirement.

        ▪ Adjacent Endpoint would be associated to source data endpoint and would be able to be query initiator only.

Patient and Person Management

- Patient Demographics Adds and Updates

  - CommonWell SHOULD support two workflows for Adjacent Products to manage patient demographics adds and updates

  - Workflow 1: Adjacent Endpoint manages its own unique entry of patient demographic data and generates a unique identifier that is not the same as the identifier from the EHR.

  - Workflow 2: Adjacent Endpoint receives a feed of patient demographics including identifiers generated from the EHR into the Adjacent Product and leverages those to send into CommonWell. In this workflow, the Adjacent Endpoint should use the Shared ID Link workflow (Use Case specification 6.8 Scenario 6) to use the shared MPI identifier to automatically link the records.

- Person Enrollment

  - Adjacent Products MAY enroll a new Person into the network if they have the authority to complete the Enrollment workflow

  - If the Adjacent Product does not have the authority to complete the Enrollment workflow, then are not required to certify on this workflow and instead should work with their clients (provider organizations) to ensure that the patient is enrolled from the EHR workflow

  - The certification process for all Adjacent Products must indicate whether they have certified on Enrollment

- Manual Linking and Autolinking

  - Adjacent Products and Endpoints MAY use the manual linking and/or the autolinking workflows based on how their users will (or may not) interact within their solutions

  - In addition, for Adjacent Endpoints that utilize Workflow 2 above for Patient Demographics, they may use the Shared ID Link (Enterprise Autolinking) functionality to match patients

Organization Management

- Adjacent Endpoints will be entered into Management Portal by the Certified Adjacent Product

- Organizations will be entered following the [Organization Management](#) requirements outlined in the CommonWell Service Adopter SharePoint site

- Adjacent Products MUST associate the organization entry to an existing EHR organization entry in Management Portal to ensure that the source clinical data is available to be queried

- Adjacent Products MUST follow specific naming conventions to clearly identify the provider organization and the type of product they offer

- Examples:

    o [Provider Org Name] Care Management

    o [Provider Org Name] Clinical Viewer

- Adjacent Endpoints will be filtered out from public-facing directory (i.e., CommonWell website)

- Add "Query Only" as an Org Type

13.3 Scenario 1 – Individual Patient Queries

As an Adjacent Product, I can query the network for clinical data for a given patient based upon one of the following:

- Receipt of a claim for the given patient, while working on behalf of a provider organization, indicating an encounter occurred

- Receipt of an ADT notification, indicating an encounter occurred

- Actively treating patient (any other nominal Treatment based workflow)

- A care coordinator working in the patient's record on behalf of a provider organization, and doing a one-off query for the patient in context

13.3.1 Pre-conditions
- Adjacent Product is a certified Service Adopter.
- Adjacent Product has identified connected Provider Organization on the network and associated to the primary data source (i.e., EHR) in Management Portal.
- Person is enrolled in CommonWell network.
- Adjacent endpoint sends patient demographic feed to CommonWell network.
- Patient and network links established via manual or autolinking process.

13.3.2 Scenario

Adjacent Endpoint initiates document query to RLS for a given patient based on an event that has taken place (e.g., receipt of claim(s), event or ADT notification, or care coordinator working in patient's record).

Adjacent Product initiates document retrieve for any and all documents that are available from responding gateways.

13.3.3   Post-conditions

Adjacent Product is able to utilize returned documents for advanced analytics, population health, care coordination, enhanced document aggregator and viewer, etc for its connected Provider Organization.

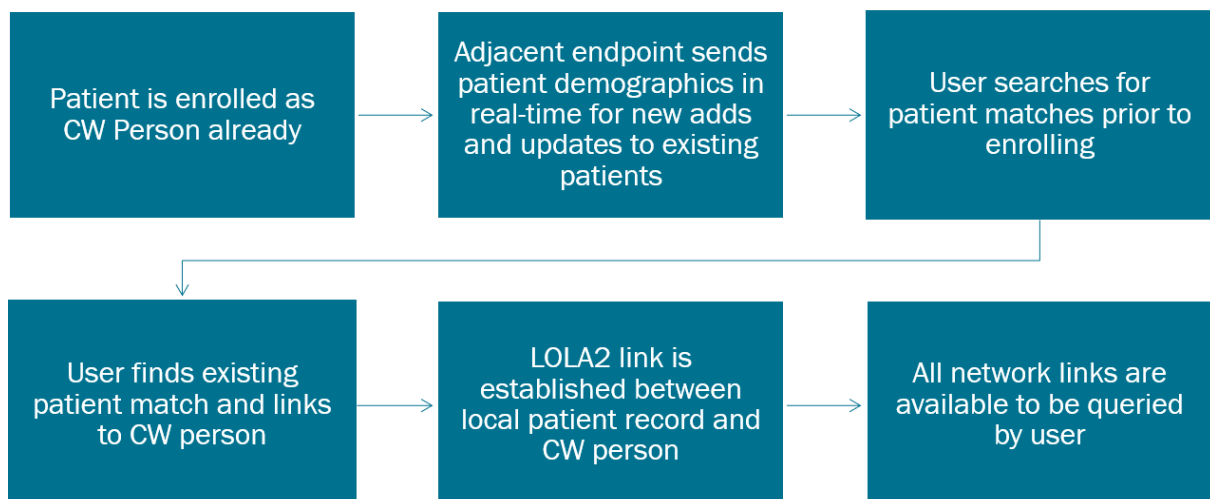### 13.3.4   Alternatives Considered/Recorded Decisions

Adjacent Products may have a need to perform bulk or roster-based queries from time to time. This workflow will be handled in a separate use case that will be applicable across multiple use cases.

13.3.5   Reporting Considerations

- Member report that shows what solutions are associated to the primary EHR source

    o This is an exception to the standard rule where vendor names are not shared across the Alliance in association to provider organizations in an effort to ensure streamlined communication and troubleshooting

    o Example: Evident runs a report of all of their organizations and can see which "adjacent" solutions, indicated by vendor name, that are associated to their provider organizations EHR instances

- Super Admin needs to be able to filter out Organizations that are Query Initiator only for reporting

13.3.6   Diagrams

Scenario 1: CW Person Exists + Manual Patient Matching

Patient is enrolled as CW Person already	→	Adjacent endpoint sends patient demographics in real-time for new adds and updates to existing patients	→	User searches for patient matches prior to enrolling

User finds existing patient match and links to CW person	→	LOLA2 link is established between local patient record and CW person	→	All network links are available to be queried by user

Scenario 2: CW Person Exists + Autolinking

Patient is enrolled as CW Person already	→	Adjacent endpoint sends patient demographics in real-time for new adds and updates to existing patients	→	Adjacent endpoint is enabled for autolinking

CommonWell uses autolinking exact matching algorithm to match local patient to remote patient records and existing CW person	→	LOLA2 link is established between local patient record and CW person	→	All network links are available to be queried by user

Scenario 3: CW Person does not exist

Adjacent endpoint sends patient demographics in real-time for new adds and updates to existing patients	→	User searches for patient matches prior to enrolling, but does not receive a match	→	User enrolls patient into CommonWell

CW Person is created and linked to local patient	→	In order to query for data, another patient and network link must be established, at minimum from the source EHR data from the provider organization	→	User sends patient demographics from source EHR and links to Adjacent's patient record so that data can be exchanged

References

[1] McDonald KM, Sundaram V, Bravata DM, et al. Closing the Quality Gap: A Critical Analysis of Quality Improvement Strategies (Vol. 7: Care Coordination). Rockville (MD): Agency for Healthcare Research and Quality (US); 2007 Jun. (Technical Reviews, No. 9.7.) 3, Definitions of Care Coordination and Related Terms. Available from: https://www.ncbi.nlm.nih.gov/books/NBK44012/

[2] http://www.nachc.org/wp-content/uploads/2015/12/NACHC_carecoord_factsheet_FINAL.pdf