

Data Access Framework

Local Data Access Use Case and Functional Requirements

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1.0 Preface and Introduction/Initiative Overview

To fully realize the benefits of health IT, the Office of the National Coordinator for Health Information Technology (ONC), as part of the Standards and Interoperability (S&I) Framework is developing Use Cases that define the interoperability requirements for high priority health care data exchange; maximize efficiency, encourage rapid learning, and protect patients' privacy in an interoperable environment. These Use Cases address the requirements of a broad range of Communities of Interests including: patients, their significant others and family members, providers, payers, vendors, standards organizations, public health organizations, and Federal agencies.

The Use Case is the foundation for identifying and specifying the standards required to support the data exchange.

Note - The Data Access Framework initiative will include 2 Use Cases. This document outlines the business and functional requirements for the Local Data Access Framework intra-organization queries. A separate work effort will be launched to develop the business requirements for Targeted Data Access Framework for inter-organization query

2.0 Initiative Challenge and Value Statement

Within larger health care organizations multiple systems may acquire and manage patient health care data. Obtaining a composite view of the patient's record or analyzing data across records can require the acquisition, development, and management of tool sets that can bring data together across multiple systems within an enterprise. The complexity of this data management may lead health care organizations to choose a single vendor solution with a single base rather than adopting a "best of breed" strategy where innovative software for a specific functional area is implemented and can integrate with other modular applications. This can be a barrier to the adoption of innovative and lower cost health IT solutions. The Data Access Framework Local Data Access Framework defines the scenarios, requirements, system interactions, and data requirements that will provide a standardized and simplified approach to the integration of data across disparate applications within a single organization.

While the Health IT systems provide many access paths through their pre-defined interactions between a user and the system, they are limited in their support for data queries, APIs, or services to access data sets as needed. Where Health IT systems provide data access, they likely do not use industry standard access methods. Increasing support for data access using industry standards, would enable other applications to expand the ability of users to create value out of their data without having to rely on the predefined access paths. Allowing access to this data can enable a provider to further analyze the collected data to understand a patient's overall health, the health of a provider's collective patient population, and use the data to power innovative new applications and tools to take better care of patients and populations.

For current charter, please see the [Charter Wiki Page](#).

3.0 Local Data Access - Use Case Scope

The scope of the Local Data Access Use Case is to define the requirements for intra-organizational data access. The requirements in this use case will focus on the interchange between two applications within the same Local Health IT environment of an organization. The diagram below illustrates the scope within the larger workflow of a user (e.g. Healthcare Professionals) accessing patient data within his/her own organization.

The use case and functional requirements will enable various types of data access mechanism: document metadata, data element and quality measure based access. All types of access may be done for individual known patients or for a population of patients given specific clinical criteria or parameters. Detailed definitions of each have been posted on the Wiki Page [here](#) for reference.

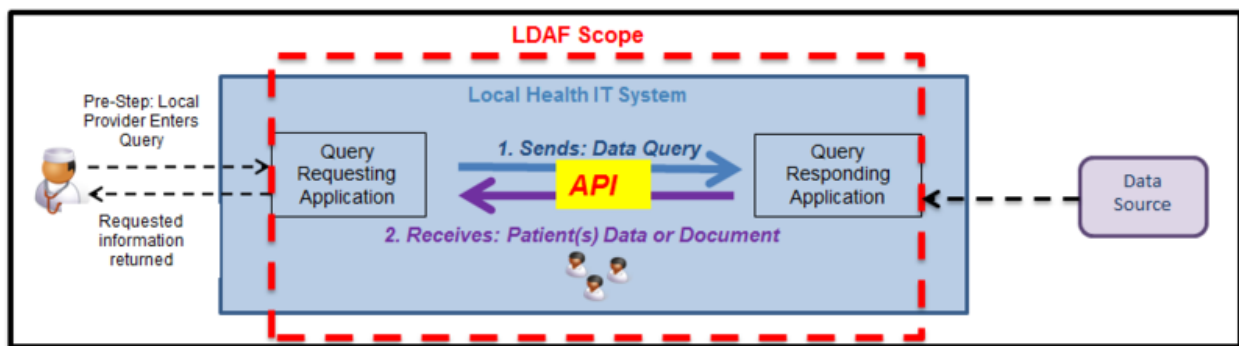


Figure 1: Use Case Context Diagram

3.1 In Scope

This section indicates what is in scope for the Use Case. For example, it can include the type of transactions, the information/data to be exchanged, and specific aspects that need to be in place to enable the information to be sent, received and understood the same at both ends of the transmission.

1. Intra-Organizational Query: Defining requirements for providers, healthcare professionals etc. to be able to access already documented patient data from encounters, admissions, or visits and maintained in systems within the organization.
2. Document Metadata Based Access: Accessing data using the metadata associated with clinical documents.
3. Data Element Based Access: Accessing data for one or more patients based on information that is part of the patient's clinical record such as patient demographics, clinical conditions, etc.
4. Quality Measure Based Access: Accessing the quality results or values based on measures such as NQF0059, NQF0038 etc.
5. Define requirements for standardized API's that allow applications to access data in a consistent manner across the local Health IT system. The technical workstream will define the API during harmonization.

3.2 Out of Scope

This section indicates what is out of scope for the Use Case. These points may highlight dependencies on the feasibility, implementability, and usability that result in limitations of the Use Case.

1. Defining policy and procedure considerations that allow data access queries to be executed within an organization.
2. Defining technology implementation details to retrieve information stored in internal databases or other applications used by the organization's local Health IT system.
3. Accessing data from systems outside of the organization (systems belonging to different legal entities).
4. Patient generated queries and access (addressed within Blue Button Initiative).
5. Displaying, consuming, and processing results by the receiving system.
6. Capabilities identified in the project charter as being out of scope including: query execution policies, patient matching algorithms, new information models, discovery of query service end points.

4.0 Use Case Assumptions Section

The Use Case Assumptions section outlines what needs to be in place to meet or realize the requirements of the Use Case (i.e. the necessary privacy and security framework). These points are more functional in nature and state the broad overarching concepts related to the Initiative.

1. An organization refers to a legal entity which can have any number of sub-entities within the organization.
2. An organization's local Health IT system is comprised of any and all IT systems (i.e. varying EHR systems or other Health IT systems such as Pharmacy and Lab).
3. Federated query within a local Health IT system will be handled by the organization as required.
4. Information requestor (business user) knows how to query the local Health IT System.
5. Actors and systems shall execute queries and return query results based on their own internal service level agreements (SLAs).
6. Patient data can be queried as long as it has been documented and the organization's Local Health IT system makes it available to be queried against.

5.0 Pre-Conditions

*The Pre-Conditions section describes the state of the system, from a technical perspective, that must be true before an operation, process, activity or task can be executed. It lists what needs to be in place **before** executing the information exchange as described by the Functional Requirements and Dataset requirements.*

1. The necessary access controls and authorization protocols (including patient consent, permissions, data segmentation), and audits for any of the systems or users described, are in place
2. The Query Requesting application can provide any necessary authorization or privacy information to the Query Responding Application
3. The Query Responding Application can enforce any authorization or privacy requirements from the Querying Application.
4. Query parameters required to create the query in a standardized format are known to the Query Requesting Application (for e.g patient id)
5. Query Requesting Application has knowledge about the Query Responding Application end point to send a query
6. Query Requesting and Query Responding Applications have a common understanding of the shared vocabulary that is used to create the queries and provide the query results.
7. Query Requesting Application is able to determine the Query Responding Application that may have the data being requested.
8. Query Responding Application can provide a query response in the standardized format

6.0 Post-Conditions

The Post Conditions section describes the state of the system, from a technical perspective, that will result after the execution of the operation, process activity or task.

1. Query Requesting application has sent a query
2. Query Responding Application has received the query
3. Query Responding Application has sent a response to the query
4. Query Requesting Application has successfully received the query results from the Query Responding Application.

7.0 Actors and Roles

The below table outlines the business actors that are participants in the information exchange requirements. A business actor is a person or organization that directly participates in a scenario.

Actor	System	Role
Query Requesting Application	Local Health IT System	<ol style="list-style-type: none"> 1. Send query request 2. Receive query result(s)
Query Responding Application	Local Health IT System	<ol style="list-style-type: none"> 1. Receive query request 2. Process query request 3. Package query response 4. Send query response

Table 1: LDAF Actors and Roles

8.0 Generic Scenario

A business user requires data that is managed in multiple applications within a health care organization. The user submits a request for the data through the application that they are using. The user's application generates a query in the appropriate format and directs the query to an application within the health care organization. The receiving application evaluates the query and retrieves the data requested. The receiving application packages the data results into a response and sends it to the querying application. The querying application organizes and integrates all responses received from the responding application and presents the data to the user who requested the data.

8.1 User Story¹

The User Stories represent real world examples of the data access framework outlined above in the Generic Scenario. This section contains three example user stories to illustrate the specific instances of the Data Access Framework use case. There are other user stories as examples in Appendix A for your reference. By design the Data Access Framework is expected to support multiple user stories, many now unforeseen, and therefore the use case does not attempt to enumerate all possible uses.

Document Metadata based access User Story #1 Patient Level Query #1

A Provider accesses clinical summary documents on an ad hoc basis for a new diabetic patient with documented poor glucose control

A new patient arrives to a small family practice in Boston, MA. The PCP sees a 48 year-old male, with Diabetes Mellitus Type I (DM I) diagnosis since age 12. The patient has a history of myocardial infarction (MI) at age 37 and a stroke at age 43. The patient admits that he often forgets to take his medication as prescribed and often forgets to check his blood sugar levels throughout the day. The patient travels for work and has been admitted to different ER's numerous times for acute complications due to elevated blood sugar levels. All healthcare facilities where the patient was admitted generated clinical summaries and sent the information to patient's new physician at the patient's request. The clinical summaries have been stored in the local document repository database within the organization. ***For today's visit, the physician's practice generates an ad-hoc query in preparation for the patient's arrival within the EHR to access all clinical summary documents produced locally and those received from other healthcare facilities, so that he can check if the patient's HbA1c levels were greater than 7% and if the glucose levels were greater than 100mg/dL over the past 5 years the EHR system queries the document repository database to retrieve the requested information and sends back multiple clinical summary documents to the physician for additional review.*** This information provides the physician required context to understand the severity of circumstances that led to the patient's ER admission, the severity of the patient's non-adherence to medications and formulate a plan to improve the patient's lifestyle and adherence to medications to mitigate future ER visits and reduce or prevent the progression of established comorbidities.

¹ **Note:** Text within the user story section has been italicized and bolded to indicate the use of the Data Access Framework within a particular business scenario where patient data is being accessed.

Document Metadata based access User Story #2

Patient Level Query #2

A provider needs to access information for one of his patients' who recently moved to a new state and that has a new care team.

A patient is moving from Michigan to Florida for retirement. The patient has diabetes and has also undergone multiple open heart surgeries to correct irregular heartbeats and other ailments related to the heart. His new care team in Florida is preparing for an initial visit and has requested the patient to retrieve his medical history from as many sources as possible. The patient approaches the Michigan hospital, the PCP and the cardiologist office who are part of the current care team and where he has received treatment before. **He requests each one to provide his medical records (clinical documents) to date. The providers query each of their local EHR systems to obtain the clinical documents, requested by the patient.** Now that the patient has all necessary records, he can carry them with him on his initial visit to a new care team in Florida.

Data Element based access User Story #3

Patient Level Query #1

Physician referral to Endocrinologist within the same organization using different EHRs with system alerts for patient protected information

In accordance with best practice, the Gastroenterologist orders fasting glucose lab tests for new or current Hepatitis C patients. **The Gastroenterologist's EHR receives results from source systems based on queries** which are set up to run automatically, and alerts him when a patient's fasting glucose lab results are between 100 mg/dL and 125 mg/dL. During an initial encounter with a VA patient for Hep-C, the Gastroenterologist is alerted that the patient's glucose intolerance lab results are very high. The Gastroenterologist wants to refer the patient to an Endocrinologist in his practice. **In preparation for the referral, the Gastroenterologist queries the repository for all of the patient's records including sensitive records disclosed to him by the VA per the patient's consent. The Gastroenterologist receives a response to this query** and is alerted that information related to the patient's Hep-C, which was diagnosed during substance abuse treatment, is protected under Title 38, and may not be disclosed without patient consent. Before making the referral, the Gastroenterologist asks the patient whether she consents to disclose protected information to the Endocrinologist. The patient agrees, and signs an electronic consent directive. The Gastroenterologist's EHR updates the security labels on this patient's protected information authorizing the Endocrinologist to query for her records. **When the Endocrinologist's EHR system queries Gastroenterologist's EHR, it is authorized to receive the patient's records including the Title 38 protected information. When researchers within the Endocrinologist's practice query for Hepatitis C patients, they will not receive the results for patients who have not consented to disclosure for research, because they are not authorized.**

8.2 Activity Diagram

An Activity Diagram is a special form of a state transition diagram in which all or most of the states are activity states or action states. The Activity Diagram illustrates the Use Case flows graphically, and represents the flow of events and information between the actors. It also displays the main events/actions that are required for the data exchange and the role of each system in supporting the data change.

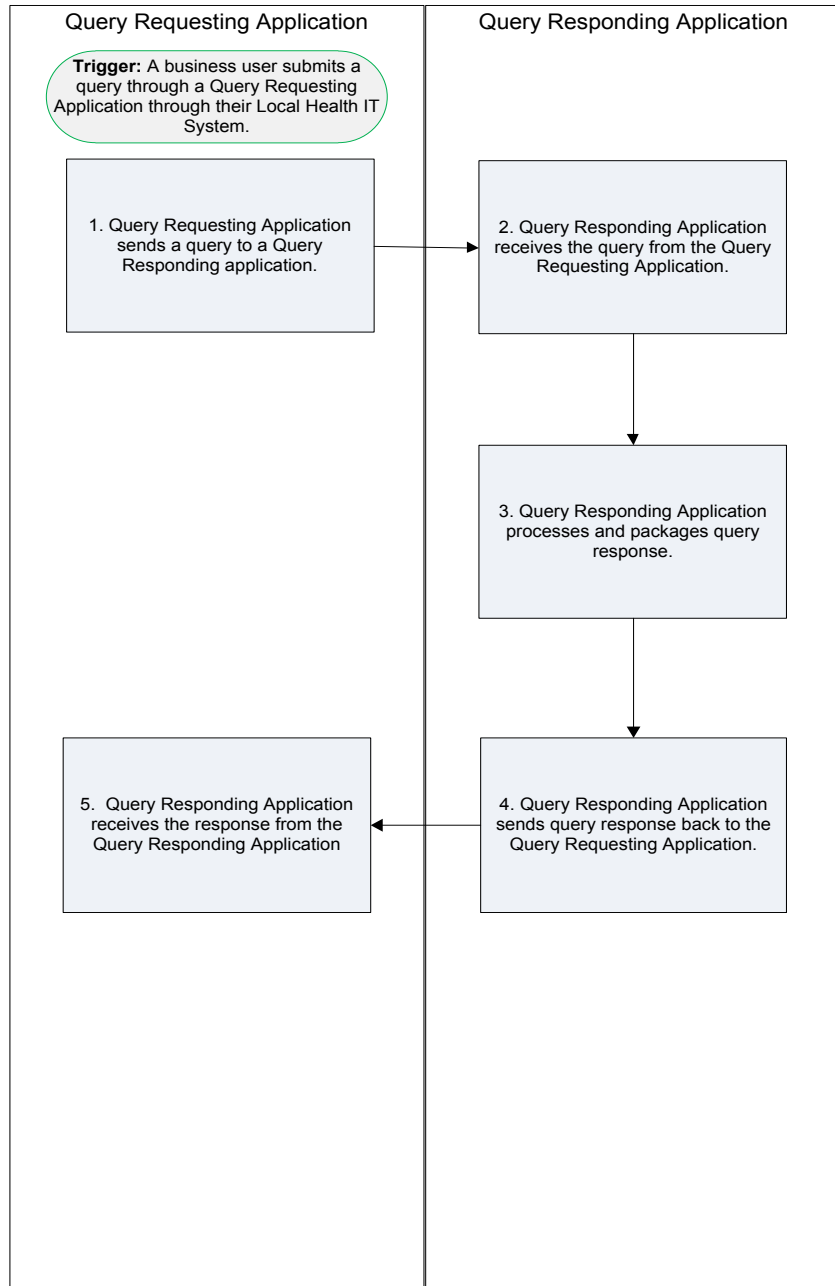


Figure 2: Activity Diagram

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8.2.1 Base Flow

The Base Flow presents the step by step process of the information exchange depicted in the activity diagram (above). It indicates the actor who performs the action, the description of the event/action, and the associated inputs (records/data required to undertake the action) and outputs (records/data produced by actions taken).

Step #	Actor	Role	Event/Description	Inputs	Outputs
1	Query Requesting Application	Send query request	Query Requesting Application sends a query to a Query Responding application.	START - a need to query for patient data	query request
2	Query Responding Application	Receive Query Request	Query Responding Application receives the query from the Query Requesting Application	Query request	Query request ready for processing
3	Query Responding Application	Process query request and Package query response	Query Responding Application processes and packages query response.	Query request ready for processing	Query results packaged into a response
4	Query Responding Application	Sends Query response	Query Responding Application sends query response back to the Query Requesting Application.	Query results packaged into a response	Packaged response in form ready for sending to Querying application
5	Query Requesting Application	Receive query result(s)	Query Requesting Application receives the response from the Query Responding Application	Packaged response in form ready for sending to Querying application	Response received by Query Requesting Application - END

Table 2: Base Flow of Scenario 1

8.3 Functional Requirements

Functional Requirements identify the capabilities a system in a role must have in order to enable interoperable exchange of the healthcare data of interest. They provide a detailed breakdown of the requirements in terms of the intended functional behaviors of the application. The Functional Requirements include Information Interchange Requirements and System Requirements.

8.3.1 Information Interchange Requirements

The Information Interchange Requirements define the system’s name and role. They also specify the actions associated with the actual transport of content from the sending system to the receiving system. This use case has two information interchange requirements, as seen below.

Information Interchange Requirement	Initiating System	(describes action)	Information Interchange Requirement Name	(describes action)	Receiving System
IIR 01a.	Query Requesting Application	Sends	Request for query using document metadata	Receives	Query Responding Application
IIR 01b.	Query Requesting Application	Sends	Request for specific clinical data value(s)	Receives	Query Responding Application
IIR 02a.	Query Responding Application	Sends	Response to query using document metadata	Receives	Query Requesting Application
IIR 02b.	Query Responding Application	Sends	Response to query for specific clinical data value(s)	Receives	Query Requesting Application

Table 3: Information Interchange Requirements

8.3.2 System Requirements

This section lists the requirements internal to the system necessary to participate successfully in the transaction. The sending and receiving functionality is excluded from system requirements because this is already included in the information interchange requirements section.

System	System Requirement
Query Requesting Application	<ol style="list-style-type: none">1. Generate a query for patient data or document2. Package query in a specified standardized format3. Provide authorization and privacy information
Query Responding Application	<ol style="list-style-type: none">1. Receive a query for patient data2. Enforce any authorization for privacy directive3. Identify patient data that matches the query4. Transform patient data in a specified standardized format5. Package patient data in a specified standardized format

Table 4: System Requirements

8.4 Sequence Diagram

A Sequence Diagram is primarily used to show the interactions between objects in the sequential order that they occur. This representation can make it easy to communicate how the exchange works by displaying how the different components interact. The primary use of the diagram is in the transition from requirements expressed as use cases to the next and more formal level of refinement.

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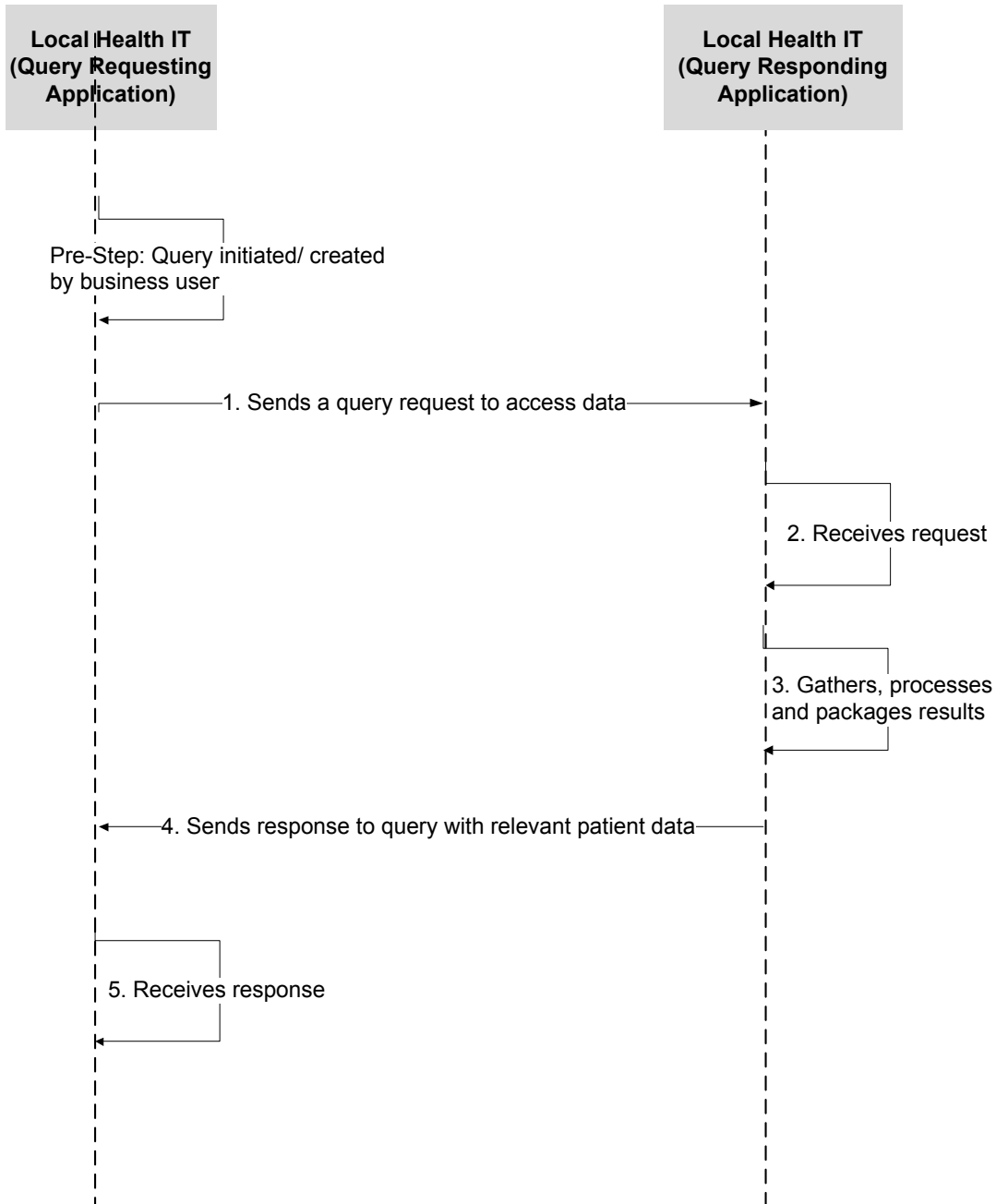


Figure 3: Sequence Diagram

9.0 Dataset Requirements

This table lists the data elements and data element sets that will be available within the message or document. Historically, the optional/required nature of each data element is deferred to the discussions during the harmonization phase.

Note: The dataset requirements section identifies the data elements based on the use cases and are described at a conceptual level. The descriptions of the data elements are independent of any particular standard and will serve as the starting point for the harmonization activity. During the harmonization activity the data elements will be further refined and if necessary decomposed and will eventually be mapped to candidate standards. As a starting point these data elements have been derived from Meaningful Use Stage 2 common data set plus IHE XDS Metadata definitions.

Data Set Selection	Generic Data Element ²	Generic Data Element Description
Time	Document Creation Time	Date and Time stamp for document creation.
	Service Start Time	The start time the service being documented took place.
	Service End Time	The stop time the service being documented took place.

Data Set Selection	Generic Data Element ³	Generic Data Element Description
Patient Data	Patient ID	The identifier assigned by a provider or healthcare organization to a patient (example: MRN)
	Patient Demographics	A set of demographic information about the patient. This information typically includes patient's first and last name, sex, birth date, race, ethnicity.
	Patient Identifiers	ID assigned to a patient where the care was provided within the local organization, if different from Patient ID.

² **Note:** examples of data elements for document metadata based access can be found in the following types of profiles: [XDS](#), CDAR2

³ **Note:** examples of data elements for document metadata based access can be found in the following types of profiles: [XDS](#), CDAR2

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Data Set Selection	Generic Data Element ⁴	Generic Data Element Description
Organization Data	Author institution	Represents a specific healthcare facility where a document was authored.
	Health Facility Information	Information about the organizational setting in which the clinical encounter was documented and where clinical act occurred. This includes (Name of facility, Type of facility, code of facility, ID of facility)
	Source Organization Information	Information about the origin of the document (Name of the Organization, Type of organization Code of organization, ID of the organization)
	Practice Setting Information	Practice setting is the location where clinical care was provided and the document was created. (Name of the practice, Code associated with the type of practice, identifier associated with the type of practice) e.g., Family Practice, Laboratory Department, Radiology Department, Pulmonary Unit, Intensive Care Unit, etc.
	Document Custodian	Organization legally responsible for the document

Data Set Selection	Generic Data Element ⁵	Generic Data Element Description
Document Level Data	Document Information	Information about the document where patient information has been recorded (code associated with document type, Name associated with the document type, IDs associated with the document)
	Comments	Comments associated with the Document, free form text.

⁴ **Note:** examples of data elements for document metadata based access can be found in the following types of profiles: [XDS](#), CDAR2

⁵ **Note:** examples of data elements for document metadata based access can be found in the following types of profiles: [XDS](#), CDAR2

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Data Set Selection	Generic Data Element ⁶	Generic Data Element Description
Document Author	Author Specialty	Represents a specific specialty of the author who created the document. For example, Primary Care Physician, Nurse Practitioner, Anesthesiologist, Cardiologist etc.
	Author Contact Information	Represents the telecommunications address (e.g. phone, email, name etc.) of the document author, intended to assist with automated routing of other messages intended for the document author.

Table 5: Dataset Requirements for Document Metadata Based Query Request

⁶**Note:** examples of data elements for document metadata based access can be found in the following types of profiles: [XDS](#), CDAR2

Use Case Development and Functional Requirements for Interoperability
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Note: The data elements in the following table are also applicable to document metadata query response, data element based query request and data element based query response.

Note: This list includes an initial list of data elements and data element sets from MU summary documents exchanged among providers and/or patients. This includes the "Common MU Data Set" plus other elements required in one or more of the summary documents, all of which use C-CDA. There are other MU2 data elements not included in the DAF list that are captured and stored within EHRs for functionality not related to information exchange (e.g., Family Health History, secure messaging information).

Legend

X	Query requests and query responses can include one or more data elements from the list of data elements depending on the context of the query,
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	Query Input Parameter	
Query Type or Name	e.g, multi-patient	
Query Response Format	e.g, table, list	
Data Elements	Request Parameter	Response Data Elements ⁷
Patient (s) Identification includes attributes necessary to enable effective patient matching to retrieve specific patient records	X Null for population Queries	X Null for population Queries /De-ID/LDS
Provider Identification	X	X
Data Elements	Request Parameter	Response Data Elements
Facility / Source	X	X
Encounter Type	X	X
Date (Date Range)	X	X
Confidentiality Information		X
1. Patient name ⁸	X Null for population Queries	X Null for population Queries /De-ID/LDS
2. Sex	X	X
3. Date of birth	X	X
4. Race*	X	X
5. Ethnicity*	X	X
6. Preferred language*	X	X
7. Smoking status*	X	X
8. Problems*	X	X
9. Medications*	X	X

⁷ **Note:** There may be more data elements and attributes returned in response to request parameters, in addition to the ones listed in this column.

⁸ **Note:** The initial list of data elements are derived from MU2 data elements whose definitions can be accessed [here](#). Data elements numbered 1-18 are from the MU2 data elements.

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Data Elements	Request Parameter	Response Data Elements
10. Medication allergies*	X	X
11. Laboratory test(s)*	X	X
12. Laboratory value(s)/result(s)*	X	X
13. Vital signs (height, weight, BP, BMI)	X	X
14. Care plan field(s), including goals and instructions	X	X
15. Procedures*	X	X
16. Care team members	X	X
17. Immunizations*	X	X
18. Confidentiality Information	No Confidentiality Code Query Parameter	X
19. Clinical Instructions ⁹	X	X
20. Cognitive Status	X	X
21. Date and Location of Visit	X	X
22. Dates and Location of Admission and Discharge- Inpatient Only	X	X
23. Diagnostic Tests Pending	X	X
24. Discharge Instructions- Inpatient Only	X	X
25. Functional Status	X	X
26. Future Appointments	X	X
27. Future Scheduled Tests	X	X
28. Immunizations Administered during the Visit*	X	X
29. Medication List *	X	X
30. Medications Administered during the Visit*	X	X
31. Provider Name and Office Contact Information	X	X
32. Reason for Hospitalization- Inpatient Only	X	X
33. Reason for Referral- Ambulatory Only	X	X
34. Reason for Visit	X	X
35. Recommended Patient Decision Aids	X	X
36. Referrals to other Providers	X	X

⁹ **Note:** Data Elements in Blue Text have been cited from EHR Certification Criteria and can be found [here](#). Data elements numbered 19-36 are from the EHR Certification Criteria.

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Table 6: Dataset Requirements for Document Metadata Based Query Response and Data Element Based Query Request and Response

Appendices

The content of this section varies depending on the needs brought forth by the Community. Some Use Cases may have appendices that are specific to their content and issues. The appendices listed below are suggested for inclusion.

Appendix A: Additional User Stories

Population level Query

PCP searches for office visit summaries in local EHR system to further analyze them using 3rd party software system (external to EHR) to understand severity of illness in patient population

A primary care physician's patient panel has a significant number of male patients who have cardiovascular disease and diabetes over the past 5 years. She wants to further analyze the clinical summaries of her male patient population over the past 5 years using a 3rd party analytical application external to the EHR System. She queries her EHR system to retrieve clinical office summary visit documentation for patients over the past 5 years. The results of the query are returned to her in a structured document format for each of the patients fitting those criteria. Once she receives the results, she further analyzes the summaries by using an external 3rd party analytical application to break down cohorts of those patients with mild, moderate, and severe disease to determine who are missing recommended preventive and disease management services such as lab checks and diabetic foot exams.

Data Element based access

Patient Level Query

PCP searches for office visit summaries in local EHR system to further analyze them using 3rd party software system (external to EHR) to understand severity of illness in patient population

A primary care physician's patient panel has a significant number of male patients who have cardiovascular disease and diabetes over the past 5 years. She already has a list of male patients and their clinical office visit summary documents that she was able to retrieve through a previous query search in her EHR. She wants to use that list of patients now to drill down within each of these documents to identify patients with cardiovascular disease and diabetes over the past 5 years. The PCP sends one query to her EHR system for all identified patients to retrieve patients with diagnoses of cardiovascular disease and diabetes over the past 5 years. The query returns a list with associated documents that match the query request. Once she receives the results, she further analyzes the summaries by using an external 3rd party application to break down cohorts of those patients with mild, moderate, and severe disease to determine who is missing recommended preventive and disease management services such as lab checks and diabetic foot exams.

Patient Level Query

PCP querying lab data results over past 12 months for a patient whose HbA1c is >7%

A Primary Care Provider (PCP) at Virginia Family Medicine Center (VFMC) recently ordered an HbA1c test for a new patient with established Diabetes Type 1 diagnosis. The patient had been to VFMC several times before, but just recently switched her PCP internally at VFMC. The PCP received the test results for a specimen drawn on 7/5/2013 in her EHR system indicating that the patient's HbA1c was 8.3%. Her PCP would like to determine her patient's glucose level trend over the past 12 months. The PCP formulates a query in her EHR system to retrieve all HbA1c results where the patient's levels were above 7% at VMFC. The PCP receives a single response of available results from one or more responding application(s) where this data was documented. The PCP is able to obtain all of the results requested from the responding application(s). Upon receiving the results, the PCP confirms that the patient's glucose levels have been progressively increasing based on available results for each visit since 7/5/2012. The PCP then schedules a set of diagnostic tests to aid her in developing an effective rehabilitation plan to proactively manage her patient's health condition.

Patient Level Query

Two applications share data during a hospital visit to coordinate information about diagnoses, medications and treatments and queuing of appropriate patient education and instruction material. (Debbie Foss Submitted on Wednesday September 5th, 2013)

A patient enters the hospital for pneumonia. During his visit, he is diagnosed with CHF. Patient instruction located in Application X queries the information from Application Y and receives patient demographics and admitting diagnosis, triggering a preliminary list of education topics for introduction to pneumonia and medications for in-hospital teaching. Application X then receives (either via query or as an alert) for the CHF diagnosis, and begins to queue topics for daily teaching on a new diagnosis, new medications and diet. Prior to discharge, Application X queries Application Y -- perhaps seeking a C-CDA in whatever state of completion it's available -- and topics for discharge instructions are triggered for compilation by providers.

Population level Query

Physician conducts ad hoc query to determine percent of Hepatitis C patients for research at an organization under treatment with no fasting glucose lab tests (EHR to CDR)

A new physician starts working at a health center where many patients with Hepatitis C are treated. The physician is aware of clinical practice guideline that specifies that patients with Hepatitis C diagnosis on active treatment must have fasting glucose test performed at the beginning of treatment and at predefined intervals during the treatment. The physician wants to conduct research on the quality assessment of patients being treated. The physician sets up a query to first identify all patients with a diagnosis of Hepatitis C and currently receiving Hepatitis C treatment that have not had a fasting glucose test since beginning of the therapy. The query is sent from the local EHR system to an identified application(s) (i.e. Clinical Data Repository) to retrieve a list of patient names fitting these criteria. Upon receiving this information back in his EHR system the physician learns that 3% of his Hepatitis C patients currently under treatment have not had their fasting glucose test. The physician then retrieves the list of individual patients who have consented to share their information for purposes of research.

Patient Level Query

User Story Revised and Submitted by Nicole Antonson September 12th, 2013 Ancillary to EHR Query and Update (Pull and push)

Dr. Jones admits patient J to the hospital for pneumonia. During patient J's visit, he is diagnosed with angina. While in the hospital, he is scheduled for angiogram. During preop, the cardiology nurse begins the data entry process into the cardiology system for the patient (e.g., completes assessment form.) The nurse selects the patients name and the cardiology system initiates a query to the EHR for demographic and patient profile data (e.g., problems, meds and allergies.) The EHR returns the information, the cardiology system uses this information to populate the assessment form, and the nurse completes any missing information through a patient interview. (During the assessment process the same information returned is used for decision support and reminders.) During the angiogram, patient J requires angioplasty. Medications are administered during the procedure and new ongoing orders are created. After the procedure is closed, the Cardiology system pushes the administered medications and ongoing medications to the EHR.

Appendix B: Related Use Cases

- <<Bulleted List>>

Appendix C: Previous Work Efforts

- Query Health Initiative, which can be found [here](#).

Appendix D: References

Data Access Framework General References can be found [here](#)

- The following is a list of useful artifacts for the community.
- [Project Charter](#): The document describes the overall project charter including the challenge statement, scope, deliverables and timelines.
- [DAF Terminology](#): The document describes the terminology that will be used by the community to discuss DAF standards
- [Initiative Parking Lot](#): This page highlights any items identified as parking lot items at any stage in this initiative. This page will serve as the parking lot for both the Local and Targeted DAF workstreams.

Appendix E: Glossary Terms

- Data Access Framework Terminology can be found [here](#).