

Quantum[®] Electronic Health Record (EHR) FHIR API

Reference Guide

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Quantum EHR - FHIR API Reference Guide

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About This Guide

The *Quantum® EHR FHIR API Reference Guide* describes Quantum EHR's implementation of the HL7® [Fast Healthcare Interoperability Resources \(FHIR®\)](#) specification, which is a standard for exchanging healthcare information electronically. The guide outlines the steps necessary for clients to connect to the Application Programming Interface (API), as well as how to retrieve patient health information within Quantum EHR (including example requests and responses).

Intended Audience

This guide is intended for third-party developers who are designing software applications to access patient health information within Quantum EHR.

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This is a legal agreement between "you" (a "Developer" or "User") and Quest Diagnostics. You must accept the Terms of Use ("Agreement") in order to use the Quantum EHR public Application Programming Interface ("API"). This Agreement describes your rights and your obligations if you use the Quantum EHR FHIR API. By accepting this Agreement or by accessing or using the Quantum EHR FHIR API, you agree to be bound by this Agreement.

If you are entering into this Agreement on behalf of a company or other legal entity ("Entity"), you represent that you have the authority to bind such Entity to this Agreement. In that case, the terms "you" or "your" shall also refer to such Entity. If you do not have such authority, or if the Entity does not agree to be bound by this Agreement, the Entity and you may not use the Quantum EHR FHIR API. You acknowledge that this Agreement is a contract between you and Quest Diagnostics, even though it is electronic and is not physically signed by you and Quest Diagnostics.

API Definitions

As used herein: "Application" means any software application or product You offer, using the Quantum EHR FHIR API. "API Documentation" means the documentation that Quest Diagnostics provides regarding use of the Quantum EHR FHIR API. "API" means the publicly available Quantum EHR FHIR Programming Interface ("API"). "Client" means the software used to make requests to the API. "HIPAA" means the Health Insurance Portability and Accountability Act. "HITECH" means the Health Information Technology for Economic and Clinical Health Act under Title XIII of the American Recovery and Reinvestment Act.

API License and Restrictions

- a Quest Diagnostics hereby grants you a revocable, limited, personal, non-sublicensable, non-exclusive, and non-transferable license to use the API to develop, test, and support your Application, and to integrate the Quantum EHR FHIR API with your Application. Your license is subject to the limitations set forth in this agreement.
- b You may not use the Quantum EHR FHIR API in a manner that accesses or uses any information beyond what Quest Diagnostics allows under this Agreement or the API Documentation; that changes, breaks or circumvents any of the technical, administrative, process or security measures; that disrupts or degrades the performance of the Quantum EHR FHIR API; or that tests the vulnerability of Quest Diagnostics' systems or networks.
- c You may not transmit any viruses or other computer programming that may damage, detrimentally interfere with, surreptitiously intercept, or expropriate any system or data.
- d You may not attempt to reverse engineer or otherwise derive source code, trade secrets, or know-how in the Quantum EHR FHIR API or any portion thereof.
- e You acknowledge and agree that (i) Quest Diagnostics may modify the Quantum EHR FHIR API at any time in Quest Diagnostics' sole discretion and (ii) future versions of the Quantum EHR FHIR API may not permit the operation of, or otherwise be compatible with any Developer App created hereunder.
- f You may charge for your Application. However, you may not sell, rent, lease, sublicense, redistribute, or syndicate access to the Quantum EHR FHIR API.

- g You will not attempt to exceed or circumvent limitations on access, calls and use of the Quantum EHR FHIR API, or otherwise use the Quantum EHR FHIR API in a manner that exceeds reasonable request volume, constitutes excessive or abusive usage, or otherwise fails to comply or is inconsistent with any part of this Agreement or the Documentation.
- h You may not use any portion of the Quantum EHR FHIR API for any unlawful or illegal activity.
- i You may not distribute or allow access to the Quantum EHR FHIR API to anyone other than, if applicable, the Entity on whose behalf you entered into this Agreement.

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- a YOU ATTEST THAT YOU ARE AUTHORIZED TO ACCESS THE PHI YOU ARE REQUESTING THROUGH THE SYSTEM, AND YOU AGREE TO HANDLE AND PROCESS SUCH INFORMATION ACCORDING TO ANY AND ALL APPLICABLE LAWS. If you are a Developer, you agree to maintain suitable facilities, management, operational, and physical controls to protect PHI and any Codes consistent with the security and privacy controls imposed by HIPAA, HITECH, and any other federal, state, and local laws, where applicable, and to treat all Codes with no less care and protection than that afforded to Protected Health Information. You acknowledge and agree that you shall use the System only as and to the extent permitted by applicable law, including any applicable import or export laws, and only for applications related to the secure access to health information over the Internet, in a manner compliant with the security and privacy rules of HIPAA, HITECH, and any other applicable law or regulation. You acknowledge and agree that Company is not a Covered Entity. You agree that you will not intentionally submit to Company or otherwise share with Company any Protected Health Information and will not provide Company with access to any Protected Health Information except as required for you to Use the System. You acknowledge and agree that Company only acts as a conduit to transfer Protected Health Information or any other data between you and a Data Holder.
- b You acknowledge that the System is a data transport tool and is not intended to serve as a medical record, and that it is your sole responsibility to establish policies and procedures that ensure that the content of any data accessed through the System is incorporated into a patient's medical record, when applicable. You agree that it is your sole responsibility to provide or obtain any and all necessary consents and to fulfill any and all obligations that are required by HIPAA, HITECH, or other governmental statute or regulation prior to use, disclosure, or transmission of any Protected Health Information or other data accessed through the System. You agree that Company has no obligation to archive or otherwise store any PHI or other data transferred through the System. You acknowledge that the data you request may not be accessible through the System when (i) you are denied access by Data Holder to any or all of the data requested or the Data Holder does not respond to your request for any reason, (ii) your request or the data provided by a Data Holder is not in a format recognized by the System, (iii) your request would cause transfer size or frequency to exceed the allowable maximum permitted by Company, (iv) the Codes you use to access the System are invalid, (v) this Agreement terminates, or (vi) for any other reason. You acknowledge that Company does not control the content of data accessed through the System, that data accessed through the System may contain software viruses or other malicious content, that it is your sole responsibility to protect your computer system from viruses, and that the Company has no responsibility to protect your computer system from viruses or other malware. You agree that Company, in its sole discretion, reserves the right not to enable Software or System for any particular Developer or User, should we determine, in our sole discretion, that Use by the Developer or User is a threat to Company's systems or negatively impacts the Use of the System by other Users.

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- d You must promptly report any security deficiencies in, or intrusions to, your Systems to Quest Diagnostics in writing via email to ITSecurityIncidentReporting@questdiagnostics.com. You will work with Quest Diagnostics to immediately correct any security deficiency, and will immediately disconnect any intrusions or intruder. In the event of any security deficiency or intrusion involving the Application, or the Quantum EHR FHIR API, you will make no public statements regarding such deficiencies or intrusions without prior written and express permission from Quest Diagnostics in each instance.

Term and Termination

This Agreement will go into effect on the date upon which you agree to them, by accessing or using the Quantum EHR FHIR API, and will continue until terminated as set forth herein. You may terminate this Agreement by discontinuing use of the Quantum EHR FHIR API. Upon termination of this Agreement:

- a All rights and licenses granted to you will terminate immediately.
- b You agree to promptly destroy Documentation and any other Quantum EHR FHIR API information in your possession or control that was received under this Agreement.

Disclaimers

- a **Warranties.** THE QUANTUM EHR FHIR API AND ALL RELATED COMPONENTS ARE PROVIDED ON AN “AS IS” AND “AS AVAILABLE” BASIS WITHOUT ANY WARRANTIES OF ANY KIND, AND QUEST DIAGNOSTICS EXPRESSLY DISCLAIMS ANY AND ALL WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, TITLE, FITNESS FOR A PARTICULAR PURPOSE, AND NONINFRINGEMENT. YOU ACKNOWLEDGE THAT QUEST DIAGNOSTICS DOES NOT WARRANT THAT THE QUANTUM EHR FHIR API WILL BE UNINTERRUPTED, TIMELY, SECURE, ERROR-FREE OR VIRUS-FREE, NOR DOES IT MAKE ANY WARRANTY AS TO THE RESULTS THAT MAY BE OBTAINED FROM USE OF THE QUANTUM EHR FHIR API, AND NO INFORMATION, ADVICE OR SERVICES OBTAINED BY YOU FROM QUEST DIAGNOSTICS SHALL CREATE ANY WARRANTY NOT EXPRESSLY STATED IN THIS AGREEMENT.
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- c Indemnity. You agree to defend, hold harmless and indemnify Quest Diagnostics, and its subsidiaries, affiliates, officers, agents, employees, and suppliers, from and against any third party claim arising from or in any way related to your or your users' use of the Application or the Quantum EHR FHIR API, or any violation of this Agreement, including any liability or expense arising from all claims, losses, damages (actual and consequential), suits, judgments, litigation costs and attorneys' fees, of every kind and nature. In such a case, we will provide you with written notice of such claim, suit, or action.

Getting Started

The Quantum EHR FHIR API is based on Release 4 (STU) of the FHIR standard. It is a RESTful API, where all resource request are performed using HTTPS, the server responds with standard HTTP response codes, and data is returned in JSON format. Additionally, the API is secured using [SMART® authorization](#) ("SMART on FHIR"), which is built on the OAuth 2.0 standard. For more information, see ["Authentication and Authorization" below](#).

Before you can access our API, you must complete our registration process, which will provide you with the necessary credentials for authentication. If you're interested in registering for API access, please download and complete the [Quantum EHR FHIR API Access Request Form](#) and submit via email. For any queries on the registration process, please contact Quantum EHR FHIR API support team at QuantumEHRFHIRAPI@questdiagnostics.com.

API Endpoints

In URL examples throughout this guide, *base_url* is used to represent the environment. To access the Stage or Production environment, use one of the following base URLs:

Stage

<https://smartonfhir.elabs.stage.quantumsolutions.com/quantum-ehr-fhir-server/fhir>

Production

<https://smartonfhir.elabs.quantumsolutions.com/quantum-ehr-fhir-server/fhir>

Authentication and Authorization

The Quantum EHR FHIR API uses [SMART® authorization](#) ("SMART on FHIR"), which is built on the OAuth 2.0 standard, for authentication and authorization. This framework provides secure access to patient data by requiring that every resource request includes an access token (as the *Bearer* token) in the *Authorization* header. At a high level, retrieving an access token involves:

- 1 Initiating an authorization grant request (to the authorization server's authorize endpoint URL). This request contains parameters, such as scope, client ID, and redirect_uri.
- 2 Receiving an authorization code (from the authorization server) at the specified redirect_uri.
- 3 Submitting the authorization code for an access token (via HTTP POST to the authorization server's token endpoint URL).
- 4 Receiving an access token (from the authorization server) at the specified redirect_uri.
- 5 Receiving a new access token using a refresh token (via HTTP POST to the authorization server's token endpoint URL).

For more details about requesting an access token via the authorization code grant request or by using a refresh token, see ["Access Tokens" on the next page](#) and ["Refresh Tokens" on page 11](#).

Access Tokens

Access tokens are used to make API requests on behalf of a user. To request an access token, you must submit an authorization request to the authorize endpoint (see ["Submit Authorization Request" below](#)), and then once successfully authorized, exchange the authorization code for an access token via a POST request to the token endpoint (see ["Exchange Authorization Code " on the next page](#)).

Note: An access token and refresh token pair is issued (if *offline_access* is included in the *scope*) of the authorization request. For more information about refresh tokens, see ["Refresh Tokens" on page 11](#).

Submit Authorization Request

Create a request for authorization by adding the parameters outlined below to the query component of the authorize endpoint URL, using the “application/x-www-form-urlencoded” format. If successful, the authorization server returns a JSON response with the authorization code.

Authorize endpoint URL - `https://base_url/quantum-ehr-oidc/authorize`

Request Parameter	Description/Value
response_type	<i>code</i> (authorization code)
client_id	The client's identifier.
redirect_uri	One of the client's pre-registered redirect URIs.
launch	The launch value received when using the EHR launch flow.
scope	A string that describes the access rights that the client application needs to operate properly. The supported scope values are: <ul style="list-style-type: none">• <i>launch</i>• <i>offline_access</i>• <i>openid</i>• <i>profile</i>• <i>patient/*.read</i>• <i>user/*.read</i>
state	An opaque value used by the client to maintain state between the request and callback. The authorization server includes this value when redirecting the user-agent back to the client.
aud	The url of the resource server. This is the same value as the <i>iss</i> parameter (which is short for issuer, and identifies an EHR's base FHIR endpoint).
Response Field	Description/Value
code	The authorization code generated by the authorization server. The authorization code expires shortly after it is issued (usually 1 minute) to mitigate the risk of leaks.
state	An opaque value used by the client to maintain state between the request and callback.

Exchange Authorization Code

After obtaining an authorization code, exchange the code for an access token via HTTP POST to the authorization server's token endpoint URL, using content-type application/x-www-form-urlencoded. An *Authorization* header using HTTP Basic authentication is also required, where the user name is the *client_id* and the password is the *client_secret*. If successful, the authorization server returns a JSON response with the access token.

Token endpoint URL - `https://base_url/quantum-ehr-oidc/token`

Request Parameter	Description/Value
grant_type	<i>authorization_code</i>
code	The authorization code received from the authorization server.
redirect_uri	One of the client's pre-registered redirect URIs.
client_id	The client's identifier.
Response Field	Description/Value
access_token	The access token issued by the authorization server.
token_type	<i>Bearer</i>
expires_in	Lifetime in seconds of the access token, after which the token will no longer be accepted by the resource server. For example, the value 3600 means that the access token will expire in one hour from the time the response was generated.
scope	Scope of access authorized.
id_token	Authenticated user identity and profile.
refresh_token	Token that can be used to obtain a new access token, using the same or a subset of the original authorization grants.

Refresh Tokens

A refresh token can be used to replace an expired access token without user intervention. The refresh token is only available if *offline_access* was included in the *scope* of the authorization request. To request a new access token, issue an HTTP POST including the parameters outlined below to the authorization server's token endpoint URL, using content-type *application/x-www-form-urlencoded*. An *Authorization* header using HTTP Basic authentication is also required, where the user name is the *client_id* and the password is the *client_secret*. If successful, the authorization server returns a JSON response with the new access token and refresh token pair.

Token endpoint URL - `https://base_url/quantum-ehr-oidc/token`

Request Parameter	Description/Value
<code>grant_type</code>	<i>refresh_token</i>
<code>refresh_token</code>	The refresh token from a prior authorization response.
<code>client_id</code>	The client's identifier.
<code>scope</code>	<p>The scopes of access requested. This value must be a strict sub-set of the scopes granted in the original launch; no new permissions can be obtained at refresh time. A missing value indicates a request for the same scopes granted in the original launch. The supported scope values are:</p> <ul style="list-style-type: none">• <i>offline_access</i>• <i>openid</i>• <i>patient/*.read</i>
Response Field	Description/Value
<code>access_token</code>	The new access token issued by the authorization server.
<code>token_type</code>	<i>Bearer</i>
<code>expires_in</code>	Lifetime in seconds of the access token, after which the token will no longer be accepted by the resource server. For example, the value 3600 means that the access token will expire in one hour from the time the response was generated.
<code>scope</code>	<p>Scope of access authorized. This will be the same as the scope of the original access token, and it can be different from the scopes requested by the application. The supported scope values are:</p> <ul style="list-style-type: none">• <i>offline_access</i>• <i>openid</i>• <i>patient/*.read</i>
<code>refresh_token</code>	The new refresh token issued by the authorization server.

Response Codes

The Quantum EHR API uses standard HTTP response codes to indicate the status of a request. This section lists some of the possible response codes and provides an example 404 response.

Response Code	Description
200	The request was completed successfully.
400	The request was not properly constructed.
401	The user credentials were not authorized.
404	The requested resource was not found, or no entries were found for the given search parameters.
500	An internal server error occurred.

Not Found Response

When no data is found for the given search parameters, a 404 code with the following response (JSON) body is returned:

Note: The response body will include the specific resource being queried, where *resource* is used in this example.

```
{
  "resourceType": "OperationOutcome",
  "issue": [
    {
      "severity": "error",
      "code": "processing",
      "diagnostics": "No resource entries found for the given search criteria."
    }
  ]
}
```

Resources

A FHIR resource represents exchangeable pieces of health care data, such as patient problems or medications. The table below describes the FHIR resources and the corresponding Common Clinical Data Set (CCDS) elements supported by the Quantum EHR FHIR API. You can request patient data from a particular resource, or request that all patient data (for the supported resources) be returned as a Base64 encoded, compressed CCDA. For more information about retrieving all patient data, see "[Document Reference \(All Patient Data\)](#)" on page 81. Additionally, all resources are read-only; methods other than GET are **not** supported by this API.

Note: For general information on FHIR resources, see the [HL7 FHIR documentation](#).

CCDS Element	Resource
Patient Name	Patient
Sex	Patient
Date of Birth	Patient
Race	Patient
Ethnicity	Patient
Preferred Language	Patient
Smoking Status	SmokingStatus (Observation)
Problems	Condition
Medications	MedicationStatement
Medication Allergies	AllergyIntolerance
Laboratory Tests	LabResults
Laboratory Values(s)/Result(s)	LabResults (Observation)
Vital Signs	VitalSigns (Observation)
Procedures	Procedure
Care Team Member(s)	CareTeam
Immunizations	Immunization
Unique Device Identifier(s) for a Patient's Implantable Device(s)	Device
Assessment and Plan of Treatment	Assessments (ClinicalImpression)
Goals	Goal
Health Concerns	HealthConcerns (Condition)

Patient

Description	Retrieves a patient's demographic information.
Method	GET
Supported Interactions	<ul style="list-style-type: none">• Search• Read
Response Format	application/JSON

Parameters

The following search parameters are supported for the Patient resource.

Note: If no entries are available for the specified parameters, a 404 response code is received. For an example of this response, see ["Not Found Response" on page 12](#).

Parameter	Description	Type	Req'd
given	The patient's first name.	string	N
family	The patient's last name.	string	Y
name	The patient's given (first) or family (last) name.	string	N
telecom	The patient's phone number.	string	N
identifier	The patient's unique identifier. The patient identifier can be retrieved by performing a patient search.	string	N
birthdate	The patient's birth date, in the following format: <i>yyyy-mm-dd</i>	date	N
gender	The patient's gender. Supported values include: <i>male</i> , <i>female</i> , <i>other</i> , and <i>unknown</i> .	string	N

Response Fields

The following fields may appear in a JSON response for the Patient resource.

Field	Description	Type	Cardinality
resourceType	Identifies the resource.	Patient	1..1
id	The unique identifier for the patient.	Identifier	1..1
active	Identifies whether the patient's record is active.	boolean	0..1
name	The patient's name.	HumanName	0..*

Field	Description	Type	Cardinality
gender	The patient's gender. Supported values include male, female, other, and unknown.	code	0..1
birthDate	The patient's date of birth.	date	0..1
address	The patient's postal address.	Address	0..*
maritalStatus	The patient's marital status.	CodeableConcept	0..1
communication	The language(s) that can be used to communicate with the patient.	BackboneElement	0..*
managingOrganization	The organization responsible for updating the patient's record.	Reference (Organization)	0..1

Example Requests and Responses

Note: For information about the environments represented by *base_url* in the examples below, [see "API Endpoints" on page 8](#).

Read - Request

Returns demographics for a specific patient using the patient's identifier:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/Patient/
2c92a61179378ae2017938b606d04c0f
```

Read - Response (JSON)

```
{
  "resourceType": "Patient",
  "id": "2c92a61179378ae2017938b606d04c0f",
  "extension": [
    {
      "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race",
      "extension": [
        {
          "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race",
          "valueCodeableConcept": {
            "coding": [
              {
                "system": "http://hl7.org/fhir/v3/Race",
                "code": "2108-9",
                "display": "European "
              }
            ],
            "text": "European "
          }
        }
      ]
    }
  ]
}
```

```

    },
    {
      "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity",
      "extension": [
        {
          "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity",
          "valueCodeableConcept": {
            "coding": [
              {
                "system": "http://hl7.org/fhir/v3/Ethnicity",
                "code": "2186-5",
                "display": "Not Hispanic or Latino "
              }
            ],
            "text": "Not Hispanic or Latino "
          }
        }
      ]
    }
  ],
  "identifier": [
    {
      "type": {
        "coding": [
          {
            "system": "http://hl7.org/fhir/v2/0203",
            "code": "MR",
            "display": "Medical record number"
          }
        ],
        "text": "Medical record number"
      },
      "system": "urn:oid:2.16.840.1.113883.3.345.3",
      "value": "A89-B23"
    }
  ],
  "active": true,
  "name": [
    {
      "text": "Robert Smith",
      "family": "Smith",
      "given": [
        "Robert"
      ]
    }
  ],
  "telecom": [
    {
      "system": "phone",

```



```

        "value": "(513) 111-2222",
        "use": "home"
    },
    {
        "system": "phone",
        "value": "(513) 222-3333",
        "use": "mobile"
    },
    {
        "system": "email",
        "value": "rsmith@email.com"
    }
],
"gender": "male",
"birthDate": "1965-09-23",
"address": [
    {
        "line": [
            "1175 Central Street"
        ],
        "city": "Cincinnati",
        "state": "OH",
        "postalCode": "45211"
    }
],
"maritalStatus": {
    "coding": [
        {
            "system": "http://hl7.org/fhir/ValueSet/marital-status",
            "code": "M",
            "display": "Married"
        }
    ]
},
"communication": [
    {
        "language": {
            "coding": [
                {
                    "system": "http://hl7.org/fhir/valueset-languages.html",
                    "code": "en"
                }
            ],
            "text": "English"
        }
    }
],
"managingOrganization": {
    "display": "2c92a6bc70c50de60170f96e538a028e"
}

```

```

    }
}

```

Search - Request

Returns one or more patients (as a bundle) using the specified given and family name:

GET https://base_url/quanum-ehr-fhir-server/fhir/Patient?family=Smith&given=Robert

Search - Response (JSON)

```

{
  "resourceType": "Bundle",
  "id": "141a0a2e-7ea8-476e-8f57-db78368d2d51",
  "meta": {
    "lastUpdated": "2021-05-06T15:31:07.729+00:00"
  },
  "type": "searchset",
  "total": 1,
  "link": [
    {
      "relation": "self",
      "url": "https://base_url/quanum-ehr-fhir-server/fhir/Patient?family=Smith&given=Robert"
    }
  ],
  "entry": [
    {
      "fullUrl": "https://base_url/quanum-ehr-fhir-server-
/fhir/Patient/2c92a61179378ae2017938b606d04c0f",
      "resource": {
        "resourceType": "Patient",
        "id": "2c92a61179378ae2017938b606d04c0f",
        "extension": [
          {
            "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race",
            "extension": [
              {
                "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-race",
                "valueCodeableConcept": {
                  "coding": [
                    {
                      "system": "http://hl7.org/fhir/v3/Race",
                      "code": "2108-9",
                      "display": "European "
                    }
                  ],
                  "text": "European "
                }
              }
            ],
            "text": "European "
          }
        ],
        {
          "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity",
          "extension": [
            {
              "url": "http://hl7.org/fhir/us/core/StructureDefinition/us-core-ethnicity",
              "valueCodeableConcept": {
                "coding": [
                  {
                    "system": "http://hl7.org/fhir/v3/Ethnicity",
                    "code": "2186-5",
                    "display": "Not Hispanic or Latino "
                  }
                ],

```

```

        "text": "Not Hispanic or Latino "
      }],
    "identifier": [
      {
        "type": {
          "coding": [
            {
              "system": "http://hl7.org/fhir/v2/0203",
              "code": "MR",
              "display": "Medical record number"
            }
          ],
          "text": "Medical record number"
        },
        "system": "urn:oid:2.16.840.1.113883.3.345.3",
        "value": "A89-B23"
      }
    ],
    "active": true,
    "name": [
      {
        "text": "Robert Smith",
        "family": "Smith",
        "given": [
          "Robert"
        ]
      }
    ],
    "telecom": [
      {
        "system": "phone",
        "value": "(513) 111-2222",
        "use": "home"
      },
      {
        "system": "phone",
        "value": "(513) 222-3333",
        "use": "mobile"
      },
      {
        "system": "email",
        "value": "rsmith@email.com"
      }
    ],
    "gender": "male",
    "birthDate": "1965-09-23",
    "address": [
      {
        "line": [
          "1175 Central Street"
        ],
        "city": "Cincinnati",
        "state": "OH",
        "postalCode": "45211"
      }
    ],
    "maritalStatus": {
      "coding": [
        {
          "system": "http://hl7.org/fhir/ValueSet/marital-status",
          "code": "M",

```

```

        "display": "Married"
    }},
    "communication": [
        {
            "language": {
                "coding": [
                    {
                        "system": "http://hl7.org/fhir/valueset-languages.html",
                        "code": "en"
                    }
                ],
                "text": "English"
            }
        }
    ],
    "managingOrganization": {
        "display": "2c92a6bc70c50de60170f96e538a028e"
    }
}
]
}

```

Condition (Problems)

Description	Retrieves a patient's conditions (problems).
Method	GET
Supported Interactions	<ul style="list-style-type: none">• Search• Read
Response Format	application/JSON

Parameters

The following search parameters are supported for the Condition resource.

Note: If no entries are available for the specified parameters, a 404 response code is received. For an example of this response, see ["Not Found Response" on page 12](#).

Parameter	Description	Type	Req'd
patient	The patient's unique identifier. The patient identifier can be retrieved by performing a patient search. For more information, see "Patient" on page 14 .	string	Y
identifier	The unique identifier for a specific clinical entry. The clinical entry identifier can be retrieved by performing a search for a patient's conditions.	string	N
startDate	A date used to filter entries by clinically relevant date, in the following format: <i>yyyy-mm-dd</i> If a start date is specified, only entries with a clinically relevant date that occurs on or after the specified start date are returned. Note: A start date may be used with or without an end date.	date	N
endDate	A date used to filter entries by clinically relevant date, in the following format: <i>yyyy-mm-dd</i> If an end date is specified, only entries with a clinically relevant date that occurs on or before the specified end date are returned. Note: An end date may be used with or without a start date.	date	N

Response Fields

The following fields may appear in a JSON response for the Condition resource.

Field	Description	Type	Cardinality
resourceType	Identifies the resource.	Condition	1..1
id	The unique identifier for the clinical entry.	Identifier	1..1
clinicalStatus	The status of the condition. Supported values include active or inactive.	code	0..1
category	A category assigned to the condition. Problem is the only supported value.	CodeableConcept	1..1
code	The identified problem.	CodeableConcept	0..1
subject	The patient associated with the condition, described by the patient's unique identifier preceded by <i>Patient/</i> .	Reference(Patient)	1..1
onsetDateTime	The actual or estimated date and time the condition began.	dateTime	0..1

Example Requests and Responses

Note: For information about the environments represented by *base_url* in the examples below, [see "API Endpoints" on page 8](#).

Read - Request

Returns a single condition entry for the patient using the specified clinical entry identifier:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/Condition/  
2c92a6117946c196017947ccadda0e77
```

Read - Response (JSON)

```
{  
  "resourceType": "Condition",  
  "id": "2c92a6117946c196017947ccadda0e77",  
  "clinicalStatus": {  
    "coding": [  
      {  
        "system": "active",  
        "code": "http://terminology.hl7.org/CodeSystem/condition-clinical",  
        "display": "Active"  
      }  
    ],  
    "text": "Active"  
  },  
  "verificationStatus": {  
    "coding": [  
      {  

```

```

        "system": "unconfirmed",
        "code": "http://terminology.hl7.org/CodeSystem/condition-ver-status",
        "display": "Unconfirmed"
      }
    ],
    "text": "Unconfirmed"
  },
  "category": [
    {
      "coding": [
        {
          "system": "http://hl7.org/fhir/condition-category",
          "code": "problem",
          "display": "Problem"
        }
      ]
    }
  ],
  "code": {
    "coding": [
      {
        "system": "icd10cm",
        "code": "I50.2",
        "display": "Systolic (congestive) heart failure"
      }
    ]
  },
  "subject": {
    "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
  },
  "onsetDateTime": "2021-04-02T00:00:00+00:00"
}

```

Search - Request

Returns one or more condition entries (as a bundle) for the patient in the specified date range:

GET https://base_url/quantum-ehr-fhir-server/fhir/Condition?patient=2c92a61179378ae2017938b606d04c0f&startDate=2021-01-01&endDate=2021-05-31

Search - Response (JSON)

Note: Only a portion of the response is included for this example.

```

{
  "resourceType": "Bundle",
  "id": "5e6b4e77-c782-44fb-aa12-e6b70f0ac9c1",
  "meta": {
    "lastUpdated": "2021-05-11T15:29:36.526+00:00"
  },
  "type": "searchset",
  "total": 2,

```

```

"link": [
  {
    "relation": "self",
    "url": "https://base_url/quantum-ehr-fhir-server/fhir/Condition?endDate=2021-05-31&patient=2c92a61179378ae2017938b606d04c0f&startDate=2021-01-01"
  }
],
"entry": [
  {
    "fullUrl": "https://base_url/quantum-ehr-fhir-server/fhir/Condition/2c92a6117946c196017947cb8ab20e76",
    "resource": {
      "resourceType": "Condition",
      "id": "2c92a6117946c196017947cb8ab20e76",
      "clinicalStatus": {
        "coding": [
          {
            "system": "active",
            "code": "http://terminology.hl7.org/CodeSystem/condition-clinical",
            "display": "Active"
          }
        ],
        "text": "Active"
      },
      "verificationStatus": {
        "coding": [
          {
            "system": "unconfirmed",
            "code": "http://terminology.hl7.org/CodeSystem/condition-ver-status",
            "display": "Unconfirmed"
          }
        ],
        "text": "Unconfirmed"
      },
      "category": [
        {
          "coding": [
            {
              "system": "http://hl7.org/fhir/condition-category",
              "code": "problem",
              "display": "Problem"
            }
          ]
        }
      ]
    }
  ],

```


Smoking Status

Description	Retrieves a patient's smoking status. Note: The SmokingStatus resource is an implementation of the FHIR Observation resource.
Method	GET
Supported Interactions	<ul style="list-style-type: none">• Search• Read
Response Format	application/JSON

Parameters

The following search parameters are supported for the Smoking Status resource.

Note: If no entries are available for the specified parameters, a 404 response code is received. For an example of this response, see ["Not Found Response" on page 12](#).

Parameter	Description	Type	Required
patient	The patient's unique identifier. The patient identifier can be retrieved by performing a patient search. For more information, see "Patient" on page 14 .	string	Y
identifier	The unique identifier for a specific clinical entry. The clinical entry identifier can be retrieved by performing a search for a patient's smoking status.	string	N
startDate	A date used to filter entries by clinically relevant date, in the following format: <i>yyyy-mm-dd</i> If a start date is specified, only entries with a clinically relevant date that occurs on or after the specified start date are returned. Note: A start date may be used with or without an end date.	date	N
endDate	A date used to filter entries by clinically relevant date, in the following format: <i>yyyy-mm-dd</i> If an end date is specified, only entries with a clinically relevant date that occurs on or before the specified end date are returned. Note: An end date may be used with or without a start date.	date	N

Response Fields

The following fields may appear in a JSON response for the Smoking Status resource.

Field	Description	Type	Cardinality
resourceType	Identifies the resource.	SmokingStatus	1..1
id	The unique identifier for the clinical entry.	Identifier	1..1
status	The status of the observation. Final is the only supported value.	code	1..1
category	Classifies the general type of observation being made.	CodeableConcept	1..1
code	Observation's type or code.	CodeableConcept	1..1
subject	The patient associated with the smoking status, described by the patient's unique identifier preceded by <i>Patient/</i> .	Reference(Patient Group Device Location)	1..1
issued	The date and time this observation was recorded.	instant	0..1
valueCodeableConcept	The smoking status.	CodeableConcept	0..1

Example Requests and Responses

Note: For information about the environments represented by *base_url* in the examples below, see ["API Endpoints" on page 8](#).

Read - Request

Returns a single smoking status entry for the patient using the specified clinical entry identifier:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/SmokingStatus/  
2c92a611794242da017942e22daf11bd
```

Read - Response (JSON)

```
{  
  "resourceType": "SmokingStatus",  
  "id": "2c92a611794242da017942e22daf11bd",  
  "meta": {  
    "profile": [  
      "http://hl7.org/fhir/Observation"  
    ]  
  },  
  "text": {  
    "status": "generated",  
    "div": "<div xmlns='\"http://www.w3.org/1999/xhtml\"'><p>Start Date/Age: 4/2021; Notes:  
As of 5/6/2021</p></div>"  
  },  
  "status": "final",
```

```

"category": [
  {
    "coding": [
      {
        "system": "http://hl7.org/fhir/observation-category",
        "code": "social-history",
        "display": "Social History"
      }
    ],
    "text": "Social History"
  }
],
"code": {
  "coding": [
    {
      "system": "http://loinc.org",
      "code": "72166-2",
      "display": "Tobacco smoking status NHIS"
    }
  ]
},
"subject": {
  "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
},
"effectiveDateTime": "2021-05-06T18:13:09+00:00",
"issued": "2021-05-06T18:13:09.679+00:00",
"valueCodeableConcept": {
  "coding": [
    {
      "system": "http://snomed.info",
      "code": "428041000124106",
      "display": "Current some day smoker"
    }
  ],
  "text": "Current some day smoker"
}
}

```

Search - Request

Returns one or more smoking status entries (as a bundle) for the patient in the specified date range:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/SmokingStatus?patient=
2c92a61179378ae2017938b606d04c0f&startDate=2021-05-01&endDate=2021-05-31
```

Search - Response (JSON)

Note: Only a portion of the response is included for this example.

```

{
  "resourceType": "Bundle",
  "id": "784b803c-29bb-4a9e-8359-1e1e9db87d61",

```

```

"meta": {
  "lastUpdated": "2021-05-11T15:33:36.279+00:00"
},
"type": "searchset",
"total": 2,
"link": [
  {
    "relation": "self",
    "url": "https://base_url/quanum-ehr-fhir-server/fhir/SmokingStatus?endDate=2021-05-31&patient=2c92a61179378ae2017938b606d04c0f&startDate=2021-05-01"
  }
],
"entry": [
  {
    "fullUrl": "https://base_url/quanum-ehr-fhir-server-fhir/SmokingStatus/2c92a611794242da017942e22daf11bd",
    "resource": {
      "resourceType": "SmokingStatus",
      "id": "2c92a611794242da017942e22daf11bd",
      "meta": {
        "profile": [
          "http://hl7.org/fhir/Observation"
        ]
      },
      "text": {
        "status": "generated",
        "div": "<div xmlns='http://www.w3.org/1999/xhtml'><p>Start Date/Age: 4/2021; Notes: As of 5/6/2021</p></div>"
      },
      "status": "final",
      "category": [
        {
          "coding": [
            {
              "system": "http://hl7.org/fhir/observation-category",
              "code": "social-history",
              "display": "Social History"
            }
          ],
          "text": "Social History"
        }
      ],
      "code": {
        "coding": [
          {
            "system": "http://loinc.org",
            "code": "72166-2",
            "display": "Tobacco smoking status NHIS"
          }
        ]
      }
    }
  }
]

```

Medication Statement

Description	Retrieves a patient's medication history, not including vaccines. For information about retrieving vaccines, see "Immunization" on page 57 .
Method	GET
Supported Interactions	<ul style="list-style-type: none">• Search• Read
Response Format	application/JSON

Parameters

The following search parameters are supported for the Medication Statement resource.

Note: If no entries are available for the specified parameters, a 404 response code is received. For an example of this response, see ["Not Found Response" on page 12](#).

Parameter	Description	Type	Req'd
patient	The patient's unique identifier. The patient identifier can be retrieved by performing a patient search. For more information, see "Patient" on page 14 .	string	Y
identifier	The unique identifier for a specific clinical entry. The clinical entry identifier can be retrieved by performing a search for a patient's medications.	string	N
startDate	<p>A date used to filter entries by clinically relevant date, in the following format:</p> <p><i>yyyy-mm-dd</i></p> <p>If a start date is specified, only entries with a clinically relevant date that occurs on or after the specified start date are returned.</p> <p>Note: A start date may be used with or without an end date.</p>	date	N
endDate	<p>A date used to filter entries by clinically relevant date, in the following format:</p> <p><i>yyyy-mm-dd</i></p> <p>If an end date is specified, only entries with a clinically relevant date that occurs on or before the specified end date are returned.</p> <p>Note: An end date may be used with or without a start date.</p>	date	N

Response Fields

The following fields may appear in a JSON response for the Medication Statement resource.

Field	Description	Type	Cardinality
resourceType	Identifies the resource.	MedicationStatement	1..1
id	The unique identifier for the clinical entry.	Identifier	1..1
status	Indicates the status of the medication. Supported values included active, completed, entered-in-error, or intended.	code	1..1
medicationCodeableConcept	The medication that was taken or is being taken.	CodeableConcept	1..1
effectivePeriod	The period of time that the medication was taken.	Period	0..1
dateAsserted	The date/time that the medication was issued.	dateTime	1..1
subject	The patient associated with the medication, described by the patient's unique identifier preceded by <i>Patient/</i> .	Reference(Patient Group)	1..1
dosage	Indicates how the medication is/was being taken.	Dosage	1..1
reasonCode	An associated diagnosis.	CodeableConcept	0..*

Example Requests and Responses

Note: For information about the environments represented by *base_url* in the examples below, [see "API Endpoints" on page 8](#).

Read - Request

Returns a single medication entry for the patient using the specified clinical entry identifier:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/MedicationStatement/2c92a6117946c1960179481fcc721d8d
```

Read - Response (JSON)

```
{
  "resourceType": "MedicationStatement",
  "id": "2c92a6117946c1960179481fcc721d8d",
  "status": "active",
  "medicationCodeableConcept": {
    "coding": [
```

```

        {
          "system": "http://www.nlm.nih.gov/research/umls/rxnorm",
          "display": "lidocaine-phenylephrine ophthalmic"
        }
      ],
      "text": "lidocaine-phenylephrine ophthalmic 10 mg-15 mg/mL solution"
    },
    "subject": {
      "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
    },
    "effectivePeriod": {
      "start": "2021-04-28T00:00:00+00:00"
    },
    "dateAsserted": "2021-04-28T00:00:00+00:00",
    "dosage": [
      {
        "text": "1 drop solution ",
        "route": {
          "coding": [
            {
              "system": "http://hl7.org/fhir/ValueSet/route-codes",
              "code": "INTO"
            }
          ]
        }
      }
    ]
  }
}

```

Search - Request

Returns one or more medication entries (as a bundle) for the patient in the specified date range:

GET https://base_url/quanum-ehr-fhir-server/fhir/MedicationStatement?patient=2c92a61179378ae2017938b606d04c0f&startDate=2021-05-01&endDate=2021-06-01

Search - Response (JSON)

```

{
  "resourceType": "Bundle",
  "id": "f0fad769-8620-43d5-b0d5-18be5cd10a41",
  "meta": {
    "lastUpdated": "2021-05-07T14:52:40.974+00:00"
  },
  "type": "searchset",
  "total": 1,
  "link": [
    {
      "relation": "self",
      "url": "https://base_url/quanum-ehr-fhir-server-
/fhir/MedicationStatement?endDate=2021-06-01&pa-
tient=2c92a61179378ae2017938b606d04c0f&startDate=2021-05-01"
    }
  ]
}

```

```

    }
  ],
  "entry": [
    {
      "fullUrl": "https://base_url/quanum-ehr-fhir-server-
/fhir/MedicationStatement/2c92a6117946c1960179481db8b91d8b",
      "resource": {
        "resourceType": "MedicationStatement",
        "id": "2c92a6117946c1960179481db8b91d8b",
        "status": "active",
        "medicationCodeableConcept": {
          "coding": [
            {
              "system": "http://www.nlm.nih.gov/research/umls/rxnorm",
              "code": "855318",
              "display": "warfarin"
            }
          ],
          "text": "warfarin 3 mg tablet"
        },
        "subject": {
          "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
        },
        "effectivePeriod": {
          "start": "2021-05-07T00:00:00+00:00",
          "end": "2021-08-05T00:00:00+00:00"
        },
        "dateAsserted": "2021-05-07T00:00:00+00:00",
        "dosage": [
          {
            "text": "1 tablet take as directed",
            "timing": {
              "code": {
                "coding": [
                  {
                    "code": "As Directed",
                    "display": "take as directed"
                  }
                ],
                "text": "take as directed"
              }
            },
            "route": {
              "coding": [
                {
                  "system": "http://hl7.org/fhir/ValueSet/route-codes",
                  "code": "PO",
                  "display": "PO (Oral)"
                }
              ]
            }
          }
        ]
      }
    }
  ]
}

```



```

    ]
  },
  "doseAndRate": [
    {
      "doseQuantity": {
        "value": 1
      }
    }
  ]
}

```

Allergy Intolerance

Description	Retrieves a patient's allergies/adverse reactions to foods, medications, substances, or devices.
Method	GET
Supported Interactions	<ul style="list-style-type: none">• Search• Read
Response Format	application/JSON

Parameters

The following search parameters are supported for the Allergy Intolerance resource.

Note: If no entries are available for the specified parameters, a 404 response code is received. For an example of this response, see ["Not Found Response" on page 12](#).

Parameter	Description	Type	Req'd
patient	The patient's unique identifier. The patient identifier can be retrieved by performing a patient search. For more information, see "Patient" on page 14 .	string	Y
identifier	The unique identifier for a specific clinical entry. The clinical entry identifier can be retrieved by performing a search for a patient's allergies.	string	N
startDate	<p>A date used to filter entries by clinically relevant date, in the following format:</p> <p><i>yyyy-mm-dd</i></p> <p>If a start date is specified, only entries with a clinically relevant date that occurs on or after the specified start date are returned.</p> <p>Note: A start date may be used with or without an end date.</p>	date	N
endDate	<p>A date used to filter entries by clinically relevant date, in the following format:</p> <p><i>yyyy-mm-dd</i></p> <p>If an end date is specified, only entries with a clinically relevant date that occurs on or before the specified end date are returned.</p> <p>Note: An end date may be used with or without a start date.</p>	date	N

Response Fields

The following fields may appear in a JSON response for the Allergy Intolerance resource.

Field	Description	Type	Cardinality
resourceType	Identifies the resource.	AllergyIntolerance	1..1
id	The unique identifier for the clinical entry.	Identifier	1..1
clinicalStatus	The clinical status of the allergy. Supported values include active or inactive.	code	1..1
type	The underlying physiological mechanism for the reaction risk. The only supported value is allergy.	code	1..1
category	The category of the identified substance. Supported values include food, medication, or environment.	code	0..1
patient	The patient associated with the allergy, described by the patient's unique identifier preceded by <i>Patient/</i> .	Reference(Patient)	1..1
onsetPeriod	The period of time when the allergy was identified, defined by a start and end date/time.	dateTime	0..1
assertedDate	The date and time on which the existence of the allergy was first declared or acknowledged.	dateTime	0..1
reaction	Details about the adverse reaction to an identified substance.	BackboneElement	0..1
substance	The specific substance that is considered responsible for the adverse reaction.	CodeableConcept	0..1
manifestation	The clinical symptoms and/or signs that are observed or associated with the adverse reaction.	CodeableConcept	1..*
onset	The date and/or time of the onset of the reaction.	dateTime	0..1
severity	The clinical assessment of the severity of the adverse reaction as a whole. Supported values include mild, moderate, or severe.	code	0..1
note	Additional text about the adverse reaction not captured in other fields.	Annotation	0..*

Example Requests and Responses

Note: For information about the environments represented by *base_url* in the examples below, see ["API Endpoints" on page 8](#).

Read - Request

Returns a single allergy entry for the patient using the specified clinical entry identifier:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/AllergyIntolerance/
2c92a61179378ae2017938d08a43551a
```

Read - Response (JSON)

```
{
  "resourceType": "AllergyIntolerance",
  "id": "2c92a61179378ae2017938d08a43551a",
  "clinicalStatus": {
    "coding": [
      {
        "system": "active",
        "code": "http://terminology.hl7.org/CodeSystem/allergyintolerance-clinical",
        "display": "Active"
      }
    ],
    "text": "Active"
  },
  "verificationStatus": {
    "coding": [
      {
        "system": "confirmed",
        "code": "http://terminology.hl7.org/CodeSystem/allergyintolerance-verification",
        "display": "Confirmed"
      }
    ],
    "text": "Confirmed"
  },
  "type": "allergy",
  "category": [
    "medication"
  ],
  "code": {
    "coding": [
      {
        "display": "amoxicillin"
      }
    ]
  },
  "patient": {
    "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
  },
  "onsetPeriod": {
```

```

    "start": "2019-11-09T00:00:00-05:00"
  },
  "recordedDate": "2021-05-04T19:17:41+00:00",
  "reaction": [
    {
      "substance": {
        "coding": [
          {
            "system": "http://www.nlm.nih.gov/research/umls/rxnorm",
            "code": "723",
            "display": "amoxicillin"
          }
        ],
        "text": "amoxicillin"
      },
      "manifestation": [
        {
          "coding": [
            {
              "display": "No known"
            }
          ],
          "text": "No known"
        }
      ],
      "onset": "2019-11-09T00:00:00-05:00",
      "severity": "moderate"
    }
  ]
}

```

Search - Request

Returns one or more allergy entries (as a bundle) for the patient in the specified date range:

GET https://base_url/quanum-ehr-fhir-server/fhir/AllergyIntolerance?patient=2c92a61179378ae2017938b606d04c0f&startDate=2021-05-01&endDate=2021-05-15

Search - Response (JSON)

Note: Only a portion of the response is included for this example.

```

{
  "resourceType": "Bundle",
  "id": "d547deec-2c65-4015-8b9a-61b2a53c4d08",
  "meta": {
    "lastUpdated": "2021-05-11T15:19:45.390+00:00"
  },
  "type": "searchset",
  "total": 3,
  "link": [
    {

```

```

    "relation": "self",
    "url": "https://base_url/quanum-ehr-fhir-server/fhir/AllergyIntolerance/?endDate=2021-05-15&patient=2c92a61179378ae2017938b606d04c0f&startDate=2021-05-01"
  },
  "entry": [
    {
      "fullUrl": "https://base_url/quanum-ehr-fhir-server-fhir/AllergyIntolerance/2c92a61179378ae2017938d08a43551a",
      "resource": {
        "resourceType": "AllergyIntolerance",
        "id": "2c92a61179378ae2017938d08a43551a",
        "clinicalStatus": {
          "coding": [
            {
              "system": "active",
              "code": "http://terminology.hl7.org/CodeSystem/allergyintolerance-clinical",
              "display": "Active"
            }
          ],
          "text": "Active"
        },
        "verificationStatus": {
          "coding": [
            {
              "system": "confirmed",
              "code": "http://terminology.hl7.org/CodeSystem/allergyintolerance-verification",
              "display": "Confirmed"
            }
          ],
          "text": "Confirmed"
        },
        "type": "allergy",
        "category": [
          "medication"
        ],
        "code": {
          "coding": [
            {
              "display": "amoxicillin"
            }
          ]
        },
        "patient": {
          "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
        },
        "onsetPeriod": {
          "start": "2019-11-09T00:00:00-05:00"
        }
      }
    }
  ]
}

```

```

    },
    "recordedDate": "2021-05-04T19:17:41+00:00",
    "reaction": [
      {
        "substance": {
          "coding": [
            {
              "system": "http://www.nlm.nih.gov/research/umls/rxnorm",
              "code": "723",
              "display": "amoxicillin"
            }
          ],
          "text": "amoxicillin"
        },
        "manifestation": [
          {
            "coding": [
              {
                "display": "No known"
              }
            ],
            "text": "No known"
          }
        ],
        "onset": "2019-11-09T00:00:00-05:00",
        "severity": "moderate"
      }
    ]
  },
}

```

Vital Signs

Description	Retrieves a patient's vital signs, including weight, height, temperature, pulse/heart rate, respiration, oxygen saturation, body mass index (BMI), blood pressure, and head circumference. Note: The VitalSigns resource is an implementation of the FHIR Observation resource.
Method	GET
Supported Interactions	<ul style="list-style-type: none">• Search• Read
Response Format	application/JSON

Parameters

The following search parameters are supported for the Vital Signs resource.

Note: If no entries are available for the specified parameters, a 404 response code is received. For an example of this response, see ["Not Found Response" on page 12](#).

Parameter	Description	Type	Req'd
patient	The patient's unique identifier. The patient identifier can be retrieved by performing a patient search. For more information, see "Patient" on page 14 .	string	Y
identifier	The unique identifier for a specific clinical entry. The clinical entry identifier can be retrieved by performing a search for a patient's vital signs.	string	N
category	One of the following vital sign categories: <ul style="list-style-type: none">• Weight• Height• Temperature• HeartRate• RespiratoryRate• OxygenSaturation• BodyMassIndex• BloodPressure• HeadCircumference	string	N
startDate	A date used to filter entries by clinically relevant date, in the following format: <i>yyyy-mm-dd</i>	date	N

Parameter	Description	Type	Req'd
	<p>If a start date is specified, only entries with a clinically relevant date that occurs on or after the specified start date are returned.</p> <p>Note: A start date may be used with or without an end date.</p>		
endDate	<p>A date used to filter entries by clinically relevant date, in the following format:</p> <p><i>yyyy-mm-dd</i></p> <p>If an end date is specified, only entries with a clinically relevant date that occurs on or before the specified end date are returned.</p> <p>Note: An end date may be used with or without a start date.</p>	date	N

Response Fields

The following fields may appear in a JSON response for the Vital Signs resource.

Field	Description	Type	Cardinality
resourceType	Identifies the resource.	Condition	1..1
id	The unique identifier for the vital sign, made up of the clinical entry identifier followed by a - (hyphen) and the category.	Identifier	1..1
status	The status of the vital result. Final is the only supported value.	code	1..1
category	Classifies the general type of observation being made.	CodeableConcept	0..*
code	The vital sign's code and/or description.	CodeableConcept	1..1
subject	The patient associated with the vital sign, described by the patient's unique identifier preceded by <i>Patient/</i> .	Reference(Patient Group Device Location)	1..1
context	The clinical entry identifier for the encounter during which the vital sign was recorded.	Reference (Encounter EpisodeOfCare)	0..1
issued	The date and time the vitals were recorded.	instant	0..1
valueQuantity	The vital result value and unit of measure.	Quantity	0..1

Example Requests and Responses

Note: For information about the environments represented by *base_url* in the examples below, see ["API Endpoints" on page 8](#).

Read - Request

Returns a single blood pressure vital sign entry for the patient using the specified vital sign identifier:

```
GET https://base_url/quanum-ehr-fhir-server/fhir/VitalSigns/
2c92a61179378ae2017938d3dd145a10-BloodPressure
```

Read - Response (JSON)

```
{
  "resourceType": "VitalSigns",
  "id": "2c92a61179378ae2017938d3dd145a10-BloodPressure",
  "meta": {
    "profile": [
      "http://hl7.org/fhir/Observation"
    ]
  },
  "status": "final",
  "category": [
    {
      "coding": [
        {
          "system": "http://hl7.org/fhir/observation-category",
          "code": "vital-signs",
          "display": "Vital Signs"
        }
      ],
      "text": "Vital Signs"
    }
  ],
  "code": {
    "coding": [
      {
        "system": "http://loinc.org",
        "code": "85354-9",
        "display": "Blood pressure panel with all children optional"
      }
    ],
    "text": "Blood pressure panel with all children optional"
  },
  "subject": {
    "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
  },
  "encounter": {
    "display": "2c92a61179378ae2017938d3dd2f5a11"
  },
  "effectiveDateTime": "2021-02-02T05:00:00-05:00",
```

```

"issued": "2021-02-02T05:00:00.000-05:00",
"component": [
  {
    "code": {
      "coding": [
        {
          "system": "http://loinc.org",
          "code": "8480-6",
          "display": "Systolic blood pressure"
        }
      ],
      "text": "Systolic blood pressure"
    },
    "valueQuantity": {
      "value": 127,
      "unit": "mmHg",
      "system": "http://unitsofmeasure.org",
      "code": "mm[Hg]"
    }
  },
  {
    "code": {
      "coding": [
        {
          "system": "http://loinc.org",
          "code": "8462-4",
          "display": "Diastolic blood pressure"
        }
      ],
      "text": "Diastolic blood pressure"
    },
    "valueQuantity": {
      "value": 87,
      "unit": "mmHg",
      "system": "http://unitsofmeasure.org",
      "code": "mm[Hg]"
    }
  }
]
}

```

Search - Request

Returns one or more BMI vital sign entries (as a bundle) for the patient:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/VitalSigns?patient=
2c92a61179378ae2017938b606d04c0f&category=BodyMassIndex
```

Search - Response (JSON)

```
{
  "resourceType": "Bundle",
  "id": "89ef2f97-a64d-40df-b96e-c2523bf67ce3",
  "meta": {
    "lastUpdated": "2021-05-07T15:07:29.989+00:00"
  },
  "type": "searchset",
  "total": 3,
  "link": [
    {
      "relation": "self",
      "url": "https://base_url/quantum-ehr-fhir-server-
/fhir/VitalSigns?category=BodyMassIndex&patient=2c92a61179378ae2017938b606d04c0f"
    }
  ],
  "entry": [
    {
      "fullUrl": "https://base_url/quantum-ehr-fhir-server-
/fhir/VitalSigns/2c92a61179378ae2017938dabeca6dfa-BodyMassIndex",
      "resource": {
        "resourceType": "VitalSigns",
        "id": "2c92a61179378ae2017938dabeca6dfa-BodyMassIndex",
        "meta": {
          "profile": [
            "http://hl7.org/fhir/Observation"
          ]
        },
        "status": "final",
        "category": [
          {
            "coding": [
              {
                "system": "http://hl7.org/fhir/observation-category",
                "code": "vital-signs",
                "display": "Vital Signs"
              }
            ],
            "text": "Vital Signs"
          }
        ],
        "code": {
          "coding": [
            {
```

```

        "system": "http://loinc.org",
        "code": "39156-5",
        "display": "Body mass index (BMI) [Ratio]"
    }
],
    "text": "Body mass index (BMI) [Ratio]"
},
"subject": {
    "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
},
"encounter": {
    "display": "2c92a61179378ae2017938dabee16dfb"
},
"effectiveDateTime": "2021-04-04T04:00:00+00:00",
"issued": "2021-04-04T04:00:00.000+00:00",
"valueQuantity": {
    "value": 34.933998107910159,
    "unit": "kg/m2",
    "system": "http://unitsofmeasure.org",
    "code": "kg/m2"
}
}
},
{
    "fullUrl": "https://base_url/quantum-ehr-fhir-server-
/fhir/VitalSigns/2c92a61179378ae2017938d861956405-BodyMassIndex",
    "resource": {
        "resourceType": "VitalSigns",
        "id": "2c92a61179378ae2017938d861956405-BodyMassIndex",
        "meta": {
            "profile": [
                "http://hl7.org/fhir/Observation"
            ]
        },
        "status": "final",
        "category": [
            {
                "coding": [
                    {
                        "system": "http://hl7.org/fhir/observation-category",
                        "code": "vital-signs",
                        "display": "Vital Signs"
                    }
                ],
                "text": "Vital Signs"
            }
        ],
        "code": {
            "coding": [

```

```

      {
        "system": "http://loinc.org",
        "code": "39156-5",
        "display": "Body mass index (BMI) [Ratio]"
      }
    ],
    "text": "Body mass index (BMI) [Ratio]"
  },
  "subject": {
    "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
  },
  "encounter": {
    "display": "2c92a61179378ae2017938d861aa6406"
  },
  "effectiveDateTime": "2021-03-03T05:00:00-05:00",
  "issued": "2021-03-03T05:00:00.000-05:00",
  "valueQuantity": {
    "value": 31.64179039001465,
    "unit": "kg/m2",
    "system": "http://unitsofmeasure.org",
    "code": "kg/m2"
  }
}
},
{
  "fullUrl": "https://base_url/quantum-ehr-fhir-server-
/fhir/VitalSigns/2c92a61179378ae2017938d3dd145a10-BodyMassIndex",
  "resource": {
    "resourceType": "VitalSigns",
    "id": "2c92a61179378ae2017938d3dd145a10-BodyMassIndex",
    "meta": {
      "profile": [
        "http://hl7.org/fhir/Observation"
      ]
    },
    "status": "final",
    "category": [
      {
        "coding": [
          {
            "system": "http://hl7.org/fhir/observation-category",
            "code": "vital-signs",
            "display": "Vital Signs"
          }
        ],
        "text": "Vital Signs"
      }
    ],
    "code": {

```

```

    "coding": [
      {
        "system": "http://loinc.org",
        "code": "39156-5",
        "display": "Body mass index (BMI) [Ratio]"
      }
    ],
    "text": "Body mass index (BMI) [Ratio]"
  },
  "subject": {
    "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
  },
  "encounter": {
    "display": "2c92a61179378ae2017938d3dd2f5a11"
  },
  "effectiveDateTime": "2021-02-02T05:00:00-05:00",
  "issued": "2021-02-02T05:00:00.000-05:00",
  "valueQuantity": {
    "value": 34.202396392822269,
    "unit": "kg/m2",
    "system": "http://unitsofmeasure.org",
    "code": "kg/m2"
  }
}
]
}

```

Procedure

Description	Retrieves a patient's procedures.
Method	GET
Supported Interactions	<ul style="list-style-type: none">• Search• Read
Response Format	application/JSON

Parameters

The following search parameters are supported for the Procedure resource.

Note: If no entries are available for the specified parameters, a 404 response code is received. For an example of this response, see ["Not Found Response" on page 12](#).

Parameter	Description	Type	Req'd
patient	The patient's unique identifier. The patient identifier can be retrieved by performing a patient search. For more information, see "Patient" on page 14 .	string	Y
identifier	The unique identifier for the procedure, made up the clinical entry identifier, or the clinical entry identifier followed by the procedure key. The identifier can be retrieved by performing a search for a patient's procedures.	string	N
startDate	<p>A date used to filter entries by clinically relevant date, in the following format:</p> <p><i>yyyy-mm-dd</i></p> <p>If a start date is specified, only entries with a clinically relevant date that occurs on or after the specified start date are returned.</p> <p>Note: A start date may be used with or without an end date.</p>	date	N
endDate	<p>A date used to filter entries by clinically relevant date, in the following format:</p> <p><i>yyyy-mm-dd</i></p> <p>If an end date is specified, only entries with a clinically relevant date that occurs on or before the specified end date are returned.</p> <p>Note: An end date may be used with or without a start date.</p>	date	N

Response Fields

The following fields may appear in a JSON response for the Procedure resource.

Field	Description	Type	Cardinality
resourceType	Identifies the resource.	Procedure	1..1
id	The unique identifier for the procedure, made up the clinical entry identifier, or the clinical entry identifier followed by a - (hyphen) and the procedure key.	Identifier	1..1
status	Identifies the state of the procedure. Completed is the only supported value.	code	1..1
subject	The patient associated with the procedure, described by the patient's unique identifier preceded by <i>Patient/</i> .	Reference(Patient Group)	1..1
code	The performed procedure.	CodeableConcept	0..1
performedDateTime	The date and time the procedure was performed.	dateTime	0..1
performer	The clinician or provider who performed the procedure.	BackboneElement	0..1

Example Requests and Responses

Note: For information about the environments represented by *base_url* in the examples below, [see "API Endpoints" on page 8.](#)

Read - Request

Returns a single procedure entry for the patient using the specified clinical entry identifier:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/Procedure/
2c92a61179378ae2017938d3dd2f5a11-149787
```

Read - Response (JSON)

```
{
  "resourceType": "Procedure",
  "id": "2c92a61179378ae2017938d3dd2f5a11-149787",
  "meta": {
    "tag": [
      {
        "system": "urn:quest:quantum:source",
        "display": "Quantum-EHR"
      }
    ]
  },
  "status": "completed",
  "code": {
```

```

    "coding": [
      {
        "system": "http://www.ama-assn.org/go/cpt",
        "code": "V5008",
        "display": "Hearing screening"
      }
    ],
  },
  "subject": {
    "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
  },
  "performedDateTime": "2021-02-02T05:00:00-05:00",
  "performer": [
    {
      "actor": {
        "id": "2c92a6bb71ab7d2d0171ac0db3a01a2b",
        "display": "Pam Johnson"
      }
    }
  ]
}

```

Search - Request

Returns one or more procedure entries (as a bundle) for the patient in the specified date range:

GET https://base_url/quantum-ehr-fhir-server/fhir/Procedure?patient=2c92a61179378ae2017938b606d04c0f&startDate=2021-02-01&endDate=2021-04-01

Search - Response (JSON)

Note: Only a portion of the response is included for this example.

```

{
  "resourceType": "Bundle",
  "id": "16957f18-46ed-4917-94c2-86dca12a9edf",
  "meta": {
    "lastUpdated": "2021-05-07T15:28:43.538+00:00"
  },
  "type": "searchset",
  "total": 2,
  "link": [
    {
      "relation": "self",
      "url": "https://base_url/quantum-ehr-fhir-server/fhir/Procedure/?endDate=2021-04-01&patient=2c92a61179378ae2017938b606d04c0f&startDate=2021-02-01"
    }
  ],
  "entry": [
    {
      "fullUrl": "https://base_url/quantum-ehr-fhir-server-/fhir/Procedure/2c92a61179378ae2017938d3dd2f5a11-149787",

```

```

"resource": {
  "resourceType": "Procedure",
  "id": "2c92a61179378ae2017938d3dd2f5a11-149787",
  "meta": {
    "tag": [
      {
        "system": "urn:quest:quanum:source",
        "display": "Quanum-EHR"
      }
    ]
  },
  "status": "completed",
  "code": {
    "coding": [
      {
        "system": "http://www.ama-assn.org/go/cpt",
        "code": "V5008",
        "display": "Hearing screening"
      }
    ]
  },
  "subject": {
    "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
  },
  "performedDateTime": "2021-02-02T05:00:00-05:00",
  "performer": [
    {
      "actor": {
        "id": "2c92a6bb71ab7d2d0171ac0db3a01a2b",
        "display": "Pam Johnson"
      }
    }
  ]
}
},

```

Lab Results

Description	Retrieves a patient's lab results. Note: The LabResults resource is an implementation of the FHIR Observation resource.
Method	GET
Supported Interactions	<ul style="list-style-type: none">• Search• Read
Response Format	application/JSON

Parameters

The following search parameters are supported for the Lab Results resource.

Note: If no entries are available for the specified parameters, a 404 response code is received. For an example of this response, see ["Not Found Response" on page 12](#).

Parameter	Description	Type	Req'd
patient	The patient's unique identifier. The patient identifier can be retrieved by performing a patient search. For more information, see "Patient" on page 14 .	string	Y
identifier	The unique identifier for a specific clinical entry. The clinical entry identifier can be retrieved by performing a search for a patient's lab results.	string	N
startDate	A date used to filter entries by clinically relevant date, in the following format: <i>yyyy-mm-dd</i> If a start date is specified, only entries with a clinically relevant date that occurs on or after the specified start date are returned. Note: A start date may be used with or without an end date.	date	N
endDate	A date used to filter entries by clinically relevant date, in the following format: <i>yyyy-mm-dd</i> If an end date is specified, only entries with a clinically relevant date that occurs on or before the specified end date are returned. Note: An end date may be used with or without a start date.	date	N

Response Fields

The following fields may appear in a JSON response for the Lab Results resource.

Field	Description	Type	Cardinality
resourceType	Identifies the resource.	LabResults	1..1
id	The unique identifier for the lab result, made up of the clinical entry identifier followed by a - (hyphen) , then the test identifier, another - (hyphen), and the result identifier.	Identifier	1..1
status	The status of the lab result. Supported values include final, preliminary, registered, corrected, entered-in-error, unknown, or amended.	code	1..1
category	Classifies the general type of observation being made.	CodeableConcept	0..*
code	The test's code and/or description.	CodeableConcept	1..1
subject	The patient associated with the lab result, described by the patient's unique identifier preceded by <i>Patient/</i> .	Reference(Patient Group Device Location)	1..1
issued	The date and time that the lab result was received.	instant	0..1
valueQuantity	The result value and unit of measure.	Quantity	0..1
valueCodeableConcept	The result value.	CodeableConcept	0..1
interpretation	The assessment made based on the result value.	CodeableConcept	0..1
comment	Notes about the result value.	string	0..1
referenceRange	Reference range for the result value.	BackboneElement	0..*

Example Requests and Responses

Note: For information about the environments represented by *base_url* in the examples below, see ["API Endpoints" on page 8](#).

Read - Request

Returns a single lab result entry for the patient using the specified lab result identifier:

```
GET https://base_url/quanum-ehr-fhir-server/fhir/LabResults/  
2c92a62e795bf9d201795cc1437d0017-1-1
```

Read - Response (JSON)

```
{
  "resourceType": "LabResults",
  "id": "2c92a62e795bf9d201795cc1437d0017-1-1",
  "meta": {
    "profile": [
      "http://hl7.org/fhir/Observation"
    ],
    "tag": [
      {
        "system": "urn:quest:quanum:source",
        "display": "Quanum-EHR"
      }
    ]
  },
  "status": "final",
  "category": [
    {
      "coding": [
        {
          "system": "http://hl7.org/fhir/observation-category",
          "code": "laboratory",
          "display": "Laboratory"
        }
      ],
      "text": "Laboratory"
    }
  ],
  "code": {
    "coding": [
      {
        "system": "http://loinc.org",
        "code": "17856-6",
        "display": "HEMOGLOBIN A1C"
      }
    ],
    "text": "HEMOGLOBIN A1C"
  },
  "subject": {
    "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
  },
  "effectiveDateTime": "2021-02-26T00:00:00-05:00",
  "issued": "2021-02-26T00:00:00.000-05:00",
  "valueQuantity": {
    "value": 8,
    "unit": "%",
    "system": "http://unitsofmeasure.org",
    "code": "%"
  },
}
```

```

"interpretation": [
  {
    "coding": [
      {
        "system": "http://hl7.org/fhir/v2/0078",
        "code": "*"
      }
    ]
  }
],
"referenceRange": [
  {
    "text": ">9.0"
  }
]
}

```

Search - Request

Returns one or more lab result entries (as a bundle) for the patient, for the specified lab results identifier and date range:

GET https://base_url/quanum-ehr-fhir-server/fhir/LabResults?patient=2c92a61179378ae2017938b606d04c0f&startDate=2021-02-01&endDate=2021-02-28

Search - Response (JSON)

```

{
  "resourceType": "Bundle",
  "id": "555a48f3-21fc-4680-a380-6fad00958b33",
  "meta": {"lastUpdated": "2021-05-11T14:56:24.833+00:00"},
  "type": "searchset",
  "total": 1,
  "link": [
    {
      "relation": "self",
      "url": "https://base_url/quanum-ehr-fhir-server/fhir/LabResults?endDate=2021-02-28&patient=2c92a61179378ae2017938b606d04c0f&startDate=2021-02-01"
    }
  ],
  "entry": [
    {
      "fullUrl": "https://base_url/quanum-ehr-fhir-server-/fhir/LabResults/2c92a62e795bf9d201795cc1437d0017-1-1",
      "resource": {
        "resourceType": "LabResults",
        "id": "2c92a62e795bf9d201795cc1437d0017-1-1",
        "meta": {
          "profile": ["http://hl7.org/fhir/Observation"],
          "tag": [
            {
              "system": "urn:quest:quanum:source",
              "display": "Quanum-EHR"
            }
          ]
        },
        "status": "final",

```

```

"category": [
  {
    "coding": [
      {
        "system": "http://hl7.org/fhir/observation-category",
        "code": "laboratory",
        "display": "Laboratory"
      }
    ],
    "text": "Laboratory"
  }
],
"code": {
  "coding": [
    {
      "system": "http://loinc.org",
      "code": "17856-6",
      "display": "HEMOGLOBIN A1C"
    }
  ],
  "text": "HEMOGLOBIN A1C"
},
"subject": {"reference": "Patient/2c92a61179378ae2017938b606d04c0f"},
"effectiveDateTime": "2021-02-26T00:00:00-05:00",
"issued": "2021-02-26T00:00:00.000-05:00",
"valueQuantity": {
  "value": 8,
  "unit": "%",
  "system": "http://unitsofmeasure.org",
  "code": "%"
},
"interpretation": [{"coding": [
  {
    "system": "http://hl7.org/fhir/v2/0078",
    "code": "*"
  }
]}],
"referenceRange": [{"text": ">9.0"}]
}
}]
}

```


Immunization

Description	Retrieves a patient's immunizations. Note: Only administered immunizations are supported for this resource.
Method	GET
Supported Interactions	<ul style="list-style-type: none">• Search• Read
Response Format	application/JSON

Parameters

The following search parameters are supported for the Immunization resource.

Note: If no entries are available for the specified parameters, a 404 response code is received. For an example of this response, see ["Not Found Response" on page 12](#).

Parameter	Description	Type	Req'd
patient	The patient's unique identifier. The patient identifier can be retrieved by performing a patient search. For more information, see "Patient" on page 14 .	string	Y
identifier	The unique identifier for a specific clinical entry. The clinical entry identifier can be retrieved by performing a search for a patient's immunizations.	string	N
startDate	A date used to filter entries by clinically relevant date, in the following format: <i>yyyy-mm-dd</i> If a start date is specified, only entries with a clinically relevant date that occurs on or after the specified start date are returned. Note: A start date may be used with or without an end date.	date	N
endDate	A date used to filter entries by clinically relevant date, in the following format: <i>yyyy-mm-dd</i> If an end date is specified, only entries with a clinically relevant date that occurs on or before the specified end date are returned. Note: An end date may be used with or without a start date.	date	N

Response Fields

The following fields may appear in a JSON response for the Immunization resource.

Field	Description	Type	Cardinality
resourceType	Identifies the resource.	Immunization	1..1
id	The unique identifier for the clinical entry.	Identifier	1..1
status	Indicates the status of the vaccination event. Supported values included completed or entered-in-error.	code	1..1
notGiven	Indicates whether the vaccine was refused/not given. False is the only supported value.	boolean	1..1
vaccineCode	The vaccine that was administered.	CodeableConcept	1..1
patient	The patient associated with the vaccine, described by the patient's unique identifier preceded by <i>Patient/</i> .	Reference(Patient)	1..1
date	The date and time the vaccine was administered.	dateTime	0..1
location	The location (of the facility) where the vaccine was administered.	Reference (Location)	0..1
manufacturer	The vaccine's manufacturer.	Reference (Organization)	0..1
lotNumber	The vaccine's lot number.	string	0..1
expirationDate	The vaccine's expiration date.	date	0..1
site	The area of the body in which the vaccine was administered.	CodeableConcept	0..1
route	The path by which the vaccine was taken into the body.	CodeableConcept	0..1
doseQuantity	The quantity of the vaccine that was administered.	SimpleQuantity	0..1
practitioner	The individual who administered the vaccine.	Reference (Practitioner)	1..1

Example Requests and Responses

Note: For information about the environments represented by *base_url* in the examples below, see ["API Endpoints" on page 8](#).

Read - Request

Returns a single immunization entry for the patient using the specified clinical entry identifier:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/Immunization/
2c92a6117946c196017948236ba51d91
```

Read - Response (JSON)

```
{
  "resourceType": "Immunization",
  "id": "2c92a6117946c196017948236ba51d91",
  "status": "completed",
  "vaccineCode": {
    "coding": [
      {
        "system": "http://hl7.org/fhir/sid/cvx",
        "code": "212",
        "display": "SARS-CoV-2 (COVID-19) Ad26 vaccine, recombinant"
      }
    ],
    "text": "Janssen COVID-19 Vaccine PF - suspension"
  },
  "patient": {
    "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
  },
  "occurrenceDateTime": "2021-05-06T18:41:00+00:00",
  "location": {
    "display": "QA CQM Org"
  },
  "manufacturer": {
    "display": "Johnson and Johnson"
  },
  "lotNumber": "876",
  "expirationDate": "2022-02-01",
  "site": {
    "text": "Left Deltoid"
  },
  "route": {
    "coding": [
      {
        "system": "http://hl7.org/fhir/ValueSet/route-codes",
        "code": "IM",
        "display": "IM (Intramuscular)"
      }
    ]
  }
}
```

```

"doseQuantity": {
  "value": 1
},
"performer": [
  {
    "actor": {
      "display": "Clinician Johnson"
    }
  }
]
}

```

Search - Request

Returns one or more immunization entries (as a bundle) for the patient in the specified date range:

GET https://base_url/quanum-ehr-fhir-server/fhir/Immunization?patient=2c92a61179378ae2017938b606d04c0f&startDate=2021-04-01&endDate=2021-04-30

Search - Response (JSON)

```

{
  "resourceType": "Bundle",
  "id": "63199ac2-5798-44fa-b441-c42d6e621011",
  "meta": {
    "lastUpdated": "2021-05-07T16:02:07.509+00:00"
  },
  "type": "searchset",
  "total": 1,
  "link": [
    {
      "relation": "self",
      "url": "https://base_url/quanum-ehr-fhir-server/fhir/Immunization?endDate=2021-04-30&patient=2c92a61179378ae2017938b606d04c0f&startDate=2021-04-01"
    }
  ],
  "entry": [
    {
      "fullUrl": "https://base_url/quanum-ehr-fhir-server-
/fhir/Immunization/2c92a6117946c19601794821509d1d8f",
      "resource": {
        "resourceType": "Immunization",
        "id": "2c92a6117946c19601794821509d1d8f",
        "status": "completed",
        "vaccineCode": {
          "coding": [
            {
              "system": "http://hl7.org/fhir/sid/cvx",
              "code": "187",
              "display": "zoster vaccine, inactivated"
            }
          ]
        }
      }
    }
  ],

```

```

    "text": "Shingrix adjuvanted powder for injection"
  },
  "patient": {
    "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
  },
  "occurrenceDateTime": "2021-04-02T18:38:00+00:00",
  "location": {
    "display": "QA CQM Org"
  },
  "manufacturer": {
    "display": "Baxter Healthcare Corporation"
  },
  "lotNumber": "12345",
  "expirationDate": "2021-12-01",
  "site": {
    "text": "Left Deltoid"
  },
  "route": {
    "coding": [
      {
        "system": "http://hl7.org/fhir/ValueSet/route-codes",
        "code": "IM",
        "display": "IM (Intramuscular)"
      }
    ]
  },
  "doseQuantity": {
    "value": 1
  },
  "performer": [
    {
      "actor": {
        "display": "Clinician Johnson"
      }
    }
  ]
}
]
}

```

Device

Description	Retrieves a patient's devices.
Method	GET
Supported Interactions	<ul style="list-style-type: none">• Search• Read
Response Format	application/JSON

Parameters

The following search parameters are supported for the Device resource.

Note: If no entries are available for the specified parameters, a 404 response code is received. For an example of this response, see ["Not Found Response" on page 12](#).

Parameter	Description	Type	Req'd
patient	The patient's unique identifier. The patient identifier can be retrieved by performing a patient search. For more information, see "Patient" on page 14 .	string	Y
identifier	The unique identifier for a specific clinical entry. The clinical entry identifier can be retrieved by performing a search for a patient's devices.	string	N
startDate	A date used to filter entries by clinically relevant date, in the following format: <i>yyyy-mm-dd</i> If a start date is specified, only entries with a clinically relevant date that occurs on or after the specified start date are returned. Note: A start date may be used with or without an end date.	date	N
endDate	A date used to filter entries by clinically relevant date, in the following format: <i>yyyy-mm-dd</i> If an end date is specified, only entries with a clinically relevant date that occurs on or before the specified end date are returned. Note: An end date may be used with or without a start date.	date	N

Response Fields

The following fields may appear in a JSON response for the Device resource.

Field	Description	Type	Cardinality
resourceType	Identifies the resource.	Device	1..1
id	The unique identifier for the clinical entry.	Identifier	1..1
status	The status of the device's availability. Supported values include active, inactive, entered-in-error, and unknown.	code	0..1
patient	The patient to whom the device is affixed, described by the patient's unique identifier preceded by <i>Patient/</i> .	Reference(Patient)	1..1
udi	The Unique Device Identifier (UDI) assigned to the device label or package.	BackboneElement	0..1
type	The code or identifier that indicates the kind of device.	CodeableConcept	0..1
lotNumber	The lot number assigned by the manufacturer.	string	0..1
manufacturer	The name of the device's manufacturer.	string	0..1
expirationDate	The date and time after which this device is no longer valid or should not be used (if applicable).	dateTime	0..1
version	The version of the device, if the device has multiple releases under the same model, or if the device is software or carries firmware.	string	0..1
note	Device notes and comments, such as descriptive information, usage information, or implantation information.	Annotation	0..*

Example Requests and Responses

Note: For information about the environments represented by *base_url* in the examples below, [see "API Endpoints" on page 8](#).

Read - Request

Returns a single device entry for the patient using the specified clinical entry identifier:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/Device/
2c92a6117946c1960179575f56ff6511
```

Read - Response (JSON)

```
{
  "resourceType": "Device",
  "id": "2c92a6117946c1960179575f56ff6511",
  "udiCarrier": [
    {
      "deviceIdentifier": "00613994222114",
      "carrierHRF": "(01)00613994222114(11)161212(17)191212(10)AB23XY(21)1234"
    }
  ],
  "status": "active",
  "manufacturer": "MEDTRONIC, INC.",
  "manufactureDate": "2016-12-12T00:00:00-05:00",
  "expirationDate": "2019-12-12T00:00:00-05:00",
  "lotNumber": "AB23XY",
  "deviceName": [
    {
      "name": "Dual-chamber implantable pacemaker, rate-responsive"
    }
  ],
  "type": {
    "coding": [
      {
        "system": "http://snomed.info",
        "code": "14106009",
        "display": "Cardiac pacemaker, device (physical object)"
      }
    ]
  },
  "version": [
    {
      "value": "VEDR01"
    }
  ],
  "patient": {
    "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
  }
}
```

Search - Request

Returns one or more device entries (as a bundle) for the patient in the specified date range:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/Device?patient=
2c92a61179378ae2017938b606d04c0f&startDate=2021-03-01&endDate=2021-05-31
```

Search - Response (JSON)

```
{
  "resourceType": "Bundle",
  "id": "19b6ebe3-cb49-418c-9c02-7bb4649fecdc",
  "meta": {
```



```

    "lastUpdated": "2021-05-11T15:41:58.556+00:00"
  },
  "type": "searchset",
  "total": 2,
  "link": [
    {
      "relation": "self",
      "url": "https://base_url/quanum-ehr-fhir-server/fhir/Device?endDate=2021-05-31&patient=2c92a61179378ae2017938b606d04c0f&startDate=2021-03-01"
    }
  ],
  "entry": [
    {
      "fullUrl": "https://base_url/quanum-ehr-fhir-server-fhir/Device/2c92a6117946c1960179575e91796510",
      "resource": {
        "resourceType": "Device",
        "id": "2c92a6117946c1960179575e91796510",
        "udiCarrier": [
          {
            "deviceIdentifier": "08717648200274",
            "carrierHRF": "(01)08717648200274(11)141231(17)150707(10)A213B1(21)1234"
          }
        ],
        "status": "active",
        "manufacturer": "ABBOTT VASCULAR INC.",
        "manufactureDate": "2014-12-31T00:00:00-05:00",
        "expirationDate": "2015-07-07T00:00:00+00:00",
        "lotNumber": "A213B1",
        "deviceName": [
          {
            "name": "Drug-eluting coronary artery stent, non-bioabsorbable-polymer-coated"
          }
        ],
        "type": {
          "coding": [
            {
              "system": "http://snomed.info",
              "code": "700516001",
              "display": "Drug-eluting coronary artery stent, non-bioabsorbable-polymer-coated (physical object)"
            }
          ]
        },
        "version": [
          {
            "value": "1145350-28"
          }
        ]
      }
    }
  ]
}

```

```

    "patient": {
      "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
    }
  },
  {
    "fullUrl": "https://base_url/quanum-ehr-fhir-server-
/fhir/Device/2c92a6117946c1960179575f56ff6511",
    "resource": {
      "resourceType": "Device",
      "id": "2c92a6117946c1960179575f56ff6511",
      "udiCarrier": [
        {
          "deviceIdentifier": "00613994222114",
          "carrierHRF": "(01)00613994222114(11)161212(17)191212(10)AB23XY(21)1234"
        }
      ],
      "status": "active",
      "manufacturer": "MEDTRONIC, INC.",
      "manufactureDate": "2016-12-12T00:00:00-05:00",
      "expirationDate": "2019-12-12T00:00:00-05:00",
      "lotNumber": "AB23XY",
      "deviceName": [
        {
          "name": "Dual-chamber implantable pacemaker, rate-responsive"
        }
      ],
      "type": {
        "coding": [
          {
            "system": "http://snomed.info",
            "code": "14106009",
            "display": "Cardiac pacemaker, device (physical object)"
          }
        ]
      },
      "version": [
        {
          "value": "VEDR01"
        }
      ],
      "patient": {
        "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
      }
    }
  }
]
}

```

Goal

Description	Retrieves a patient's goals.
Method	GET
Supported Interactions	<ul style="list-style-type: none">• Search• Read
Response Format	application/JSON

Parameters

The following search parameters are supported for the Goal resource.

Note: If no entries are available for the specified parameters, a 404 response code is received. For an example of this response, see ["Not Found Response" on page 12](#).

Parameter	Description	Type	Req'd
patient	The patient's unique identifier. The patient identifier can be retrieved by performing a patient search. For more information, see "Patient" on page 14 .	string	Y
identifier	The unique identifier for a specific clinical entry. The clinical entry identifier can be retrieved by performing a search for a patient's goals.	string	N
startDate	<p>A date used to filter entries by clinically relevant date, in the following format:</p> <p><i>yyyy-mm-dd</i></p> <p>If a start date is specified, only entries with a clinically relevant date that occurs on or after the specified start date are returned.</p> <p>Note: A start date may be used with or without an end date.</p>	date	N
endDate	<p>A date used to filter entries by clinically relevant date, in the following format:</p> <p><i>yyyy-mm-dd</i></p> <p>If an end date is specified, only entries with a clinically relevant date that occurs on or before the specified end date are returned.</p> <p>Note: An end date may be used with or without a start date.</p>	date	N

Response Fields

The following fields may appear in a JSON response for the Goal resource.

Field	Description	Type	Cardinality
resourceType	Identifies the resource.	Goal	1..1
id	The unique identifier for the clinical entry.	Identifier	1..1
status	Indicates whether the goal has been reached and is still relevant. Accepted is the only supported value.	code	1..1
description	A coded or textual description of the goal.	CodeableConcept	1..1
subject	The patient associated with the goal, described by the patient's unique identifier preceded by <i>Patient/</i> .	Reference(Patient Group Organization)	1..1
note	Additional comments about the goal.	Annotation	0..*

Example Requests and Responses

Note: For information about the environments represented by *base_url* in the examples below, [see "API Endpoints" on page 8](#).

Read - Request

Returns a single goal entry for the patient using the specified clinical entry identifier:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/Goal/
2c92a61179378ae2017938dabee16dfb-13265
```

Read - Response (JSON)

```
{
  "resourceType": "Goal",
  "id": "2c92a61179378ae2017938dabee16dfb-13265",
  "description": {
    "coding": [
      {
        "system": "http://snomed.info",
        "code": "361182006",
        "display": "Group exercise"
      }
    ]
  },
  "subject": {
    "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
  },
  "startDate": "2021-04-04",
  "note": [
    {
      "text": "Join Silver Sneakers"
    }
  ]
}
```

Search - Request

Returns one or more goal entries (as a bundle) for the patient in the specified date range:

```
GET https://base_url/quanum-ehr-fhir-server/fhir/Goal?patient=
2c92a61179378ae2017938b606d04c0f&startDate=2021-02-01&endDate=2021-04-30
```

Search- Response (JSON)

Note: Only a portion of the response is included for this example.

```
{
  "resourceType": "Bundle",
  "id": "de25a0fe-a4f7-4f19-ba3b-97be9e502a22",
  "meta": {
    "lastUpdated": "2021-05-11T15:44:49.148+00:00"
  },
  "type": "searchset",
  "total": 2,
  "link": [
    {
      "relation": "self",
      "url": "https://base_url/quanum-ehr-fhir-server/fhir/Goal?endDate=2021-04-30&pa-
tient=2c92a61179378ae2017938b606d04c0f&startDate=2021-02-01"
    }
  ],
  "entry": [
    {
      "fullUrl": "https://base_url/quanum-ehr-fhir-server-
/fhir/Goal/2c92a61179378ae2017938d3dd2f5a11-13264",
      "resource": {
        "resourceType": "Goal",
        "id": "2c92a61179378ae2017938d3dd2f5a11-13264",
        "description": {
          "coding": [
            {
              "system": "http://snomed.info",
              "code": "225925001",
              "display": "Regular exercise"
            }
          ]
        },
        "subject": {
          "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
        }
      }
    }
  ]
}
```

Care Team

Description	Retrieves a patient's care team.
Method	GET
Supported Interactions	Search
Response Format	application/JSON

Parameters

The following search parameter is supported for the Care Team resource.

Note: If no entries are available for the specified parameters, a 404 response code is received. For an example of this response, see ["Not Found Response" on page 12](#).

Parameter	Description	Type	Req'd
patient	The patient's unique identifier. The patient identifier can be retrieved by performing a patient search. For more information, see "Patient" on page 14 .	string	Y

Response Fields

The following fields may appear in a JSON response for the Care Team resource.

Field	Description	Type	Cardinality
resourceType	Identifies the resource.	CareTeam	1..1
id	The unique identifier for the clinical entry.	Identifier	1..1
category	Identifies the type of team.	CodeableConcept	0..*
subject	Identifies the patient or group whose care is handled by the team.	Reference(Patient Group)	1..1
participant	Identifies all people and organizations who are part of the care team.	BackboneElement	0..*

Example Request and Response

Note: For information about the environments represented by *base_url* in the examples below, see ["API Endpoints" on page 8](#).

Search - Request

Returns one or more care team entries (as a bundle) for the patient:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/CareTeam?patient=2c92a61179378ae2017938b606d04c0f
```

Search - Response (JSON)

```
{
  "resourceType": "Bundle",
  "id": "fda08911-40bf-465e-b449-6770d2ce6a0e",
  "meta": {
    "lastUpdated": "2021-05-07T15:30:15.278+00:00"
  },
  "type": "searchset",
  "total": 1,
  "link": [
    {
      "relation": "self",
      "url": "https://base_url/quanum-ehr-fhir-server-
/fhir/CareTeam?patient=2c92a61179378ae2017938b606d04c0f"
    }
  ],
  "entry": [
    {
      "fullUrl": "https://base_url/quanum-ehr-fhir-server-
/fhir/CareTeam/2c92a61179378ae2017938b606d04c0f",
      "resource": {
        "resourceType": "CareTeam",
        "id": "2c92a61179378ae2017938b606d04c0f",
        "category": [
          {
            "coding": [
              {
                "system": "http://hl7.org/fhir/care-team-category",
                "code": "care-team",
                "display": "Care Team"
              }
            ],
            "text": "Care Team"
          }
        ],
        "subject": {
          "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
        },
        "participant": [
          {
            "role": [
              {
                "text": "Caregiver"
              }
            ],
            "member": {
              "display": "Janet Smith"
            }
          }
        ]
      }
    }
  ],
}
```

```
{
  "role": [
    {
      "text": "Family physician"
    }
  ],
  "member": {
    "display": "Donald Adams"
  }
}
]
```


Health Concerns

Description	Retrieves a patient's health concerns. Note: The HealthConcerns resource is an implementation of the FHIR Condition resource.
Method	GET
Supported Interactions	<ul style="list-style-type: none">• Search• Read
Response Format	application/JSON

Parameters

The following search parameters are supported for the Health Concerns resource.

Note: If no entries are available for the specified parameters, a 404 response code is received. For an example of this response, see ["Not Found Response" on page 12](#).

Parameter	Description	Type	Req'd
patient	The patient's unique identifier. The patient identifier can be retrieved by performing a patient search. For more information, see "Patient" on page 14 .	string	Y
identifier	The unique identifier for a specific clinical entry. The clinical entry identifier can be retrieved by performing a search for a patient's health concerns.	string	N
startDate	A date used to filter entries by clinically relevant date, in the following format: <i>yyyy-mm-dd</i> If a start date is specified, only entries with a clinically relevant date that occurs on or after the specified start date are returned. Note: A start date may be used with or without an end date.	date	N
endDate	A date used to filter entries by clinically relevant date, in the following format: <i>yyyy-mm-dd</i> If an end date is specified, only entries with a clinically relevant date that occurs on or before the specified end date are returned. Note: An end date may be used with or without a start date.	date	N

Response Fields

The following fields may appear in a JSON response for the Health Concerns resource.

Field	Description	Type	Cardinality
resourceType	Identifies the resource.	HealthConcerns	1..1
id	The unique identifier for the clinical entry.	Identifier	1..1
category	Classifies the data as being a health concern.	CodeableConcept	1..1
code	A textual description of the health concern.	CodeableConcept	0..1
subject	The patient associated with the health concern, described by the patient's unique identifier preceded by <i>Patient/</i> .	Reference(Patient Group)	1..1

Example Requests and Responses

Note: For information about the environments represented by *base_url* in the examples below, [see "API Endpoints" on page 8](#).

Read - Request

Returns a single health concern entry for the patient using the specified clinical entry identifier:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/HealthConcerns/  
2c92a61179378ae2017938dabee16dfb
```

Read - Response (JSON)

```
{  
  "resourceType": "HealthConcerns",  
  "id": "2c92a61179378ae2017938dabee16dfb",  
  "meta": {  
    "profile": [  
      "http://hl7.org/fhir/Condition"  
    ]  
  },  
  "category": [  
    {  
      "coding": [  
        {  
          "system": "https://www.hl7.org/fhir/condition.html",  
          "code": "Concern",  
          "display": "Health Concern"  
        }  
      ],  
      "text": "Health Concern"  
    }  
  ],  
  "code": {  
    "text": "Lacks motivation to exercise"  
  }  
}
```

```

    },
    "subject": {
      "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
    }
  }
}

```

Search - Request

Returns one or more health concern entries (as a bundle) for the patient in the specified date range:

GET https://base_url/quanum-ehr-fhir-server/fhir/HealthConcerns?patient=2c92a61179378ae2017938b606d04c0f&startDate=2021-02-01&endDate=2021-03-01

Search - Response (JSON)

```

{
  "resourceType": "Bundle",
  "id": "9df68aea-e2fd-4b11-bb64-f263ee4c1130",
  "meta": {
    "lastUpdated": "2021-05-10T14:51:24.172+00:00"
  },
  "type": "searchset",
  "total": 1,
  "link": [
    {
      "relation": "self",
      "url": "https://base_url/quanum-ehr-fhir-server/fhir/HealthConcerns?endDate=2021-03-01&patient=2c92a61179378ae2017938b606d04c0f&startDate=2021-02-01"
    }
  ],
  "entry": [
    {
      "fullUrl": "https://base_url/quanum-ehr-fhir-server-/fhir/HealthConcerns/2c92a61179378ae2017938d3dd2f5a11",
      "resource": {
        "resourceType": "HealthConcerns",
        "id": "2c92a61179378ae2017938d3dd2f5a11",
        "meta": {
          "profile": [
            "http://hl7.org/fhir/Condition"
          ]
        },
        "category": [
          {
            "coding": [
              {
                "system": "https://www.hl7.org/fhir/condition.html",
                "code": "Concern",
                "display": "Health Concern"
              }
            ]
          }
        ],
        "text": "Health Concern"
      }
    }
  ]
}

```

```
    }  
  ],  
  "code": {  
    "text": "Lack of energy"  
  },  
  "subject": {  
    "reference": "Patient/2c92a61179378ae2017938b606d04c0f"  
  }  
}  
]  
}
```

Assessments

Description	Retrieves a patient's assessments. Note: The Assessments resource is an implementation of the FHIR ClinicalImpression resource.
Method	GET
Supported Interactions	<ul style="list-style-type: none">• Search• Read
Response Format	application/JSON

Parameters

The following search parameters are supported for the Assessments resource.

Note: If no entries are available for the specified parameters, a 404 response code is received. For an example of this response, see ["Not Found Response" on page 12](#).

Parameter	Description	Type	Req'd
patient	The patient's unique identifier. The patient identifier can be retrieved by performing a patient search. For more information, see "Patient" on page 14 .	string	Y
identifier	The unique identifier for a specific clinical entry. The clinical entry identifier can be retrieved by performing a search for a patient's assessments.	string	N
startDate	A date used to filter entries by clinically relevant date, in the following format: <i>yyyy-mm-dd</i> If a start date is specified, only entries with a clinically relevant date that occurs on or after the specified start date are returned. Note: A start date may be used with or without an end date.	date	N
endDate	A date used to filter entries by clinically relevant date, in the following format: <i>yyyy-mm-dd</i> If an end date is specified, only entries with a clinically relevant date that occurs on or before the specified end date are returned. Note: An end date may be used with or without a start date.	date	N

Response Fields

The following fields may appear in a JSON response for the Assessments resource.

Field	Description	Type	Cardinality
resourceType	Identifies the resource.	Assessments	1..1
id	The unique identifier for the assessment, made up of the clinical entry identifier followed by a - (hyphen) and the assessment identifier.	Identifier	1..1
status	The status of the assessment. Completed is the only supported value.	code	1..1
description	The recorded assessment text.	string	0..1
subject	The patient associated with the assessment, described by the patient's unique identifier preceded by <i>Patient/</i> .	Reference (Patient Group)	1..1
date	The date and time the assessment was recorded.	dateTime	0..1
assessor	The clinician or provider who performed the assessment.	Reference (Practitioner)	0..1

Example Requests and Responses

Note: For information about the environments represented by *base_url* in the examples below, [see "API Endpoints" on page 8](#).

Read - Request

Returns a single assessment entry for the patient using the specified assessment identifier:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/Assessments/  
2c92a61179378ae2017938d3dd2f5a11-471
```

Read - Response (JSON)

```
{  
  "resourceType": "Assessments",  
  "id": "2c92a61179378ae2017938d3dd2f5a11-4711",  
  "meta": {  
    "profile": [  
      "http://hl7.org/fhir/ClinicalImpression"  
    ]  
  },  
  "text": {  
    "status": "additional",  
    "div": "<div xmlns=\"http://www.w3.org/1999/xhtml\"><p>Intervention Order: Follow Up for  
Above Normal BMI, Prescribed diet education</p></div>"  
  },  
  "status": "completed",  
  "description": "Poor diet and lack of exercise",  
}
```

```

"subject": {
  "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
},
"date": "2021-05-10T00:00:00+00:00",
"assessor": {
  "display": "Pam Johnson"
}
}

```

Search - Request

Request

Returns one or more assessment entries (as a bundle) for the patient in the specified date range:

```
GET https://base_url/quantum-ehr-fhir-server/fhir/Assessments?patient=
2c92a61179378ae2017938b606d04c0f&startDate=2021-01-01&endDate=2021-05-15
```

Search - Response (JSON)

Note: Only a portion of the response is included for this example.

```

{
  "resourceType": "Bundle",
  "id": "e9008413-629c-4ae8-9539-f7a506c7031d",
  "meta": {
    "lastUpdated": "2021-05-11T15:48:37.447+00:00"
  },
  "type": "searchset",
  "total": 2,
  "link": [
    {
      "relation": "self",
      "url": "https://base_url/quantum-ehr-fhir-server/fhir/Assessments/?endDate=2021-05-15&pa-
tient=2c92a61179378ae2017938b606d04c0f&startDate=2021-01-01"
    }
  ],
  "entry": [
    {
      "fullUrl": "https://base_url/quantum-ehr-fhir-server-
/fhir/Assessments/2c92a61179378ae2017938d3dd2f5a11-4711",
      "resource": {
        "resourceType": "Assessments",
        "id": "2c92a61179378ae2017938d3dd2f5a11-4711",
        "meta": {
          "profile": [
            "http://hl7.org/fhir/ClinicalImpression"
          ]
        },
        "text": {
          "status": "additional",
          "div": "<div xmlns=\"http://www.w3.org/1999/xhtml\"><p>Intervention Order: Follow
Up for Above Normal BMI, Prescribed diet education</p></div>"

```

```
    },  
    "status": "completed",  
    "description": "Poor diet and lack of exercise",  
    "subject": {  
      "reference": "Patient/2c92a61179378ae2017938b606d04c0f"  
    },  
    "date": "2021-05-10T00:00:00+00:00",  
    "assessor": {  
      "display": "Pam Johnson"  
    }  
  }  
},
```


Document Reference (All Patient Data)

Description	Retrieves a CCDA document containing all of the patient's data for the supported resources.
Method	GET
Supported Interactions	Read
Response Format	application/JSON

Response Fields

The following fields may appear in a JSON response for the Document Reference resource.

Field	Description	Type	Cardinality
resourceType	Identifies the resource.	DocumentReference	1..1
id	The patient's unique identifier.	Identifier	1..1
status	The status of the document reference. Current is the only supported value.	code	1..1
type	Identifies the kind of document being referenced.	CodeableConcept	1..1
subject	The patient associated with the document, described by the patient's unique identifier preceded by <i>Patient/</i> .	Reference(Patient Practitioner Group Device)	1..1
indexed	The date and time the document reference was created.	instant	1..1
content	The MIME type of the content and the referenced document (Base64 encoded, compressed CCDA).	BackboneElement	1..1

Example Request and Response

Note: For information about the environments represented by *base_url* in the examples below, see ["API Endpoints" on page 8](#).

Read - Request

Returns a CCDA using the specified patient identifier:

Note: The patient identifier can be retrieved by performing a patient search. For more information, see ["Patient" on page 14](#).

```
GET https://base_url/quantum-ehr-fhir-server/fhir/DocumentReference/  
2c92a61179378ae2017938b606d04c0f
```

Read - Response (JSON)

```
{
  "resourceType": "DocumentReference",
  "id": "2c92a61179378ae2017938b606d04c0f",
  "status": "current",
  "type": {
    "coding": [
      {
        "system": "http://loinc.org",
        "code": "48764-5",
        "display": "Summary purpose CCD Document"
      }
    ],
    "text": "CCD Document"
  },
  "subject": {
    "reference": "Patient/2c92a61179378ae2017938b606d04c0f"
  },
  "content": [
    {
      "attachment": {
        "contentType": "application/zip",
        "data":
"ZUp6dGZXbVQyemlTNk9meXI4RFR4bXpZRzZNU0wxR1VXNjBOV1ZWdVY3KzZ1bFR0bm80WEx5WWdFcEs0VFpFYWtySmQ4
K3Mzd1VzOFFCS1NLRmZaWmsxUHQwamlTQUNaaVR5UWlkRi9mMWxiNkJOeFBkT3hmKzZJNTBJSEVWdDNETk5lL3R6NS9mR
jlWK3Y4OS9qVmFhcVp0cWxqNjhMUnQydGkrd2lxMmQ3Ykw1NzVjMmZsKzVlM3ZkN256NS9QUDh2bmpydnNTWUlnOXY1eG
N6M1RWM1NODTZidCtkaIdTU2VzOVhObjY5cHZWOWFnQzJYzmZws2oxMjg5dzllejMrZ2IrT3FaYjcyZ3BXdEh4MzRBYUx
ZRlpOb0xGM3UrdTlYOXJVdDZ1b0Y3MDR2SlAyY1hqOVB6TDU3UkdIOUNhT1FTYksybmprRVFqSS9BNkdhZfh2REJmOXFR
S3dPNWp1UC8zSkhPUMZWY1U0Uno4VndVWlUyVDRRZUFTTDc0eEE0bjZmNXVldkhQRHhjQy9DbEMzQVJaYnl6c1Z6WWpuR
XZ3RDN3NGx6THRTWUxZN3dwYVZ4QVBhdXpRV2cyQ0lFVzF6UEXTOEQrbGZ5NFhlaFlFTTEEYd0laT2hERUFNaG9PaHJHQ2
RMQ1i5S00wVmZkaEiYUFBNCfEzNE9ObjZLOGMxL2FkYnZJYmwrMjFMUEI5ZG1IaHBPNTV2NmW0RWhMNWJZVmtSWmJrTGJ
kREgyWk1IbZJMqnBsS1lka1hDNXEvdnJtNm5IV1NZSGt4RTFPVnN1MTVqMS94M2dJVElXYURMamVuUjdtNGRuOFF6Wi9v
V0dVOGQyemZ0TFFCTGkwMnhTMUJNT3FOZVdJUVdKb3NGMGfgekUzazAxd1I5d3RhVzBNV1FSS0V2RHBMeDJBdlRnSW9td
HFD0UZBSS8xQTJzZnk3MW15T2JGaHVNdXJLd3ZkemlKVW4xUWV4dVFpY3UwUjNYZU1UdWt2ajBCYnphd0ZSQVN3OU9PS0
RnSFJjV1pFbGdvZzI3N3lRNTdDZ1hDQ0FDVmtXeEM1Z3g2R3FZU0YyS0oxMVptNnVDYWdpS0xpd3liZDA4M0ZZMVZ3cFR
qaWlqYm1tdnRGUGFaNmJMWR2WU1GeTA5V0N5UHR4M3hpUGdkVDRaMzMwWTljSmZJeDBtZVR3MWJkMjBiWm1lVVM5NE1k
b0ExbUtMVHZWWTZVdWlPT3FsM2tBckxpSCtCSm9tbm5kdDjtUU1zUFRSRkNiYnhSYWFCWj1wRi9saW94NkZKd0hPSnhhc
zJqckdMWGg4aTE3M1Jma05FbUZPSmZqckpMRDNPR3BCaGE0TWYxR3RtMm1xVm9RTThUTzhzUUhod29MWE1ETkxRSFI3L0
9ETWlRdWdoMC9SeTErVDV3VmVtOWJUZXZMi9kv29GejJOZXXJTBfZNUF1XTU9HQktQSGxIcCtJYlpCM0JUUVzN0U1RocG1
qN1J0c2tkMv1vSXU1NmZxc5GMktRN1V2RE5Ob0JhVW9QNEJGbtGU2I3Mz1JSkNlcFBuaGVvQnU4aTBXQUhWZGt4Z1pL
RnhnbWfuT2dYK29YYm1lN1VteVZvVGhBZHBdLzRuWG01L1FwYitDWfo4eXNTNmFYdVM1NFI4cjA4OU9HZDJ2M3haaDBYa
Fk4SEd3WEc1ZFowT3dqVEX3a0tET0w2NnozV1FnMHRSDs85UVF3WmFBUHNBTERHV1E0Nkpyd0ZUYnlZQzNZN2ZyOVphS1
YzUmIyWDB2WThqcE5palZ1V1JCWEJEYXlKVnRkQ1RyYnJOTDA2dnNESGhQbW5hVHglaxXZqM3A1M2ovQ3dXNGNsZmNaMnh
mOFN4VzFHSWhSdUkwVfK1S3FWODJZbFhPVn1XWC9LT2V5TjloemJDYURCVkd0anNfcTzSqe5OWo5NnpOK09vcXpTb0xT
RmJXQjBrbmdUUTBqbW9aNOVMb1RpODFrBgzKNG5lZUx2em9yT3hnamt6TUNpTXoyWWVzR05QRmdSWWx4NXk0QkovK2RRe
mFlSFZKaDdKQnpU0RvZmNFZ0t1eVF3bUtva3I2c1lVSNzdwYQVBUykJFMS91MEVBuU1HZkh6U1pMeEVyZXBVenZWdW
ZIU5BdTkxdmZldjVvShhoTzBjMTArejc3S9wtSC9kZ1drcGo2VvVWS1zocVJaWmk2Zk5IWHI2S2FkMnRZM1poQU1qTW9
4R0ovRUhOdTBWVTF5UHVKMU1ubDUrb0hXMMIwTkkwNE96MzAvdUhuZ0pKumpWSWJ4ck9aM1J2TGV1OWhuODVMbW14dC84
```

M002VXJjN2txTHpEcU1kc2RiWWk3Y053MWNSR1ZoaU40SHQ1M1VnMHZ0clpPeDVIYWkrN3Y2M1pSVVRwWEZMbTRqZDY3e
mlmUVFWeEVknWhVTD1BUHFiaEwwOGJXSTZEbCtONDFRY0o2Q2pXb3VOS29seW1UMnVUU01LY1JMRnFzUz1CNUFJb1N2ZT
FCRzdmM1YxMDJmV1MxVGtuUUF1T0E4QThPeFZOZ3FKNjN2MC96MGdSSXVJVEsvZmNnWF1HdVMzSz12e1E2T29ZcFZHeVN
DUzg2ZXfQTUVuR3huL29Oc3c1N2p0ODBrOUZXY043akp2cWxZazcxSnBwZHV5eE5BekF4Snp1WXQrV1paemwzb2x5S1l0
M1g1RwNd3M4RfHfS1ZMRFFCTE9rT2g4T3VCbitOVWVPdjJDYitmZ3A5dz1RWVWbVhrbG1YMGhtMUDRbmRES1dseVZLV
0ZZbEp1bFZiTFd0U00vUEpWRfHfPeGZwV1NPQj1zSjVvczNyeVFCZkc5ck5SZ3M2Q083dUpBcmthcG1NNVM5UHpeOWxBNj
J4NGdsUnJ3ME1mQ0haOU5QbEVqdGhFWX1RYndGOWpSSHod0pvWmVhcWRHSGp0N2FpVzJock1MK01MWUqhQno1ZEh5SEt
qaEJ6TThVR2I1bk5nUzROY0EzcE02U21oZHNQUVo0RHUxaHZIM3BtT0VpK2M4YzR4ZHMzblmVvKzPvJ3ZU8zamVKSknN
MjZGScT2UVpvK3NmUXFrenZQMvV4cUhLSUlRMWxVYTgzT0JvalczeUJwZEZ4bGw2THVLQ25ncFgxWnFYTUQzUi8rbjIwV
3YvdXZBdjFjeEFMZ1lEUzM4aHpmVjdRY1FuWjJOZkf4dG9ybmpnZ29KYzlaQm4wM0RYOE2UWZnYjdIQm50TW1LWUNQNE
NiL2RNVHhUVDU1aFVqU0ZyZTDTjVleEJvMHVZUG1TMTZiQ1BubWtMc0hvcVFkTkjJmZnkdTJQL0hsQUhtZkozeWdxRlQ
wWTZPcmk1ODRtbkFpeE0wY1RsZXRRV3pMM1hSTTB3WVU1ZDAZTHdoRm9ScnFwc01HeElQZkVRWS9hWTBzS1RJSmhaRC9t
ZXFiRENERHZMQn1BbTJtbUNTWUpZS2FJNWXnQT1HdmRzWmZFbzyOVFhdUFxeTJ3YVFHYktJTMQ2UWxTQTdCTFpiRERjN
3dDOEPaVJvQW44RHNqdDFCTGpPMjdUL2tkUU0rWWJpY1R4dzVhTzQ0U1BsNst2TzFrSyt4SjCwcNv5RUVaRXptbzRXSU
xQQjVib2NROXFxaTzPS1I2N0ZBWjZITU56eVdCREZSR0p5bCtOYjJqTETmT1A2WXkvV093N2xNNjhYblp6ckYxNHRxTWZ
yMjhhdzRiBulNblDXSn1TNzVUMDF2YX1TSG5yVUJSdWNBRVYxdXd4Q1MzZzRhaTNRTUpLZHhibVp1VTdENzcvZDJ2Q1F5
am92bWNidHJoOfLRVWV0Nj1tOVdoWjFCOVAweFN1Rkgwb01iWnJYd05WQTA2U3FGcnY2OEtBMEZRNi9mWE1Rtm5aN2QzT
jVjWdDCMld1UXgwcMx4c2UrSEsxd211TVRMCediVXFNKzkWUDA2Y2hERmkva2V5dGZUR1JhYVgxQzVRRHhYa0xPSm5IZE
NwQ2pWRUZKVGhKS1NnTEI4eGhYtLEyL2NvYUNnNFVVYUpdZGpHulNjYwX5S3BBM1VvQ0J4U0ZQY3FWMnpaUENzZkFuYWx
hTmlqQwLWQUUNV2dycV1Yb2pDOTJRT3Frb2tOcG8yOTNCVmM2dUh5L1VNSG1YWjB2UERLTm1MSGRNb1lqK051NGZUdHhX
UkthRD1vS1gyTVRLYWFZSFBpZFNncGxnN21FUG9QbDztTUJ3UmY5N1hrb0ZJNXZmU0JLNEExrekHIS2hKdGNRCeh1Q1BOU
21yNzBZd3JyU3JoS0hzVVPmJ1WSzdVdGdFNnVaMFhPWGtIbWJLV1EvcTFkeDRhQ1lXdG5DVjNmbnhTcUNBWFRkVkn1c0
hFeUM3W1M2TE5Lb1JXb0duVDBvMGloMGd1UVFrc01LU2pMUjB6aEhCd21oVmE1WE5MelDKUVArMeT6OG1HSDbhYVZFNU9
XV2prUnRYSW1laUZ5SW5YYVpId3FkSzF6anBjVHVXSV1JVVZLVjFDN3d2QW92OGR4WghOT2tOS3VGRUZVaGE3UUDBMS9N
SUDadWtFVTBkblkwyKzYnMp0aytsVnVraUluYzYya3Vtakt2VkyV2RuNVZXS3Z5ZzZLeEdGeVpZZXVRem8vYWFjSzdEc
WxmcGJRcHIvenF5UmVGVBhK1R1E5RjdCc1lMWUxZR1gvRzdnSzclczUvVW16bG1Vc29LS1AxRWdXaj1IOUNJcnEvUTYvd1
hHeTlnWGQvRV1ROvdITVhLSwdZUDZFTFDiMUFPUE1XRFLXzjRQL013RTh1OHJhYmpmV1U3bWNzOUh0Q3pqdERYeWZjZH
jMjVibEl2QmFKejZMTVlaSGFYeThlcmo3bXVPWEkyODdEb014SktWSW11NS9PM2swdWJocFdLRVdWax1JUGEvbGtLcVvt
R25OdFBoUU5iYzZFa3luYVpuQU1xaDJJUTJ5cGVLOWRPaGRtdU51bHJ6NWUvL054eGxMaDhySnhYK0IwZfdoQy93QWxzd
1MreXdoQTVhd0k0Q2Zkd1Njc2FFbHdsTHI2OEu5K2x2Ugwb1cyUG1FZW04cHBWWGVNdGczSEk3OXRjWERTSwdrb1k5b2
5iRys3VHR5UjJZOXJiRzhYT0R4ZEFicWJzYzNhZjI0bXQ3ODNvVkpMQmJOUeTaRWUxanE3bWZUb2JxQTVhcDB1RWNaU0c
3Y1c3OHVpVnI5ZmE2eGdyaSszanJ2T0xWKzhLW1FyRDVrVGJsV0VieWkxN1Bod21RYkwxZV1lNzZTa1o4OHRQMXFWRkE5
T2JUM1NuEGpkcjdDN3hqc1oralRBMzBPL3p5YXNVoflNz0dyNnlRSWY0V3VSNk1veHZsNXBmRWJqazNpdWNCaHR2cXBLM
ktqQnBxRFJYUjZtMGJFME45Wk9jcFJtZENDdWghS1pSdWE1di80empTZfH0NctINDRsSThXUjRMAfPQWtkde5DaWRxTm
dBnMFTTVFSOW5QdU1SR01KYUJXR2dSR3JnTTVLNVpFT3dmN3RkejRrYnR5cVVOUGV2M000NkxDdTRZWE9oNk91aCsydFE
rYVI3N0dFOWxEZkZ2OWNHeFo5MXZ3MGdhSHJQRFJxdE5vUng3NzM1R2VYWWY0TXfCKZdCQmVCNDludWV2VGdzV0VFaW1h
RHZ3c2NnQ0p6VDJsWVNEbDRveHNfAXE5Q2Nxm9qUG1zK0VQRjhZRWDHTUZnUjY0SXhsN0VnWW9taC9oVkd4RHB4bnluW
VdBQmJwdFdlVS91c1V1WHpubzVIem44Sk44enZaSHRPM1E0R3AxUjRtczhyTmRSTUswYTBZa1FyUnJSAvJDDed0SExBRH
lvSE5IU1dpREtrRthvQ1pYYUFocHBKa0R6T3FkaWxTulhEYkhrMHJXSTNrMWZ4ZTkzaTA1emo5cXJkNk51TnZ0M29uMjJ
qTDJRax1IMHZELzdQrk50Znc2bE5LMXV4ZjdPeU5IemIyejNpREx6ZmQ5S1pNaE4zYnB2QzdOVgt1Y21VajhQMT16amR0
ZGNvbE1YS1o4dFU0UGZCUWhLdH1EeWJrUzcya2s1K3FhY0p3czhuK05pMzlpbEFxZ3JDVjdTQjJ1OXluTVRsZFBWTkxJd
TRTNU40ZjBmWW9FZGpDWE1KRghhTHZvs1B2c2M4UkpaVtDFMml1ZlZ14dlZNZEtrdTZiT3BJV1gyMGZ2Rk0yU3dtbStTb1
dEenUydeI5QXZNRVJNNGR5ODg0Y1phY05vd1BrT0ZnVHA3RXp2aH11Y3pFcVVPs1h2b2hPQXFtRk1MZDQ0YThDRHBvNmN
hMGR1ZkNHR0h3dWi1VHdmdVo4SGNHbUZKb1RKsFN0RWx2dWNYbWd0akVNKzNleG1OYnd5R2JGVEZBNUNKtKRBtjZ1b0d1
QUVzSThoMFV2Q1o3RGtyaUc1VGNHZU8xODhyVVRjc3k3U2FBbDhNMW9JQ3ZvMEhzQ2JxY0E1My9SRjl1bXpoOThKZHdzd
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ZYQ2d3Zl11b2hNWStQL0JXczRESUE9"
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