



Pulse

§170.315(G)(10) FHIR API

Documentation

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Introduction:

This document describes the Integration with the SMART App Launch Framework via FHIR allows a third-party application to connect with Provider(s) using the Pulse Software and retrieve Electronic Health Record data from those Providers.

This API collection for use of Health IT developers seeking to use our ONC 2015 Edition Cures Update Certified (g)(10) Standardized API for Health Level 7 (HL7®) Fast Healthcare Interoperability Resources (FHIR®) services.

These applications can launch from inside or outside the user interface of Pulse. The framework supports Apps for use by clinicians, patients, and others via a Patient Portal or any FHIR system where a user can give permissions to launch an App. It provides a reliable, secure authorization protocol for a variety of App architectures, including Apps that run on an end-user's device as well as Apps that run on a secure server.

This documentation is intended for use by third-party application developers which will describe registration, syntax, functionality and errors/exceptions they will see when using the FHIR API to integrate with provider(s) using the Pulse software

Registration

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Developers wishing to integrate with the API must contact the PHI Provider that uses Pulse as their EMR. Pulse is an On-Prem EMR solution and as such, each API instance is separate based on the Provider (each Provider is considered a separate entity and will have their own API URL, registration for which third-party developers have access to their data via the FHIR API on their system, and each Provider is responsible for maintaining the rights of API accounts). Once a Provider decides to grant access to you as a third-party developer, they will set up a new developer account with access to the API based on the needs of the developer and agreed upon permissions with the Provider.

Configurations

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The following are configuration settings that a third-party developer App needs to meet:

- 1 The App MUST read and parse JSON responses.
- 2 The App MUST assure that sensitive information (authentication secrets, authorization codes, tokens) are transmitted ONLY to authenticated servers, over TLS-secured channels. [§170.315\(g\)\(10\)](#) requires secure connection using TLS version 1.2 or higher.
- 3 If the App is a Bulk Export application, the application MAY need to be setup to handle longer lasting connections based on the data that is being exported.
- 4 The App MUST send requests over HTTPS. HTTP requests will be rejected.

FHIR URL

It is published on the endpoint: <https://hag-fhir.amazingcharts.com/pl/endpoints>

API Resources:

API Resource response can be requested in JSON or XML format.
FHIR standard R4

ALLERGIES AND INTOLERANCES US CORE ALLERGYINTOLERANCE PROFILE-

US Core [AllergyIntolerance](#) Profile

| USCore Data Element | FHIR Resource Field |
|-----------------------|------------------------------------|
| Substance(Drug class) | AllergyIntolerance.code(Snomed CT) |
| Substance(Medication) | AllergyIntolerance.code (RxNorm) |
| Reaction | AllergyIntolerance.reaction |

Allergy Intolerance

For an example JSON response for Allergy Intolerance, please see the following: [AllergyIntolerance](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/AllergyIntolerance
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific AllergyIntolerance record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/AllergyIntolerance/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve the “_revinclude” information with any request using the following:

```
GET
https://FHIR_URL/AllergyIntolerance?[parameter=value]&_revinclude=Provenance:target
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|---------------------------------|-----------|--|
| clinical-status | Token | GET [base]/AllergyIntolerance?clinical-status=active |
| patient | Reference | GET [base]/AllergyIntolerance?patient=1 |

Search Parameter Combination Summary:

| Parameter Combination | Types | Example |
|-------------------------|-----------------|--|
| patient+clinical-status | reference+token | GET [base]/AllergyIntolerance?patient=1&clinical-status=active |

ASSESSMENT AND PLAN OF TREATMENT - US CORE CAREPLAN PROFILE

US Core [CarePlan](#) Profile

| USCore Data Element | FHIR Resource Data |
|---------------------|--------------------------------|
| narrative summary | CarePlan.text |
| status | CarePlan.status (like draft |
| intent | CarePlan.intent (like proposal |
| category | CarePlan.category |
| patient | CarePlan.subject |

Care Plan

For an example JSON response for Care Plan, please see the following: [CarePlan](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/CarePlan
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific CarePlan record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/CarePlan/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```


You can retrieve the “_revinclude” information with any request using the following:

```
GET
https://FHIR_URL/CarePlan?[parameter=value]&_revinclude=Provenance:target
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|--------------------------|-----------|--|
| category | token | GET [base]/CarePlan?category=assess-plan |
| patient | reference | GET [base]/CarePlan?patient=1 |

Search Parameter Combination Summary:

| Parameter Combination | Types | Example |
|-----------------------|-----------------|--|
| patient+category | reference+token | GET [base]/CarePlan?patient=1&category=assess-plan  |

CARETEAM US CORE CARETEAM PROFILE

US Core [CareTeam](#) Profile

| USCore Data Element | FHIR Resource Data |
|----------------------------|--|
| patient | CareTeam.subject |
| participant role | CareTeam.participant[i].role (where i is the index of participant) |
| careteam member name | CareTeam.participant[i].member.name (where i is the index of participant) |
| careteam member identifier | CareTeam.participant[i].member.identifier |
| careteam member location | CareTeam.managingOrganization |
| careteam member telecom | CareTeam.telecom |

Care Team

For an example JSON response for Care Team, please see the following: [CareTeam](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/CareTeam
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific CareTeam record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/CareTeam/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve the “_revinclude” information with any request using the following:

```
GET
https://FHIR_URL/CareTeam?[parameter=value]&_revinclude=Provenance:target
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|-------------------------|-----------|--------------------------------------|
| status | token | GET [base]/CareTeam?status=active |
| patient | reference | GET [base]/CareTeam?patient=1 |

Search Parameter Combination Summary:

| Parameter Combination | Types | Example |
|-----------------------|-----------------|---|
| patient+status | reference+token | GET [base]/CareTeam?patient=1&status=active |

Search Composite OR Summary:

| Parameter | Types | Example |
|-----------|-------|--|
| status | token | GET [base]/CareTeam?status=active,inactive |

CLINICAL NOTES - US CORE DOCUMENT REFERENCE

US Core [DocumentReference](#)

- **FHIR Resource:** DocumentReference
 - *Consultation Note*
 - *Discharge Summary Note*
 - *History & Physical*
 - *Progress Note*
- **FHIR Resource:** DocumentReference, DiagnosticReport
 - *Imaging Narrative*
 - *Laboratory Report Narrative*
 - *Pathology Report Narrative*
 - *Procedure Note*

| USCore Data Element | FHIR Resource Data |
|---------------------|--------------------------------------|
| status | documentReference.status |
| document category | documentReference.category |
| code | documentReference.type |
| patient | documentReference.subject |
| MIME type | documentReference.content.Typeformat |
| document URL | documentReference.content.attachment |

| Document Type | LOINC Code |
|--------------------|------------|
| Consultation Note | 11488-4 |
| History & Physical | 34117-2 |
| Procedure Note | 28570-0 |
| Progress Note | 11506-3 |

Document Reference

This resource supports the [Common Clinical Notes](#).

For an example JSON response, please see the following: [DocumentReference](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/DocumentReference
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific DocumentReference record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/DocumentReference/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve the “_revinclude” information with any request using the following:

```
GET
https://FHIR_URL/DocumentReference?[parameter=value]&_revinclude=Provenance:target
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|---|-----------|---|
| _id | token | GET [base]/DocumentReference?_id=1 |
| category (Consult Note) | token | GET [base]/DocumentReference?category=11488-4 |
| category (History & Physical) | token | GET [base]/DocumentReference?category=34117-2 |
| category (Progress Note) | token | GET [base]/DocumentReference?category=11506-3 |
| category (Procedure Note) | token | GET [base]/DocumentReference?category=28570-0 |
| patient | reference | GET [base]/DocumentReference?patient=1 |
| type | token | GET [base]/DocumentReference?type=34117-2 |
| date | date | GET [base]/DocumentReference?date=2015-06-22 |

Search Parameter Combination Summary:

| Parameter Combination | Example |
|-----------------------|---|
| patient+category+date | GET [base]/DocumentReference?patient=1&category=34117-2&date=2015-06-22 |

ENCOUNTER US CORE ENCOUNTER PROFILE

US Core Encounter Profile

| USCore Data Element | FHIR Resource Data |
|---------------------|--------------------|
| status | Encounter.status |
| classification | Encounter.class |
| type | Encounter.type |
| patient | Encounter.subject |

Encounter

For an example JSON response for Encounter, please see the following: [Encounter](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/Encounter
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific Encounter record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/Encounter/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve the “_revinclude” information with any request using the following:

```
GET https://FHIR_URL/Encounter?[parameter=value]&_revinclude=Provenance:target
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|-------------------------|-----------|-----------------------------------|
| _id | token | GET [base]/Encounter?_id=1 |
| patient | reference | GET [base]/Encounter?patient=1 |

GOALS - US CORE GOAL PROFILE

US Core [Goal](#) Profile

| USCore Data Element | FHIR Resource Data |
|---------------------|------------------------|
| status | Goal.achievementStatus |
| goal description | Goal.description |
| patient | Goal.subject |

Goal

For an example JSON response for Goal, please see the following: [Goal](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/Goal
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakebngwu
```

You can retrieve a specific Goal record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/Goal/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakebngwu
```

You can retrieve the “_revinclude” information with any request using the following:

```
GET https://FHIR_URL/Goal?[parameter=value]&_revinclude=Provenance:target
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakebngwu
```

| Parameter | Type | Example |
|-------------------------|-----------|---------------------------|
| patient | reference | GET [base]/Goal?patient=1 |

HEALTH CONCERNS - US CORE CONDITION PROFILE

US Core [Condition](#) Profile

| USCore Data Element | FHIR Resource Data |
|---------------------|---|
| status | Condition.status |
| category | Condition.category (like health concerns, problems, and encounter diagnoses). |
| code | Condition.code (ICD-10-CM/Snomed) |
| patient | Condition.subject |

Condition

For an example JSON response for Condition, please see the following: [Condition](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/Condition
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific Condition record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/Condition/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve the “_revinclude” information with any request using the following:

```
GET https://FHIR_URL/Condition?[parameter=value]&_revinclude=Provenance:target
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|-------------------------|-----------|-----------------------------------|
| patient | Reference | GET [base]/Condition?patient=1 |

IMMUNIZATIONS - US CORE IMMUNIZATION PROFILE

US Core [Immunization](#) Profile

| USCore Data Element | FHIR Resource Data |
|---------------------|--------------------------|
| status | immunization.status |
| vaccine code | immunization.vaccineCode |
| date | immunization.occurrence |
| patient | immunization.patient |

For an example JSON response for Immunization, please see the following: [Immunization](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/Immunization
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific Immunization record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/Immunization/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve the “_revinclude” information with any request using the following:

```
GET https://FHIR_URL/Immunization?[parameter=value]&_revinclude=Provenance:target
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|-------------------------|-----------|--------------------------------------|
| patient | reference | GET [base]/Immunization?patient=1 |

LABORATORY - US CORE LABORATORY RESULT OBSERVATION PROFILE & US CORE DIAGNOSTICREPORT

US Core [Laboratory Result Observation](#) Profile & US Core [DiagnosticReport](#) Profile for Laboratory Results Reporting.

Laboratory Result Observation

| USCore Data Element | FHIR Resource Data |
|---------------------|----------------------|
| status | Observation.status |
| category | Observation.category |
| LOINC code | Observation.code |
| patient | Observation.subject |

DiagnosticReport For Laboratory :

| USCore Data Element | FHIR Resource Data |
|---------------------|----------------------------|
| status | DiagnosticReport.status |
| category | DiagnosticReport.category |
| code | DiagnosticReport.code |
| patient | DiagnosticReport.subject |
| time | DiagnosticReport.issued |
| reported time | DiagnosticReport.effective |

Diagnostic Report

This Resource covers Radiology, Laboratory Result Reporting.

For an example JSON response for a Laboratory Result, please see the following: [Laboratory](#).

You can retrieve a specific DiagnosticReport record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/DiagnosticReport/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve the “_revinclude” information with any request using the following:

```
GET https://FHIR_URL/DiagnosticReport?[parameter=value]&_revinclude=Provenance:target
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|--|-----------|---|
| category (Radiology) | token | GET [base]/DiagnosticReport?category=LP29684-5 |
| category (Laboratory Result) | token | GET [base]/DiagnosticReport?category=LAB |
| patient | reference | GET [base]/DiagnosticReport?patient=1 |
| code (Radiology) | token | GET [base]/DiagnosticReport?code=LP29684-5 |
| date | date | GET [base]/DiagnosticReport?date=2015-06-22T00:00:00.00%2B00:00 |

Search Parameter Combination Summary:

| Parameter Combination | Example |
|-----------------------|--|
| patient+category+date | GET [base]/DiagnosticReport?patient=1&category=LAB&date=2015-06-22 |
| patient+code+date | GET [base]/DiagnosticReport?patient=1&code=LP29684-5&date=2015-06-22 |
| patient+code | GET [base]/DiagnosticReport?patient=1&code=LP29684-5 |
| patient+category | GET [base]/DiagnosticReport?patient=1&category=LAB |

MEDICATIONS - US CORE MEDICATION PROFILE, US CORE MEDICATIONREQUEST PROFILE, US CORE ALLERGYINTOLERANCE PROFILE

US Core [Medication](#) Profile
US Core [MedicationRequest](#) Profile,

| USCore Data Element | FHIR Resource Data |
|---------------------|------------------------------|
| status | medicationRequest.status |
| intent code | medicationRequest.intent |
| medication | medicationRequest.medication |
| patient | medicationRequest.subject |
| date when written | medicationRequest.authoredOn |
| prescriber | medicationRequest.requester |

Medication

For an example JSON response for Medication please see the following: [Medication](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/Medication
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific Location record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/Medication/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

This resource does not support any parameters and can only be called directly.

Medication Request

For an example JSON response, please see the following: [MedicationRequest](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/MedicationRequest
Authorization: Bearer ewar8wrama.ajkew23
```

You can retrieve a specific MedicationRequest record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/MedicationRequest/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve the “_include” information with any request using the following:

```
GET
https://FHIR_URL/MedicationRequest?[parameter=value]&_include=MedicationRequest:medi
cation
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve the “_revinclude” information with any request using the following:

```
GET
https://FHIR_URL/MedicationRequest?[parameter=value]&_revinclude=Provenance:target
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|-------------------------|-----------|--|
| status | token | GET [base]/MedicationRequest?status=active |
| intent | token | GET [base]/MedicationRequest?intent=filler-order |
| patient | reference | GET [base]/MedicationRequest?patient=1 |

Search Parameter Combination Summary:

| Parameter Combination | Example |
|-----------------------|--|
| patient+intent+status | GET [base]/MedicationRequest?patient=1&intent=filler-order&status=active |

Search Composite OR Summary:

| Parameter | Types | Example |
|-----------|-------|---|
| status | token | GET [base]/MedicationRequest?status=active,stopped |
| intent | token | GET [base]/MedicationRequest?intent=filler-order,instance-order |

PATIENT DEMOGRAPHICS - US CORE PATIENT PROFILE

US Core [Patient](#) Profile

| USCore Data Element | FHIR Resource Data |
|--------------------------------|-----------------------------|
| First Name Middle Name | Patient.name.given |
| Last Name | Patient.name.family |
| Previous Name | Patient.name |
| Suffix | Patient.name.suffix |
| US Core Birth Sex Extension | Patient.extension.BirthSex |
| Date of Birth | Patient.birthDate |
| US Core Race Extension | Patient.extension.race |
| US Core Extension Ethnicity | Patient.extension.ethnicity |
| Preferred Language | Patient.communication |
| Address | Patient.address |
| Phone Number | Patient.telecom |

Patient

For an example JSON response for Patient, please see the following: [Patient](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/Patient
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific Patient record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/Patient/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve the “_revinclude” information with any request using the following:

```
GET https://FHIR_URL/Patient?[parameter=value]&_revinclude=Provenance:target
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|----------------------------|--------|---|
| id | token | GET [base]/Patient?_id=1 |
| birthdate | date | GET [base]/Patient?birthdate=1970-05-01 |
| family | string | GET [base]/Patient?family=Smith |
| gender | token | GET [base]/Patient?gender=Male |
| identifier | token | GET [base]/Patient?identifier=1 |
| name | string | GET [base]/Patient?name=Dan |

Search Parameter Combination Summary:

| Parameter Combination | Types | Example |
|-----------------------|--------------|--|
| birthdate+family | date+string | GET [base]/Patient?birthdate=1970-05-01&family=Smith |
| family+gender | string+token | GET [base]/Patient?family=Smith&gender=Male |
| birthdate+name | date+string | GET [base]/Patient?birthdate=1970-05-01&name=Dan |
| gender+name | token+string | GET [base]/Patient?gender=male&name=Dan |

PROBLEMS - US CORE CONDITION PROFILE

US Core [Condition](#) Profile

| USCore Data Element | FHIR Resource Data |
|---------------------|---|
| status | Condition.status |
| category | Condition.category (like health concerns, problems, and encounter diagnoses). |
| code | Condition.code (ICD-10-CM/Snomed) |
| patient | Condition.subject |

Condition

For an example JSON response for Condition, please see the following: [Condition](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/Condition
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific Condition record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/Condition/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve the “_revinclude” information with any request using the following:

```
GET https://FHIR_URL/Condition?[parameter=value]&_revinclude=Provenance:target
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|-------------------------|-----------|--------------------------------|
| patient | reference | GET [base]/Condition?patient=1 |

PROCEDURES - US CORE PROCEDURE PROFILE

US Core [Procedure](#) Profile

| USCore Data Element | FHIR Resource Data |
|--------------------------|---------------------|
| status | Procedure.status |
| procedure code | Procedure.code |
| patient | Procedure.subject |
| procedure performed date | Procedure.performed |

Procedure

For an example JSON response for Procedure, please see the following: [Procedure](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/Procedure
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific Procedure record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/Procedure/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve the “_revinclude” information with any request using the following:

```
GET https://FHIR_URL/Procedure?[parameter=value]&_revinclude=Provenance:target
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|-------------------------|-----------|--|
| patient | reference | GET [base]/Procedure?patient=1 |
| date | date | GET [base]/Procedure?date=2015-06-22T00:00:00.00+00:00 |

Search Parameter Combination Summary:

| Parameter Combination | Types | Example |
|-----------------------|----------------|--|
| patient+date | reference+date | GET [base]/Procedure?patient=1&date=2015-06-22 |

PROVENANCE - US CORE PROVENANCE PROFILE

US Core [Provenance](#) Profile

| USCore Data Element | FHIR Resource Data |
|---|-----------------------------|
| resources that Provenance is supporting | Provenance.target |
| date and time | Provenance.occurred |
| author organization | Provenance.agent.OnBehalfOf |

Provenance

For an example JSON response for Provenance please see the following: [AllergyIntolerance + Provenance Bundle](#). [This](#) is an Allergy Intolerance response with the Provenance attached at the end (in response to a _revincludes parameter).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/Provenance
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific Provenance record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/Provenance/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

This resource does not support any parameters and can only be called directly.

US CORE OBSERVATION PROFILE

US Core [Observation](#) Profile

| USCore Data Element | FHIR Resource Data |
|------------------------------|-----------------------|
| status | Observation.status |
| code | Observation.code |
| patient | Observation.subject |
| smoking status recorded date | Observation.effective |
| value | Observation.value |

Observation

This Resource covers Smoking Status, Pediatric Weight for Height, Laboratory Result, Pediatric BMI for Age, Pulse Oximetry and Pediatric Head Occipital-frontal Percentile.

For an example JSON response for Smoking Status, please see the following: [Smoking Status](#).

For an example JSON response for Pediatric Weight for Height please see the following: [Pediatric Weight for Height](#).

For an example JSON response for Laboratory Result, please see the following: [Laboratory Result](#).

For an example JSON response for Pediatric BMI for Age, please see the following: [Pediatric BMI for Age](#).

For an example JSON response for Pulse Oximetry please see the following: [Pulse Oximetry](#).

For an example JSON response for Pediatric Head Occipital-frontal Percentile please see the following: [Pediatric Head Occipital-frontal Percentile](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/Observation
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific Observation record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/Observation/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve the “_revinclude” information with any request using the following:

```
GET https://FHIR_URL/Observation?[parameter=value]&_revinclude=Provenance:target
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|--|-----------|---|
| category (laboratory) | token | GET [base]/Observation?category=laboratory |
| category (vital-signs) | token | GET [base]/Observation?category=vital-signs |
| patient | reference | GET [base]/Observation?patient=1 |
| code (Smoking Status) | token | GET [base]/Observation?code=72116-2 |
| code (Weight for Height) | token | GET [base]/Observation?code=77606-2 |
| code (BMI) | token | GET [base]/Observation?code=59576-9 |
| code (Pulse Oximetry) | token | GET [base]/Observation?code=2708-6 |
| code (Pulse Oximetry) | token | GET [base]/Observation?code=59408-5 |
| code (Body Height) | token | GET [base]/Observation?code=8302-2 |
| code (Temperature) | token | GET [base]/Observation?code=8310-5 |
| code (Blood Pressure) | token | GET [base]/Observation?code=85354-9 |
| code (Body Weight) | token | GET [base]/Observation?code=29463-7 |
| code (Head Occipital) | token | GET [base]/Observation?code=8289-1 |
| code (Heart Rate) | token | GET [base]/Observation?code=8867-4 |
| code (Respiratory Rate) | token | GET [base]/Observation?code=9279-1 |
| date | Date | GET [base]/Observation?date=2015-06-22 |

Search Parameter Combination Summary:

| Parameter Combination | Example |
|-----------------------|--|
| patient+code | GET [base]/Observation?patient=1&code=8867-4 |
| patient+category | GET [base]/Observation?patient=1&category=laboratory |

UNIQUE DEVICE IDENTIFIER(S) FOR PATIENT'S IMPLANTABLE DEVICE(S) - US CORE IMPLANTABLE DEVICE PROFILE

US Core [ImplantableDevice](#) Profile

| USCore Data Element | FHIR Resource Data |
|----------------------------|------------------------------------|
| code | Device.type |
| patient | Device.patient |
| UDI (optional) | Device.udiCarrier.deviceIdentifier |
| manufacture date(optional) | Device.manufactureDate |
| expiration date (optional) | Device.expirationDate |
| lot number (optional) | Device.lotNumber |
| serial number (optional) | Device.serialNumber |

Device (Implantable Device)

For an example JSON response for Implantable Device, please see the following: [Device](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/Device
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific Device record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/Device/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve the “_revinclude” information with any request using the following:

```
GET https://FHIR_URL/Device?[parameter=value]&_revinclude=Provenance:target
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|-------------------------|-----------|-----------------------------|
| patient | reference | GET [base]/Device?patient=1 |

LOCATION

USCore [Location](#) Profile

| USCore Data Element | FHIR Resource Data |
|---------------------|--------------------|
| name | Location.name |

For an example JSON response for Location please see the following: [Location](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/Location
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific Location record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/Location/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|-------------------------|--------|--|
| name | string | GET [base]/Location?name=Location Name |
| address | string | GET [base]/Location?address=1234 City Lane |

ORGANIZATION US CORE ORGANIZATION PROFILE

USCore [Organization](#) Profile

| USCore Data Element | FHIR Resource Data |
|---------------------|---------------------|
| status | Organization.status |
| name | Organization.name |

Organization

For an example JSON response for Organization please see the following: [Organization](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/Organization
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific Organization record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/Organization/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|-------------------------|--------|--|
| name | string | GET [base]/Organization?name=Agency Name |
| address | string | GET [base]/Organization?address=1234 City Lane |

PRACTITIONER

USCORE [PRACTITIONER](#) PROFILE.

| USCore Data Element | FHIR Resource Data |
|---------------------|-------------------------|
| Identifier (NPI) | Practitioner.identifier |
| name | Practitioner.name |

Practitioner

For an example JSON response for Practitioner please see the following: [Practitioner](#).

This resource is called like the following (with no parameters):

```
GET https://FHIR_URL/Practitioner
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

You can retrieve a specific Practitioner record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://FHIR_URL/Practitioner/1
Authorization: Bearer sntumgwar8ffwrama.hhgtf823.dlfjhimmakegbngwu
```

Search Parameter Summary:

| Parameter | Type | Example |
|----------------------------|--------|--|
| name | string | GET [base]/Practitioner?name=Sally |
| identifier | token | GET [base]/Practitioner?identifier=102 |

VITAL SIGNS – FHIR CORE VITALSIGNS PROFILE

FHIR Core [VitalSigns](#) Profile

| Profile Name | LOINC |
|---|--------------|
| Vital Signs Panel | 85353-1 |
| Respiratory Rate | 9279-1 |
| Heart rate | 8867-4 |
| Oxygen saturation | 2708-6 |
| Body temperature | 8310-5 |
| Body height | 8302-2 |
| Head circumference | 9843-4 |
| Body weight | 29463-7 |
| Body mass index | 39156-5 |
| Blood pressure systolic and diastolic | 85354-9 |
| Systolic blood pressure | 8480-6 |
| Diastolic blood pressure | 8462-4 |

This resource is called like the following (with no parameters):

```
GET https://EHR_FHIR/Observation
Authorization: Bearer ewar8wrama.ajkew234924.asdfaiweruehwrwrwhui
```

You can retrieve a specific Observation record “directly” using an ID (like 1, 2, 500, 5000, etc):

```
GET https://EHR_FHIR/Observation/1
Authorization: Bearer ewar8wrama.ajkew234924.asdfaiweruehwrwrwhui
```

You can retrieve the “_revinclude” information with any request using the following:

GET https://EHR_FHIR/Observation?[parameter=value]&_revinclude=Provenance:target

Search Parameter Summary:

| Parameter | Type | Example |
|--|-------|---|
| category (vital-signs) | token | GET [base]/Observation?category=vital-signs |