

Criteria API Documentation

Updated 10/28/2022

Overview

The Criteria EHR API allows third-party software vendors to retrieve patient data securely. All API access is over HTTPS. Data sent and received in XML or JSON. Timestamps are returned in FHIR® standard dates/time formats. Retrieval options follow USCDI guidelines for CCDA. Access must include the access token along with required parameters described for each search type. If the access token is missing, invalid, or expired the API will return an unauthorized response with proper message. Bulk Export applications may need to be setup to handle longer lasting connections based on the data that is being exported.

Configuration

Practices should contact sales@criteria.com to register for an Endpoint.

- Practices must be using Criteria Patient Portal with patient's registering through portal.
- Applications will use patient's portal credentials for access to health data.
- Practice must be on Criteria EHR 4.77 or greater.
- Apps must parse XML or JSON statements

Complete API structure: <https://www.interopengine.com/index.html>

Workflow

1. Register patient through Criteria Patient Portal.
2. Call Practice API EndPoint to get token and authorization
3. App constructs request for auth using Portal username/pw
4. Client App will get access token to access FHIR APIs

NOTE: App developers can register here: <https://appstudio.interopengine.com/>

Logs

Any ERROR is a critical error

Any WARNING is due to a lack of data retrieved.

Status: 401

Error Message: "Unauthorized. User not found."

Status: 500

Error Message: "No parameters was specified."

Status: 404

Error Message: "No Clinic Id was specified."

Status: 200

Error Message: "More than one patient match found."

Status: 200

Error Message: "No patient record found"

Developer Resources

Complete API Development Resources can be found here:

<https://appstudio.interopengine.com/>

<https://www.interopengine.com/index.html>

Examples

Smoking Status

```
<title>Social History</title>
<text>
  <table width="100%" border="1%">
    <thead>
      <tr>
        <th>Social History Observation</th>
        <th>Description</th>
        <th>Dates Observed</th>
      </tr>
    </thead>
    <tbody>
      <tr ID="SOCHISTSUMMARY_1">
        <td ID="SOC_1">Smoking</td>
        <td>CURRENT EVERY DAY SMOKER(SNOMED CT:: 449868002)</td>
        <td>06/22/2015</td>
      </tr>
      <tr ID="SOCHISTSUMMARY_2">
        <td ID="SOC_2">Birth Sex</td>
```

```
<td>FEMALE(SNOMED CT:: 446131000124102)</td>
<td>06/22/2015</td>
</tr>
</tbody>
</table>
</text>
```

Problems

```
<title>Problems</title>
<text>
<table width="100%" border="1%">
<thead>
<tr>
<th>Problem</th>
<th>Effective Dates</th>
<th>Problem Status</th>
</tr>
</thead>
<tbody>
<tr ID="PROBSUMMARY_1">
<td ID="PROB_1">Severe hypothyroidism(SNOMED CT: 83986005)</td>
<td>12/31/2006</td>
<td ID="PROBSTATUS_1">active</td>
</tr>
<tr ID="PROBSUMMARY_2">
<td ID="PROB_2">Overweight(SNOMED CT: 238131007)</td>
<td>12/31/2006 - 06/01/2007</td>
<td ID="PROBSTATUS_2">completed</td>
</tr>
<tr ID="PROBSUMMARY_3">
<td ID="PROB_3">Essential (primary) hypertension(SNOMED CT: 59621000)</td>
<td>10/05/2011</td>
<td ID="PROBSTATUS_3">active</td>
</tr>
<tr ID="PROBSUMMARY_4">
<td ID="PROB_4">Fever, unspecified fever cause(SNOMED CT: 386661006)</td>
<td>06/22/2015</td>
<td ID="PROBSTATUS_4">active</td>
</tr>
<tr ID="PROBSUMMARY_5">
<td ID="PROB_5">Chronic rejection of renal transplant(SNOMED CT: 236578006)</td>
<td>12/31/2011</td>
<td ID="PROBSTATUS_5">active</td>
</tr>
</tbody>
</table>
</text>
```

Medication

```
<title>Medications</title>
<text>
<table width="100%" border="1%">
```

Medication	Start Date	Route	Frequency	Dose	Status	Fill Instructions
MEDSUMMARY_1">Singulair 10 mg Tab(RxNorm: 200224)	06/13/2022	ORAL	QD (DAILY)	1	Active	1 TABLET(S) QD (DAILY)
MEDSUMMARY_2">Augmentin 250 mg-62.5 mg/5 mL Oral Susp(RxNorm: 617339)	06/13/2022	ORAL	DAILY	1	Active	1 ML DAILY
MEDSUMMARY_3">Tylenol 325 mg tablet(RxNorm: 313782)	06/13/2022	ORAL	DAILY	1	Active	1 TABLET DAILY
MEDSUMMARY_4">Flu HBP 2 mg-15 mg-500 mg tablet(RxNorm: 1098496)	05/17/2021	ENTERAL	AS DIRECTED	1	Active	1 AS DIRECTED JK

Allergies

<title>Allergies, Adverse Reactions, Alerts</title>

<text>

<table width="100%" border="1%">

<thead>

<tr>

<th>Type</th>

<th>Substance</th>

<th>Reaction</th>

<th>Severity</th>

<th>Status</th>

</tr>

</thead>

<tbody>

<tr ID="ALGSUMMARY_1">

<td ID="ALGTYPE_1">Drug allergy</td>

<td ID="ALGSUB_1">Ampicillin(RxNorm: 733)</td>

<td ID="ALGREACT_1" />

<td ID="ALGSEV_1">Moderate</td>

<td ID="ALGSTATUS_1">active</td>

</tr>

<tr ID="ALGSUMMARY_2">

<td ID="ALGTYPE_2">Drug allergy</td>

<td ID="ALGSUB_2">Penicillin G(RxNorm: 7980)</td>

<td ID="ALGREACT_2" />

<td ID="ALGSEV_2">Moderate</td>

<td ID="ALGSTATUS_2">active</td>

</tr>

</tbody>

</table>

</text>

Lab Narrative

<title>Laboratory Report Narrative</title>

<text>

<table width="100%" border="1%">

<thead>

<tr>

<th>Summary</th>

<th>Written by</th>

<th>Date</th>

</tr>

</thead>

<tbody>

<tr ID="LT_1">

<td ID="LABORATORYTEST_1">Ms Alice Newman was tested for the Urinalysis macro panel and the results have been found to be normal.</td>

<td>Complex User</td>

<td>10/19/2022</td>

</tr>

</tbody>

</table>

</text>

Vital Signs:

<title>Vital Signs</title>

<text>

<table width="100%" border="1%">

<thead>

<tr>

<th>Vital Name</th>

<th>Value</th>

<th>Date</th>

</tr>

</thead>

<tbody>

<tr ID="VITALSUMMARY_1">

<td ID="VITAL_BP_1">BP[LOINC: 8462-4]</td>

<td>88 mm[Hg]</td>

<td>06/22/2020</td>

</tr>

<tr ID="VITALSUMMARY_2">

<td ID="VITAL_BP_2">BP[LOINC: 8480-6]</td>

<td>145 mm[Hg]</td>

<td>06/22/2020</td>

</tr>

<tr ID="VITALSUMMARY_3">

<td ID="VITAL_Height_3">Height[LOINC: 8302-2]</td>

<td>85 cm</td>

<td>06/22/2020</td>

</tr>

<tr ID="VITALSUMMARY_4">

<td ID="VITAL_Weight_4">Weight[LOINC: 29463-7]</td>

<td>12 kg</td>

<td>06/22/2020</td>

</tr>

<tr ID="VITALSUMMARY_5">

<td ID="VITAL_PulseOx_5">PulseOx[LOINC: 59408-5]</td>

<td>95 %</td>

<td>06/22/2020</td>

</tr>

<tr ID="VITALSUMMARY_6">

<td ID="VITAL_O2CONCENTRATION_6">O2 CONCENTRATION[LOINC: 3150-0]</td>

<td>36 %</td>

<td>06/22/2020</td>

</tr>

<tr ID="VITALSUMMARY_7">

<td ID="VITAL_HeartRate_7">Heart Rate[LOINC: 8867-4]</td>

<td>80 /Min</td>

<td>06/22/2020</td>

</tr>

<tr ID="VITALSUMMARY_8">

<td ID="VITAL_Temp_8">Temp[LOINC: 8310-5]</td>

<td>38 Cel</td>

<td>06/22/2020</td>

</tr>

<tr ID="VITALSUMMARY_9">

<td ID="VITAL_RespRate_9">Resp Rate[LOINC: 9279-1]</td>

<td>18 /min</td>

```

        <td>06/22/2020</td>
    </tr>
    <tr ID="VITALSUMMARY_10">
        <td ID="VITAL_HeadCircumference_10">Head Circumference[LOINC: 9843-4]</td>
        <td>46.24 cm</td>
        <td>06/22/2020</td>
    </tr>
    <tr ID="VITALSUMMARY_11">
        <td ID="VITAL_WeightforlengthPercentile_11">Weight for length Percentile[LOINC: 77606-2]</td>
        <td>67 %</td>
        <td>06/22/2020</td>
    </tr>
    <tr ID="VITALSUMMARY_12">
        <td ID="VITAL_HeadCircumferencePercentile_12">Head Circumference Percentile[LOINC: 8289-1]</td>
        <td>19 %</td>
        <td>06/22/2020</td>
    </tr>
</tbody>
</table>
</text>

```

Patient

```

<patient>
  <name use="L">
    <prefix>Alicia</prefix>
    <given>Alice</given>
    <given>Jones</given>
    <family>Newman</family>
  </name>
  <administrativeGenderCode code="F" codeSystem="2.16.840.1.113883.5.1" codeSystemName="AdministrativeGender"
  displayName="Female" />
  <birthTime value="19700501" />
  <maritalStatusCode code="S" codeSystem="2.16.840.1.113883.5.2" codeSystemName="MaritalStatus" />
  <raceCode code="2106-3" codeSystem="2.16.840.1.113883.6.238" codeSystemName="Race and Ethnicity- CDC"
  displayName="White" />
  <sdtc:raceCode code="2108-9" codeSystem="2.16.840.1.113883.6.238" codeSystemName="Race and Ethnicity- CDC"
  displayName="European" />
  <ethnicGroupCode code="2186-5" codeSystem="2.16.840.1.113883.6.238" codeSystemName="Race and Ethnicity Code
  Sets" displayName="Not Hispanic or Latino" />
  <languageCommunication>
    <languageCode code="en" />
    <modeCode code="ESP" codeSystem="2.16.840.1.113883.5.60" codeSystemName="LanguageAbilityMode"
  displayName="Expressed spoken" />
    <proficiencyLevelCode code="G" codeSystem="2.16.840.1.113883.5.61"
  codeSystemName="HL7LanguageAbilityProficiency" displayName="Good" />
  </languageCommunication>
</patient>

```

Birth Sex

```

<tr ID="SOCHISTSUMMARY_2">
  <td ID="SOC_2">Birth Sex</td>
  <td>FEMALE(SNOMED CT:: 446131000124102)</td>
  <td>06/22/2015</td>
</tr>

```

Procedure

```
<procedure classCode="PROC" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.14" extension="2014-06-09" />
  <templateId root="2.16.840.1.113883.10.20.22.4.14" />
  <id root="4137b81c-79f3-47de-b442-072140c030ec" />
  <code nullFlavor="UNK" />
  <statusCode code="completed" />
  <effectiveTime value="20221019" />
  <participant typeCode="DEV">
    <participantRole classCode="MANU">
      <templateId root="2.16.840.1.113883.10.20.22.4.37" />
      <id root="2.16.840.1.113883.3.3719" extension="(01)00643169007222(17)160128(21)BLC200461H"
assigningAuthorityName="FDA" />
      <playingDevice determinerCode="INSTANCE">
        <code code="704707009" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED-CT"
displayName="Cardiac resynchronization therapy implantable defibrillator" />
      </playingDevice>
    <scopingEntity>
      <id root="2.16.840.1.113883.3.3719" />
    </scopingEntity>
  </participantRole>
</participant>
</procedure>
```

Immunizations

```
<title>Immunizations</title>
<text>
  <table width="100%" border="1">
    <thead>
      <tr>
        <th>Vaccine Name</th>
        <th>Date</th>
        <th>Status</th>
        <th>Manufacturer</th>
      </tr>
    </thead>
    <tbody>
      <tr ID="IMMSUMMARY_1">
        <td ID="IMMUN_1">Tetanus and diphtheria toxoids(CVX: 106)</td>
        <td>01/04/2012</td>
        <td>Completed</td>
        <td ID="IMMUN_MANU_1">Immuno Inc.</td>
      </tr>
      <tr ID="IMMSUMMARY_2">
        <td ID="IMMUN_2">influenza, intradermal, quadrivalent, preservative free(CVX: 166)</td>
        <td>10/19/2022</td>
        <td>Cancelled (Immunization was not given - Patient rejected immunization)</td>
        <td ID="IMMUN_MANU_2">Immuno Inc.</td>
      </tr>
    </tbody>
  </table>
</text>
```


Implantable Device

<title>Medical Equipment</title>

<text>

<table width="100%" border="1%">

<thead>

<tr>

<th>UDI</th>

<th>Device Name</th>

<th>Assigning Authority</th>

<th>Date</th>

</tr>

</thead>

<tbody>

<tr ID="MEDEQUIPR_1">

<td ID="MEDEQUIP_1">(01)00643169007222(17)160128(21)BLC200461H</td>

<td>Cardiac resynchronization therapy implantable defibrillator(SNOMED CT: 704707009)</td>

<td>FDA</td>

<td>10/19/2022</td>

</tr>

</tbody>

</table>

</text>

Assessment and Plan

<title>ASSESSMENTS</title>

<text>

<table width="100%" border="1%">

<thead>

<tr>

<th>Assessment</th>

</tr>

</thead>

<tbody>

<tr>

<td ID="B_ASSESS_">

<list>

<item>The patient was found to have fever and Dr Davis is suspecting Anemia based on the patient history. So Dr Davis asked the patient to closely monitor the temperature and blood pressure and get admitted to Community Health Hospitals if the fever does not subside within a day.</item>

</list>

</td>

</tr>

</tbody>

</table>

</text>

<title>Treatment Plan</title>

<text>

<table width="100%" border="1%">

<thead>

<tr>

<th>Summary</th>

<th>Written by</th>

<th>Date</th>

</tr>

```
</thead>
<tbody>
  <tr ID="POCN_1">
    <td ID="PlanOfCareNote_1">i. Get an EKG done on 6/23/2015.
ii. Get a Chest X-ray done on 6/23/2015 showing the Lower Respiratory Tract Structure.
iii. Take Clindamycin 300mg three times a day as needed if pain does not subside/
iv. Schedule follow on visit with Neighborhood Physicians Practice on 7/1/2015.</td>
    <td>Albert Davis</td>
    <td>06/22/2015</td>
  </tr>
</tbody>
</table>
<table width="100%" border="1%">
  <thead>
    <tr>
      <th>Planned Care</th>
      <th>Type</th>
      <th>Date</th>
    </tr>
  </thead>
  <tbody>
    <tr ID="POCSUMMARY_1">
      <td ID="POC_1">Tylenol Extra Strength 500 mg tablet(RxNorm: 209459)</td>
      <td>Medications</td>
      <td>10/19/2022</td>
    </tr>
    <tr ID="POCSUMMARY_2">
      <td ID="POC_2">Urinalysis macro (dipstick) panel(LOINC: 24357-6)</td>
      <td>Laboratory Tests</td>
      <td>10/19/2022</td>
    </tr>
    <tr ID="POCSUMMARY_3">
      <td ID="POC_3" />
      <td>Goal</td>
      <td>10/19/2022</td>
    </tr>
  </tbody>
</table>
```

Goals

```
<title>Goals</title>
<text>
  <table width="100%" border="1%">
    <thead>
      <tr>
        <th>Goal</th>
        <th>Effective Dates</th>
      </tr>
    </thead>
    <tbody>
      <tr ID="GOASUMMARY_1">
        <td ID="GOA_1">a. Get rid of intermittent fever that is occurring every few weeks. b. Need to gain more energy to do
regular activities</td>
        <td>10/19/2022</td>
```

```
</tr>
</tbody>
</table>
</text>
```

Health Concerns

<title>Health Concerns Document</title>

```
<text>
<table width="100%" border="1%">
  <thead>
    <tr>
      <th>Observations</th>
      <th>Status</th>
      <th>Date</th>
    </tr>
  </thead>
  <tbody>
    <tr ID="HEAOBSUMMARY_1">
      <td ID="HEAOBS_1">Chronic Sickness exhibited by patient</td>
      <td>COMPLETED</td>
      <td>06/22/2015 - 06/22/2015</td>
    </tr>
  </tbody>
</table>
<table width="100%" border="1%">
  <thead>
    <tr>
      <th>Health Concern</th>
      <th>Status</th>
      <th>Date</th>
    </tr>
  </thead>
  <tbody>
    <tr ID="HEACONSUMMARY_1">
      <td ID="HEA_1">Documented HyperTension problem</td>
      <td>Active</td>
      <td>10/19/2022 - 10/19/2022</td>
    </tr>
    <tr ID="HEACONSUMMARY_2">
      <td ID="HEA_2">Documented HypoThyroidism problem</td>
      <td>Active</td>
      <td>10/19/2022 - 10/19/2022</td>
    </tr>
    <tr ID="HEACONSUMMARY_3">
      <td ID="HEA_3">Watch Weight of patient</td>
      <td>Active</td>
      <td>10/19/2022 - 10/19/2022</td>
    </tr>
  </tbody>
</table>
```

Terms and Conditions Apply

This capability requires the Criterions EHR product which is sold to customers with a one time License fee plus an annual or monthly fee per provider or user. Training and implementation fees as well as travel expenses are billed separately. This capability may also require separate service from EMRDirect.

Any Criterions engagement related to the integration of a third-party application with the EHR may involve an additional fee which may include an upfront development cost as well as additional one time license fees and annual or monthly fees.

If the use of any third-party application requires additional data capture or extended storage, additional hardware may be required to accommodate the additional storage and additional hosting fees may apply.

The client needs to contract with EMRDirect to get access to FHIR services. Security best practices are deployed for the FHIR API. Application Developers who would like to provide access to patient health information through the FHIR API need to agree to the Developer Portal Terms of Use and FHIR API License Agreement associated with establishing a Developer Open Access Account. This agreement is provided after contacting support@criterions.com

A business agreement is required for usage.