

## DYNAMIC FHIR IGNITING INTEROPERABILITY

The Dynamic FHIR API makes EHR patient data readily available and ignites interoperability using the HL7® FHIR® standard. FHIR is based on common web technology using a RESTful protocol.

For 2015 CEHRT, an API with access to patient data is required for "Base EHR" certification. For 2018, providers will need 2015 Edition software Certified for:

- 170.315(g)(7) : App access - patient selection
- 170.315(g)(8) : App access - data cat request
- 170.315(g)(9) : Application access - all data

An API is mandatory to maximize MIPS/Quality Payment Program scoring and for MU 3. It is needed for "Provide Patient Access" in "Patient Electronic Access to Health Information" .

### **Features:**

- Data consumed from version 2.1 CCDA
- Delivers XML or JSON to API client of your choice
- Retrieves all or specific class of patient data (e.g. problems or medications)
- Implemented as a stand-alone product or part of the DHIT suite
- Easily configured to work with your EHR.

## New User Registration

Please enter your credentials to Register

First Name

Last Name

Date Of Birth

Special Key

Patient ID

Dynamic FHIR User Registration

## Easy access

Through a browser-based user interface, the Dynamic FHIR API offers a user-friendly, secure path to activation. After one-time activation, patient data is available without signing into a web portal. Behind-the-scenes, OAuth 2.0 provides secure authorization.

Cooperative development using the API will enable patients to consolidate data in a single location without the hassle of multiple logins and limitations of data as presented in a user portal.

**Health Summary** Patient: Alice Jones Newman  
 Previous Name: Alicia  
 D.O.B: May 1, 1970 Sex: Female  
 Patient Details

**Treatment plan**

Code	Name	CodeSystem	Date	Narrative
36543-5	Chest X-Ray	LOINC	2015-08-23	Get a Chest X-Ray done on 8/23/2015 showing the Lower Respiratory Tract Structure.
93010	EKG	CPT	2015-06-23	Get an EKG done on 6/23/2015.
284215	Clindamycin 300mg	RXNORM	2015-06-23	Take Clindamycin 300mg three times a day as needed if pain does not subside. Schedule follow on 7/1/2015.
11429006	Consultation	SNOMED-CT	2015-07-01	visit with Neighborhood Physicians Practice on 7/1/2015.
24357-6	Urinalysis macro (dipstick) panel	LOINC	2015-06-29	

**Assessments**

- 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.

**Mental status**  
 Status: Amnesia 2005-01-05

**Medical equipment**  
 1. Cardiac resynchronization therapy implantable pacemaker (0100643169007222(171)160128(2)18LC200461H FDA

**Health concerns**  
 Concern: Chronically ill 161901003 completed  
 HealthCare Concerns refer to underlying clinical facts:  
 Documented Hypertension problem  
 Match: Weight of patient  
 Documented HypoThyroidism problem.

**Functional status**  
 Condition: Dependence on Cane 2005-05-01

**Reason for referral**  
 Ms Alice Newman is being referred to Community Health Hospitals inpatient facility because of the high fever noticed and suspected Anemia.

CCDA v2.1 as shown in ConnectEHR

## FHIR Resources from any v2.1 CCDA

FHIR resources are created in DHIT's server from the latest ONC-certified CCDA r2.1. FHIR resources are mapped to sections in the Common Clinical Dataset and reachable by URL. Health IT applications can make read-only data requests for patient health information with a robust CCDA as the basis. CCDAs can be generated directly from your EMR, or received using protocols such as Direct or TCP/IP.

**FHIR Client Test Application**

Filter Date From: 01/01/2017 Date To: 07/31/2017

PATIENT

CONDITION

ALLERGIES

DIAGNOSTIC REPORT

MEDICATION

OBSERVATION

PROCEDURE

VITAL SIGNS

IMMUNIZATIONS

CLINICAL IMPRESSION

CARE PLAN

GOALS

HEALTH CONCERNS

DEVICES

CARE TEAM

CCDA DOCUMENT

```
<Bundle xmlns="http://hl7.org/fhir"
  <id value="359b7372-2d22-4bb2-93cb-d97888dec759" />
  <entry>
    <fullUrl value="/fhir/medication/" />
    <resource>
      <MedicationStatement
        <id value="rx-1" />
        <medicationCodeableConcept
          <coding
            <system value="2.16.840.1.113883.6.88" />
            <code value="309990" />
            <display value="RXNORM" />
          </coding>
          <text value="Ceftriaxone 100 MG/ML " />
        </medicationCodeableConcept>
        <effectivePeriod
          <start value="2015-06-22" />
          <end value="2015-06-30" />
        </effectivePeriod>
      </MedicationStatement>
    </resource>
  </entry>
  <entry>
    <fullUrl value="/fhir/medication/" />
    <resource>
      <MedicationStatement
        <id value="rx-2" />
        <medicationCodeableConcept
```

XML Output in DHIT Application

## XML or JSON to any API Client

Developers can use a wide range of API clients, from PostMan© to DHIT's own display client, to deliver patient data. Requests are made against Dynamic FHIR API for all patient data and subsets by date range and section. The FHIR Server handles Errors & has valid Exception methods providing an HTTP status code and Meaningful messages in both JSON/XML format. DHIT's FHIR API Client (*shown at left*) provides a clean section-mapped view, with a full listing of FHIR resources available.