

ONC API Documentation

This document outlines how the ONC API functionality works within OfficeEMR. A new database has been created (cw_api) that will store the api user login information. It will also serve as a launching point for the API methods. A new webservice account has been created (iSalus API). This account currently is only tied to the cw_api database. It should NOT be tied to any other databases. This account currently only has access to three webservice methods: ONC.FindPatient, ONC.GetPatient and ONC.GetCCD. The methods are described with more detail below.

iSalus API Third Party Setup

1. Create a new user in the cw_api database for the third party
2. If iSalus wants to have a specific api for this third part then create a new API webservice account using the webservice admin screen in OfficeEMR, otherwise the general account (39985F47-62E0-4533-918F-317695A6BFEB) should be used.
3. Make sure the API webservice account only has access to the cw_api database and the ONC.FindPatient, ONC.GetPatient and ONC.GetCCD methods.
4. Give to the third party the following information. This information will let them pass the security portion of the webservice request
 - a. Cw_api.UserID (specific user assigned to them)
 - b. Cw_api.Password (specific user assigned to them)
 - c. iSalus API webservice account GUID.
 - d. iSalus API UserID. This will let them log into the API testing tool.
 - e. iSalus API Password. This will let them log into the API testing tool.

iSalus API Testing Site

Sandbox: <http://dev.isalushealthcare.com/officemobile/screens/webservices.htm>

Production: <https://www.officemd.net/officemobile/screens/webservices.htm>

iSalus API Methods

ONC.FindPatient

This method takes the following patient information: token, birth date, first name and last name and returns an API key that can be used for subsequent method requests. If the information cannot be found in the system a blank API key will be returned.

Request

Example Request:

```
<request>
  <security>
    <key>UserID~Password~onc_api</key>
    <version>1.0</version>
    <userid />
    <account>39985F47-62E0-4533-918F-317695A6BFEB</account>
  </security>
  <token>123</token>
  <birth_date>01/01/1965</birth_date>
  <first_name>Test</first_name>
  <last_name>Patient</last_name>
</request>
```

Parent	Tag	Description
request	security	Type: tag Contains security information for accessing the API's
security	key	Type: string (required) Security information used to access the API. Key is made up of a user identifier, password and connection point separated by a tilde character. The user identifier and password were assigned to you when you signed up to use the API's. The connection point will always be cw_api.
security	version	Type: string Used for backwards compatibility. For now always use 1.0.
security	userid	Type: string UserId for the user of your application. Currently not used.
security	account	Type: string (required) Account identifier. This will always be 39985F47-62E0-4533-918F-317695A6BFEB
request	token	Type: string (required) Max Length: 39 characters Token that has been given to the patient to connect with external API's.
request	birth_date	Type: string (required) Length: 10 characters Birth date of the patient in the form of mm/dd/yyyy

request	first_name	Type: string (required) Max Length: 25 characters First name of the patient
request	last_name	Type: string (required) Max Length: 95 characters Last name of the patient

Response

Example Response(s):

Patient was found and an API key was returned

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <api_key>D6000A1268434C7F4EBC758CB42463657535FA4410A1C2DF9F</api_key>
</response>
```

Patient was not found

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <api_key / >
</response>
```

Security key information was not valid

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <error>
    <code>1</code>
    <description>The login credentials are not valid.</description>
    <log_id>486795</log_id>
  </error>
</response>
```

Parent	Tag	Description
response	error	Type: tag Used to store error information from the request
error	code	Type: numeric Code identifying the error
error	description	Type: string Description of the error
error	log_id	Type: numeric Value which can be used internally to help further identify the error
response	api_key	Type: string Max Length: 50 characters Value used gain access to subsequent API methods. This key is only good for a limited time (Generally less than 30 minutes). The API key expiration gets extended each time the API key is used.

ONC.GetPatient

This method takes the following information: API key, time period in months and section information and returns specific patient information for each section requested. If no sections are requested all sections will be returned.

Example Request:

```
<request>
  <security>
    <key>UserID~Password~cw_API</key>
    <version>1.0</version>
    <userid />
    <account>39985F47-62E0-4533-918F-317695A6BFEB</account>
  </security>
  <api_key>123</api_key>
  <time_period_months>36</time_period_months>
  <section_list>
    <section_name>Demographics</section_name>
    <section_name>Social History</section_name>
    <section_name>Problems</section_name>
    <section_name>Medications</section_name>
    <section_name>Allergies</section_name>
    <section_name>Diagnostic Results</section_name>
    <section_name>Vital Signs</section_name>
    <section_name>Procedures</section_name>
    <section_name>Care Team Members</section_name>
    <section_name>Immunizations</section_name>
    <section_name>Unique Device Identifiers</section_name>
    <section_name>Assessment and Plan of Treatment</section_name>
    <section_name>Goals</section_name>
    <section_name>Health Concerns</section_name>
  </section_list>
</request>
```

Parent	Tag	Description
request	security	Type: tag Contains security information for accessing the API's
security	key	Type: string (required) Security information used to access the API. Key is made up of a user identifier, password and connection point separated by a tilde character. The user identifier and password were assigned to you when you signed up to use the API's. The connection point will always be cw_api.
security	version	Type: string Used for backwards compatibility. For now always use 1.0.

security	userid	Type: string UserId for the user of your application. Currently not used.
security	account	Type: string (required) Account identifier. This will always be 39985F47-62E0-4533-918F-317695A6BFEB
request	api_key	Type: string (required) Max Length: 50 characters api_key that is returned from the ONC.FindPatient method.
request	time_period_months	Type: numeric (required) Number of months in the past to return patient related information. Setting has no effect on Demographics, Allergies, Medications, Problems, Immunizations, Unique Device Identifiers and Social History
request	section_list	Type: tag Contains section information to return.
section_list	section_name	Type: string Max Length: 100 characters Section to return. Valid values are: Demographics Social History Problems Medications Allergies Diagnostic Results Vital Signs Procedures Care Team Members Immunizations Unique Device Identifiers Assessment and Plan of Treatment Goals Health Concerns

Response

[Reference](#)

This is returned with all responses unless there is an error.

Example:

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <reference>
    <range>
      <start>04/24/2016</start>
      <end>04/24/2019</end>
    </range>
  </reference>
</response>
```

Parent	Tag	Description
response	reference	Type: tag Used to return reference information about the request
reference	range	Type: tag Used to return the range of dates that was used for the subsequent patient information that is returned.
range	start	Type: string Starting date for data to be returned. Format mm/dd/yyyy.
range	end	Type: string Ending date for data to be returned. Format mm/dd/yyyy.

Demographics

Example:

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <reference>
    <range>
      <start>04/24/2016</start>
      <end>04/24/2019</end>
    </range>
  </reference>
  <demographics>
    <name>
      <first>The</first>
      <middle>X</middle>
      <nick>Bruce</nick>
      <last>Batman</last>
      <suffix>Sr</suffix>
    </name>
    <address>
      <address1>123 Main Street</address1>
      <address2>The Bat Cave</address2>
      <city>Indianapolis</city>
      <state>IN</state>
      <zip>46202</zip>
      <country>USA</country>
    </address>
    <birth_date>01/01/1965</birth_date>
    <language>English</language>
    <gender>
      <code>M</code>
      <description>Male</description>
    </gender>
    <marital_status>
      <code>S</code>
      <description>Single</description>
    </marital_status>
  </demographics>
</response>
```

```

<race>
  <list_item>
    <code>5</code>
    <description>White</description>
  </list_item>
</race>
<ethnicity>
  <code>10</code>
  <description>Not Hispanic or Latino</description>
</ethnicity>
<primary_id>
  <type>SSN</type>
  <value>000-00-1111</value>
</primary_id>
<contact>
  <phone_home>(317) 111-5555</phone_home>
  <phone_work>(317) 222-3333</phone_work>
  <phone_other>(317) 333-4444</phone_other>
  <email>brucewayne@gothamcity.com</email>
</contact>
</demographics>
</response>

```

Parent	Tag	Description
response	demographics	Type: tag Used to return demographic information for the patient
demographics	name	Type: tag Used to return name information
name	first	Type: string Max Length: 25 characters First name of the patient
name	middle	Type: string Max Length: 25 characters Middle name of the patient
name	nick	Type: string Max Length: 25 characters Nick name of the patient
name	last	Type: string Max Length: 95 characters Last name of the patient
name	suffix	Type: string Max Length: 10 characters Suffix name of the patient
demographics	address	Type: tag Used to return address information for the patient
address	address1	Type: string Max Length: 55 characters
address	address2	Type: string Max Length: 55 characters

address	city	Type: string Max Length: 30 characters
address	state	Type: string Max Length: 2 characters
address	zip	Type: string Max Length: 15 characters
address	country	Type: string Max Length: 3 characters Valid values: USA CAN
demographics	birth_date	Type: string Birth date for the patient. Format: mm/dd/yyyy
demographics	language	Type: string Preferred language
demographics	gender	Type: tag Used to return gender information for the patient
gender	code	Type: string Internal code used to identifier gender Valid values: M - Male F - Female U - Unkown
gender	description	Type: string Gender description
demographics	marital_status	Type: tag Used to return marital status information for the patient
marital_status	code	Type: string Internal code used to identifier marital status Valid values: D - Divorced M - Married S - Single U - Unknown W - Widowed X – Legally Separated
marital_status	description	Type: string Marital status description
demographics	race	Type: tag Used to return race information for the patient
race	list_item	Type: tag Used to return 1 to many specific race(s) for the patient
list_item	code	Type: string Internal code used to identify race Valid values: 1 – American Indian or Alaska Native 2 – Asian 3 – Black or African American 4 – Native Hawaiian or Other Pacific Islander 5 – White 6 – Other 999 – Declined to Specify

list_item	description	Type: string Race description
demographics	ethnicity	Type: tag Used to return ethnicity information for the patient
ethnicity	code	Type: string Internal code used to identifier ethnicity Valid values: 6 – Hispanic or Latino 10 – Not Hispanic or Latino 999 – Declined to specify
ethnicity	description	Type: string Ethnicity description

Social History

Example:

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <reference>
    <range>
      <start>04/24/2016</start>
      <end>04/24/2019</end>
    </range>
  </reference>
  <social_history>
    <smoking>
      <snomed_conceptid>77176002</snomed_conceptid>
      <description>Smoker, current status unknown</description>
      <date>02/20/2019</date>
    </smoking>
    <birth_sex>
      <code>1</code>
      <description>Male</description>
      <date>02/20/2019</date>
    </birth_sex>
  </social_history>
</response>
```

Parent	Tag	Description
response	social_history	Type: tag Used to return social history information for the patient
social_history	smoking	Type: tag Used to return smoking information for the patient
smoking	snomed_conceptid	Type: string Snomed ConceptID associated with the smoking status. Valid values: 449868002 - Current every day smoker 428041000124106 - Current some day smoker 8517006 - Former smoker 266919005 - Never smoker 77176002 - Smoker, current status unknown 428071000124103 - Heavy tobacco smoker 428061000124105 - Light tobacco smoker 266927001 - Unknown if ever smoked
smoking	description	Type: string Description of the smoking status
smoking	date	Type: string Date the smoking status was recorded
social_history	birth_sex	Type: tag Used to return birth sex information for the patient
birth_sex	code	Type: integer Sex assigned at birth

		Values values: 1 – Male 2 – Female 3 – Unknown
birth_sex	description	Type: string Birth sex description
birth_sex	date	Type: string Date the birth sex was recorded

Problems

Example:

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <reference>
    <range>
      <start>04/24/2016</start>
      <end>04/24/2019</end>
    </range>
  </reference>
  <problems>
    <problem>
      <description>Abnormal posture</description>
      <onset_date>10/18/2018</onset_date>
      <status>
        <code>1</code>
        <description>Active</description>
      </status>
      <icd>
        <code>R29.3</code>
        <description>Abnormal posture</description>
      </icd>
      <chronic_ind>Y</chronic_ind>
    </problem>
    <problem>
      <description>ALCOHOL ABUSE-CONTINUOUS</description>
      <onset_date>02/19/2019</onset_date>
      <status>
        <code>1</code>
        <description>Active</description>
      </status>
      <icd>
        <code>305.01</code>
        <description>NONDEP ALCOHOL ABUSE CONT DRINKING</description>
      </icd>
      <chronic_ind>Y</chronic_ind>
    </problem>
  </problems>
</response>
```

Parent	Tag	Description
response	problems	Type: tag Used to return demographic information for the patient
problems	problem	Type: tag Used to return 1 to many problems for the patient

problem	description	Type: string Description of the problem
problem	onset_date	Type: string Onset date for the problem in the form mm/dd/yyyy
problem	resolution_date	Type: string Resolution date for the problem in the form mm/dd/yyyy
problem	status	Type: tag Used to return status information for the problem
status	code	Type: numeric Internal identifier for the status of the problem Valid values: 1 – Active 2 – Inactive 3 - Resolved
status	description	Type: string Problem status description
problem	icd	Type: tag Used to return diagnosis information for the problem
icd	code	Type: string Diagnosis code tied to the problem
icd	description	Type: string Diagnosis description tied to the problem
problem	snomed_conceptid	Type: string Snomed Concept ID tied to the problem
problem	chronic_ind	Type: string Indicates if the problem is chronic Valid Values: Y – Yes N - No

Medications

Example:

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <reference>
    <range>
      <start>04/24/2016</start>
      <end>04/24/2019</end>
    </range>
  </reference>
  <medications>
    <medication>
      <description>Lipitor 20 mg tablet tablet oral</description>
      <med_date>08/14/2018</med_date>
      <stop_date>08/15/2018</stop_date>
      <status>
        <code>5</code>
        <description>New</description>
      </status>
      <route>
        <code>C38288</code>
        <description>oral</description>
      </route>
      <rxnorm>
        <code>617318</code>
      </rxnorm>
    </medication>
    <medication>
      <description>Aspirin And Caffeine 400 mg-32 mg tablet tablet oral</description>
      <med_date>08/15/2018</med_date>
      <stop_date>12/03/2018</stop_date>
      <status>
        <code>4</code>
        <description>Stopped</description>
      </status>
      <route>
        <code>C38288</code>
        <description>oral</description>
      </route>
    </medication>
  </medications>
</response>
```

Parent	Tag	Description
response	medications	Type: tag Used to return medication information for the patient

medications	medication	Type: tag Used to return 1 to many medications for the patient
medication	description	Type: string Description for the medication
medication	sig_quantity	Type: string Signetur quantity for the medication
medication	med_date	Type: string Date the medication was started in the form mm/dd/yyyy
medication	stop_date	Type: string Date the medication was stopped in the form mm/dd/yyyy
medication	status	Type: tag Used to return the status of the medication
status	code	Type: string Internal code used for the medication status Valid values: 0 - Ineffective 1 - Allergic Reaction 2 - Current 3 - Expired 4 - Stopped 5 - New 6 - Overdosed 7 - Drug Interaction 8 - Other 9 - Needs Dr. Approval 10 - Change 11 - Discontinue 12 - Renew 13 - Hold 14 - Error 15 - Completed 16 - Side Effects 17 - Discontinue Financial
status	description	Type: string Mediation status description
medication	route	Type: tag Used to return the route of the medication
route	code	Type: string Internal code used for the medication route
route	description	Type: string Medication route description

Allergies

Example:

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <reference>
    <range>
      <start>04/24/2016</start>
```

```

    <end>04/24/2019</end>
  </range>
</reference>
<allergies>
  <allergy>
    <description>Acetaminophen</description>
    <rxnorm>
      <code>161</code>
      <description>Acetaminophen</description>
    </rxnorm>
    <posted>01/08/2019 10:40AM</posted>
    <severity>
      <description>Mild</description>
      <snomed_conceptid>18647004</snomed_conceptid>
    </severity>
    <symptoms>
      <symptom>
        <description>Hives</description>
        <snomed_conceptid>247472004</snomed_conceptid>
      </symptom>
      <symptom>
        <description>redness</description>
      </symptom>
    </symptoms>
  </allergy>
  <allergy>
    <description>cefepodoxime</description>
    <rxnorm>
      <code>20489</code>
      <description>cefepodoxime</description>
    </rxnorm>
    <posted>10/19/2018 7:37AM</posted>
    <severity>
      <description>Severe</description>
      <snomed_conceptid>24484000</snomed_conceptid>
    </severity>
  </allergy>
</allergies>
</response>

```

Parent	Tag	Description
response	allergies	Type: tag Used to return allergy information for the patient
allergies	allergy	Type: tag Used to return 1 to many allergies for the patient
allergy	description	Type: string Description of the allergy
allergy	rxnorm	Type: tag

		Used to return rxnorm information for the allergy
rxnorm	code	Type: string rxnorm code
rxnorm	description	Type: string rxnorm description
allergy	posted	Type: string Date/time the allergy was posted to the system
allergy	severity	Type: tag Used to return severity information for the allergy
severity	description	Type: string Severity description
severity	snomed_conceptid	Type: string Snomed ConceptID that represents the severity Valid values: <ol style="list-style-type: none"> 1. 18647004 – Mild 2. 6736007 – Moderate 3. 24484000 - Severe
allergy	symptoms	Type: tag Used to return symptom information for the allergy
symptoms	symptom	Type: tag Used to return 1 to may symptoms for the allergy
symptom	description	Type: string Symptom description
symptom	snomed_conceptid	Type: string Snomed ConceptID that represents the symptom

Diagnostic Results

Example:

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <reference>
    <range>
      <start>04/24/2016</start>
      <end>04/24/2019</end>
    </range>
  </reference>
  <diagnostic_results>
    <lab>
      <information>
        <name>Value Labs</name>
        <address1>2474 Rocky Place</address1>
        <city>Beaverton</city>
        <state>OR</state>
        <zip>97006</zip>
      </information>
      <result_list>
        <result>
          <description>Glucose</description>
          <value>50</value>
          <unit_of_measure>mg/dL</unit_of_measure>
          <range>Neg.</range>
          <result_date>06/22/2015</result_date>
          <interpret>
            <code>N</code>
            <description>Normal</description>
          </interpret>
          <loinc>
            <code>5792-7</code>
            <description>Glucose [Mass/volume] in Urine by Test strip</description>
          </loinc>
        </result>
        <result>
          <description>Ketones</description>
          <value>Negative</value>
          <range>Negative</range>
          <result_date>06/22/2015</result_date>
          <interpret>
            <code>N</code>
            <description>Normal</description>
          </interpret>
          <loinc>
            <code>5797-6</code>
            <description>Ketones [Mass/volume] in Urine by Test strip</description>
          </loinc>
        </result>
      </result_list>
    </lab>
  </diagnostic_results>
</response>
```

```

    </loinc>
  </result>
</result_list>
</lab>
</diagnostic_results>
</response>

```

Parent	Tag	Description
reponse	ciagnostic_results	Type: tag Used to return demographic information for the patient
diagnostic_results	lab	Type: tag Used to return 1 to many lab location, contact and result information for the patient
lab	information	Type: tag Used to store lab information
information	name	Type: string Lab name
information	address1	Type: string Address line for the lab Max Length: 55 characters
information	city	Type: string City for the lab Max Length: 30 characters
information	state	Type: string State for the lab Max Length: 2 characters
information	zip	Type: string Zip for the lab Max Length: 15 characters
Information	phone	Type:string Phone number for the lab
lab	result_list	Type: tag Used to return result information for the lab for the patient
result_list	result	Type: tag Used to return 1 to many lab results for the lab for the patient
result	description	Type: string Description for the result
result	result_value	Type: string Value for the result
result	unit_of_measure	Type: string Unit of measure for the result
result	result_date	Type: string Date for the result in the from mm/dd/yyyy
result	interpret	Type: tag Used to return interpretation information for the result
interpret	code	Type: string Inerpretation code for the result. Values values: ** - No range defined *G - Above absolute high-off instrument scale

		*L - Below absolute low-off instrument scale A - Alpha abnormal AA - Very abnormal B - No comment D - Significant change down H - Above high normal HH - Above upper panic limits HU - High Urgent I - Intermediate - microbiology L - Below low normal LL - Below lower panic limits LU - Low Urgent MS - Moderately susceptible - microbiology N - Normal R - Resistant - microbiology S - Susceptible - microbiology U - Significant change up VS - Very susceptible - microbiology W - Worse
interpret	description	Type: string Description for the interpretation code
result	loinc	Type: tag Used to store loinc information for the result
loinc	code	Type: string Loinc code for the result
loinc	description	Type: string Description for the loinc code

Vital Signs

Example:

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <reference>
    <range>
      <start>04/24/2016</start>
      <end>04/24/2019</end>
    </range>
  </reference>
  <vitals>
    <vital>
      <vital_date>04/18/2019 3:04PM</vital_date>
      <height>
        <value>62.00</value>
        <units>in</units>
      </height>
      <weight>
        <value>175.00</value>
        <units>lbs</units>
      </weight>
      <bmi>32.00</bmi>
      <temperature>
        <value>98.60</value>
        <units>Fahrenheit</units>
      </temperature>
      <bp>
        <systolic>120</systolic>
        <diastolic>100</diastolic>
      </bp>
    </vital>
    <vital>
      <vital_date>10/18/2018 11:54AM</vital_date>
      <height>
        <value>63.00</value>
        <units>in</units>
      </height>
      <weight>
        <value>175.00</value>
        <units>lbs</units>
      </weight>
      <bmi>31.00</bmi>
    </vital>
  </vitals>
</response>
```

Parent	Tag	Description
response	vitals	Type: tag Used to return vitals information for the patient
vitals	vital	Type: tag Used to return 1 to many vitals for the patient
vital	vital_date	Type: string Date/time the vital was given in the from mm/dd/yyyy hh:mm(AM/PM)
vital	height	Type: tag Used to return height information for the patient
height	value	Type: decimal Height of the patient
height	units	Type: string Units for the height value Valid Values: cm in
vital	weight	Type: tag Used to return weight information for the patient
weight	value	Type: decimal Weight of the patient
weight	units	Type: string Units for the weight value Valid Values: Kg lbs
vital	bmi	Type: decimal Body Mass Index for the vital record
vital	temperature	Type: tag Used to return temperature information for the patient
temperature	value	Type: decimal Temperature of the patient
temperature	units	Type: string Units for the temperature value Valid Values: Celsius Fahrenheit
vital	bp	Type: tag Used to return blood pressure information for the patient
bp	systolic	Type: integer Systolic pressure for the patient
bp	diastolic	Type: integer Diastolic pressure for the patient
vital	heart	Type: tag Used to return heart rate information for the patient
heart	rate	Type: integer Heart rate of the patient
heart	units	Type: string Units for the heart rate Valid Values: Beats/Min
vital	respirations	Type: tag Used to return respiration information for the patient

respirations	rate	Type: integer Number of respirations for the patient
respirations	units	Type: string Units for the respirations Valid Values: Breaths/Min
vital	O2Saturation	Type: tag Used to return oxygen saturation information for the patient
O2Saturation	value	Type: decimal Oxygen saturation for the patient
O2Saturation	units	Type: string Units for the oxygen saturation Valid Values: %
vital	FiO2	Type: tag Used to return the Fraction of Inspired Oxygen information for the patient
FiO2	value	Type: decimal Fraction Inspired Oxygen value for the patient
FiO2	units	Type: string Units for the Fraction Inspired Oxygen Valid Values: %

Procedures

Example:

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <reference>
    <range>
      <start>04/24/2016</start>
      <end>04/24/2019</end>
    </range>
  </reference>
  <procedures>
    <procedure>
      <code>97032</code>
      <description>Elec Stim</description>
      <range>
        <from>01/15/2019</from>
        <to>01/15/2019</to>
      </range>
    </procedure>
    <procedure>
      <code>95870</code>
      <description>emg limited 1extremity</description>
      <range>
        <from>01/15/2019</from>
        <to>01/15/2019</to>
      </range>
    </procedure>
  </procedures>
</response>
```

Parent	Tag	Description
response	procedures	Type: tag Used to return demographic information for the patient
procedures	procedure	Type: tag Used to return 1 to many procedures for the patient
procedure	code	Type: string Code for the procedure
procedure	description	Type: string Code description for the procedure
procedure	range	Type: tag Used to return the range information for the procedure
range	from	Type: string Starting date for the procedure in the form of mm/dd/yyyy
range	to	Type: string Ending date for the procedure in the form of mm/dd/yyyy

Care Team Members

Example:

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <reference>
    <range>
      <start>04/24/2016</start>
      <end>04/24/2019</end>
    </range>
  </reference>
  <care_team_members>
    <member>
      <name>
        <first>John</first>
        <last>Smith</last>
        <suffix>
        </suffix>
      </name>
      <address>
        <address1>123 Main Street</address1>
        <city>Beaverton</city>
        <state>OR</state>
        <zip>97006</zip>
        <country>USA</country>
      </address>
    </member>
    <member>
      <name>
        <first>Jane</first>
        <last>Smith</last>
        <suffix>
        </suffix>
      </name>
      <address>
        <address1>123 Main Street</address1>
        <city>Beaverton</city>
        <state>OR</state>
        <zip>97006</zip>
        <country>USA</country>
      </address>
    </member>
  </care_team_members>
</response>
```

Parent	Tag	Description
response	care_team_members	Type: tag Used to return team members who cared for the patient
care_team_members	member	Type: tag Used to return 1 to many members
member	name	Type: tag Used to return name information for the member
name	first	Type: string Max Length: 25 characters First name of the patient
name	last	Type: string Max Length: 95 characters Last name of the patient
name	suffix	Type: string Max Length: 10 characters Suffix name of the patient
care_team_members	address	Type: tag Used to return address information for the member
address	address1	Type: string Max Length: 55 characters
address	address2	Type: string Max Length: 55 characters
address	city	Type: string Max Length: 30 characters
address	state	Type: string Max Length: 2 characters
address	zip	Type: string Max Length: 15 characters
address	country	Type: string Max Length: 3 characters Valid values: 1. USA 2. CAN
care_team_members	national_provider_id	Type: string National provider id for the member
care_team_members	taxonomy	Type: tag Used to return taxonomy information for the member
taxonomy	code	Type: string Taxonomy code
taxonomy	description	Type: string Taxonomy description

Immunizations

Example:

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <reference>
    <range>
      <start>04/24/2016</start>
      <end>04/24/2019</end>
    </range>
  </reference>
  <immunizations>
    <immunization>
      <description>influenza, intradermal, quadrivalent, preservative</description>
      <date_given>04/18/2019</date_given>
      <cvx>
        <code>166</code>
        <description>influenza, intradermal, quadrivalent, preservative free</description>
      </cvx>
    </immunization>
    <immunization>
      <description>GARDASIL 9</description>
      <date_given>04/18/2019</date_given>
      <cvx>
        <code>165</code>
        <description>Human Papillomavirus 9-valent vaccine</description>
      </cvx>
    </immunization>
  </immunizations>
</response>
```

Parent	Tag	Description
response	immunizations	Type: tag Used to return demographic information for the patient
immunizations	immunization	Type: tag Used to return 1 to many immunizations for the patient
immunization	description	Type: string Description for the immunization
immunization	date_given	Type: string Date the immunization was given in the form mm/dd/yyyy
immunization	cvx	Type: tag Used to return cvx information for the immunization record
cvx	code	Type: string CVX code tied to the immunization
cvx	description	Type: string CVX description tied to the immunization
immunization	refusal	Type: tag Used to return refusal information for the immunization record

refusal	code	Type: string Code for why the immunization record was refused Valid Values: 00 – Parental Decision 01 – Religious Exemption 02 – Other 03 – Parental Decision
refusal	description	Type: string Description for why the immunization record was refused
immunization	immunity	Type: tag Used to return evidence of immunity information for the immunization record
immunity	code	Type: string Code for the evidence of immunity for the immunization that was given. This code represents the Snomed ConceptID Valid Values: 4834000 - History of typhoid infection. 6142004 - History of influenza infection. 14168008 - History of rabies infection. 14189004 - History of measles infection. 16541001 - History of yellow fever infection. 16814004 - History of pneumococcal infection. 18624000 - History of rotavirus infection. 23511006 - History of meningococcal infection. 27836007 - History of pertussis infection. 36653000 - History of rubella infection. 36989005 - History of mumps infection. 38907003 - History of Varicella infection. 40468003 - History of Hepatitis A infection. 52947006 - History of Japanese encephalitis infection. 66071002 - History of Hepatitis B infection. 76902006 - History of tetanus infection. 91428005 - History of HIB infection. 111852003 - History of vaccinia infection. 240532009 - History of HPV infection. 271511000 - Immunity to hepatitis B 397428000 - History of diphtheria infection. 398102009 - History of polio infection. 409498004 - History of anthrax infection.
immunity	description	Type: string Description for the evidence of immunity for the immunization record.

Unique Device Identifiers

Example:

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <reference>
    <range>
      <start>04/24/2016</start>
      <end>04/24/2019</end>
    </range>
  </reference>
  <unique_device_identifiers>
    <identifier>
      <udi>(01)00643169007222(17)160128(21)BLC200461H</udi>
      <device_name>Cardiac resynchronization therapy implantable defibrillator</device_name>
      <implant_date>10/05/2011</implant_date>
      <snomed_conceptid>704707009</snomed_conceptid>
    </identifier>
  </unique_device_identifiers>
</response>
```

Parent	Tag	Description
response	unique_device_identifiers	Type: tag Used to return implant information for the patient
unique_device_identifiers	identifier	Type: tag Used to return 1 to many implants for the patient
identifier	udi	Type: string Unique device identifier for the implant
identifier	device_name	Type: string Device name for the implant
identifier	implant_date	Type: string Date the device was implanted
identifier	snomed_conceptid	Type: string Snomed ConceptID for the implant

Assessment and Plan of Treatment

Example:

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <reference>
    <range>
      <start>04/24/2016</start>
      <end>04/24/2019</end>
    </range>
  </reference>
  <assessment_and_plan_of_treatment>
    <item>
      <type>Patient Education</type>
      <description>ABNORMAL POSTURE</description>
      <plan_date>10/18/2018</plan_date>
    </item>
    <item>
      <type>Pending Test</type>
      <description>Unknown </description>
      <plan_date>08/31/2018</plan_date>
      <test>Labs</test>
    </item>
  </assessment_and_plan_of_treatment>
</response>
```

Parent	Tag	Description
response	assessment_and_plan_of_treatment	Type: tag Used to return assessment and treatment information for the patient
assessment_and_plan_of_treatment	item	Type: tag Used to return 1 to many assessment and treatment information for the patient
item	type	Type: string Type of assessment or treatment plan. Valid values: Assessment Future Appointment Instruction Patient Education Pending Test Future Test
item	description	Type: string Description for the assessment or plan of treatment

item	plan_date	Type: string Date for the assessment or plan of treatment
item	test	Type: string If the type is a Pending Test or a Future test this fields describes the test. Valid values: Labs Radiology Pathology Procedures
item	snomed_conceptid	Type: string Snomed ConceptID associated with the assessment or treatment plan
item	loinc	Type: string Loinc code associated with the assessment or treatment plan.

Goals

Example:

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <reference>
    <range>
      <start>04/24/2016</start>
      <end>04/24/2019</end>
    </range>
  </reference>
  <goals>
    <goal>
      <description>Eat Healthier</description>
      <plan_date>04/29/2019</plan_date>
    </goal>
  </goals>
</response>
```

Parent	Tag	Description
response	goals	Type: tag Used to return goal information for the patient
goals	goal	Type: tag Used return 1 to many goals for the patient
goal	description	Type: string Description of the goal
goal	plan_date	Type: string Date the goal was planned in the form mm/dd/yyyy

Health Concerns

Example:

```
<response xmlns="http://www.isalushealthcare.webservices/">
  <reference>
    <range>
      <start>04/24/2016</start>
      <end>04/24/2019</end>
    </range>
  </reference>
  <health_concerns>
    <concern>
      <type>Health Concern</type>
      <description>Unable to manage medication</description>
      <plan_date>04/29/2019</plan_date>
      <snomed_conceptid>285035003</snomed_conceptid>
    </concern>
    <concern>
      <type>Health Concern</type>
      <description>Hypertension</description>
      <plan_date>04/29/2019</plan_date>
      <snomed_conceptid>155301003</snomed_conceptid>
    </concern>
  </health_concerns>
</response>
```

Parent	Tag	Description
response	health_concerns	Type: tag Used to return health concern / health status information for the patient
health_concerns	concern	Type: tag Used return 1 to many health concern / health status for the patient
concern	type	Type: string Type of health concern. Values values: Health Concern Health Status
concern	description	Type: string Description for the health concern / health status
concern	plan_date	Type: string Date of the health concern / health status
concern	snomed_conceptid	Type: string Snomed ConceptID associated with the health concern / health status

Error

Example Invalid API Key:

```
<response xmlns="http://www.isalushealthcare.webservices/">  
  <error>  
    <code>1</code>  
    <description>API Key is not valid</description>  
  </error>  
</response>
```

Parent	Tag	Description
response	error	Type: tag Used to store error information from the request
error	code	Type: numeric Code identifying the error
error	description	Type: string Description of the error

ONC.GetCCD

This method takes the API key and the time period in months and returns a CCD Version 2.1 clinical document for the api key requested. The following header elements are not included as part of the xml data that is returned:

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="CDA.xsl"?>
```

Example Request:

```
<request>
  <security>
    <key>UserID~Password~cw_API</key>
    <version>1.0</version>
    <userid />
    <account>39985F47-62E0-4533-918F-317695A6BFEB</account>
  </security>
  <api_key>123</api_key>
  <time_period_months>36</time_period_months>
</request>
```

Parent	Tag	Description
request	security	Type: tag Contains security information for accessing the API's
security	key	Type: string (required) Security information used to access the API. Key is made up of a user identifier, password and connection point separated by a tilde character. The user identifier and password were assigned to you when you signed up to use the API's. The connection point will always be cw_api.
security	version	Type: string Used for backwards compatibility. For now always use 1.0.
security	userid	Type: string UserId for the user of your application. Currently not used.
security	account	Type: string (required) Account identifier. This will always be 39985F47-62E0-4533-918F-317695A6BFEB
request	api_key	Type: string (required) Max Length: 50 characters api_key that is returned from the ONC.FindPatient method.
request	time_period_months	Type: numeric (required) Number of months in the past to return patient related information. Setting has no effect on Demographics, Allergies, Medications, Problems, Immunizations, Unique Device Identifiers and Social History