GeniusDoc –API Documentation

Document Edition – Version 1.1
(GeniusDoc_Standardised_API_Documentation_V1.1)

API Documentation

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1 INTRODUCTION

This document is written for developers, who are developing applications for accessing patient Protected Health Information (PHI) based on GeniusDoc API Documentation. This documentation allows applications to query the GeniusDoc API enabled by a data holder (Healthcare Organization).

ALWAYS KEEP IN MIND THAT ONLINE DATA TRANSFER IS NOT A SUBSTITUTE FOR PERSON-TO-PERSON COMMUNICATION OF URGENT OR CRITICAL MEDICAL INFORMATION.

This documentation also contains general information and important security information.

2 GENERAL INFORMATION

2.1 API INFORMATION

GeniusDoc API is a read-only RESTful API designed based on the US Core Implementation Guide STU6 Release 6.1.0 (http://hl7.org/fhir/us/core/STU6.1) which conform to the FHIR Specification v4.0.1 (http://hl7.org/fhir/R4/index.html). The Authorization & Authentication are implemented according to Smart App Launch Implementation Guide v2.0.0 (https://hl7.org/fhir/smart-app-launch/STU2) and OpenID Connect 1.0.

FHIR Bulk Data Access Group export using Backend Services Authorization is also supported as described in the Bulk Data Access IG (http://hl7.org/fhir/uv/bulkdata/STU1.0.1).

The APIs described in this document are designed to meet the ONC requirements, specifically

- 170.315(g)(7) Application Access - Patient Selection
- 170.315(g)(9) Application Access - All Data Request
- 170.315(g)(10) Standardized API

2.2 API ACCESS REQUESTS

All data access requests to API will be in the following format, in which the [base] URL will need to be obtained from the Healthcare Organization.

GET [baseURL]/[resource-specific parameters]…

The resources returned in response to these API requests will at minimum contain the data elements specified in United States Core Data for Interoperability (USCDI) v3.

2.3 API SERVER & ACCESS CONTROL

Each health care organization will independently implement and maintain their own GeniusDoc API server, including API endpoints, application access control and identity management.

2.4 CONNECTING TO THE API SERVER

The API server is accessed by clients through HTTPS connection only.

IMPORTANT: Local customer security policies must be in place to prevent unauthorized monitoring or eavesdropping of connections to the server.

Note: Only TLS 1.2 connections are accepted. All plaintext connections will be refused.

Note: Please limit your connection frequency to a value appropriate for your use case. Connection attempts which are more frequent than permitted by the bandwidth allocation for the data resource are not allowed.

2.5 CLIENT APPLICATION CONFIGURATION & AUTHENTICATION

The client application developers must contact the Healthcare Organization to register as a client to work with the application.

This configuration involves setting up the appropriate OAuth 2.0 parameters such as:

- Client Id
- Client Secret
- Redirect URI
- Launch URI (for EHR launch)
- JWKS URI (for Bulk Data Access)

Prior to making API requests, the client application must obtain an Access Token from the associated Authorization Server. The client software must support the OAuth 2.0 authorization code grant flow and client credentials (for Bulk Data access) as detailed in RFC 6749

Each healthcare organization will have a unique base URL to access its Authorization Server. The required endpoint URLs are as follows:

Endpoint	URL
Authorization	https://[baseOAuthURL]/authorize
Token	https://[baseOAuthURL]/token

When the end user is directed to the authorization endpoint with basic authentication (Client Id & secret), the user will be presented with a login screen where they can enter their credentials for the healthcare organization they are accessing. During the authorization process, the user may also reduce the scopes that will be granted to the application. If the correct credentials are supplied and the end user grants access to the client application, an authorization code will be returned to the client that the client application can use to obtain an access token through the token endpoint.

Client authentication can be performed using a username and strong password. A healthcare organization may reuse existing patient portal credentials for this purpose, in which case the authenticated username map to a unique patient portal user on the resource holder's side. The end user

should obtain these credentials directly from the healthcare organizations from which they wish to access data. Providers can use existing EHR login credentials for Provider based Apps.

Refresh tokens: Client applications that use the Authorization Code flow and are capable of securely storing refresh tokens may request one by including the offline_access scope in the initial authorization request. Note that the end user may choose to remove this scope during the authorization process. If approved, a refresh token will be issued along with the access token in accordance with RFC 6749. The refresh token can later be exchanged for a new access token, also as defined in RFC 6749. By default, refresh tokens are valid for 90 days; however, the actual validity period may vary based on the Data Holder's institutional policies. Each refresh token is single-use. When a valid refresh token is used to obtain a new access token, a replacement refresh token will be issued. Refresh tokens are not issued to client applications using the Client Credentials flow, since these clients can directly authenticate with the token endpoint to obtain a new access token.

PKCE support: Proof Key for Code Exchange (PKCE), as defined in RFC 7636, is supported for client applications using the Authorization Code flow. Client apps must use only the S256 code challenge method. Refer to RFC 7636 for detailed guidance on including PKCE parameters in requests to the authorization and token endpoints.

All requests to the API must include the access token transmitted in the Authorization header of the HTTP request as a bearer token as illustrated in RFC 6750. If the access token is missing, expired, or otherwise not valid for the requested operation, the API will return a 401 unauthorized response.

3 API DETAILS

3.1 FHIR RESOURCES

Client software must be capable of making HTTPS RESTful requests in accordance with the FHIR specification and consuming the following FHIR Resources to support the USCDI V3 Elements.

Resource	Data	URL
AllergyIntolerance	**Allergy Intolerance**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-allergyintolerance.html
CarePlan	**Care Plan**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-careplan.html
CareTeam	**Care Team**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-careteam.html
Condition	**Encounter Diagnosis**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-condition-encounter-diagnosis.html
Condition	**Problems and Health Concerns**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-condition-problems-health-concerns.html
Coverage	**Coverage**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-coverage.html
Device	**Implantable Device**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-implantable-device.html
DiagnosticReport	**Diagnostic Report for Lab Results reporting**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-diagnosticreport-lab.html

DiagnosticReport	**Diagnostic Report for Report and Note exchange**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-diagnosticreport-note.html
DocumentReference	**Document Reference**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-documentreference.html
Encounter	**Encounter**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-encounter.html
Goal	**Goal**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-goal.html
Immunization	**Immunization**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-immunization.html
Location	**Location**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-location.html
Medication	**Medication**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-medication.html
MedicationDispense	**MedicationDispense**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-medicationdispense.html
MedicationRequest	**Medication Request**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-medicationrequest.html
Observation	**Laboratory Result**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-observation-lab.html
Observation	**Occupation**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-observation-occupation.html
Observation	**Pregnancy Intent**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-observation-pregnancyintent.html
Observation	**Pregnancy Status**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-observation-pregnancystatus.html
Observation	**Screening Assessment**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-observation-screening-assessment.html
Observation	**Sexual Orientation**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-observation-sexual-orientation.html
Observation	**Simple Observation**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-simple-observation.html
Observation	**Smoking Status**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-smokingstatus.html
Observation	**Vital Signs**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-vital-signs.html
Observation	**Pediatric Head Occipital-frontal Circumference Percentile**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-head-occipital-frontal-circumference-percentile.html
Observation	**Pediatric BMI for Age**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-pediatric-bmi-for-age.html
Observation	**Pediatric Weight for Height Observation**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-pediatric-weight-for-height.html
Observation	**Blood Pressure**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-blood-pressure.html
Observation	**BMI**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-bmi.html
Observation	**Height**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-body-height.html
Observation	**Temperature**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-body-temperature.html
Observation	**Weight**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-body-weight.html
Observation	**Head Circumference**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-head-circumference.html
Observation	**Heart Rate**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-heart-rate.html
Observation	**Pulse Oximetry**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-pulse-oximetry.html
Observation	**Respiratory Rate**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-respiratory-

		rate.html
Organization	**Organization**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-organization.html
Patient	**Patient**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-patient.html
Practitioner	**Practitioner**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-practitioner.html
PractitionerRole	**Practitioner Role**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-practitionerrole.html
Procedure	**Procedure**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-procedure.html
Provenance	**Provenance**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-provenance.html
QuestionnaireResponse	**QuestionnaireResponse**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-questionnaireresponse.html
RelatedPerson	**RelatedPerson**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-relatedperson.html
ServiceRequest	**ServiceRequest**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-servicerequest.html
Specimen	**Specimen**	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-specimen.html

3.2 PATIENT SELECTION

To search for patients, the application should request a bundle of patient resources matching suitable search criteria. To facilitate this, the following search parameters can be applied to the Patient resource:

Resource	Supported Searches
Patient	• _id • Birthdate • family • gender • given • identifier • name • birthdate+family • family+gender • birthdate+name • gender+name

Examples:

Search by	Resource	Example
Name & Birthdate	**Patient**	*https://[baseURL]/Patient?name=Test,Patient&birthdate=1982-08-23*
Name & Gender	**Patient**	*https://[baseURL]/Patient?name=Test,Patient&gender=male*
Family & Gender	**Patient**	*https://[baseURL]/Patient?family=Test&gender=male*

The API will return a bundle of all patients (possibly zero) matching the search criteria. Only patients for which the user has been authorized access will be included in the results. Each patient returned in the search results is assigned a unique patient ID that can be found in the Patient.id element of the corresponding Patient resource. This patient ID can be included in subsequent requests to retrieve additional resources for that specific patient.

3.3 QUERY FOR A SPECIFIC DATA CATEGORY

The Patient resource can be retrieved by specifying a patient ID or by performing a search as discussed in section 3.2. For example, the patient resource by patient ID 1001 can be retrieved as indicated below.

Data	Resource	Request
Patient	**Patient**	*https://[baseURL]/Patient/1001*

The remaining resource types listed in Section 3.1 can be accessed for a specific patient as a Bundle of resources by performing a search by resource type and specifying the patient ID in the request. For example, to retrieve a bundle of resources for a Patient 1001, the request for each category are formatted as below.

Data	Resource	Request
Allergies	**AllergyIntolerance**	*https://[baseURL]/AllergyIntolerance?patient=1001*
Procedures	**Procedure**	*https://[baseURL]/Procedure?patient=1001*
Immunizations	**Immunization**	*https://[baseURL]/Immunization?patient=1001*
Unique Device Identifiers	**Device**	*https://[baseURL]/Device?patient=1001*
Goals	**Goal**	*https://[baseURL]/Goal?patient=1001*

Following are few examples, when two or more data categories represented by a single Resource type

Data	Resource	Search Term
Smoking Status	**Observation**	**code=72166-2**
	Ex: https://[baseURL]/Observation?patient=1001&code=72166-2	
Vital Signs	**Observation**	**category=vital-signs**
	Ex: https://[baseURL]/Observation?patient=1001&category=vital-signs	
Laboratory Tests	**DiagnosticReport**	**category=LAB**
	Ex: https://[baseURL]/DiagnosticReport?patient=1001&category=LAB	
Laboratory Results	**Observation**	**category=laboratory**
	Ex: https://[baseURL]/Observation?patient=1001&category=laboratory	

Each search request will return a bundle of zero or more results meeting the search criteria.

3.4 QUERY FOR ALL DATA AS A CCDA DOCUMENT

CCDA documents can be accessed using DocumentReference resource. CCDAs are categorized as "Summary of Episode" Notes with LOINC code 34133-9. For example, to request a CCDA document covering all dates for patient 1001, the query could be formatted as:

Resource	Request
DocumentReference	*https://[baseURL]/DocumentReference?patient=1001&type=http://loinc.org|34133-9*

The API response will consist of a Bundle of DocumentReference resources. The CCDA Document itself can be retrieved using the link provided in *documentReference.content.attachment.url* element of the returned DocumentReference resource.

The link is an API endpoint URL. Navigating to the link will download the CCDA attachment.

3.5 QUERY FOR A SEPCIFIC DATE OR DATE RANGE

Specifying a date or date range in the request is optional. Some of the data categories returned by the API may be limited by date by specifying either (1) a specific date or (2) start and/or end dates. These dates can be included as search parameters as defined in the following table.

Data	Resource	Resource Data Element	Search Parameter
Vital Signs	**Observation**	**Observation.effectiveDateTime**	**date**
	Ex: https://[baseURL]/Observation?patient=1001&category=vital-signs&date=2018-01-01		
Procedures	**Procedure**	**Procedure.performedDateTime**	**date**
	Ex: https://[baseURL]/Procedure?patient=1001&date=2018-01-01		
Goals	**Goal**	**Goal.startDate**	**date**
	Ex: https://[baseURL]/Goal?patient=1001&date=2018-01-01		
Lab Tests	**DiagnosticReport**	**DiagnosticReport.effectiveDateTime**	**date**
	Ex: https://[baseURL]/DiagnosticReport?patient=1001&category=LAB&date=2018-01-01		
Lab Results	**Observation**	**Observation.effectiveDateTime**	**date**
	Ex: https://[baseURL]/Observation?patient=1001&category=laboratory&date=2018-01-01		
Documents	**DocumentReference**	**DocumentReference.context.period**	**period**
	Ex: https://[baseURL]/DocumentReference?patient=1001&type=http://loinc.org|34133-9&period=ge2018-01-01&period=le2018-01-31 • *eq (Equals)* • *ne (Not Equals)* • *ge (Greater than or Equals)* • *gt (Greater than)* • *le (Lesser than or Equals)* • *lt (Lesser than)*		

3.6 EXCEPTION HANDLING

Exception Code	Exception Description
401	*Authorization has been denied for this request*
403	*Forbidden*
404	*Not found*
500	*Internal Server Error*

3.7 SUPPORTED SCOPES

Apps indicate the clinical data they wish to access by including one or more clinical OAuth scopes in their registration and/or authorization requests. These clinical scopes follow the format defined in the SMART App Launch Framework 2.0.0. For more information, refer to the SMART specification "https://www.hl7.org/fhir/smart-app-launch/STU2/scopes-and-launch-context.html#scopes-for-requesting-clinical-data"

The API supports only read (.r) and search (.s) scopes. It also supports wildcard scopes and more granular (fine-grained) SMART scopes. For details on supported scopes, contact the Data Holder or review the capability statement of the relevant endpoint to determine which resource types are available.

For example, a consumer-facing application using the SMART standalone launch flow and requesting permission to read and search authorized Condition resources would request the scope "patient/Condition.rs". Applications may request patient-level, user-level, or system-level scopes, depending on the client type. Refer to the SMART specification above for guidance on selecting the appropriate scope type.

To request finer-grained access, an application can append "?category=" followed by the appropriate query string to the base scope. For example, to read and search only Condition resources categorized as Health Concerns, the application could request:

patient/Condition.rs?category=http://hl7.org/fhir/us/core/CodeSystem/condition-category|health-concern

3.8 DATA AVAILABILITY TO API

The API will return all properly formatted data provided by a connected data source system in response to a submitted query. Healthcare organizations may have their own policies and/or safety best practices that will dictate when the data is considered complete and/or ready to be sent. Please contact a healthcare organization directly for questions related to their specific policies.

4 API SYNTAX & EXAMPLES

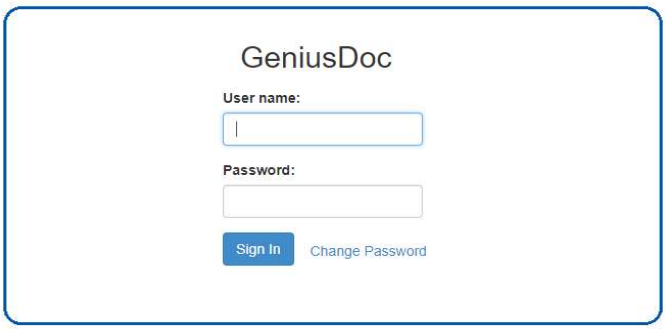
4.1 CLIENT AUTHENTICATION – OAUTH 2.0

Authorization Code Request

<table>
<tr><th>Name</th><th>Details</th></tr>
<tr><td>Request</td><td>Method: HTTP GET</td></tr>
<tr><td>URL Syntax</td><td>https://[baseOAuthURL]/Authorize?response_type=code&client_id={ClientID}&redirect_uri={Redirect URI}&state={Opaque value}</td></tr>
<tr><td>Parameters</td><td>
<table>
<tr><th>Parameter</th><th>Data Type</th><th>Required</th><th>Details</th></tr>
<tr><td>response_type</td><td>string</td><td>Yes</td><td>“code”</td></tr>
<tr><td>client_id</td><td>string</td><td>Yes</td><td>The Client Identifier assigned to the App</td></tr>
<tr><td>redirect_uri</td><td>string</td><td>Yes</td><td>Must match the App pre-registered redirect URI</td></tr>
<tr><td>state</td><td>string</td><td>Yes</td><td>An opaque value used by the App to maintain state between the request and callback</td></tr>
</table>
</td></tr>
<tr><td>Example URL</td><td>https://[baseOAuthURL]/Authorize?response_type=code&client_id=POS47760&redirect_uri=https://[RedirectURL]&state=abcdef123456</td></tr>
<tr><td>Response Redirect</td><td>https://[RedirectURL]?code=42bcf01410e84851830bc42f29cda449c20e40ececfd47a0a47016ea616caa8e&state=abcdef123456
<table>
<tr><th>Parameter</th><th>Value</th></tr>
<tr><td>code</td><td>The authorization code generated by the authorization server to be used for retrieving Token. The code will expire shortly after it is issued to mitigate the risk of leaks</td></tr>
<tr><td>state</td><td>The exact value received from the App.</td></tr>
</table>
</td></tr>
</table>

End User Authentication

When the end user is directed to the authorization endpoint as indicated in section 4.1, the user will be presented with a login screen where they can enter their credentials for the healthcare organization they are accessing. If the correct credentials are supplied, an authorization code will be returned to the client that the client App can use to obtain an access token through the token endpoint.



Token Request

<table>
<tr><th>Name</th><th>Details</th></tr>
<tr><td>Request</td><td>Method: HTTP Post
Content-type: application/x-www-form-urlencoded</td></tr>
<tr><td>URL Syntax</td><td>URL: https://[baseOAuthURL]/token

Body: grant_type=authorization_code&client_id={Client ID}&client_secret={Client secret}&code={Authorization code}&redirect_uri={Redirect URL}</td></tr>
<tr><td>Parameters</td><td>
<table>
<tr><th>Parameter</th><th>Data Type</th><th>Required</th><th>Details</th></tr>
<tr><td>grant_type</td><td>string</td><td>Yes</td><td>“authorization_code”</td></tr>
<tr><td>client_id</td><td>string</td><td>Yes</td><td>Client ID assigned to the App</td></tr>
<tr><td>client_secret</td><td>string</td><td>Yes</td><td>Client Secret assigned to the App</td></tr>
<tr><td>code</td><td>string</td><td>Yes</td><td>Authorization Code that the App received from the authorization server</td></tr>
<tr><td>redirect_uri</td><td>string</td><td>Yes</td><td>Redirect URL of the App</td></tr>
<tr><td>state</td><td>string</td><td>Yes</td><td>An opaque value used by the client to maintain state between the request and callback</td></tr>
</table>
</td></tr>
<tr><td>Example URL</td><td>URL: https://[baseOAuthURL]/token

Body: grant_type=authorization_code&client_id= POS47760&client_secret=123456&code42bcf01410e84851830bc42f29cda449c20e40ececfd47a0a47016ea616caa8e&redirect_uri= https://[RedirectURL]</td></tr>
<tr><td>Response Data</td><td>
<table>
<tr><th>Data Field</th><th>Value</th></tr>
<tr><td>access_token</td><td>The access token issued by the authorization server</td></tr>
<tr><td>token_type</td><td>“Bearer”</td></tr>
<tr><td>expires_in</td><td>Lifetime in seconds of the access token, after which the token SHALL NOT be accepted by the resource server</td></tr>
<tr><td>refresh_token</td><td>Token that can be used to obtain a new access token, using the same or a subset of the original authorization grants</td></tr>
</table>
</td></tr>
<tr><td>Json Response</td><td>{
"access_token": "Q-J1QMLTo9efdQgryxJN9ZipK-WZEw95XVqBRGMnTrjeSkwiKD6kvAK3uxGeqxssoraadHPwwAlmXHqDKkNCCHB-FJycEpBlSKO8IUNNt71wzbKKurPYGMzzsczGTNSyQ7t7rDqDNTQJC89JXxwi4MAD5TMw7RsfgGo1A-rYpyQFetMTLjY1-xWyTrFO0MhbPc0y_VVj69HPStgczyh58EJqP8G5MYAv77Uvb0wCC3BCl9-hdM5W2OeE4psPD5XSHMN8X4ABaI-TIeZbfbCU9W3NeD4nrr-Qtzk0cMIrlZt9-obezKVR2vV29gaQrL8k-mXcrA",
"token_type": "bearer",
"expires_in": 7199,
"refresh_token": "UHq7EWqGUqn1EeuIeHdQLZogoj-WpwTEyV3dW6zOH_eOmZV1D4f0MVMYC-FNrkLuLmPGtMQM8FiO6Emuct9HcPkblUZk4TYg4w7TSfNZDLGIG8RWf9ag3D1hvcBSBoP6MXfhdnS1CJ32csgxaQv01OcCPPE-Ee55eB2pL9CAnZ9fxrgfDTSPJ8RV8cVwwtqVl1xV5KeasFd7mA2rWHjnkK2W8MZsYMu87-leFCgUZtMwQXGYP4OGu2jeK-rcFwQeV3vF92PLruTn1DSrQ1Omn6mle2J_db5vkE_ylnWYI39jVv86zO4WY7EDXfjJptOu4tfQeA"
}</td></tr>
</table>

4.2 DATA REQUESTS

All Data requests are implemented according to US Core Implementation Guide STU6 Release 6.1.0 (http://hl7.org/fhir/us/core/STU6.1).

Data	Syntax	Example
Allergy Intolerance	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-allergyintolerance.html	https://hl7.org/fhir/us/core/STU6.1/AllergyIntolerance-example.html
Care Plan	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-careplan.html	https://hl7.org/fhir/us/core/STU6.1/CarePlan-colonoscopy.html
Care Team	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-careteam.html	https://hl7.org/fhir/us/core/STU6.1/CareTeam-example.html
Encounter Diagnosis	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-condition-encounter-diagnosis.html	https://hl7.org/fhir/us/core/STU6.1/Condition-encounter-diagnosis-example1.html
Problems and Health Concerns	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-condition-problems-health-concerns.html	https://hl7.org/fhir/us/core/STU6.1/Condition-condition-SDOH-example.html
Coverage	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-coverage.html	https://hl7.org/fhir/us/core/STU6.1/Coverage-coverage-example.html
Implantable Device	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-implantable-device.html	https://hl7.org/fhir/us/core/STU6.1/Device-udi-1.html
Diagnostic Report for Lab Results reporting	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-diagnosticreport-lab.html	https://hl7.org/fhir/us/core/STU6.1/DiagnosticReport-cbc.html
Diagnostic Report for Report and Note exchange	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-diagnosticreport-note.html	https://hl7.org/fhir/us/core/STU6.1/DiagnosticReport-bone-density-report.html
Document Reference	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-documentreference.html	https://hl7.org/fhir/us/core/STU6.1/DocumentReference-episode-summary.html
Encounter	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-encounter.html	https://hl7.org/fhir/us/core/STU6.1/Encounter-example-1.html
Goal	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-goal.html	https://hl7.org/fhir/us/core/STU6.1/Goal-goal-1.html
Immunization	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-immunization.html	https://hl7.org/fhir/us/core/STU6.1/Immunization-imm-1.html
Location	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-location.html	https://hl7.org/fhir/us/core/STU6.1/Location-hospital.html
Medication	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-medication.html	https://hl7.org/fhir/us/core/STU6.1/Medication-uscore-med1.html
MedicationDispense	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-medicationdispense.html	https://hl7.org/fhir/us/core/STU6.1/MedicationDispense-medicationdispense-example.html
Medication Request	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-medicationrequest.html	https://hl7.org/fhir/us/core/STU6.1/MedicationRequest-medicationrequest-coded-oral-axid.html
Laboratory Result	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-observation-lab.html	https://hl7.org/fhir/us/core/STU6.1/Observation-cbc-hemoglobin.html
Occupation	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-observation-occupation.html	https://hl7.org/fhir/us/core/STU6.1/Observation-observation-occupation.html
Pregnancy Intent	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-observation-pregnancyintent.html	https://hl7.org/fhir/us/core/STU6.1/Observation-pregnancy-intent.html
Pregnancy Status	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-observation-pregnancystatus.html	https://hl7.org/fhir/us/core/STU6.1/Observation-pregnancy-status.html
Screening Assessment	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-observation-screening-assessment.html	https://hl7.org/fhir/us/core/STU6.1/Observation-PHQ9-item-example-44251-7.html

Sexual Orientation	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-observation-sexual-orientation.html	https://hl7.org/fhir/us/core/STU6.1/Observation-sexual-orientation-example.html
Simple Observation	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-simple-observation.html	https://hl7.org/fhir/us/core/STU6.1/Observation-simple-observation-cognitive-status.html
Smoking Status	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-smokingstatus.html	https://hl7.org/fhir/us/core/STU6.1/Observation-some-day-smoker.html
Vital Signs	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-vital-signs.html	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-vital-signs.profile.json.html
Pediatric Head Occipital-frontal Circumference Percentile	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-head-occipital-frontal-circumference-percentile.html	https://hl7.org/fhir/us/core/STU6.1/Observation-ofc-percentile.html
Pediatric BMI for Age	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-pediatric-bmi-for-age.html	https://hl7.org/fhir/us/core/STU6.1/Observation-pediatric-bmi-example.html
Pediatric Weight for Height Observation	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-pediatric-weight-for-height.html	https://hl7.org/fhir/us/core/STU6.1/Observation-pediatric-wt-example.html
Blood Pressure	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-blood-pressure.html	https://hl7.org/fhir/us/core/STU6.1/Observation-blood-pressure.html
BMI	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-bmi.html	https://hl7.org/fhir/us/core/STU6.1/Observation-bmi.html
Height	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-body-height.html	https://hl7.org/fhir/us/core/STU6.1/Observation-height.html
Temperature	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-body-temperature.html	https://hl7.org/fhir/us/core/STU6.1/Observation-temperature.html
Weight	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-body-weight.html	https://hl7.org/fhir/us/core/STU6.1/Observation-weight.html
Head Circumference	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-head-circumference.html	https://hl7.org/fhir/us/core/STU6.1/Observation-head-circumference.html
Heart Rate	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-heart-rate.html	https://hl7.org/fhir/us/core/STU6.1/Observation-heart-rate.html
Pulse Oximetry	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-pulse-oximetry.html	https://hl7.org/fhir/us/core/STU6.1/Observation-oxygen-saturation.html
Respiratory Rate	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-respiratory-rate.html	https://hl7.org/fhir/us/core/STU6.1/Observation-respiratory-rate.html
Organization	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-organization.html	https://hl7.org/fhir/us/core/STU6.1/Organization-acme-lab.html
Patient	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-patient.html	https://hl7.org/fhir/us/core/STU6.1/Patient-example.html
Practitioner	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-practitioner.html	https://hl7.org/fhir/us/core/STU6.1/Practitioner-practitioner-1.html
Practitioner Role	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-practitionerrole.html	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-practitionerrole.profile.json.html
Procedure	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-procedure.html	https://hl7.org/fhir/us/core/STU6.1/Procedure-defib-implant.html
Provenance	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-provenance.html	https://hl7.org/fhir/us/core/STU6.1/Provenance-example-targeted-provenance.html
QuestionnaireResponse	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-questionnaireresponse.html	https://hl7.org/fhir/us/core/STU6.1/QuestionnaireResponse-phq-9-example.html
RelatedPerson	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-relatedperson.html	https://hl7.org/fhir/us/core/STU6.1/RelatedPerson-shaw-niece.html
ServiceRequest	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-servicerequest.html	https://hl7.org/fhir/us/core/STU6.1/ServiceRequest-foodpantry-referral.html
Specimen	https://hl7.org/fhir/us/core/STU6.1/StructureDefinition-us-core-specimen.html	https://hl7.org/fhir/us/core/STU6.1/Specimen-specimen-example-serum.html

5 TERMS OF USE

5.1 ACCEPTING THE TERMS

These Terms of Use ("Terms") govern your access to and use of the GeniusDoc API, documentation, services, etc. In these Terms, "GeniusDoc" refers to GeniusDoc, Inc. the API software vendor and "HCO" refers to the Healthcare Organization that has implemented GeniusDoc API.

By accessing or using the GeniusDoc API, you ("App Developer", “client application developer”, "your") agree to be bound by these Terms. IF YOU DO NOT AGREE TO THESE TERMS AND CONDITIONS, THEN YOU HAVE NO RIGHT TO ACCESSS OR USE THE GENIUSDOC API SERVICES, OR CONTENT.

You represent and warrant that you are at least 18 years of age and that you possess the legal right and ability to agree to these Terms and to use the GeniusDoc API in accordance with these Terms.

5.2 ENTITY LEVEL ACCEPTANCE

If you are using the APIs on behalf of an entity, you represent and warrant that you have authority to bind that entity to the Terms and by accepting the Terms, you are doing so on behalf of that entity (and all references to "you" in the Terms refer to that entity).

5.3 CHANGES TO API TERMS OF USE

GeniusDoc may update these Terms from time to time and will publish the changes. Make sure to use the most up-to-date documentation available on our website. Your continued use of the API after any such changes constitutes your acceptance of the new terms. If you are unable to comply with any amended version of the Terms, you should stop use of the GeniusDoc API immediately.

5.4 REGISTRATION

To access GeniusDoc API, you agree to provide certain information (such as identification or contact details) to an HCO as part of the registration process for the APIs, or as part of your continued use of the APIs. Any registration information you give to HCO will always be accurate and up to date.

The HCO with which you register your app may provide its own Terms of Use (“HCO Terms”). You agree to adhere to the HCO Terms. In the event of a conflict between these Terms and the HCO Terms, the HCO Terms will control.

5.5 API PROHIBITIONS

When using the GeniusDoc API, you may not (or allow those acting on your behalf to):

- Sell, lease or sublicense the GeniusDoc API or any data derived through the GeniusDoc API for use by a third party. Consequently, you will not create an API Client that functions substantially the same as the APIs and offer it for use by third parties.

- Use the APIs for any activities where the use or failure of the APIs could lead to death, personal injury, or environmental damage (such as the operation of nuclear facilities, air traffic control, or life support systems).

- Perform an Action with the intent of introducing to the GeniusDoc API any viruses, defects, malware, or any items of a destructive nature.

- Reverse engineer or attempt to extract the source code from GeniusDoc API or any related software, except to the extent that this restriction is expressly prohibited by applicable law.

- Interfere with or disrupt the GeniusDoc API or the servers or networks providing the API.

- Promote or facilitate unlawful or disruptive commercial messages or advertisements.

5.6 API LIMITATIONS

GeniusDoc sets and enforces limits on your use of the GeniusDoc API, in our sole discretion, without notice or liability. GeniusDoc reserves the right to:

- Rate limit or block apps that make a large number of calls to the GeniusDoc API.
- Disable, restrict or remove your app's access to the GeniusDoc API.
- Change, suspend, or discontinue the availability of the GeniusDoc API at any time.
- Impose limits on certain features or restrict your access to parts or all of the GeniusDoc API.

5.7 SECURITY AND PRIVACY

Data exchange between your App and GeniusDoc API must be secured with industry standard encryption while in transit, and use authentication and authorization protocols. Your App must secure all data on an end-user's device, and enforce inactivity time-outs.

You will provide and follow a privacy policy for your App that clearly, accurately, and truthfully describes to your users what data your App collects, and how you use and share this data. Your App must not access, use, or disclose protected health information (PHI) or other confidential information in violation of any law or in any manner other than that which the owner of the information has given its informed consent.

It is your responsibility to obtain any and all necessary consents and to fulfill any and all obligations that are required by HIPAA, or other governmental statute or regulation prior to use, disclosure, or transmission of any Protected Health Information or other data accessed using GeniusDoc API.

5.8 CONFIDENTIALITY

Developer credentials (such as client IDs, client secrets, etc.) are intended to be used by you and identify your API Client. You will keep your credentials confidential and make reasonable efforts to prevent and discourage other API Clients from using your credentials. Developer credentials may not be embedded in open source projects

5.9 TERMINATION

Either you or GeniusDoc may terminate your right to use the GeniusDoc API at any time, with or without cause, upon notice. GeniusDoc also reserves the right to disable your API access in a production environment at any time, with or without cause. GeniusDoc reserves the right to disable access to the GeniusDoc API if your App poses any security, privacy, or patient safety risks. The provisions concerning Indemnification, Waiver, Release and Limitation of Liability, and General shall survive any termination of these Terms.

5.10 INDEMNIFICATION

Unless prohibited by applicable law, if you are a business, you will defend and indemnify GeniusDoc, and its affiliates, directors, officers, employees, and users, against all liabilities, damages, losses, costs, fees (including legal fees), and expenses relating to any allegation or third-party legal proceeding to the extent arising from:

- your misuse or your end user's misuse of the APIs;
- your violation or your end user's violation of the Terms; or
- any content or data routed into or used with the APIs by you, those acting on your behalf, or your end users.

5.11 LIMITATION OF LIABILITY

EXCEPT AS EXPRESSLY SET OUT IN THE TERMS, NEITHER GENIUSDOC NOR ITS SUPPLIERS OR DISTRIBUTORS MAKE ANY SPECIFIC PROMISES ABOUT THE API. FOR EXAMPLE, WE DON'T MAKE ANY COMMITMENTS ABOUT THE CONTENT ACCESSED THROUGH THE GENIUSDOC API, THE SPECIFIC FUNCTIONS OF THE API, OR THEIR RELIABILITY, AVAILABILITY, OR ABILITY TO MEET YOUR NEEDS. WE PROVIDE THE APIS "AS IS".

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