

PRESCRIPTION SEARCH SUPPORT

Integration Guide

This document is a manual for integrating into the Prescription Search Support project. It provides guidelines and instructions to ensure seamless participation in the project.

Contact: integration-support@ehealth.fgov.be

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2. Document version

Version	Status	Date	Author	Description
1.1	Draft	21/01/25	Smals	Initial version
1.2	Draft	23/01/25	Smals	Adaptations
1.3	Final	30/01/25	Smals, INAMI	Added use cases, adaptations text
1.4	Final	13/05/25	Smals	Adaptations, added target group midwife
1.5	Final	03/12/25	Smals	Added audience requirement "nihdi-pss-api" to authentication. Added SSO support for the standalone Pro Web App
1.6	Final	17/02/26	Smals	Updated token exchange endpoint, added target group Organization
1.7	Final	27/02/26	Smals	Updated links and document structure.
1.8	Final	23/03/26	Smals	M2M Realm Client, eHealth Onboarding, Terminology server, added new test cases
1.9	Final	26/03/26	Smals	Sequence diagram full flow PSS-UHMEP

3. Glossary

Term	Meaning
PSS	Prescription Search Support
PSSa	Prescription Search Support Antimicrobial
PSSr	Prescription Search Support Radiology
FHIR	FHIR (Fast Healthcare Interoperability Resources) is a standard framework created by HL7 (Health Level Seven International) to facilitate the exchange of healthcare information electronically.
IAM	Identity & Access Management
SSIN	Social Security Identification Number
UHMEP	eReferral (Web application, web component, FHIR API)

4. Preface

This is an ongoing project, meaning that only the following target groups are currently supported:

Target groups	Organization (M2M Client)
Pharmacist	OFFICE_DOCTORS
Physician	GROUP OF DOCTORS (NIHII- GROUP_DOCTORS)
Dentist	GUARD_POST
Midwife	MEDICAL_HOUSE (NIHII- MEDICAL_HOUSE)
	HOSPITAL (NIHII-HOSPITAL)

5. Introduction

Prescription Search Support (PSS) aims to improve the quality in a number of domains: prescriptions for radiological examinations and for antibiotics. We do this by offering support to prescribers in searching for the prescription for the most appropriate care in each situation.

PSS:

- Creates efficiency gains by subjecting more patients to adequate and qualitative care with the same resources and thus also improving the appropriateness of care;
- Reduces safety risks for the patient that may be associated with the provision of care.

As a result, PSS also contributes to reduce safety risks for the society as a whole.

Functionalities:

- Online support (*integrated in the prescription package and in the software package of the radiological department*) for prescribers in the prescription process for radiological examinations and for antibiotics;
- Online validation of a prescribed radiological examination by a radiological department.

Depending for which prescription (radiology or antimicrobial) you will apply, PSS different integration solutions are available:

- For **antimicrobial prescriptions**, the software integrator can use **PSS FHIR API, PSS web application** that interfaces with the PSS FHIR API or PSS web components. The PSS web application is using 2 web components that allow to fill out a questionnaire with the state of the patient parameters for a given clinical indication, and to show a recommendation with advice about the medication based on national guidelines;
- For **digital radiology referral prescriptions**, the software integrator can use Digital Referral Prescription radiology web application & web components (please consult Digital Referral Prescription Integration guide (UHMEP)) or PSS FHIR API in order to apply PSS Radiology.

This integration guide is intended for all companies interested in integrating various PSS solutions. We present the different methods and outline the procedures in order to be recognized as certified integrators.

6. Integration flow

This chapter will explain how to integrate with the Prescription Search Support project.

The chapter is divided into sections, the global flow overview and the three main sections explained.

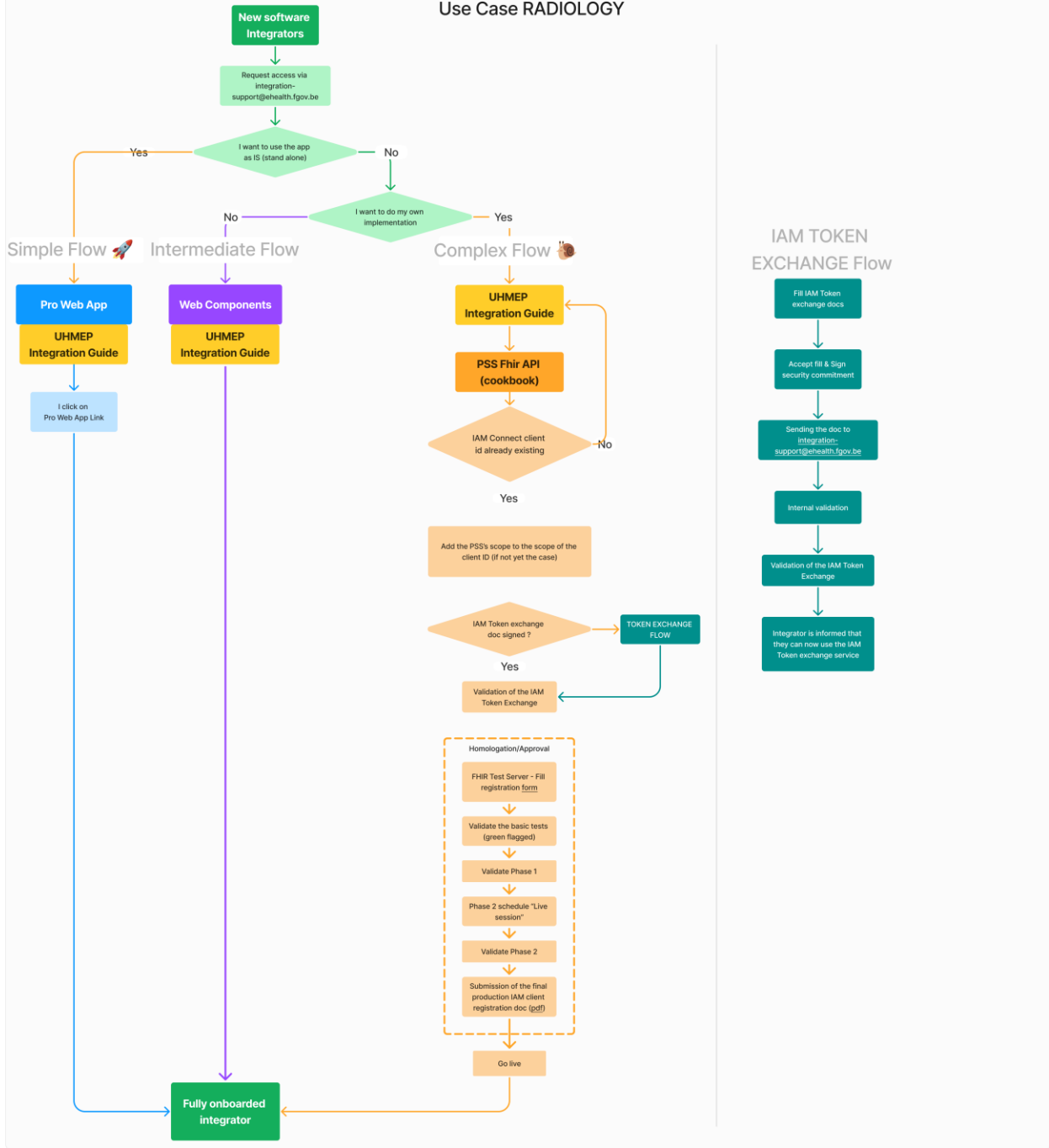
6.1. The global flow

The flow presented in this section outlines the step-by-step actions required to transition from an unintegrated state to full integration. Subsequent sections of this document will elaborate on each step in greater detail. We identify two use cases:

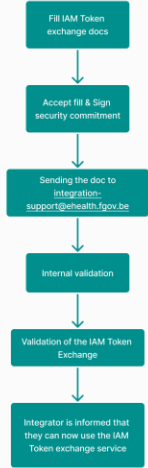
1. **Radiology:** in this case, the PSS is used within the context of guidelines for medical imaging. Therefore, integration with the UHMEP platform is a prerequisite. The use of radiology guidelines is only possible in combination with UHMEP (the radiology referral prescription);
2. **Antimicrobials:** this use case focuses on guidelines for creating prescriptions for medication.

Prescription Search Support onboarding workflow (v1.0)

Use Case RADIOLOGY

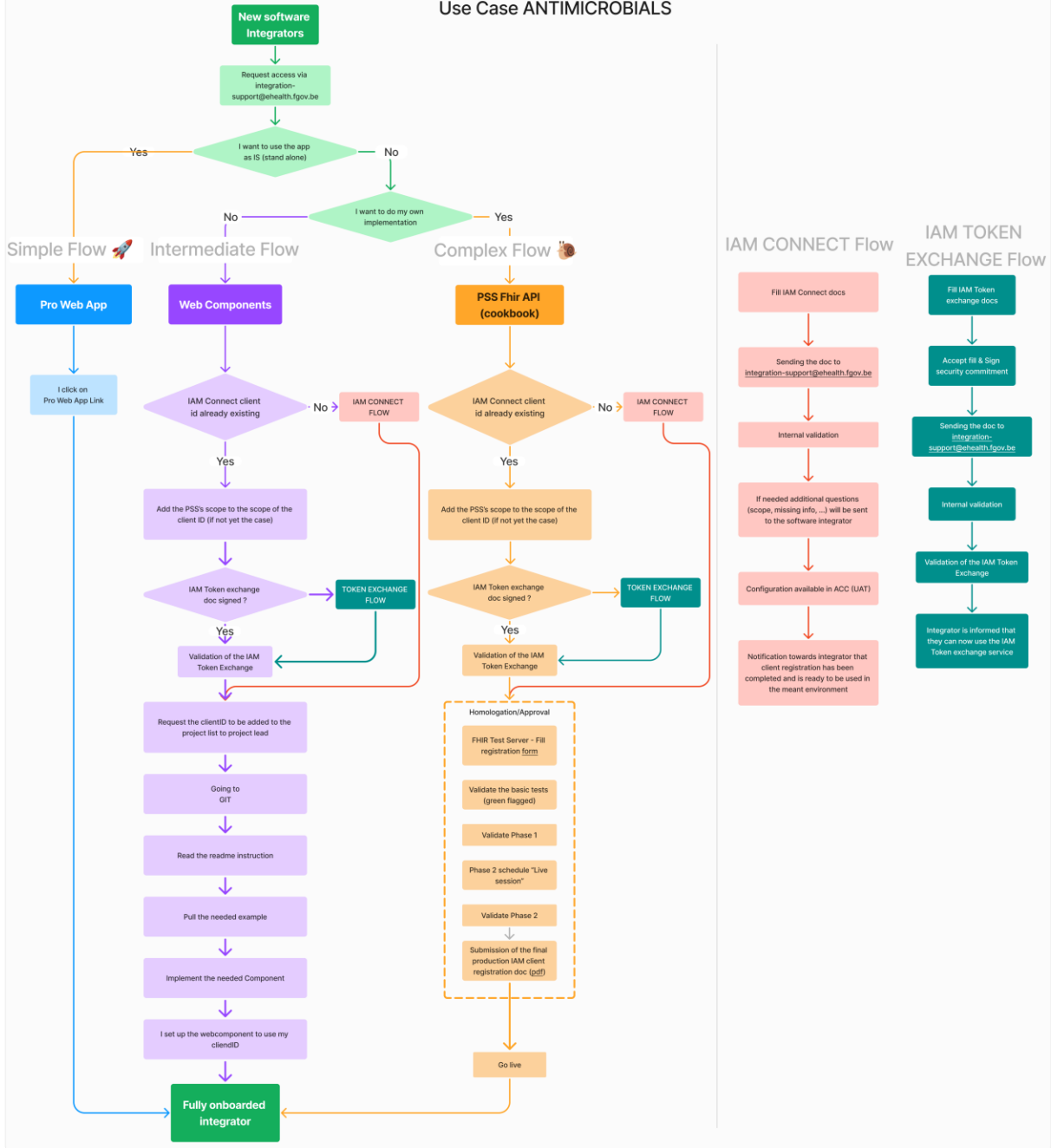


IAM TOKEN EXCHANGE Flow



Prescription Search Support onboarding workflow (v1.1)

Use Case ANTIMICROBIALS



6.2. Prerequisite

This flow is designed to guide integrators through the optimal integration process.

To request to register as a candidate, it is requested that all integrators introduce themselves and their company by sending an email to integration-support@ehealth.fgov.be with the following info:

What	Description	Example
First and last name	The first name and last name of the company's contact person	<i>John Doe</i>
Organization	The software integrator company name	<i>Aqme Care</i>
Professional email address	The email address that should be used to contact the software integrator	<i>john.doe@aqme.be</i>
Short description of the access request	Description of the reason why the company is willing to integrate the project	<i>We are a leading actor in the prescription software industry providing services for all Belgian prescribers and are eager to integrate your web component within our web solution.</i>
Which use case we are going to implement	Choose which use case you are willing to implement (1-n)	<ul style="list-style-type: none"> • Use Case Radiology • Use Case Antimicrobials
Which solution we are interested in	Choose which solution you are willing to use (1-n)	<ul style="list-style-type: none"> • <i>PSS FHIR API</i> • <i>Web Component</i> • <i>Professional Web App</i>
Users type of your solution	Which medical disciplines make use of your software for the creation, consultation of the prescription?	<i>General Practitioner, Dentist,...</i>
Volumetry	The target average amount of prescriptions treated by your services	<i>200 prescriptions a day</i>

6.3. Flows

Currently, the project Prescription Search Support offers 1 possible integration, the integration with PSS FHIR API, which will be described in this section. An integration using web components will be foreseen later

Name	Professional Web App	Web Components	PSS FHIR API
Description	Simple Flow 🚀 <ul style="list-style-type: none"> Integration via SSO No update to do 	Intermediate flow <ul style="list-style-type: none"> Integration needed: integrator should send the required patient data for a given indication to the web component Updates to do 	Complex Flow 🤖 <ul style="list-style-type: none"> Full integration needed Security Commitment Validation needed Updates to do
eHealth Onboarding	Only individual Healthcare provider	<ul style="list-style-type: none"> Individual Healthcare provider M2M Client 	<ul style="list-style-type: none"> Individual Healthcare provider M2M Client
Technical constraints	N/A	Framework integration	<ul style="list-style-type: none"> FHIR Terminology Server eReferral Token management ...
Registration test	N/A	Required. Administrative doc to fill and demo that the web components were well integrated.	Required. The full registration testing and proof need to be performed.

Use Case Radiology			
Name	Professional Web App	Web Components	PSS FHIR API
	<i>Please read the UHMEP Integration Guide</i>		-> See documentation below Use Case Radiology - PSS FHIR API (6.3.3)

	Use Case Antimicrobials		
Name	Professional Web App	Web Components	PSS FHIR API
	(6.3.4)	(6.3.5)	(6.3.6)

6.3.1. Use Case Radiology - Pro Web App (Simple Flow)

The Pro web app is a fully functional solution that includes the whole solution, completely integrated in the UHMEP web app. Please read the UHMEP integration guide if you choose for this.

The application does not allow authentication on behalf of an organization, but only as an individual healthcare provider.

6.3.2. Use Case Radiology - Web Component (Intermediate Flow)

Since the recommendation of medical imaging according to clinical guidelines is highly linked with the referral prescription, please read the UHMEP integration guide.

6.3.3. Use Case Radiology - PSS FHIR API

For the integrators already having software and willing to integrate the prescription support service from a backend point of view, all of the functionalities are available through an API.

The following constraints must be respected to be able to integrate with the API :

- **Be authenticated by eHealth** (I.AM Connect – HealthCare Client) - PSS FHIR API is accessible through the eHealth API Gateway. Your software must therefore be authorized via eHealth onboarding and thus allows your end users to access the service through Realm Healthcare for persons. Due to the integration with UHMEP, a prerequisite to start using PSS for the use case Radiology, an access token will already be obtained for UHMEP. As such, this access token can be exchanged for PSS rights, via IAM Token Exchange;
- **IAM Token Exchange** - Using the [IAM Token Exchange](#) service to exchange the initial user token is a security prerequisite in order to be able to contact the PSS FHIR API. A signature of security commitment is also required;
- **FHIR standard** - PSS API will use models based on the international FHIR standard and adapted at national level by the eHealth standardization team. FHIR is a standard that describes the format and the exchange of medical data between different computer systems;
- **FHIR Terminology Server** - to support the PSSr Project, a terminology server is needed to access SNOMED CT codes,
- **eReferral project integration** – is a must in order to create radiology prescriptions;
- **Approval** - To receive access configurations for production, your software will have to go through an approval procedure;

- a. Performing use cases made available on the [FHIR Test Server](#).
- b. Completion of business use cases during a live session to validate the Smals/eHealth best practices integration and RIZIV-INAMI business cases

⚠ Warning:

To integrate with this solution, you can choose between 2 authentication methods:

- [As an Individual Healthcare provider using IAM connect Healthcare client realm flow.](#)
- [As an organization using IAM Connect M2M client realm flow.](#)

The documents and information to be completed vary depending on the chosen solution.

In order to integrate with the FHIR “PSS” API, in addition to eHealth service documentation, you will need:

Artefact	Description
PSS FHIR API - Cookbook	<ul style="list-style-type: none"> ● FHIR reference ● description of operation ● endpoint to call ● users ● business rules ● request to send ● response
PSS FHIR API - Error code list	List of error codes returned by the PSS service to make it easier for your users to understand the errors.
RIZIV INAMI Business documentation	<p>https://www.riziv.fgov.be/nl/thema-s/egezondheid/beslissingsondersteunend-platform-voor-voorschrijvers-meer-gepaste-zorg-en-minder-veiligheidsrisico-s</p> <p>https://www.inami.fgov.be/fr/themes/esante/plateforme-d-aide-a-la-decision-pour-les-prescripteurs-des-soins-plus-adaptes-et-moins-de-risques-de-securite</p>

6.3.3.1. End-to-end prescriber flow (PSS – UHMEP)



Step 1 — Indication & Procedure search (Terminology Server). The prescriber opens the radiology form and searches for the intended indication and procedure. The software integrator queries the Terminology Server to retrieve matching SNOMED CT codes with labels in FR/NL/DE/EN, and presents the suggestions to the prescriber for selection.

Step 2 — PSS: retrieve indications (PlanDefinition/\$apply). The prescriber searches for a clinical indication. The integrator sends the patient's age, gender, and indication to PSS, which computes and returns a list of matching indications with SNOMED codes and multilingual labels. The prescriber selects up to 5 indications, which are stored locally in the EHR.

Step 3 — PSS: retrieve recommendations (PlanDefinition/\$apply). The prescriber requests CDS recommendations. The integrator submits the selected indications and intended procedure to PSS, which returns a colour-coded list of procedure recommendations along with an ExchangeId. The integrator resolves the SNOMED codes via the Terminology Server and renders the recommendations to the prescriber.

Step 4 — PSS: feedback / user conclusion. The prescriber selects their chosen recommendation(s). If a yellow, red or other recommendation is selected, a reason for deviation and optional free text must be provided. The integrator sends this conclusion back to PSS, which saves it and confirms receipt.

Step 5 — Submit: Create ServiceRequest with recommendation outcome. The prescriber submits the completed form. The integrator creates a ServiceRequest in UHMEP containing the selected procedure, lateralization, additional information, and patient/practitioner details. UHMEP persists the request and returns a ServiceRequestId. The prescriber is shown a success confirmation and redirected to the patient file.

6.3.4. Use Case Antimicrobials Pro Web App (Simple Flow)

The Pro Web App has the fastest flow when using Prescription Search Supports. Requiring a simple registration process, the Pro Web App is a fully functional solution that includes the whole solution to get a recommendation from Prescription Search Support. The onboarding is straightforward, as prescribers simply need to authenticate themselves via the provided link to access and start using the app according to their needs.

The Pro Web App supports SSO authentication. Integrators can redirect prescribers to the Pro Web App by using an existing authenticated IAM Connect session, removing the need for manual login.

Role	Link
Professional	https://www.acc.prescriptionsearchsupport.be/professional

6.3.5. Use Case Antimicrobials - Web Component (Intermediate Flow)

These web components are small applications designed to be integrated directly into the integrator's ecosystem for implementing the Prescription Search Support project. By using these components, integrators can significantly reduce the work required for full integration. Additionally, they will not need to foresee any type of validation (registration process) to access the referral prescription materials.

There are 3 web components currently accessible via GIT (links available in May).

A client ID is needed to integrate the web component (see [IAM onboarding document](#)).

💡 Tips: a showcase is available on Git see [Resources and links](#)

6.3.5.1. *Consent*

The web component "pss-amb-consent" allows to give mandatory/optional consents.

6.3.5.2. *Introduction of patient parameters*

The web component "pss-amb-get-support-parameters" allows to list the parameters, to give an indication, for the patient.

6.3.5.3. *Get recommendation*

The web component "pss-amb-recommendation" shows the advice based on the clinical guidelines.

6.3.5.4. *Patient situation summary*

The web component "pss-amb-summary" shows parameters taking into account.

Warning:

To integrate with this solution, you can choose between 2 authentication methods:

- [As an Individual Healthcare provider using IAM connect Healthcare client realm flow.](#)
- [As an organization using IAM Connect M2M client realm flow.](#)

The documents and information to be completed vary depending on the chosen solution.

6.3.6. Use Case Antimicrobials - FHIR API (Complex Flow)

For the integrators already having software and willing to integrate the referral prescription project from a backend point of view, all of the functionalities are available through an API.

The following constraints must be respected to be able to integrate with the API:

- **Be authenticated by eHealth** (IAM Connect – HealthCare Client) - PSS FHIR API is accessible through the eHealth API Gateway. Your software must therefore be authorized via eHealth onboarding and thus allows your end users to access the service through Realm Healthcare for persons. (This step is only needed if you didn't have an access token from eHealth);
- **IAM Token Exchange** - Using the [IAM Token Exchange](#) service to exchange the initial user token is a security prerequisite in order to be able to contact the PSS FHIR API. A signature of security commitment is also required. (This step is used if you already have another access token from eHealth);
- **FHIR standard** - PSS API will use models for each type of referral prescription as well as for care proposals. These models will be based on the international FHIR standard and adapted at national level by the eHealth standardization team. FHIR is a standard that describes the format and the exchange of medical data between different computer systems;
- **Approval** - To receive access configurations for production, your software will have to go through an approval procedure:
 - a. Performing use cases made available on the [FHIR Test Server](#).
 - b. Completion of business use cases during a live session to validate the Smals/eHealth best practices integration and RIZIV-INAMI business cases.

Warning:

To integrate with this solution, you can choose between 2 authentication methods:

- [As an Individual Healthcare provider using IAM connect Healthcare client realm flow.](#)
- [As an organization using IAM Connect M2M client realm flow.](#)

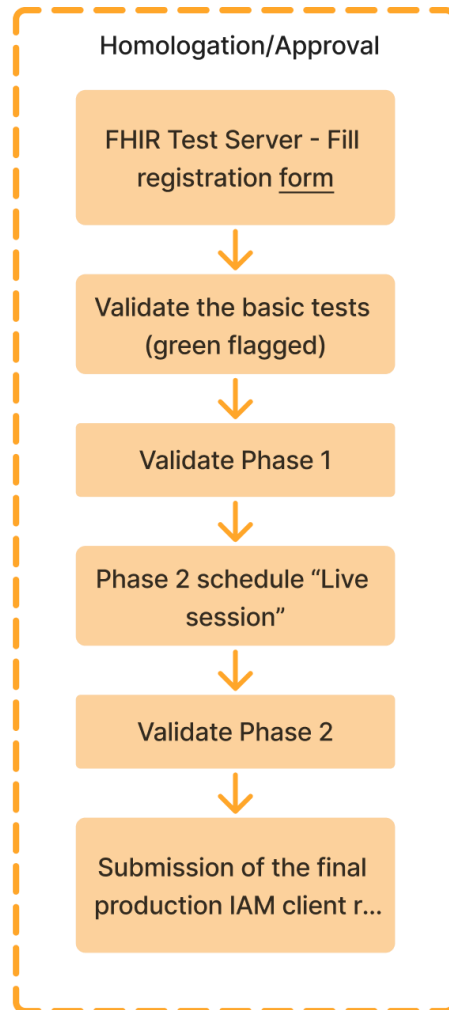
The documents and information to be completed vary depending on the chosen solution.

In order to integrate with the FHIR “PSS” API, in addition to eHealth service documentation, you will need:

Artefact	Description
PSS FHIR API - Cookbook	<ul style="list-style-type: none"> ● FHIR reference ● description of operation ● endpoint to call ● users ● business rules ● request to send ● response
PSS FHIR API - Error code list	<p>List of error codes returned by the PSS service to make it easier for your users to understand the errors.</p>
RIZIV INAMI Business documentation	<p> https://www.riziv.fgov.be/nl/themas/egezondheid/beslissingsondersteunend-platform-voor-voorschrijvers-meer-gepaste-zorg-en-minder-veiligheidsrisico-s https://www.inami.fgov.be/fr/themes/esante/plateforme-d-aide-a-la-decision-pour-les-prescripteurs-des-soins-plus-adaptes-et-moins-de-risques-de-securite </p>

7. Testing the integration of PSS FHIR API

7.1.1. Flow

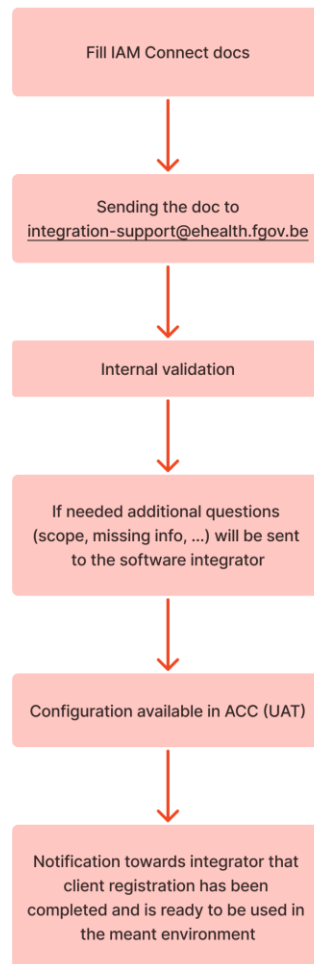


7.2. Authenticate as an individual healthcare provider using IAM Healthcare realm client

7.2.1. IAM Connect

7.2.1.1. Flow

IAM CONNECT Flow



7.2.1.2. IAM Connect Onboarding document

 The document can be downloaded via [Resources and links](#)

The Identity Access Management (IAM) Connect service is an authentication service provided by the eHealth platform. Its goal is to gather the necessary information to authenticate and authorize traffic coming from a server, granting the required access to use certain services, such as the Prescription Search Support project in a secure way

To access the PSS service (Web Components or the PSS FHIR API), the eHealth token must contain the audience: aud = "nihdi-pss-api". Tokens without this audience will be rejected by the PSS backend. This applies to tokens obtained via IAM Connect as well as to tokens returned through the IAM Token Exchange flow.

The project requires the use of the **I.AM Connect – HealthCare Client**. Each healthcare professional or entity must register upfront and gain access to the platform for accessing the Prescription Search Support service, requiring human authentication and identity verification.

Here below, you will find a list of needed information that would need to be provided ([current version](#)) as well as some examples.

Information (fields with an * are mandatory)	Explanation and allowed values	Example
General information		
Client ID *	Enter the name of your application that will be used to perform the request	software-name
Name *	Enter the full name of your application	Software name
Specific Information		
Valid redirect URIs (separated by ;)	A valid redirect URI is needed in the configuration to redirect the user after a successful authentication. This URI is also used for redirecting the user after a logout.	https://app-acc.software-name.be/iam-connect-endpoint/; http://localhost/iam-connect-endpoint/
Scope	The list of access needed to use the PSS FHIR API	nihdi:pss

7.2.2. IAM Token exchange Flow

The use of the IAM Token exchange Flow is a security prerequisite for the use of the PSS FHIR API solution, when used together with another service for which already an access token was obtained.

The **IAM Token exchange** has been put in place. Software Integrators will exchange the token obtained at user's connection for another token to call the PSS FHIR API. In this token exchanged, if there is right for pseudonymization, it has been removed.

Here is a comparison between the two tokens generated for a physician:

Not Exchanged token (example UHMEP)	Exchanged token
<pre>{ "exp": 1775204514, "iat": 1775204214, "auth_time": 1775204213, "jti": "onrtac:717fb5f0-bef2-a04b-ed8a-4e9ea40b76aa", "iss": "https://api- acpt.ehealth.fgov.be/auth/realms/healthcare", "aud": ["nihdi-uhmep-hcp", "nihdi-uhmep-api", "ehealth-pseudo-api"], "sub": "ea977638-a799-4fc8-bbc9-11d081e278bb", "typ": "Bearer", "azp": "nihdi-uhmep-hcp", "sid": "ba2254aa-953a-e367-f69c-0867fd0e2129", "allowed-origins": ["https://wwwacc.medicament-prescription- demo.in.ehealth.fgov.be", "https://wwwacc.medicament-prescription- demo.ehealth.fgov.be", "https://wwwacc.referral- prescription.up.ehealth.fgov.be", "https://wwwacc.medicament-prescription- demo.up.ehealth.fgov.be", "https://wwwacc.referral-prescription.ehealth.fgov.be", "https://wwwacc.referral-prescription.in.ehealth.fgov.be"], "resource_access": {</pre>	<pre>{ "exp": 1775204630, "iat": 1775204330, "auth_time": 1775204213, "jti": "onrtna:8b5d6eb5-135d-f826-8874-04bfd6e16002", "iss": "https://api- acpt.ehealth.fgov.be/auth/realms/healthcare", "aud": ["nihdi-pss-fhir-hcp", "nihdi-pss-api"], "sub": "ea977638-a799-4fc8-bbc9-11d081e278bb", "typ": "Bearer", "azp": "nihdi-pss-fhir-hcp", "sid": "ba2254aa-953a-e367-f69c-0867fd0e2129", "allowed-origins": ["https://unavailable"], "resource_access": { "nihdi-pss-api": { "roles": ["pss"] } }, "scope": "openid nihdi:pss profile iam:authz", "act": { "azp": "nihdi-uhmep-hcp" }, }</pre>

<pre> "nihdi-uhmep-api": { "roles": ["pseudo"] }, "ehealth-pseudo-api": { "roles": ["identify", "pseudonymize"] }, "scope": "openid profile ssin pseudo:api:identify iam:connect:exchange pseudo:api:pseudonymize nihdi:uhmep:pseudo iam:authz", "ssin": "85031501234", "name": "Jan Janssen", "preferred_username": "85031501234", "locale": "nl", "given_name": "Jan", "family_name": "Janssen", "userProfile": { "firstName": "Jan", "lastName": "Janssen", "ssin": "85031501234", "physician": { "recognised": true, "nihii11": "17956282004" } } } </pre>	<pre> "name": "Jan Janssen", "preferred_username": "85031501234", "locale": "nl", "given_name": "Jan", "family_name": "Janssen", "userProfile": { "firstName": "Jan", "lastName": "Janssen", "ssin": "85031501234", "physician": { "recognised": true, "nihii11": "17956282004" } }, "client_id": "nihdi-uhmep-hcp" } </pre>
--	--

Step by step

Steps	Description
1	Integrators must first retrieve an access token from IAM Connect.
2	Integrators can then send a request to retrieve the exchanged token. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">Token Exchange Request</div>

Content-type : application/x-www-form-urlencoded
POST <https://api-acpt.ehealth.fgov.be/auth/realms/healthcare/protocol/openid-connect/token>
?requested_token_type=urn:ietf:params:oauth:token-type:access_token
&grant_type=urn:ietf:params:oauth:grant-type:token-exchange
&subject_token={access_token}
&subject_token_type=urn:ietf:params:oauth:token-type:access_token
&client_id={client_id}
&audience=nihdi-pss-fhir-hcp

Where {iam_token_endpoint} depends on the environment:

Environment	Endpoint
ACC	https://api-acpt.ehealth.fgov.be/auth/realms/healthcare/protocol/openid-connect/token
PRD	https://api.ehealth.fgov.be/auth/realms/healthcare/protocol/openid-connect/token

Success

If everything went well, you should receive a response with a HTTP status code equals to 200 and the following body :

```
{
  "access_token": "{new_access_token}",
  "token_type": "bearer",
  "refresh_token": null,
  "issued_token_type": "urn:ietf:params:oauth:token-type:access_token"
}
```

7.2.2.1. Security Commitment for IAM Token Exchange

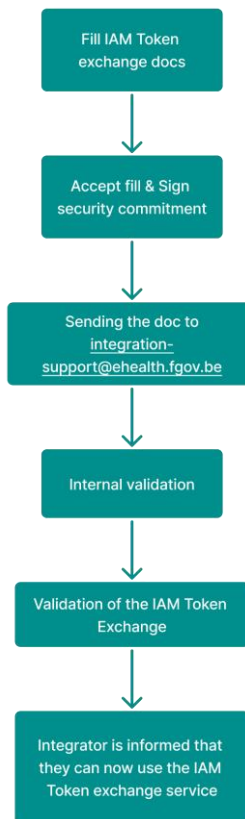
 The document can be downloaded via [Resources and links](#)

An integrator playing the role of a “Trusted Platform” must also sign and abide by the Annex A – Security commitment from the Trusted Platform document.

The signature of this document is required in the integration with the PSS FHIR API solution.

7.2.2.2. Flow


IAM TOKEN EXCHANGE Flow



7.3. Authenticate as an organization using IAM Connect M2M client realm

To get onboarded as an organization, please refer to the following documents.


7.3.1. Onboarding for Prescription Search Support M2M integration

 Read the Onboarding procedure for PSS M2M integration to understand how to prepare your registration and which M2M parameters to provide.

Use this document to understand:

- Why your integration must use M2M Client Credentials
- What certificate information you must provide
- What information must be included in your onboarding request email

7.3.2. I.AM Connect – M2M Client Registration Request Form


 Use the I.AM Connect – M2M Client Registration Form to register your PSS IAM client. This is the official eHealth form used to create your IAM Connect client.


You must request the following scopes:

- nihdi:pss
- openid
- iam:authz

Submit the completed form to the eHealth Integration Support team together with the onboarding email.

7.3.3. Request your IAM Tokens

 The token exchange service used in the individual Healthcare client flow DOES NOT exist in the M2M procedure.

 Read the Identity & Authorization Management (IAM) Mobile integration Technical specifications to understand how to request your access tokens. The IAM token will give access to the PSS API.

The integrator must explicitly select the appropriate scopes and audience when requesting each token.

<u>Token to call the PSS API</u>	
<u>Scopes requested</u>	<ul style="list-style-type: none">• <u>nihdi:pss</u>• <u>openid</u>• <u>iam:authz</u>
<u>Audience</u>	<ul style="list-style-type: none">• <u>ACC : https://api-acpt.ehealth.fgov.be/auth/realms/M2M</u>• <u>PRD : https://api.ehealth.fgov.be/auth/realms/M2M</u>

Here is an example of a token generated for an M2M organization client.

M2M Token (example PSS)

```
{
  "exp": 1774946675,
  "iat": 1774946375,
  "jti": "trrtcc:90f88510-0b52-edb7-2957-5d36aa49d3fd",
  "iss": "https://api-acpt.ehealth.fgov.be/auth/realms/M2M",
  "aud": "nihdi-pss-api",
  "sub": "8f9980ec-72cd-437a-a6fc-225df9fbb7d5",
  "typ": "Bearer",
  "azp": "nihdi-hospital-71070514",
  "resource_access": {
    "nihdi-pss-api": {
      "roles": [
        "pss"
      ]
    }
  },
  "scope": "iam:authz nihdi:pss profile",
  "preferred_username": "nihdi-hospital-71070514",
  "userProfile": {
    "organizations": [
      {
        "hospital": {
          "nihii": "71070514",
          "name": "PSS ZIEKENHUIS"
        }
      }
    ]
  }
}
```

Step by step

Steps	Description
1	The M2M client sends a token request directly to the IAM M2M realm using its client credentials. No prior token is needed.
2	<p>The client receives a PSS-ready access token directly, no token exchange step is required.</p> <div data-bbox="349 514 1417 821" style="border: 1px solid black; padding: 5px;"> <p>Token Request</p> <p>Content-type: application/x-www-form-urlencoded POST https://api-acpt.ehealth.fgov.be/auth/realms/M2M/protocol/openid-connect/token &grant_type=client_credentials &client_assertion_type=urn:ietf:params:oauth:client-assertion-type:jwt-bearer &client_assertion={signed_jwt}</p> </div> <div data-bbox="349 892 1417 1476" style="border: 1px solid black; padding: 5px; background-color: #e0f2e0;"> <p>Success</p> <p>If everything went well, you should receive a response with a HTTP status code equals to 200 and the following body :</p> <div data-bbox="365 1060 1401 1417" style="border: 1px solid black; padding: 10px; background-color: #fff; margin: 10px 0;"> <pre>{ "access_token": "{new_access_token}", "token_type": "bearer", "refresh_token": null, "issued_token_type": "urn:ietf:params:oauth:token-type:access_token" }</pre> </div> </div>

8. Testing the Integration of PSS FHIR API

8.1. Mandatory Testing in ACC Before Onboarding into Production

(To be carried out by the software supplier)

These tests must be carried out by:

- Software integrators of the **FHIR PSS API** (authenticated as an individual Healthcare Provider or via M2M)

- Integrators of the **Web Components**

8.1.1. Basic Token Verification

Objective: Prove that the basic eHealth services have been implemented correctly.

The software integrator must be able to:

- Request a token based on their authentication information
- Successfully use the token delivered by eHealth

The software integrator must provide the following information in a document sent to integration-support@eHealth.fgov.be:

Actor	Required Information
Organizations	<ul style="list-style-type: none"> • The delivered access token for your client ID (including full request and response)
Individual Healthcare Actors *	<ul style="list-style-type: none"> • The delivered access token for your client ID (including full request and response) • the refresh token for your client ID (including full request and response)

8.1.1.1. Integration Support Verification

Integration support will verify the following in the access token:

- The claim "aud" corresponds to the client identity in the access token
- The following scope is present:
 - iam:authz
 - nihdi:pss
- **For individual HCP:** the role pss is present in resource_access.nihdi-pss-api and a userProfile is present containing the SSIN of the professional and their discipline
- **For M2M organizations:** the role pss is present in resource_access.nihdi-pss-api and a userProfile is present containing the organization nihii and name

Individual HCP example:

```
"resource_access": {  
  "nihdi-pss-api": {  
    "roles": ["pss"]  
  }  
},  
"scope": "iam:authz"
```

M2M Organization example:

```
"resource_access": {  
  "nihdi-pss-api": {  
    "roles": ["pss"]  
  }  
},  
"scope": "iam:authz nihdi:pss",  
"userProfile": {  
  "organizations": [{  
    "hospital": {  
      "nihii": "71070514",  
      "name": "PSS ZIEKENHUIS"  
    }  
  }  
}]  
}
```

8.1.2. IAM Connect Token Exchange (Individual HCP only)

⚠ For security reasons, a token exchange is **mandatory** before calling the PSS FHIR API. The token obtained via IAM Connect must be exchanged for a PSS-specific token before any API call can be made.

The software integrator must perform the following steps:

Step	Description
1	<ul style="list-style-type: none">Request the initial token via IAM Connect
2	<ul style="list-style-type: none">Perform the token exchange (audience: nihdi-pss-fhir-hcp)
3	<ul style="list-style-type: none">Deliver the exchanged token

The software integrator must provide the following in a document sent to integration-support@eHealth.fgov.be:

- The token exchange request, clearly showing:
 - The non-exchanged token provided as input
 - The exchanged token received from eHealth (*expected audience*: nihdi-pss-fhir-hcp)

8.1.3. IAM M2M Token Request (M2M Organizations only)

⚠ For M2M integrations, **no token exchange is required**. The M2M client requests a PSS token directly from the IAM M2M realm using client credentials **authenticated via a signed JWT client assertion**.

The software integrator must perform the following steps:

Step	Description
1	<ul style="list-style-type: none">Request a token directly from the IAM M2M realm using client_credentials grant type
2	<ul style="list-style-type: none">Deliver the obtained token

The software integrator must provide the following in a document sent to integration-support@eHealth.fgov.be:

- The full M2M token request, clearly showing:
 - The token received from eHealth (*expected audience: nihdi-pss-api*)

9. Terminology server and Snomed CT (PSSr)

SNOMED CT is a global clinical terminology enabling standardized coding and interoperability in healthcare. Belgium maintains its own extension, with Dutch and French translations, managed by the National Release Center (NRC).

To support the PSSr Project, a terminology server is needed to access SNOMED CT codes. During the PSSr FHIR API integration, one integrator requested to use their own SNOMED-enabled terminology server.

Two possible approaches:

1. Use the official NRC Docker image, ready for deployment.
2. Set up a custom terminology server retrieving SNOMED CT codes from NRC.

More info see [Resources and links](#)

10. eReferral radiology integration

eReferral digitizes referral prescriptions and medical proposals, making them instantly available to patients, caregivers, and prescribers via the UHMEP FHIR API. This integration guide outlines the available integration methods and the procedures to become a certified integrator.

More info see [Resources and links](#)

11. Contacts

Question	Contact
General questions about integration or project	integration-support@ehealth.fgov.be
Specific issue to log in to eHealth	integration-support@ehealth.fgov.be
Business project leader	PSS Radiology: pss@riziv-inami.fgov.be PSS Antimicrobial: pssa@riziv-inami.fgov.be

12. Resources and links

Related topic	Resource	Version
FHIR *	Fhir test server registration form	1.0
GIT Smals	Github smals-belgium	N/A
eReferral	Github smals eReferral	N/A
Prescription Search Support (PSS)	Github smals PSS	N/A
Terminology server	Technical info and docker image for the terminology server	N/A
Prescription Search Support (PSS)	Github smals PSS	N/A
IAM Connect Documentation	IAM Connect - Mobile integration - Technical specifications	1.12

IAM Connect Individual Healthcare realm	IAM Connect Healthcare realm client registration request form	2.2
IAM Connect M2M Client realm	IAM Connect – M2M Client registration	2.1

13. FAQ

ID	Question	Answer
1.	How do I reach for help?	See Contacts
2.	Where do I download examples of code?	See Resources and links
3.	How do I get my access to the project?	See Contacts
4.	IAM configuration, is it possible to use wildcards?	Yes
5.	IAM configuration, is it possible to give several URLs?	Yes, see Onboarding document
6.	What is the communication standard used within the project?	FHIR

7.	As an integrator can I onboard without IAM connect?	No. It is mandatory to onboard with IAM Connect
8.	As an integrator, can I onboard without IAM Token exchange?	<p>It is mandatory to onboard with the IAM token exchange for the use of UHMEP FHIR API solution. If you already have an access token for UHMEP or other eHealth service, you can make use of Token exchange to exchange it with a PSS access token.</p> <p>For the Pro Webapp and Web components solution this is not required.</p>
9.	What is the list of all authorized target groups?	See section target groups
10.	What if my target group is not present in the list	Get in contact with the Business project leader. See Contacts
11.	IAM connect, can I reuse an already existing Client ID	Yes
12.	When will the PSS Pro web app and web components be available for usage?	The web components and professional web app will be available as from June 2025. Acceptation from May 2025.