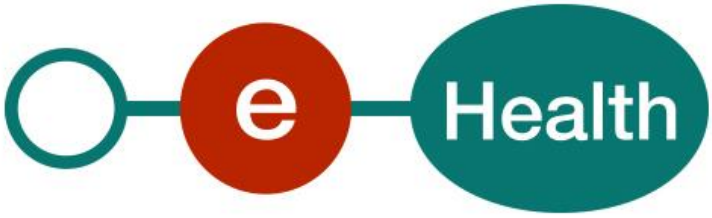


eHealth AddressBook REST – v1
Cookbook
Version 1.0

eHealth platform
Willebroekkaai 38 – 1000 Brussel
38, Quai de Willebroek – 1000 Bruxelles

Table of contents

Contents

To the attention of: “IT expert” willing to integrate this web service.

1. Document management

1.1 Document history

Version	Date	Author	Description of changes / remarks
1.0	10/04/2024	Smals AddressBook Team	Initial version

2. Introduction

2.1 Goal of the service

The eHealth AddressBook REST consultation service (**a REST implementation of the Addressbook SOAP** consultation service) allows a user to search and retrieve contact information of healthcare actors.

2.2 Goal of the document

This document is not a development or programming guide for internal applications. Instead, it provides functional and technical information and allows an organization to integrate the eHealth AddressBook REST service in its own custom application.

This document will provide all the necessary elements to get you started developing by explaining:

- the main concepts and principles
- the usage of eHealth HealthcareActorAddressBook
- the technical information about calling the service

This information should allow (the IT department of) an organization to integrate and use the WS call. However, in order to interact in a smooth, homogeneous and risk controlled way with a maximum of partners, these partners must commit to comply with all the requirements the eHealth platform has described in this document.

In addition, our partners in the healthcare sector must also comply with the business rules of validation and integration of data within their own applications in order to minimize errors and incidents. In other words, technical and business requirements must be met in order to allow the integration and validation of the eHealth platform service in the client application.

2.3 eHealth platform document references

On the portal of the eHealth platform, you can find all the relevant extra documents.[1]. These versions, or any following ones, can be used for the eHealth platform service.

ID	Title	Version	Date	Author
1	SOA – Error guide	1.0	10/06/2021	eHealth platform
2	Request test case template	3.0	22/02/2018	eHealth platform
3	eHealth Services – Web Access	2.0	12/07/2018	eHealth platform
4	eHealthBox Supported Qualities	1.4	22/12/2021	eHealth platform
5	Onboarding I.AM Connect eHealthBox	1.0	11/03/2022	eHealth platform

[1] ***www.ehealth.fgov.be***

2.4 External document references

All documents can be found through the internet. They are available to the public, but not necessarily supported by the eHealth platform.

ID	Title	Source	Date	Author
1	Basic Profile Version 1.1	***http://www.ws-i.org/Profiles/BasicProfile-1.1-2004-08-24.html***	24/08/2004	Web Services Interoperability Organization
2	Federal Vocabulary	***https://github.com/belgif/fedvoc***	06/02/2024	Federal Vocabularies Workgroup
3	Belgian Interoperability Framework reusable yaml schemas	***https://github.com/belgif?q=openapi***	06/02/2024	***belgif@bosa.fgov.be***
4	Belgif REST Guidelines	***https://www.belgif.be/specification/rest/api-guide/***	31/01/2024	***belgif@bosa.fgov.be***

2.5 Service history

This chapter contains the list of changes made to the service with respect to the previous version.

Previous version	Previous release date	Changes
1.0 CURRENT VERSION	07/02/2024	Initial REST version

2.6 Changes in this REST Addressbook implementation

- This web service is a REST implementation of the eHealth Addressbook that previously only existed in SOAP. The REST API style *(Representational State Transfer)* is easily usable through the JSON file format.
- Searching and retrieving contact information services are merged: there is only one service for each entity type that is used for both searching and retrieving contact information.
- There is no pagination of the results: a search returning more than 100 results needs to be further refined.
- An indication is given when an eHealthBox was last actively used.

3. Support

3.1 Helpdesk eHealth platform

3.1.1 Certificates

In order to access the secured eHealth platform environment you have to obtain an eHealth platform certificate, used to identify the initiator of the request. In case you do not have one, please consult the chapter about the eHealth Certificates on the portal of the eHealth platform

- ***https://www.ehealth.fgov.be/ehealthplatform/nl/ehealth-certificaten***
- ***https://www.ehealth.fgov.be/ehealthplatform/fr/certificats-ehealth***

For technical issues regarding eHealth platform certificates

- Acceptance: ***acceptance-certificates@ehealth.fgov.be***
- Production: ***support@ehealth.fgov.be***

3.1.2 For issues in production

eHealth platform contact centre:

- Phone: 02 788 51 55 (on working days from 7 am till 8 pm)
- Mail: ***support@ehealth.fgov.be***
- *Contact Form :*
  - ***https://www.ehealth.fgov.be/ehealthplatform/nl/contact*** (Dutch)
  - ***https://www.ehealth.fgov.be/ehealthplatform/fr/contact*** (French)

3.1.3 For issues in acceptance

Integration-support@ehealth.fgov.be

3.1.4 For business issues

- regarding an existing project: the project manager in charge of the application or service
- regarding a new project or other business issues: ***info@ehealth.fgov.be***

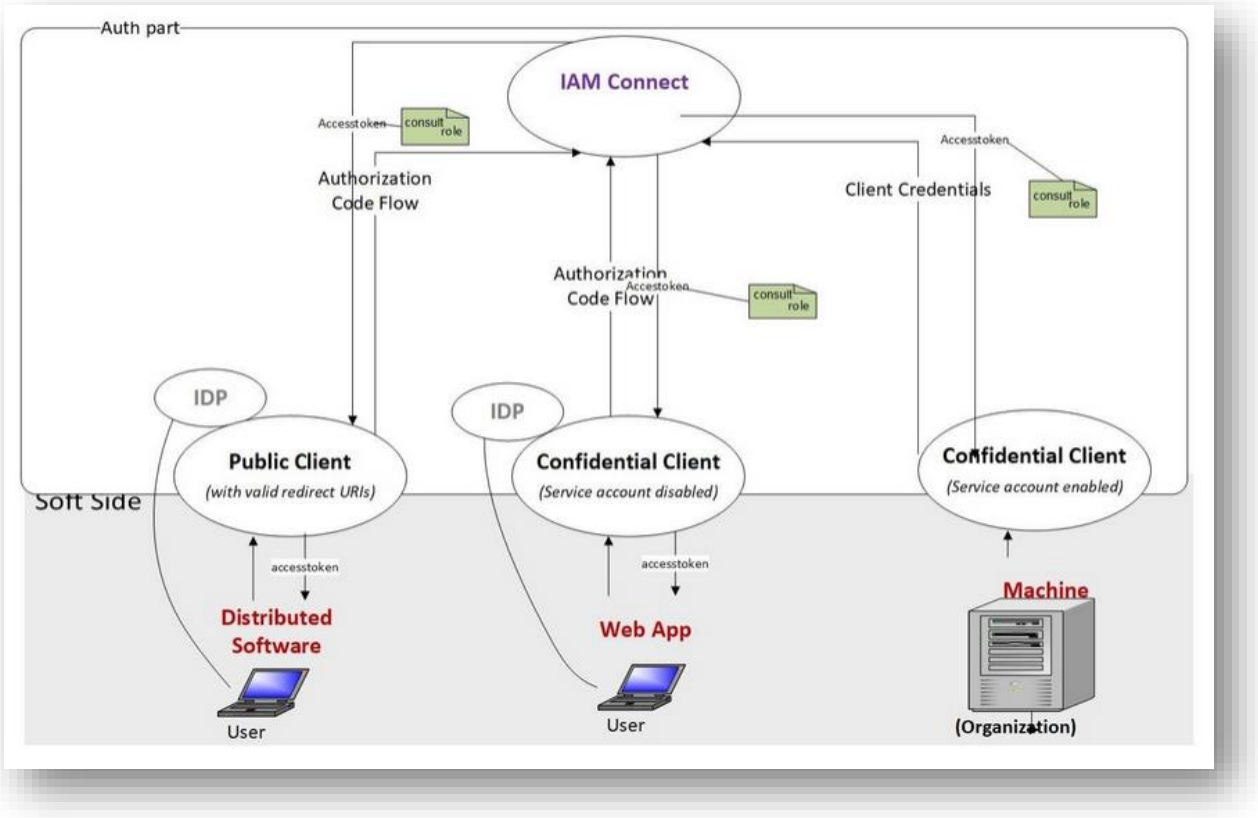
3.2 Status

The website ***https://status.ehealth.fgov.be*** is the monitoring and information tool for the ICT functioning of the eHealth services that are partners of the Belgian eHealth system.

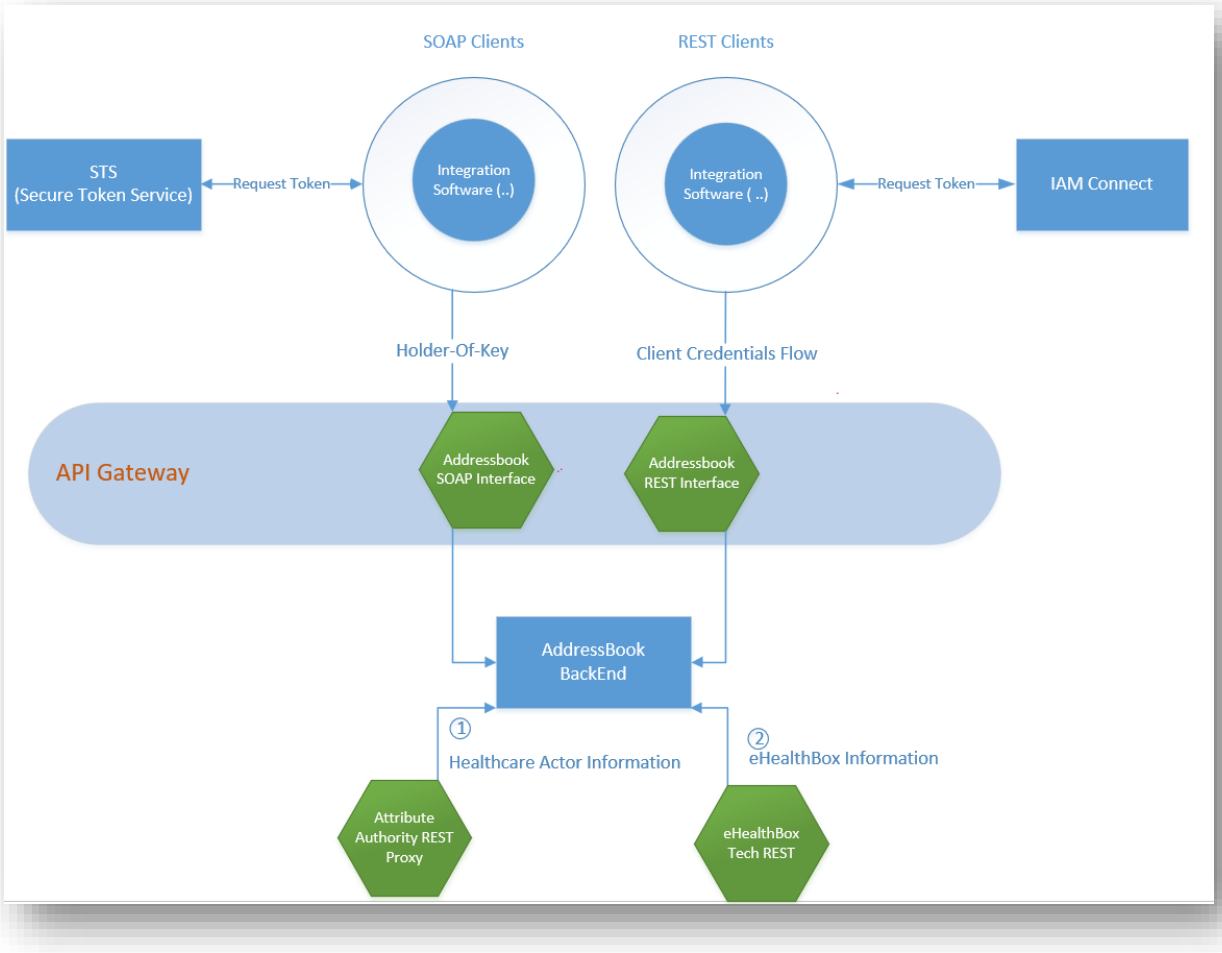
4. Global overview

4.1 Overview on how to access the eHealth HealthcareActorAddressBook

An access token delivered by the eHealth authentication server (IAM Connect) is necessary to access the Addresbook REST. The potential use cases are similar to those of eHealthBox:



The schema below describes the architecture in case of the “client credential flow” use case, that is one of the 3 possible use cases.



This clarifies that both the Addressbook SOAP and REST API share a part of the same backend. This backend is responsible for querying the 2 different authentic sources:

- CoBRHA, via an eHealth Attribute Authority REST Proxy
- eHealthBox, via an eHealthBox REST Proxy

4.2 REST and JSON

SOAP and REST are two API styles that approach data transmission from a different point of view. SOAP is a standardized protocol sending messages using other protocols such as HTTP and SMTP.

As opposed to SOAP, REST is not a protocol but an architectural style. The REST architecture establishes a set of guidelines you need to follow if you want to provide a RESTful web service, for example, stateless existence and the use of HTTP status codes. As SOAP is an official protocol, it comes with higher complexity, it requires more bandwidth and resources that can lead to slower page load times. REST was created to address the problems of SOAP. Therefore, it has a more flexible architecture. It allows different messaging formats, such as HTML, JSON, XML, and plain text, while SOAP only allows XML.

REST is also a more lightweight architecture, so **RESTful web services have a better performance**.

The REST architecture allows API providers to deliver data in multiple formats such as plain text, HTML, XML, YAML, and JSON, which is one of its most loved features. Thanks to the increasing popularity of REST, the lightweight and human-readable JSON format has also quickly gained traction, as it is an easy-to-parse and lightweight data-interchange format. In spite of its name, JSON is completely language-agnostic, so it can be used with any programming language, not just JavaScript. JSON files consist of collections of name/value pairs and ordered lists of values that are universal data structures used by most programming languages. Therefore, JSON can be easily integrated with any language.

The difference in approach and philosophy means that this additional REST API goes beyond simply translating the SOAP service technically into a REST service. Efforts have been made to ensure that this service is compliant with the Federal Vocabulary and utilizes the tools and structures provided by the Belgian Interoperability Framework.

4.3 Endpoints

The last version of REST interface described with a JSON / Swagger API is available on the eHealth API Portal :

ACC: ***https://portal-acpt.api.ehealth.fgov.be/***

PROD: ***https://portal.api.ehealth.fgov.be/***

4.4 Technical requirements

4.4.1 WS-I Basic Profile 1.1

Your request must be WS-I compliant (See Chap 2.4 - External Document Ref 1).

4.4.2 Tracing

To use this service, the request SHOULD contain the following two http header values (see RFC ***https://datatracker.ietf.org/doc/html/rfc7231#section-5.5.3***):

1. **User-Agent**: information identifying the software product and underlying technical stack/platform.

   - Pattern: {company}/{package-name}/{version} {platform-company}/{platform-package-name}/{platform-package-version}
   - Regular expression for each subset (separated by a space) of the pattern: [[a-zA-Z0-9-\/]*\/[0-9a-zA-Z-_.]*
   - Examples:
     User-Agent: MyCompany/myProduct/62.310.4 eHealth/Technical/3.19.0
     User-Agent: Topaz-XXXX/123.23.X Taktik/freeconnector/XXXXX.XXX

2. **From:** email-address that can be used for emergency contact in case of an operational problem
   Examples:
   From: ***info@mycompany.be***

5. API description

5.1 General

5.1.1 Principles and remarks

- Contact details are only returned if the search is specific enough to return a single result.
- A search that returns more than 100 results in an error of type 'tooManyResults'. The search criteria need to be refined in that case.
- The list of allowed search combinations for each entity (Organizations/Professionals) is restricted and described in this cookbook.
- Searches are case-insensitive.
- Accented characters will be interpreted as non-accented character during the search. If you search first name with é or É, you may find result with or without accent. If you search first name with e or E, you may find result with é, É, è, ë, ...
- Special characters are ignored, but the following characters are however not allowed as input: '{' '}' '(' ')' '|' '\' '+' '%' '&'.
  Usage of the above characters may result in an error or inconsistent search results.
- If the language of preference is unavailable for an element, all other available languages will be returned. A value with an unknown language from the authentic source will be returned as "en" (English), but only when no value for English is available.
- The NIHDI number is the preferred way to uniquely identify a professional. This means that the SSIN of a professional is never returned, unless a profession does not has a NIHDI Number.
- Email has to contain '@' and one or more '.' Any search on email needs to be an exact match.
- A search on a postCode must contain 4 digits as this is the Belgian standard.
- When searching on municipalityName, at least 3 significant characters are required.

5.1.2 Wildcard searches and examples

An asterisk '*' can be used as a wildcard to perform a search with partial words. Wildcards can only be put on the beginning and/or on the end of the word. Intermediate wildcard(s) will be ignored.

Wildcard searches in combination with a limited number of characters, may result in degraded performance (high response times that might even result in a technical error).

Example of search behaviour when looking for organization name "Institut Bordet":

You may find result with …	You may not find result with …
bor	**bordete***
institut	**bordeti**
instit	***bor det***
b*or	**Bo**
det	**Bo***
inst_-itut	**In***
BoR	

When searching by name, at least 3 significant characters are required. The searches on 'Bo', 'Bo*' and 'In*' will fail because the minimum number of significant characters of 3.

Example, you are looking for municipalityName “Bruxelles”:

You may find result with …	You may not find result with …
bru	**br***
bru*x*	***br**
bru*	**bru*x**
***xelles**	**bruxellless**
bruxelles	**br ux***
br_-u*	***br***
Bru*	

When searching on municipalityName, at least 3 significant characters are required. The searches on ‘br*’, ‘*br’ and ‘*br*’ will fail because the minimum number of significant characters of 3.

5.2 Organizations

GET /organizations

Search healthcare organizations and retrieve contact information for a specific organization.

This service returns specific contact information (see the 'embed' parameter) on the condition that the search was specific enough to return only one result.

5.2.1 Searching for healthcare organizations

5.2.1.1 Allowed search combinations

	nihdi Number	enterprise Number	ehp Number	institution Type	name	postCode	municipality Name	email
Search 1	■			▒				
Search 2		■		▒				
Search 3			■	▒				
Search 4				■	■			
Search 5				■		■		
Search 6				■			■	
Search 7								■

Legend:

■	Required information
▒	Optional information

5.2.1.2 Organization specific search rules

When optional information is specified as search criterion, it will act as a filter. E.g. If an institutionType is (optionally) given next to a nihdiNumber, only information for the specified institutionType for that organization will be returned. If the organization is from another institutionType, no information is returned because there is no match. As in the example described below nihdiNumber 77777777 matches an organization of type HOSPITAL. In this search combination (Search 1 from the table above), the organization would only be returned when searching for this nihdiNumber, optionally in combination with this specific institutionType.

institutionType particularities linked to organizations of type CBE or EHP

- institutionType is implicitly set to:
  - 'ENTERPRISE', when searching on a enterpriseNumber (commonly known as a CBE number)
  - 'EHP', when searching on a ehpNumber.

- institutionType may not be one of the 3 subtypes linked to a CBE organization:
  - 'ENTERPRISE'
  - 'CONSORTIUM'
  - 'TREAT_CENTER'

  for the searches in combination with name, postCode or municipalityName.

5.2.2 Request

Path parameters

Path parameter	Description
nihdiNumber	Identifier issued by the National institute for health and disability insurance (NIHDI). The NIHDI number has 8 digits.
enterpriseNumber	Identifier issued by Crossroads Bank for Enterprises (CBE)
ehpNumber	Special identifier issued by eHealth-platform Belgium
name	Name of the organization. - A wildcard before and after is automatically applied. - Multiple words separated by a space and are interpreted with 'AND' operators. - At least 3 significant characters need to be given.
institutionType	InstitutionType of the organization.
municipalityName	Name of the municipality.
postCode	Postcode of the Municipality. Standard Belgian 4 digits number.
email	Email address. - Email address has to contain '@' and one or more '.' - Any search on email needs to be an exact match.
embed(*)	Contact information are only returned when: • the entity can be uniquely identified (the query returns only 1 result) • and the information is explicitly requested Available values that can be combined: • addresses • ehealthBoxes • alternativeContactChannels

lang	The language of preference. Multiple values are not supported. A choice has to be made between fr, nl, en, de. If no value is given, all available languages are returned.

* = Required path parameter

Example:

```
GET https://api-acpt.ehealth.fgov.be/healthcareActorAddressBook/v1/organizations?nihdiNumber=77777777&embed=addresses&embed=ehealthBoxes&embed=alternativeContactChannels&lang=en
```

5.2.3 Response

The response contains a success status code and general information on the eHealth

Element	Description
items	0-to-more item tag(s) containing the search results
total	The total number of search results
id	Object with identification information of the organization
id/authenticSource	Authentic Source of the identification information
id/type	Type of the organization within the authentic source
id/value	Identification value as identified by the authentic source
type	Object with type code and type name of the institution as detailed in the Annex 'List of organization qualities'
type/code	Object with the code of the institutionType as defined by the authenticSource
type/name	Name of the InstitutionType
name	Name of the Organization
addresses	Object with addresses
alternativeContactChannels	Object with alternative contact channels
eHealthBox	Object with eHealthBox

Example:


```
{
    "items": [
        {
            "id": {
                "authenticSource": "NIHII",
                "type": "HCI",
                "value": "77777777"
            },
            "type": {
                "code": {
                    "authenticSource": "EHP",
                    "type": "code",
                    "value": "HOSPITAL"
                },
```

```
                "name": {
                    "nl": "Ziekenhuis",
                    "fr": "Hôpital",
                    "de": "Krankenhaus"
                }
            },
            "name": {
                "en": "UNIVERSITAIR ZIEKENHUIS EXAMPLE"
            },
            "addresses": [
                {
                    "type": "contact",
                    "street": {
                        "name": {
                            "en": "BLABLALAAN 100"
                        }
                    },
                    "municipality": {
                        "postCode": "0000",
                        "nisCode": 21010
                    },
                    "country": {
                        "isoCode": "BE",
                        "name": {
                            "nl": "België",
                            "fr": "Belgique"
                        }
                    }
                }
            ],
            "eHealthBox": [
                {
                    "id": "77777777",
                    "type": "NIHII",
                    "quality": "HOSPITAL",
                    "lastUserActivity": "2024-01-12"
                }
            ]
        }
    ],
    "total": 1
}
```


5.3 Professionals

GET /professionals

Search healthcare professionals and retrieve contact information for a specific professional.

This service returns specific contact information (see the 'embed' parameter) on the condition that the search was specific enough to return only one result.

5.3.1 Searching for professionals

5.3.1.1 Allowed search combinations

	Nihd Number	ssin	Family Name	Given Name	Profession Type	Municipality Name	postCode	email
Search 1	■							
Search 2		■						
Search 3			■		■			
Search 4					■	■		
Search 5					■		■	
Search 6								■

Legend:

■	Required information
	Optional information

5.3.1.2 Search principles and additional search rules

When optional information is specified as search criterion, it will act as a filter.

E.g. If a professionType is given in combination with a SSIN, only information for the specified profession for that S will be returned. If the individual does not have the specified profession, no information will be returned as there is no match for this combination. If no professionType is specified it will not act as filter and the professional will be returned.

A nihdiNumber (RIZIV/INAMI) numbers has 8 digits. The 3 digit competency code that commonly follows the nihdiNumber is not a part of the nihdiNumber.

When searching by familyName, at least 2 significant characters are required

The results are sorted by familyName and then by givenName.

5.3.2 Request

Path parameters

Path parameter	Description
nihdiNumber	Identifier issued by the National institute for health and disability insurance (NIHDI). The NIHDI number has 8 digits. The competence code of 3 digits that is commonly added to the NIHDI number is not a part of the NIHDI number.
ssin	Social Security Identification Number issued by the National Register or CBSS
givenName	First name of the professional.
familyName	Last name of the individual.
professionType	Profession type (See list of available professions in Annex)
municipalityName	Name of the municipality
postCode	Postcode of the Municipality. Standard Belgian 4 digits number.
email	E-mail address

embed(*)	Contact information are only returned when: • the entity can be uniquely identified (the query returns only 1 result) • and the information is explicitly requested Available values : • addresses • ehealthBoxes • alternativeContactChannels
lang	The language of preference. Multiple values are not supported. A choice has to be made between fr, nl, en, de. If no value is given, all available languages are returned.

* = Required path parameter

Example:

```
GET https://api-acpt.ehealth.fgov.be/healthcareActorAddressBook/v1/professionals?nihdiNumber=44444444&embed=ehealthBoxes&embed=addresses&embed=alternativeContactChannels
```

5.3.3 Response

The response contains a success status code and general information on the eHealth

Element	Description
items	0-to-more item tag(s) containing the search results
total	The total number of search results
individual	Information of the individual
individual/ssin	Social Security Identification Number issued by the National Register or CBSS. The SSIN is never returned in the response if NIHDI numbers are known for all Professions.
individual/familyName	The last name of the individual.
individual/givenName	The first given name only
individual/givenNames	All the given names, including the first name.
individual/language	Language of the individual (nl/fr/de/en)
individual/gender (*)	Gender of a person, following the ISO 5218 standard: 0 = Unknown, 1 = male, 2 = female'
individual/birthDate (*)	Birthdate of the individual (YYYY-MM-DD)
individual/deathDate (*)	The date of death of the individual (YYYY-MM-DD)
addresses (*)	Object with addresses. See section “Common objects”
alternativeContactChannels	Object with alternative contact channels. See section “Common objects”
professions	Object with professions.

(*) Note that although gender, birthdate and deathDate are part of the API structure, they will never be returned. The same is valid for personal addresses of individuals. Only addresses related to a profession are returned.

5.3.3.1 Professions

Element	Description
type	Type of the institution as detailed in the Annex 'List of organization qualities'
type/code	Code of professionType (See list of available professions in Annex)
type/name	Name of the professionType
nihdiNumber	Identifier issued by the National institute for health and disability insurance (NIHDI). The NIHDI number has 8 digits.
nihdiCompetenceCode	The competence code of 3 digits that is commonly added to the NIHDI number, but that is not a part of the NIHDI number.
specialities	Object of specialities of the professional
specialities/code	Code of the speciality
specialities/name	Name of the speciality
addresses	Addresses related to the profession
alternativeContactChannels	Alternative contact channels relating to the profession
eHealthbox	eHealthBox relating to the profession

Example:


```
{
    "items": [
        {
            "individual": {
                "familyName": "DOE",
                "givenName": "JOHN",
                "givenNames": "JOHN DOE",
                "language": "nl",
                "gender": 1,
                "birthDate": "1924-01-01"
            },
            "professions": [
                {
                    "type": [
                        {
                            "code": {
                                "authenticSource": "EHP",
                                "type": "code",
                                "value": "NURSE"
                            },
                            "name": {
                                "nl": "Verpleegkundige",
                                "fr": "Infirmier",
                                "de": "Krankenpfleger/in"
                            }
                        }
```

```
                    ],
                    "nihdiNumber": "44444444",
                    "nihdiCompetenceCode": "575"
                },
                {
                    "type": [
                        {
                            "code": {
                                "authenticSource": "EHP",
                                "type": "code",
                                "value": "MIDWIFE"
                            },
                            "name": {
                                "nl": "Vroedvrouw",
                                "fr": "Sage-femme",
                                "de": "Hebamme"
                            }
                        }
                    ],
                    "nihdiNumber": "44444441",
                    "nihdiCompetenceCode": "006"
                }
            ]
        }
    ],
    "total": 1
}
```


5.4 Common objects

5.4.1 Addresses

Element	Description
type	Type of the address e.g. contact, activity
street	Object with street information
street/rrnCode	Street code assigned by National Registry
houseNumber	This field contains the number in the street.
boxNumber	This field contains the post box.
municipality	Object with municipality information
municipality/postCode	Postcode of the municipality: 4 digit Belgian postcode from bpost
municipality/nisCode	Numeric code to identify a Belgian municipality
municipality/name	Name of the municipality
country	Object with country information
country/iscode	Country represented by an ISO 3166-1 alpha-2 code

country/nisCode	NIS code representing a country as defined by statbel.fgov.be
country/name	Name of the country

5.4.2 alternativeContactChannels

Element	Description
[nameofalternativeContactChannel]	Value of alternativeContactChannel

The names of alternativeContactChannels can be subject to change but are currently limited to:

- 'Mail'
- 'Fax'
- 'Phone'
- 'Cell phone'
- 'Mail2'
- 'Fax2'
- 'Phone2'
- 'Cell phone2'
- 'Mail3'
- 'Fax3'
- 'Phone3'
- 'Cell phone3'

Example :

```
"alternativeContactChannels": [
    {
      "Cell phone": "0470/000000",
      "Fax": "02/12345789"
    }
```

5.4.3 eHealthBox

Element	Description
id	Id of the eHealthBox This is a number with digits only, representing a ssin, nihdiNumber, enterpriseNumber or ehpNumber.
type	eHealthBox's identifier type ("INSS", "NIHII", "CBE", "EHP")
subtype	If the recipient is an organization, the subtype allows (if necessary) further specification (such as "HOSPITAL" SubType for a Hospital Quality, or "GROUP" SubType for a Group Quality).
quality	eHealthBox's Quality. See Section List of organization qualities and List of professional qualities
lastUserActivity	Date on when the eHealthBox was last actively been used.

6. Risks and security

6.1 Security

6.1.1 Business security

In case the development adds a use case based on an existing integration, the eHealth platform must be informed at least one month in advance. A detailed estimate of the expected load is necessary to be able to ensure an effective capacity management.

When technical issues occur on the WS, the partner can obtain support from the contact centre (see Chap 3)

If the eHealth platform should find a bug or vulnerability in its software, the partner must update his application with the latest version of the software, within ten (10) business days.

If the partner finds a bug or vulnerability in the software or web service made available by the eHealth platform, he is obliged to contact and inform us immediately. He is not allowed, under any circumstances, to publish this bug or vulnerability.

6.1.2 The use of username, password and token

The username, password, and token are strictly personal.
Every user takes care of his username, password and token, and he is forced to confidentiality of it. It is prohibited to transfer them to partners and clients. Until inactivation, every user is responsible for every use, including the use by a third party.

7. Implementation aspects

7.1 Procedure

This chapter explains the procedures for testing and releasing an application in acceptation or production.

7.1.1 Initiation

If you intend to use the eHealth platform service, please contact ***info@ehealth.fgov.be***. The project department will provide you with the necessary information and mandatory documents.

7.1.2 Development and test procedure

You have to develop a client in order to connect to our WS. Most of the required integration info to integrate is published on the portal of the eHealth platform.

In some cases, the eHealth platform provides you, upon request, with test cases in order for you to test your client before releasing in the acceptance environment.

7.1.3 Release procedure

When development tests are successful, you can request to access the acceptance environment of the eHealth platform. From this moment, you start the integration and acceptance tests. The eHealth platform suggests testing during minimum one month.

After successful acceptance tests, the partner sends his test results and performance results with a sample of "eHealth request" and "eHealth answer" by email to his point of contact at the eHealth platform.

Then the eHealth platform and the partner agree on a release date. The eHealth platform prepares the connection to the production environment and provides the partner with the necessary information. During the release day, the partner provides the eHealth platform with feedback on the test and performance tests.

For further information and instructions, please contact: ***integration-support@ehealth.fgov.be***.

7.1.4 Operational follow-up

Once in production, the partner using the eHealth platform service for one of his applications will always test first in the acceptance environment before releasing any adaptations of its application in production. In addition, he will inform the eHealth platform on the progress and test period.

7.2 Error and failure messages Http codes

These are the error status codes that can be returned by the eHealth healthcareActorAddressBook Rest service:

Code	Message	Description
200	OK	The resource has been fetched and is transmitted in the message body or the resource describing the result of the action is transmitted in the message body.
400	Bad request	The structure of the query parameters or the JSON body is not correct.
404	Not Found	The resource or the endpoint does not exist.
500	Internal server error	An unexpected error occurred, but the service is not down (to remove).
503	Service temporarily unavailable	The eHealth HealthcareActorAddressBook service is down.

7.3 Business error codes

Mail delivery system error codes originating from the application.

These error codes indicate a problem with the message and/or its recipients and are generated synchronously. The API can send the following errors as response:

Code	Message	Description
400 badRequest	Query returns too many results.	More than 100 results were found. Refine your query with more or more specific search criteria.
400 badRequest	Required request parameter 'embed' for method parameter type List is not present.	At least one occurrence of embed is required as search path parameter.
400 badRequest	Search criterion cannot be empty.	A value is required if a search parameter is used in the path
400 badRequest	Search criterion '[*fieldName*]' is invalid.	• The minimum number of characters was not respected • The search value is not a valid enumeration value • The value is detected as invalid based on checkdigits or length (enterpriseNumber, nihdiNumber, ehpNumber)
400 badRequest	Searching on institutionType and [*fieldName*] is not supported for CBE types.	Searches on institutionType CBE is name cannot be done for types TREAT_CENTER, CONSORTIUM, ENTERPRISE
400 badRequest	This combination of search criteria is not supported.	• The search combination is not allowed. Mind the special exceptions that apply for Organization searches with institutionType relates to 'CBE'. • Unsupported characters where used in the search
500 serverError	Cache has not been filled yet, please retry.	Error that may occur on initialization of the service. A simple retry of the request should resolve the issue.

Example:

```
{
    "type": "badRequest",
    "title": "Bad Request",
    "status": 400,
    "detail": "Search criterion 'name' is invalid.",
    "instance": "error:ticket:1710502662934"
}
```

8. Annexes

8.1 institutionType and professionType

The list of supported vaues for institutionType and professionType is similar to eHealthBox qualities. This list can be consulted in the dedicated document : ‘eHealthBox Supported Qualities’