Metahub WS V2
Cookbook
Version 2.5

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eHealth platform

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

1. Document management

1.1 Document history

Version	Date	Author	Description of changes / remarks
1.0	13/08/2010	eHealth platform	Final version – Iteration 1
1.1	07/10/2010	eHealth platform	Final version – Iteration 2
1.2	11/08/2011	eHealth platform	Final version – Metahub version 2
1.3	28/02/2014	eHealth platform	Update: Using new template. - Id request (50-alphanum max length). - New support card number (feature not available until Mai 2014 in production, 31/03 in acceptation). - Delta supporting period determined by date and time. - Some functional description based on services testing. - Add operations xml examples - Add schema for error handling - Updated Hyperlinks.
1.4	3/04/2014	eHealth platform	Update: Better illustration of the representation of the support card elements
1.5	08/05/2014	eHealth platform	Update: - getTherapeuticlink (routed to new CIN service) - xml request and response examples - specific error messages related to therapeutic link service
1.6	05/10/2016	eHealth platform	Remove unrelevant warnings
1.7	03/04/2017	eHealth platform	INSS concerned Patient vs support card number are not submitted to BCSS Id Support validation – Hub Third Trusted Party
1.8	25/10/2018	eHealth platform	- Add TherapeuticLink operations - The eID number of the patient is NOT required for therapeutic link operations - Remove the consent check for GetPatientLink - Add new consent status (deceased) - New method : GetPatientConsentStatus - Add new end-user and HC parties (AR78)
1.9	22/01/2019	eHealth platform	- Added precisions about authors of DeclarePatientConsent + Corrected schema

2.0	30/09/2019 (Release 2019.2)	eHealth platform	- Add new end-user and HC parties (AR78) - Anonymization of data
2.1	23/04/2020	eHealth platform	WS-I Compliance
2.2	23/04/2021	eHealth platform	§5.1.5 Tracing
2.3	13/07/2022	eHealth platform	§ 2.3 eHealth platform document references (updated) § 3.2 Status (added) § 5.1.5 Tracing (updated)
3.0	19/04/2023	eHealth platform	Full cookbook review
3.1	30/04/2024	eHealth platform	Add new AR78 professionals

2. Introduction

2.1 Goal of the service

The 'Metahub' component is introduced to support the interconnection between 'Hubs'. This component is accessible to 'recognized' hubs. The word 'hub' denotes the kernel of a 'recognized' regional or sub regional health network.

The main purpose of the Metahub is to allow a hub to know where it can find information about a patient outside of its network. More precisely, the Metahub simply provides the list of hubs that have information about a patient without knowing where, within a (sub)regional health network, the information is stored.

The Metahub is thus more a 'locator service' than a 'routing component': there are no 'document' exchanges transiting throughout the component.

Metahub v2 also allows the hubs to consult and manage the registration of patient consents and exclusions[1].

A major feature is that the hubs themselves feed the Metahub. See Fig 1 for a graphical depicture of the context.

2.2 Goal of the document

This document describes the use of the Metahub service as provided by the eHealth platform. In this cookbook, we explain the structure and content aspects of the possible requests and the replies of a Metahub WS. An example illustrates each of those messages. In addition, you can find in this document, a list of possible errors.

This information should allow (the IT department of) an organization to develop and use the WS call.

Some technical and legal requirements must be met in order to allow the integration of the eHealth WS in client applications.

This document is not a development or a programming guide for internal applications; eHealth partners always keep a total freedom within those fields. Nevertheless, in order to interact in a smooth, homogeneous and risk controlled way with a maximum of partners, eHealth partners must commit to comply with specifications, data format, and release processes described within this document. In addition, our partners in the health 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.

2.3 Document references

ID	Title	Version	Date	Author
1	Glossary.pdf	1.0	01/01/2010	eHealth platform
2	Secure Tolen Service - HolderofKey	1.6	25/01/2023	eHealth platform
3	Sector based committee decision related to the informed consent for the hubs & Metahub project.	Decision number 11/046	17/05/2011	Health Sector based committee
4	Consent WS SOAP cookbook	2.2	12/07/2022	eHealth platform
5	eHealth Consent WS REST	1.1	03/08/2022	eHealth platform
6	Therapeutic Exclusion WS - Cookbook	1.4	04/08/2022	eHealth platform

[1] According to the rules described in the document reference [4].

7	Therapeutic Link WS - Cookbook	1.8	28/02/2022	eHealth platform

2.4 External document references

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

ID	Title	Source	Date	Author
1	OASIS – Web services security – SAML Token Profile	***http://www.oasis-open.org/committees/download.php/16768/wssv1.1-spec-os-SAMLTokenProfile.pdf***	01/02/2006	pm
2	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

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

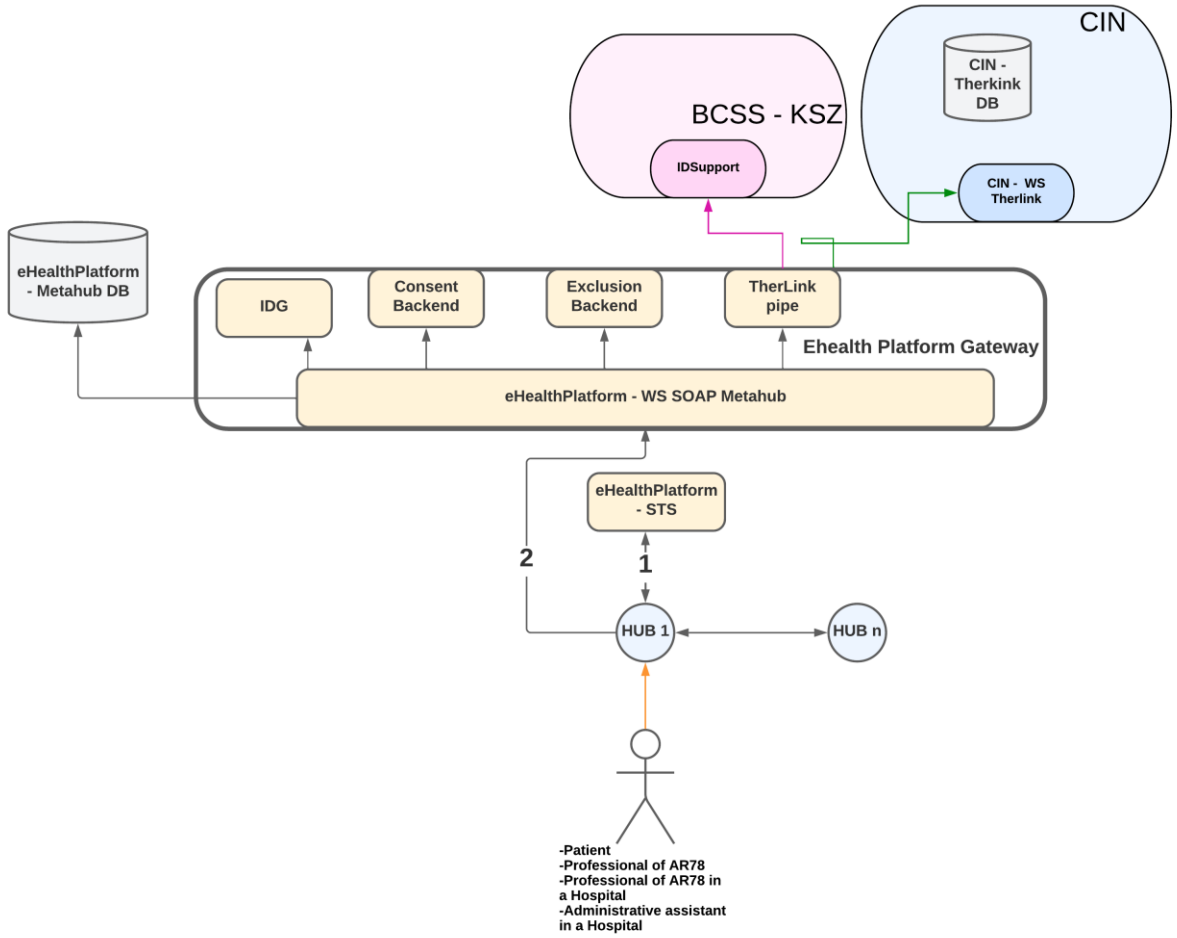


Figure 1 : Metahub context overview

The Metahub deals with five main concepts:

- The 'informed patient consents',
- The 'therapeutic exclusions', (exclusions in the form 'patient-healthcare professional')
- The links between a hub and a patient (a link expresses that at least one document related to the patient is published within the underlying network of the hub),
- The therapeutic links
- The 'patient audit trail' is limited to the Metahub scope (in other words, the list of operations performed on the Metahub regarding a given patient).

The Metahub provides services to manage those concepts.

The verification of the 'consents', 'exclusions' and 'Hub-patient links' status can be performed individually or throughout 'delta' services, described separately in this document.

4.1 Patient consents

The rules to apply concerning the management of the 'informed patient's consents' are described in the document reference [4].

In order to be more flexible, the foreseen interfaces have a range which exceeds the requirements of those rules.

Technically, we identify the following attributes for an 'informed patient consent'

- The SSIN of the patient,
- The date of the consent registration (at the end-user side),
- The "type" of the consent.

If the consent is only valuable[2] for data posterior to the signing date, it is called 'prospective' and otherwise 'retrospective'[3]. According to the rules defined now, the only possible value for this attribute is 'retrospective'. The attribute is present for backwards compatibility.

- The identity of the HCParty acting in the patient's name (if applicable),

The following operations will support the management of the 'informed patient consent' :

declarePatientConsent	Allows a hub to declare an informed patient consent.
revokePatientConsent	Allows a hub to declare the revocation of an informed patient consent.
getPatientConsent	Allows a hub to check the existence of an informed patient consent (and to get the information about this consent).
getPatientConsentStatus	Similar to the GetPatientConsent method with the patient consent status specified in the response.

4.2 Therapeutic Exclusions

The rules to apply regarding the management of the 'therapeutic exclusions' are described in the document reference [6].

The interface of the services is more 'generic'.

The exclusion has the following attributes:

- The identity of the HCParty acting in the patient's name (if applicable),
- The SSIN of the patient,
- The SSIN of the HCParty to be excluded.

The following operations will support the management of the 'therapeutic exclusion' :

declareTherapeuticExclusion	Allows a hub to register an exclusion Patient – HCParty.
revokeTherapeuticExclusion	Allows a hub to revoke an exclusion Patient – HCParty.

[2] At the level of the transaction, the date to take into account is the 'medical date' of the transaction.

[3] This does not mean that all documents with a medical date anterior to the signing date of the consent will automatically be available.

getTherapeuticExclusions	Allows a hub to get the list of excluded HCParties for a given patient.

4.3 Hub-patient links

The main purpose of the Metahub is to allow a hub to get the list of the (other) hubs that have information about a patient. This information is simply a link between a patient and a hub.

Since the hubs themselves feed the Metahub, the latter provides services to support the management of those links.

The interface of the service is more 'generic'.

It has the following attributes:

- The SSIN of the patient,
- The HCParty to be linked.

The following operations will support the management of the 'patient link' :

declarePatientLink	Allows a hub to declare a link with a patient.
revokePatientLink	Allows a hub to revoke a link with a patient.
getPatientLinks	Allows a hub to get the list of hubs that have a link with a patient.

4.4 Therapeutic link

The Metahub is not tasked to store or to manage any data regarding 'therapeutic links' nor is it the purpose of the Metahub to register or verify the therapeutic links.

However, for some types of therapeutic links for which an authentic source is defined and available, the Metahub will offer a 'relay' service to the hubs to check the existence of such a therapeutic link.

Again, the interface of the services is more 'generic' (in order to be aligned with the specifications defined at the hub level and to potentially support other kinds of therapeutic links if required). The rules to apply regarding the management of the 'therapeutic link are described in the document reference [6].

The TherapeuticLink has the following attributes:

- The identity of the HCParty acting in the patient's name,
- The identity information of the patient,
- The identity information of the HCParty.

The following operations will support the management of the 'therapeutic link :

PutTherapeuticLink	Allows a hub to declare the therapeutic links. Its main purpose is to allow one to declare a therapeutic link.
RevokeTherapeuticLink	Allows a hub to revoke the therapeutic links. Its main purpose is to allow one to "end" the (declaration of a) therapeutic link.
GetTherapeuticLink	Allows a hub to consult therapeutic links according to basic search parameters. Its main purpose is to allow one to check the existence of the therapeutic links when executing a consultation process.

4.5 Patient audit trail

Patient audit trail is a generic service that enables a hub to obtain information on all or specific operation that have been made to the Metahub for a specific patient between a given start date and the given end date (regarding consents, exclusions, and links). This service will only be available for the hubs.

It has the following attributes:

- The identity of the HCParty acting in the patient's name,
- The SSIN of the patient,
- The periode of the operation,
- The operation that will be checked.

Each element of the audit is composed of the following elements:

- The patient identifier,
- The operation performed,
- The hub that has performed the operation,
- When the operation has been performed,
- If the operation succeeded.

getPatientAuditTrail	Allows a hub to obtain the audit elements concerning a certain patient.

4.6 Metahub Delta

The getMetahubDelta service is a generic service that enables a hub to obtain information on all requests that have been made to the Metahub for all patients between a given start date and time and the given end date and time (regarding consents, exclusions, and links). This service will only be available for the hubs. At the time of writing, the constraints regarding how often the service has to be called and the maximum amount of information that can be send in the message is still undetermined.

It has the following attributes:

- The identity of the HCParty acting in the patient's name
- The SSIN of the patient,
- The periode of the operation,
- The service that will be checked.

Each element of a delta is composed of the following elements:

- The information object on which the operation was performed,
- The author,
- The operation performed,
- A date and time when the operation has been performed,

getMetaHubDelta	Allows a hub to obtain all information related to the management, by Metahub, of the 'informed patient consent', the therapeutic exclusion and the patient-hub links for a given date and period.

5. Step-by-step

5.1 Technical requirements

5.1.1 Use of the eHealth SSO Solution

This section specifies how to obtain a SAML token from the Secure Token Service (STS) in order to have access to the Metahub WS. There are different types of user, currently, according to eHealths Unique File, only hubs are allowed to access eHealth Metahub WS and act as author of operations requests. Therefore, this document will be updated when the services are made available to a new type of user. These different groups of user are described hereunder and in detail at chapter 5.2.2

Each type of user needs a different type of token to access the services. The remainder of this section describes the needed attributes for each type of the user. For more details on how STS works, see

https://www.ehealth.fgov.be/ehealthplatform/fr/service-iam-identity-access-management

5.1.2 Hub

Prior to calling the Metahub, a SAML token proving that the call comes from a certified hub must be obtained from the eHealth STS WS. This token is used by Metahub to validate the received requests (e.g., to verify if the request comes from a certified hub).

This section describes how a hub can obtain a SAML token. In order to receive a token from the STS several attributes must be specified in the request. In the case of inter-hub communication, the attributes that need to be provided are the following:

- the EHP number as identifier of the Hub: AttributeNamespace="urn:be:fgov:identification-namespace",
  - AttributeName: "urn:be:fgov:ehealth:1.0:certificateholder:organization:ehp-number"

  Hub has also to specify which information must be validated by the eHealth platform. To have access to the service, the following data must be validated:
- the EHP number as identifier of the Hub, in two separate attributes:
  - AttributeNamespace="urn:be:fgov:identification-namespace",
  - AttributeName: "urn:be:fgov:ehealth:1.0:certificateholder:organization:ehp-number"
- Hub must be a recognized hub (AttributeNamespace="urn:be:fgov:certified-namespace:ehealth",
  - AttributeName= "urn:be:fgov:ehealth:1.0:certificateholder:organization:ehp-number:recognisedhub:boolean"

5.1.3 Securities policy to apply

We expect that you use SSL one way for the transport layer.

WS security used in this manner is in accordance with the common standards. To call the eHealth Metahub WS:

- Add the business message to the soap body.
- Add to the SOAP header the following elements:
  - SAML Token: The SAML Assertion received from the eHealth STS. This assertion needs to be forwarded exactly as received in order to not to break the signature of the eHealth STS. The token needs to be added accordingly to the specifications of the OASIS SAML Token Profile (holder-of-key). (please refer to 'List of source' chapter)
  - Timestamp (with Time-to-live of the message: one minute).
  - A signature that has been placed on the SOAPBody and the timestamp with the certificate of which the public key is mentioned in the SAML Assertion.
- The signature element (mentioned above) must to contain:
  - SignedInfo with references to the soapBody and the Timestamp.
  - KeyInfo with a SecurityTokenReference pointing to the SAML Assertion.

See also the WSSP in the WSDL[4].

For more information on the SAML token as needed to call the eHealth Metahub services (e.g., attributes needed by different actors), please refer to STS cookbook.

This will allow the eHealth platform to verify the integrity of the message and the identifier of the message author.

A document explaining how to implement this security policy can be obtained at the eHealth platform.

The STS cookbook can be found on the portal of the eHealth platform.

5.1.4 WS-I Basic Profile 1.1

Your request must be WS-I compliant (See Chap 2.4 - External document references).

5.1.5 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. It MUST include the minimal identification information of the software such that the emergency contact (see below) can uniquely identify the component.
   a. Pattern: {minimal software information}/{version} {minimal connector information}/{connector-package-version}
   b. Regular expression for each subset (separated by a space) of the pattern: [[a-zA-Z0-9-\/]*\/[0-9azA-Z-_.]*
   c. Examples:
      User-Agent: myProduct/62.310.4 Technical/3.19.0
      User-Agent: Topaz-XXXX/123.23.X 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**

5.2 Web service

5.2.1 KMEHR structure

This service is a 'KMEHR-based' WS. We thus strongly recommend consulting the documentation related to the KMEHR normative elements.

The KMEHR site aims to offer a central point for the documentation of the KMEHR normative elements.
https://www.ehealth.fgov.be/standards/kmehr/en

The three following generic elements are, in particular, essentials to build the request and the reply of eHealth Metahub WS.

5.2.1.1 cd

This is the key element used to code information: this section is completely based on the description from the KMEHR standard, as can be found on:

https://www.ehealth.fgov.be/standards/kmehr/en/page/key-elements#cd

5.2.1.2 id

This element is used to uniquely identify key elements like request, response of the WS, patient, HCParty. It can also be used to specify any unique identifier: this section is completely based on the description from the

[4] *WSDL's can be found in the eHealth Service Registry:* ***https://services.ehealth.fgov.be/registry/uddi/bsc/web***

KMEHR standard, as can be found on:
https://www.ehealth.fgov.be/standards/kmehr/en/page/key-elements#id

5.2.1.3 HCparty

The *hcparty* element is a generic element that aims to represent any kind of healthcare party: organization, physician, medical specialty, or even IT systems: this section is entirely based on the description from the KMEHR standard, as can be found on:

https://www.ehealth.fgov.be/standards/kmehr/en/page/hcparty

5.2.2 The end-users

Before describing the Metahub WS in detail, this section will talk about the end-users that can use this WS directly or indirectly. To identify these different types of end-users, the request message should provide extra information.

The different identification blocks that can be specified:

- The “hcparty” element can be used to identify:
  - The software, service or application used by the end-user.
  - The responsible and trusted organization for Metahub (called Hub)
  - The organization authorized by the hub which the end user belongs
  - The health professional responsible for the request that it be carried out directly by him (in this case, it’s the end-user) or by an intermediary (in this case, it’s not the end-user).
  - The administrative person authorized to make a call for the healthcare professional
- The “patient” element can be used to identify :
  - The patient responsible for the request.

It should be noted that among all the author possibilities, in the case of the Metahub service, only the identification of the Hub is essential.

To avoid redundancy in the description of the individual request, we will give an overview here of some possible end-users’ descriptions.

Please comply with the predefined sequence of the HC Party elements present in the Author element provided in the following examples as the validation of the request/response is based on this sequence to determine the end-user profile.

5.2.2.1 Software

The identification of the software is composed of

- The software Id (optional)
- The hcparty code defines for an application (mandatory)
- The software name (optional)

The application should be specified and the name of the app must be specific enough to identify the origin of the call.

5.2.2.2 Hub

The hub is mandatory and acts as author of the request, the identification of the Hub must be provided. Composition of the identification:

- Hub Id (mandatory).
- The organization category (mandatory).

Additional information of the Hub as name is optional. If provided, it will be used for audit purposes.

The application should be specified and the name of the app must be specific enough to identify the origin of the call.

Example:

```
<?xml version="1.0" encoding="UTF-8"?>
<GetMetahubDeltaRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id S="ID-KMEHR" SV="1.0">19900000827.20130903090927123</core:id>
                <core:author>
                  <kmehr:hcparty>
                        <kmehr:id S="LOCAL" SL="application_ID" SV="1.0">1990000332</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                        <kmehr:name>eHealth Metahub</kmehr:name>
                  </kmehr:hcparty>
                  <kmehr:hcparty>
                        <kmehr:id S="ID-HCPARTY" SV="1.0">19900000827</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.1">hub</kmehr:cd>
                        <kmehr:name>Hub K.U.Leuven</kmehr:name>
                  </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        <core:select>
                <core:deltatype>EXCLUSIONS</core:deltatype>
                <core:begindate>2012-08-10</core:begindate>
                <core:begintime>14:20:00.0Z</core:begintime>
                <core:enddate>2013-08-10</core:enddate>
                <core:endtime>14:20:00.0Z</core:endtime>
        </core:select>
</GetMetahubDeltaRequest>
```

5.2.2.3 Patient

It is possible for a patient to manage his/her consent through a portal provided by one of the hubs. In this case, the following information should be provided.

The application should be specified and the name of the app must be specific enough to identify the origin of the call.

Example:

```
<DeclarePatientConsentRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id S="ID-KMEHR" SV="1.0">19900000827.20130903090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
```

```
                    </kmehr:hcparty>
                    <kmehr:hcparty>
                        <kmehr:id S="ID-HCPARTY" SV="1.0">1990000827</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.1">hub</kmehr:cd>
                        <kmehr:name>Hub K.U.Leuven</kmehr:name>
                    </kmehr:hcparty>
                    <core:patient>
                        <core:id SV="1.0" S="INSS">8xxxxxxxxx5</core:id>
                    </core:patient>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>09:09:27.0Z</core:time>
            </core:request>
            <core:consent>
                <core:cd S="CD-CONSENTTYPE" SV="1.0">retrospective</core:cd>
                <!-- Patient identifier -->
                <core:patient>
                    <core:id S="INSS" SV="1.0"> 8xxxxxxxxx5</core:id>
                </core:patient>
                <core:signingdate>2013-11-29</core:signingdate>
            </core:consent>
</DeclarePatientConsentRequest>
```

5.2.2.4 Professional of AR78

When a professional of AR78 performs an operation directly throughout a hub, this should be represented as follows.

The application should be specified and the name of the app must be specific enough to identify the origin of the call.

E.g. a professional of AR78 declares the consent of a patient by using the portal of a hub.

Example:

```
<?xml version="1.0" encoding="UTF-8"?>
<DeclarePatientConsentRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
      <core:request>
                <core:id S="ID-KMEHR" SV="1.0">1990000827.20130903090927123</core:id>
                <core:author>
                    <kmehr:hcparty>
                        <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                        <kmehr:name>eHealth Metahub</kmehr:name>
                    </kmehr:hcparty>
                    <kmehr:hcparty>
                        <kmehr:id S="ID-HCPARTY" SV="1.0">1990000827</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.1">hub</kmehr:cd>
                        <kmehr:name>Hub K.U.Leuven</kmehr:name>
                    </kmehr:hcparty>
                    <kmehr:hcparty>
```

```
                        <kmehr:id SV="1.0" S="INSS">SSIN of the HCP</kmehr:id>
                        <kmehr:id SV="1.0" S="ID-HCPARTY">NIHII of the HCP</kmehr:id>
                        <kmehr:cd SV="1.1" S="CD-HCPARTY"> KHMER code of the
    HCP</kmehr:cd>
                        <kmehr:firstname>Firstname of the HCP</kmehr:firstname>
                        <kmehr:familyname>Lastname oft he HCP</kmehr:familyname>
                    </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>09:09:27.0Z</core:time>
            </core:request>
            <core:consent>
                <core:cd S="CD-CONSENTTYPE" SV="1.0">retrospective</core:cd>
                <!-- Patient identifier -->
                <core:patient>
                    <core:id S="INSS" SV="1.0"> 8xxxxxxxx5</core:id>
                </core:patient>
                <core:signingdate>2013-11-29</core:signingdate>
            </core:consent>
</DeclarePatientConsentRequest>
```

Here is the list of KMEHR codes to specify (CD-HCPARTY) according to the profession of the end-user :

Profession	KMEHR code
Physician	persphysician
Nurse	persnurse
Dentist	persdentist
Midwife	persmidwife
Pharmacist	perspharmacist
Audician	persaudician
Audiologist	persaudiologist
Lab technologist	persbiologist
Dietician	persdietician
Logopedist	perslogopedist
Occupational therapist	persoccupationaltherapist
Orthoptist	persorthoptist
Optometrist	persoptometrist
Physiotherapist	persphysiotherapist
Podologist	perspodologist
Practical nurse	perspracticalnurse

Imaging technologist	perstechnician
Truss maker	perstrussmaker
Clinical orthopedic pedagogue	persclinicalorthopedagogist
Clinical psychologist	persclinicalpsychologist
Dental Hygienist	persoraldentalhygienist
OT mobility improvement	persmobilityimprover
OT bandages orthosiology	persbandagistorthosiologist
OT prosthesiology	persprosthesiologist
OT shoe technology	persshoetechnologist

It is also important to note, that the only controls made regarding the extra information are syntactic controls. An INSS number needs to be correct according to the Modulo 97 control. A similar rule applies to a NIHII number. Whenever these are present in the message, they will be validated.

However, regarding a doctor, an administrative assisstant or a hospital, there will be no calls to an authentic source to validate if they are known administrative assistants, doctors or hospitals. The responsibility for the correctness of this information lies with the hub providing it.

5.2.2.5 Professional of AR78 in a Hospital

When a professional of AR78 (for instance a physician) performs an operation within a hospital of a hub, this should be represented as follows:

The application should be specified and the name of the app must be specific enough to identify the origin of the call.

Example:

```
<?xml version="1.0" encoding="UTF-8"?>
<DeclarePatientConsentRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id S="ID-KMEHR" SV="1.0">19900000827.20130903090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">19900000827</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">hub</kmehr:cd>
                                <kmehr:name>Hub K.U.Leuven</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">7xxxxxxx1</kmehr:id>
```

```
                    <kmehr:cd SV="1.1" S="CD-HCPARTY">orghospital</kmehr:cd>
                    <kmehr:name>Hopital de test</kmehr:name>
                </kmehr:hcparty>
                <kmehr:hcparty>
                    <kmehr:id SV="1.0" S="INSS">7xxxxxxxxx9</kmehr:id>
                    <kmehr:id SV="1.0" S="ID-HCPARTY">12345678910</kmehr:id>
                    <kmehr:cd SV="1.1" S="CD-HCPARTY">persphysician</kmehr:cd>
                    <kmehr:firstname>Toto</kmehr:firstname>
                    <kmehr:familyname>Le Heros</kmehr:familyname>
                </kmehr:hcparty>
            </core:author>
            <core:date>2013-11-29</core:date>
            <core:time>09:09:27.0Z</core:time>
        </core:request>
        <core:consent>
            <core:cd S="CD-CONSENTTYPE" SV="1.0">retrospective</core:cd>
            <!-- Patient identifier -->
            <core:patient>
                <core:id S="INSS" SV="1.0"> 8xxxxxxxx5</core:id>
            </core:patient>
            <core:signingdate>2013-11-29</core:signingdate>
        </core:consent>
</DeclarePatientConsentRequest>
```

5.2.2.6 Administrative assistant in a hospital

In order to make a distinction between an administrative assistant performing the operation and the responsible physician, this should be represented as follows:

The application should be specified and the name of the app must be specific enough to identify the origin of the call.

Example

```
<?xml version="1.0" encoding="UTF-8"?>
<DeclarePatientConsentRequest xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2
metahub_protocol-2_3.xsd" xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
            <core:id S="ID-KMEHR" SV="1.0">1990000827.20130903090927123</core:id>
            <core:author>
                <kmehr:hcparty>
                    <kmehr:id S="LOCAL" SL="application_ID"
                    SV="1.0">1990000332</kmehr:id>
                    <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                    <kmehr:name>eHealth Metahub</kmehr:name>
                </kmehr:hcparty>
                <kmehr:hcparty>
                    <kmehr:id S="ID-HCPARTY" SV="1.0">1990000827</kmehr:id>
                    <kmehr:cd S="CD-HCPARTY" SV="1.1">hub</kmehr:cd>
                    <kmehr:name>Hub K.U.Leuven</kmehr:name>
                </kmehr:hcparty>
                <kmehr:hcparty>
                    <kmehr:id SV="1.0" S="ID-HCPARTY">7xxxxxxx1</kmehr:id>
                    <kmehr:cd SV="1.1" S="CD-HCPARTY">orghospital</kmehr:cd>
                    <kmehr:name>Hopital de test</kmehr:name>
```

```
                    </kmehr:hcparty>
                    <kmehr:hcparty>
                        <kmehr:id SV="1.0" S="INSS">7xxxxxxxxx9</kmehr:id>
                        <kmehr:id SV="1.0" S="ID-HCPARTY">12345678910</kmehr:id>
                        <kmehr:cd SV="1.1" S="CD-HCPARTY">persphysician</kmehr:cd>
                        <kmehr:firstname>Toto</kmehr:firstname>
                        <kmehr:familyname>Le Heros</kmehr:familyname>
                    </kmehr:hcparty>
                    <kmehr:hcparty>
                        <kmehr:id SV="1.0" S="INSS">8xxxxxxxxx8</kmehr:id>
                        <kmehr:cd SV="1.1" S="CD-HCPARTY">persadministrative</kmehr:cd>
                        <kmehr:firstname>Henry</kmehr:firstname>
                        <kmehr:familyname>Watson</kmehr:familyname>
                    </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>09:09:27.0Z</core:time>
            </core:request>
            <core:consent>
                <core:cd S="CD-CONSENTTYPE" SV="1.0">retrospective</core:cd>
                <!-- Patient identifier -->
                <core:patient>
                    <core:id S="INSS" SV="1.0"> 8xxxxxxxxx5</core:id>
                </core:patient>
                <core:signingdate>2013-11-29</core:signingdate>
            </core:consent>
</DeclarePatientConsentRequest>
```

5.2.3 Management of the 'informed patient consent'

5.2.3.1 Method DeclarePatientConsent

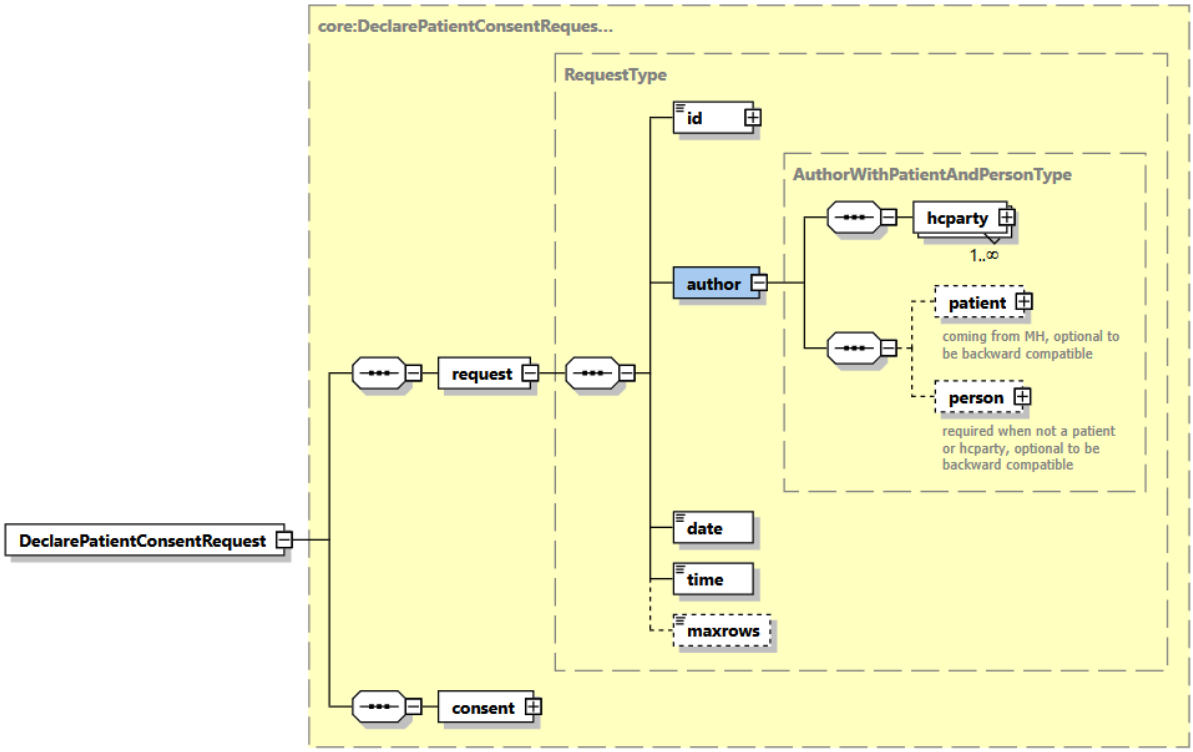
5.2.3.1.1 Functional description

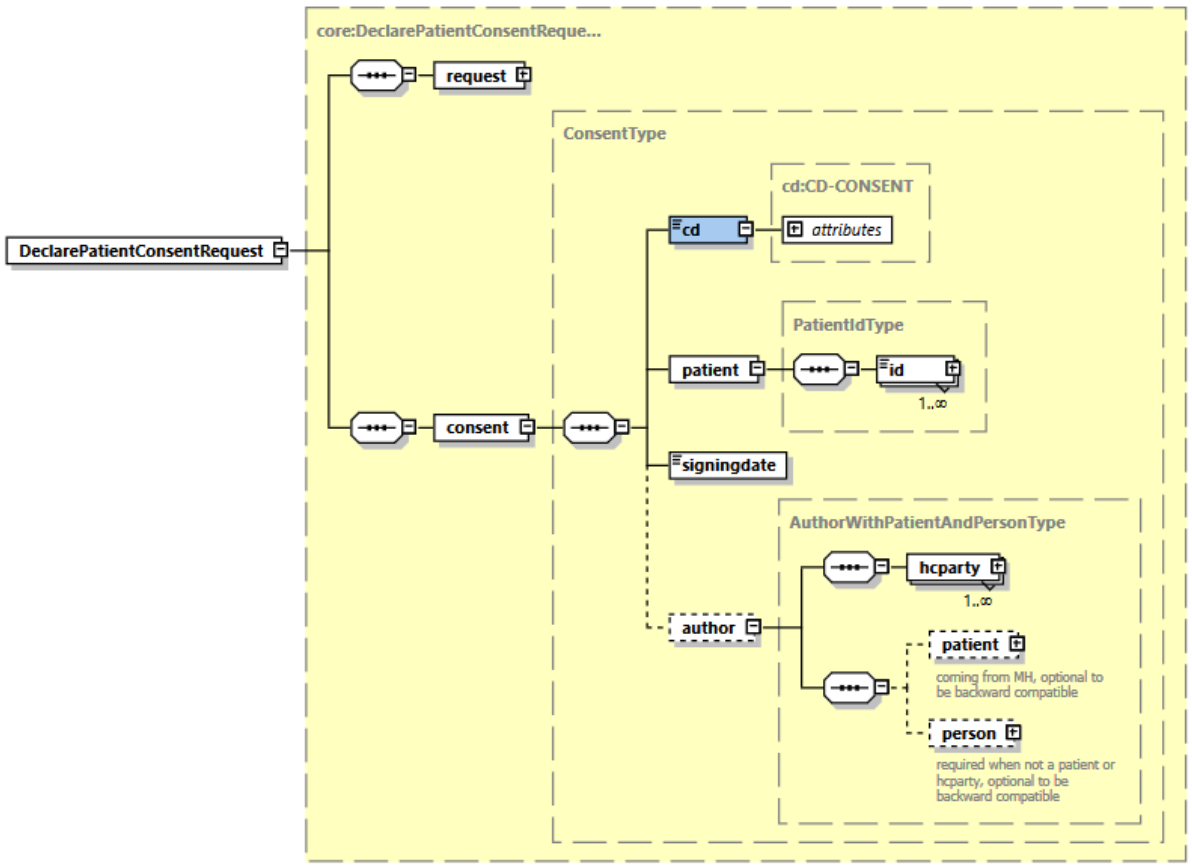
Service name	DeclarePatientConsent
Purpose	This method allows a hub to register a consent. A hub can register a consent declared by a patient, a physician, a physician in a hospital and an administrative assistant in a hospital. It is also possible for a hub to register a consent declared by another professional of AR78.
Input parameters	• The sender of the request containing: – the identification of the hub performing the operation call (**mandatory**); – the identification of the 'end-user' (**optional**) – Only following end-users are authorized : **Physician, Nurse, Dentist, Physiotherapist, Midwife** – If the request is made by an organization(**optional**): ○ the identification of the organization; ○ the identification of the responsible. • The information about the request (id/date/time) (**mandatory**). • The information about a consent: (**mandatory**) – Information about the patient ○ the INSS (mandatory); ○ the INSS support card number should not be used, if provided then the card number is ignored (INSS and support card number are not submitted to status validation (Hub Third trusted party). – The date of the registration of the consent by the patient; (**mandatory**)

	– ‘retrospective’ as consent type attribute. (**mandatory**)
Output parameters	• The initial request; • An acknowledge indicating the completion of the request.
Post-condition	• The consent is stored in the Metahub, with the following information: – concerned patient; – signing date; – ‘retrospective’ as consent type attribute; – Sender. • The request is logged.
Possible exceptions	• Technical error; • Invalid data: – invalid sender; – invalid patient identifier; – invalid consent type; – Invalid date of signing. • Sender is not a recognized Hub. • Sender does not contain correct HCP identification. • Sender does not contain proper ‘end-user’ identification (INSS). • The date of signing is anterior to the request date and posterior to the current date. • The date of signing is posterior to the request date. • There already exists an active consent for the concerned patient.
Comments	It is not possible to ‘update’ patient informed consent. To achieve this aim, the consent must first be revoked before declaring a new consent.

5.2.3.1.2 Formulating a request

A request from the caller hub for the declaration of an informed patient consent looks as follows:





The 'request' parameter gathers the elements relative to the

- information about the request (id, date, time),
- sender (author) of the request.

The 'consent' parameter gathers the element relative to the

- consent type,
- identifier of patient.
- the 'signing' date

Parameter	Attributes		Comments
request [1]	id [1]	Identifier of the request within the caller system.	Identifies the **message** within the system according to ID-KMEHR identification. Must contain a value with 50 alphanumeric as maximum length.
	author [1]	Sender of the request represented as a sequence of *hcparty* elements. It must at least contain the requestor hub.	This information must be coherent with the information provided in the technical identification and authentication system (i.e.

			certificate and SAML[5] assertion).
	date [1]	Date of request.	Format YYYY-MM-DD
	time [1]	Time of request.	Format hh:mm:ss
	maxrows[0-1]	n/a	
consent [1]	cd [1]	The consent type.	Corresponds to a value of the KMEHR table CD-CONSENT. Currently, only '*retrospective*' is supported.
	patient [1]	Patient concerned by the consent.	The patient's INSS is mandatory.
	signingdate [1]	Registration date of the consent.	Format YYYY-MM-DD This information is mandatory even if defined as optional in the xml schema definition. This date must be equal or anterior to the request date. If so, it must be also anterior to the current date.
	author [0-1]	Author of the registration	The identification of the HCParty acting in the patient's name or Patient himself if applicable). If provided, this information is discarded.

Example: DeclarePatientConsentRequest.xml

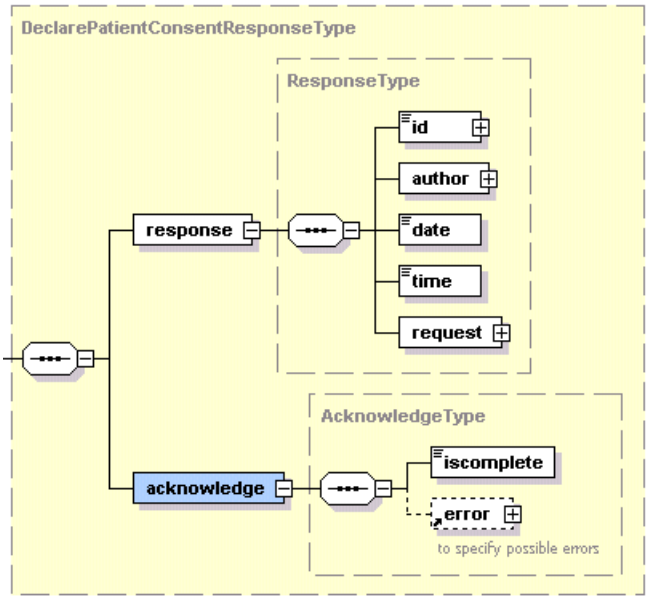
```
<?xml version="1.0" encoding="UTF-8"?>
<DeclarePatientConsentRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
```

[5] See cookbook STS service

```
                    </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
            </core:request>
            <core:consent>
                <core:cd S="CD-CONSENTTYPE" SV="1.0">retrospective</core:cd>
                <!-- Patient identifier -->
                <core:patient>
                    <core:id S="INSS" SV="1.0">0xxxxxxxxx7</core:id>
                </core:patient>
                <core:signingdate>2011-11-29</core:signingdate>
            </core:consent>
</DeclarePatientConsentRequest>
```

5.2.3.1.3 Interpretation of the reply

The reply, as sent back by the declarePatientConsent method, is discussed below.



The 'response' parameter gathers the elements relative to the:

- information about the response (id, date, time)
- initial request
- sender of the response (author).

The 'acknowledge' parameter gathers the elements relative to the

- service completion (iscomplete)
- errors or exceptions that occurred during the service execution.

Parameter	Attributes		Comments
response [1]	id [1]	Identifier of the response within the Metahub	
	author [1]	Sender of the response (Metahub)	
	date [1]	Date of response (YYYY-MM-DD)	

	time [1]	Time of response (hh:mm:ss)	
	request [1]	Initial request	
acknowledge [1]	iscomplete [1]	Indicates if the execution has been successfully completed	The execution is successful if the consent is correctly stored within the Metahub. However, when the consent already exists, the execution is considered 'unsuccessful'.
	error [0-*]	Indicates the error / exception descriptions	

Example: Successful DeclarePatientConsentResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<DeclarePatientConsentResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
</DeclarePatientConsentResponse>
```

Example: Unsuccessful DeclarePatientConsentResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<DeclarePatientConsentResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>false</core:iscomplete>
                <core:error>
                        <kmehr:cd S="CD-ERROR" SV="1.0">MH2.ACCESS.8</kmehr:cd>
                        <kmehr:description L="en">Consent already exists for the
patient</kmehr:description>
                </core:error>
        </core:acknowledge>
</DeclarePatientConsentResponse>
```

5.2.3.1.4 Review of some error codes

When a business error has occurred, then the *iscomplete* field of the *acknowledge* element is set to *false*. The acknowledge block of the reply message sent after an error has occurred looks as follows:

```
        <acknowledge>
                <iscomplete>false</iscomplete>
```

```
        <error>
            <cd SV="1.0" S="CD-ERROR">error_code</cd>
            <description L="EN">error_description</description>
        </error>
    </acknowledge>
```

The table below provides an overview of the possible errors returned by the service for this method:

Error type	Code	Description
MH2.INPUT Invalid Input	MH2.INPUT.2	Invalid request sender
	MH2.INPUT.15	Invalid signing date
	MH2.INPUT.16	The date of signing cannot be posterior to the current date
	MH2.INPUT.19	Invalid patient identifier
	MH2.INPUT.20	Invalid healthcare party identifier
	MH2.INPUT.22	Invalid transaction identifier
	MH2.INPUT.24	Invalid consent type
MH2.ACCESS	MH2.ACCESS.8	Consent already exists for the patient
CO.UPDATE Permission	CO.UPDATE.01	The consent of a deceased patient cannot be updated

When business errors of the type “Invalid Input” or “Access Permission” occur, please verify your request message. When a system error occurs and persists, please contact the contact center.

5.2.3.2 Method RevokePatientConsent

This service revokes the informed consent of a patient. The revocation of a consent implies hubs can no longer share the transactions of a patient.

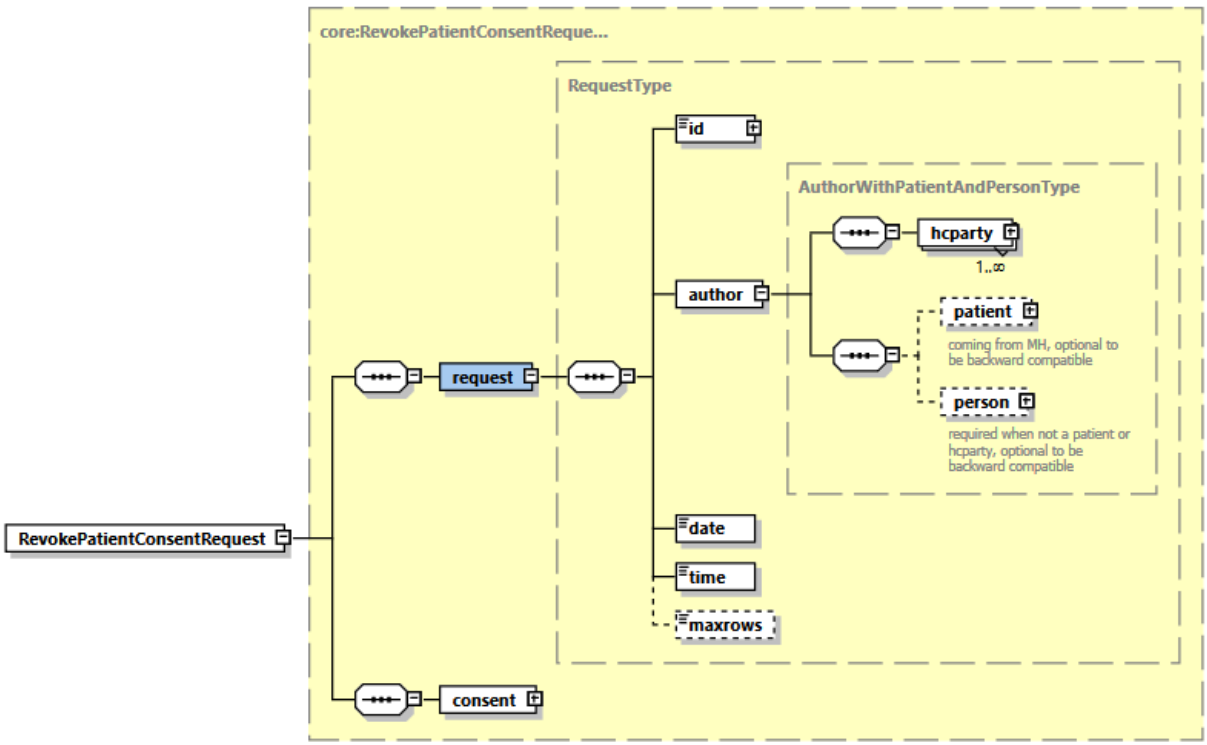
5.2.3.2.1 Functional description

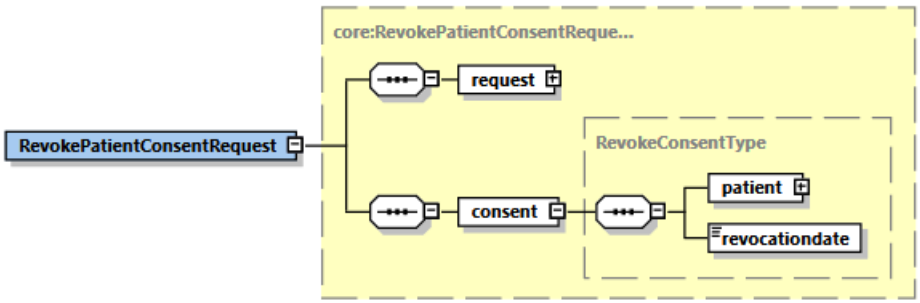
Service name	RevokePatientConsent
Purpose	This method allows a hub to revoke the consent of a patient
Input parameters	• The sender of the request containing: – the hub that performs the operation call (**mandatory)**. – the identity of the ‘end-user’ (**optional)**. Only following end-users are authorized : **Physician, Nurse, Dentist, Physiotherapist, Midwife** – If the request is made by an organization (**optional**): ○ the identity of the organization. ○ the identity of the responsible. • The information about the request (id/date/time) (**mandatory**). • The information about a consent (**mandatory**): – Information about the patient (**mandatory**) ○ the INSS (mandatory) ○ the INSS support card number should not be used, if provided then the card number is ignored (INSS and support card number are not submitted to status validation (Hub Third trusted party).

	○ The date of 'revocation' (**mandatory**)
Output parameters	• the initial request • an acknowledge indicating the completion of the request
Post-condition	• The request is logged. • The consent is revoked in the Metahub.
Exceptions	• Technical error • Invalid data: – invalid sender – invalid patient identifier – invalid revocation date • Sender is not a recognized Hub. • Sender does not contain a correct HCP identification. • Sender does not contain a proper 'end-user' identification (INSS). • There is no active consent for the concerned patient. • The date of revocation is posterior to the current date.

5.2.3.2.2 Formulating a request

A request from the caller hub for the revocation of an informed patient consent looks as follows:





The 'request' parameter gathers the elements relative to the

- information about the request (id, date, time),
- sender of the request (author).

The 'consent' parameter covers the

- patient identifier;
- revocation date.

Parameter	Attributes		Comments
request [1]	id [1]	Identifier of the request within the caller system.	Identifies the **message** within the system according to ID-KMEHR identification. Must contain a value with 50 alphanumeric as maximum length.
	author [1]	Sender of the request represented as a sequence of *hcparty* elements.	Must be coherent with the information provided in the

		It must at least contain the requestor hub.	technical identification and authentication system (i.e. certificate and SAML[6] assertion).
	date [1]	Date of request.	Format YYYY-MM-DD
	time [1]	Time of request.	Format YYYY-MM-DD
consent [1]	patient [1]	Patient concerned by the consent.	The patient's INSS is mandatory.
	revocationdate [1]	Revocation date of the consent	Format YYYY-MM-DD

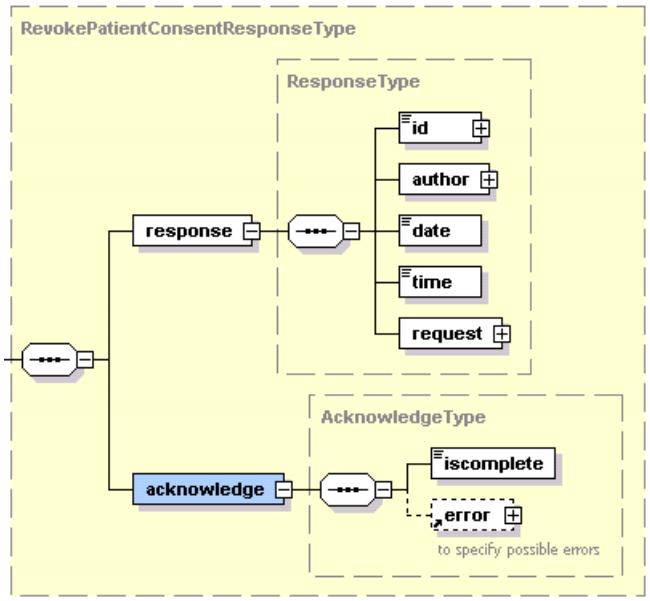
Example: RevokePatientConsentRequest.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<RevokePatientConsentRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        <core:consent>
      <core:patient>
        <core:id S="INSS" SV="1.0">0xxxxxxxxx7</core:id>
      </core:patient>
      <core:revocationdate>2013-11-29</core:revocationdate>
    </core:consent>
</RevokePatientConsentRequest>
```

[6] See cookbook STS service

5.2.3.2.3 Interpretation of the reply

The reply, as sent back by the revokePatientConsent method, is discussed below.



The 'response' parameter gathers the elements relative to the

- information about the response (id, date, time),
- initial request,
- sender of the response (author).

The 'acknowledge' parameter gathers the elements relative to the

- service completion (iscomplete),
- errors or exceptions that occurred during the service execution.

Parameter	Attributes		Comments
response [1]	id [1]	Identifier of the response within the Metahub	
	author [1]	Sender of the response (Metahub)	
	date [1]	Date of response (YYYY-MM-DD)	
	time [1]	Time of response (hh:mm:ss)	
	request [1]	Initial request	
acknowledge [1]	iscomplete [1]	Indicates if the execution has been successfully completed	The execution is successful if the consent was correctly revoked within the Metahub.
	error [0-*]	Indicates the error/exception descriptions	

Example: Successful RevokePatientConsentResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<RevokePatientConsentResponse
```

```
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
</RevokePatientConsentResponse>
```

Example: Unsuccessful RevokePatientConsentResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<RevokePatientConsentResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
```

```
                    <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                    <kmehr:name>eHealth Metahub</kmehr:name>
                </kmehr:hcparty>

                <kmehr:hcparty>
                    <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                    <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                    <kmehr:name>Metahub</kmehr:name>
                </kmehr:hcparty>
            </core:author>
            <core:date>2013-11-29+01:00</core:date>
            <core:time>11:00:23.144</core:time>
            <core:request>
            <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
            <core:author>
                <kmehr:hcparty>
                    <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                    <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                    <kmehr:name>test_hub_1</kmehr:name>
                </kmehr:hcparty>
            </core:author>
            <core:date>2013-11-29</core:date>
            <core:time>11:00:22.0Z</core:time>
        </core:request>
        </core:response>
        <core:acknowledge>
            <core:iscomplete>false</core:iscomplete>
            <core:error>
                <kmehr:cd S="CD-ERROR" SV="1.0">MH2.INPUT.32</kmehr:cd>
                <kmehr:description L="en">Invalid revocation date</kmehr:description>
            </core:error>
        </core:acknowledge>
</RevokePatientConsentResponse>
```

5.2.3.2.4 Review of some error codes

When a business error has occurred, then the *iscomplete* field of the *acknowledge* element is set to *false*. The acknowledge block of the reply message sent after an error has occurred looks as follows:

```
        <acknowledge>
            <iscomplete>false</iscomplete>
            <error>
                <cd SV="1.0" S="CD-ERROR">error_code</cd>
                <description L="EN">error_description</description>
            </error>
        </acknowledge>
```

The table below provides an overview of the possible errors returned by the service for this method:

Error type	Code	Description
MH2.INPUT Invalid Input	MH2.INPUT.2	Invalid request sender
	MH2.INPUT.19	Invalid patient identifier
	MH2.INPUT.20	Invalid healthcare party identifier

	MH2.INPUT.22	Invalid transaction identifier
	MH2.INPUT.32	Invalid revocation date
	MH2.INPUT.33	Revocation date cannot be posterior to the current date
MH2.ACCESS Permission	MH2.ACCESS.9	No active consent for the patient
CO.UPDATE Permission	CO.UPDATE.01	The consent of a deceased patient cannot be updated

When business errors of the type “Invalid Input” or “Permission” occur, you should verify your request message. When a system error occurs and persists, contact the contact center.

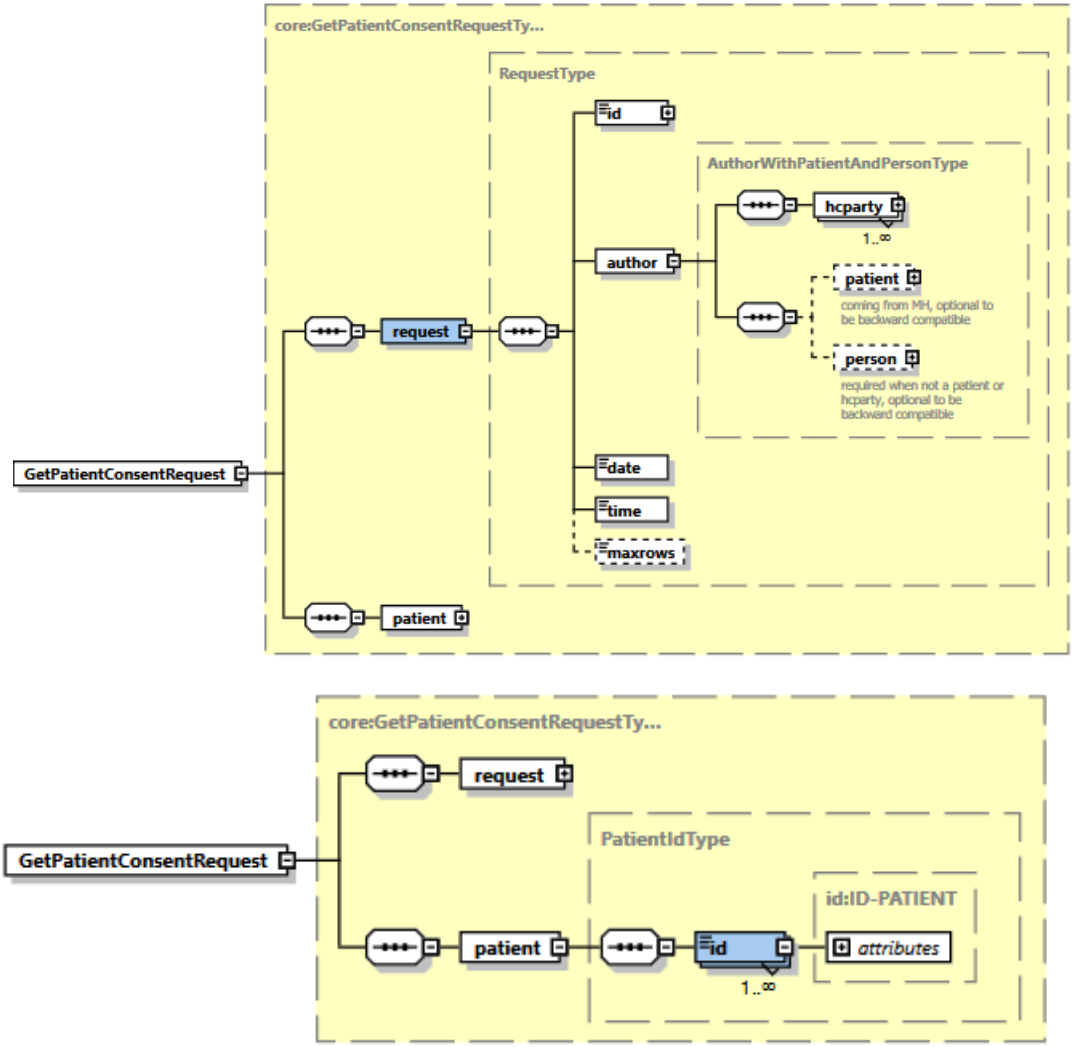
5.2.3.3 Method GetPatientConsent

5.2.3.3.1 Functional description

Service name	GetPatientConsent.
Purpose	This method allows a hub to check the existence of an informed patient consent for a given patient.
Input parameters	• The sender of the request containing: – the hub that performs the operation call (**mandatory**) – the identification of the ‘end-user’. (optional) – If the request is made by an organization(**optional**): ○ the identification of the organization; ○ the identification of the responsible. • information about the request (id/date/time) (**mandatory**) • the information about the consent: (**mandatory**) – Information about the patient: INSS – the INSS support card number shoud not be used, if provided then the card number is ignored (INSS and support card number are not submitted to status validation (Hub Third trusted party))
Output parameters	• the initial request • an acknowledge indicating the completion of the request • If there is an active consent for the concerned patient, then the consent is returned.
Post-condition	• the request is logged
Exceptions	• technical error • invalid data: – invalid sender – invalid patient identifier • Sender is not a recognized Hub. • Sender does not contain a correct HCP identification. • Sender does not contain a proper ‘end-user’ identification (INSS). • Incorrect identification of the patient.

5.2.3.3.2 Formulating a request

A request from the caller hub for an informed patient consent stored in the Metahub looks as follows:



The 'request' parameter gathers the elements relative to the

- information about the request (id, date, time),
- sender of the request (author).

The 'patient' parameter covers the

- patient identifier.

Parameter	Attributes		Comments
request [1]	Id [1]	Identifier of the request within the caller system	Identifies the **message** within the system according to ID-KMEHR identification. Must contain a value with 50 alphanumeric as maximum length.

	author [1]	Sender of the request represented as a sequence of *hcparty* elements. It must at least contain the requestor hub.	This information must be coherent with the information provided in the technical identification and authentication system (i.e. certificate and SAML[7] assertion).
	date [1]	Date of request.	Format YYYY-MM-DD
	time [1]	Time of request.	Format hh:mm:ss
patient [1]	id [1-*]	Patient concerned by the consent.	The patient's' INSS is mandatory.

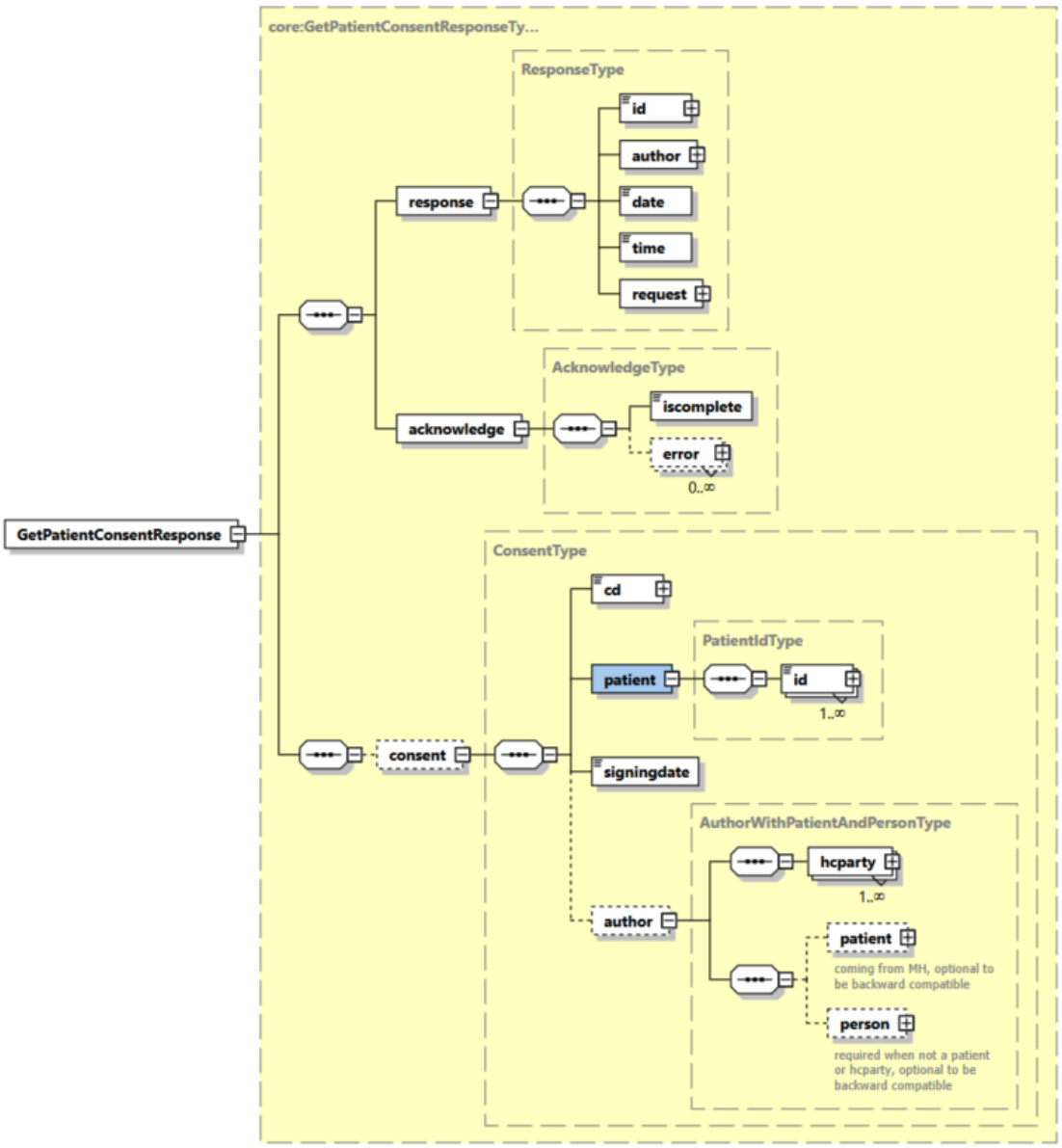
Example: GetPatientConsentRequest.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientConsentRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        <core:patient>
                <core:id S="INSS" SV="1.0">0xxxxxxxxx7</core:id>
        </core:patient>
</GetPatientConsentRequest>
```

[7] See cookbook STS service

5.2.3.3.3 Interpretation of the reply

The reply, as sent back by the getPatientConsent method, is discussed below.



The 'response' parameter gathers the elements relative to the

- information about the response (id, date, time),
- initial request,
- sender of the response (author).

The 'acknowledge' parameter gathers the elements relative to the

- service completion (iscomplete),
- errors or exceptions that occurred during the service execution.

If the consent of the given patient is active, the 'consent' parameter gathers the elements relative to the

- consent data,
- identifier of patient,
- author identifier.

Parameter	Attributes		Comments
response [1]	id [1]	Identifier of the response within the Metahub	
	author [1]	Sender of the response (Metahub)	
	date [1]	Date of response (YYYY-MM-DD)	
	time [1]	Time of response (hh:mm:ss)	
	request [1]	Initial request	
acknowledge [1]	iscomplete [1]	Indicates if the execution has been successfully completed.	The execution is successful if the conditions were fulfilled to retrieve the consent, even if no consent was found.
	error [0-*]	Indicates the error/exception descriptions.	
consent [0-1]	cd [1]	Consent type	If there is no consent for the patient, the element 'consent' is not present.
	patient [1]	Patient concerned by the consent	The patient's' INSS is mandatory.
	signingdate [1]	Signing date of the consent.	
	author [1]	Information about the author that has registered the consent (represented as a sequence of *hcparty or patient* elements).	

The GetPatientConsent return a result when the consent status is active if the status is inactive then nothing is returned.

A consent is considered inactive in the following cases:

The consent was never given.

The consent status is **REVOKED** or **DECEASED**.

A consent is considered active in the following case :

The consent status is **GIVEN**

When the status of the consent is **GIVEN :** The consent element including patient identification, consent data (the consent type and the signing date), the identification of the author of the declaration request.

In the consent response author some information are adapted. For the HCP elements where they have the description of an AR78 (administrative under the responsibility of an AR78 or a professional AR78), the referenced NISS is removed. The others HCP elements is the same as the one referenced in the request.

Example: Successful GetPatientConsentResponse.xml with active consent (GIVEN)

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientConsentResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
```

```
xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
<core:response>
        <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
        <core:author>
                <kmehr:hcparty>
                        <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                        <kmehr:name>eHealth Metahub</kmehr:name>
                </kmehr:hcparty>
                <kmehr:hcparty>
                        <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                        <kmehr:name>Metahub</kmehr:name>
                </kmehr:hcparty>
        </core:author>
        <core:date>2013-11-29+01:00</core:date>
        <core:time>11:00:23.144</core:time>
        <core:request>
        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
        <core:author>
                <kmehr:hcparty>
                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                        <kmehr:name>test_hub_1</kmehr:name>
                </kmehr:hcparty>
        </core:author>
        <core:date>2013-11-29</core:date>
        <core:time>11:00:22.0Z</core:time>
</core:request>
</core:response>
<core:acknowledge>
        <core:iscomplete>true</core:iscomplete>
</core:acknowledge>
<core:consent>
         <core:cd S="CD-CONSENTTYPE" SV="1.0">retrospective</core:cd>
        <core:patient>
                <core:id S="INSS" SV="1.0">0xxxxxxxxx7</core:id>
        </core:patient>
        <core:signingdate>2013-11-29+01:00</core:signingdate>
        <core:author>
                <kmehr:hcparty>
                        <kmehr:id S="ID-HCPARTY" SV="1.0">1990000827</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.1">hub</kmehr:cd>
                        <kmehr:name>Hub K.U.Leuven</kmehr:name>
                </kmehr:hcparty>
                <kmehr:hcparty>
                        <kmehr:id SV="1.0" S="ID-HCPARTY">7xxxxxx1</kmehr:id>
                        <kmehr:cd SV="1.1" S="CD-HCPARTY">orghospital</kmehr:cd>
                        <kmehr:name>Hopital de test</kmehr:name>
                </kmehr:hcparty>
                <kmehr:hcparty>
                        <kmehr:id SV="1.0" S="ID-HCPARTY">12345678910</kmehr:id>
                        <kmehr:cd SV="1.1" S="CD-HCPARTY">persphysician</kmehr:cd>
                        <kmehr:firstname>Toto</kmehr:firstname>
```

```
                        <kmehr:familyname>Le Heros</kmehr:familyname>
                    </kmehr:hcparty>
                </core:author>
            </core:consent>
</GetPatientConsentResponse>
```

Example: Successful GetPatientConsentResponse.xml with inactive consent (Revoked)

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientConsentResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
</GetPatientConsentResponse>
```

Example: Successful GetPatientConsentResponse.xml with inactive consent (DECEASED)

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientConsentResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
```

```
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
</GetPatientConsentResponse>
```

Example: Unsuccessful GetPatientConsentResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientConsentResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
```

```
                    <kmehr:hcparty>
                    <kmehr:hcparty>
                            <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                            <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                            <kmehr:name>Metahub</kmehr:name>
                    </kmehr:hcparty>
            </core:author>
            <core:date>2013-11-29+01:00</core:date>
            <core:time>11:00:23.144</core:time>
            <core:request>
            <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
            <core:author>
                    <kmehr:hcparty>
                            <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                            <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                            <kmehr:name>test_hub_1</kmehr:name>
                    </kmehr:hcparty>
            </core:author>
            <core:date>2013-11-29</core:date>
            <core:time>11:00:22.0Z</core:time>
    </core:request>
    </core:response>
            <core:acknowledge>
            <core:iscomplete>false</core:iscomplete>
            <core:error>
                    <kmehr:cd S="CD-ERROR" SV="1.0">MH2.INPUT.19</kmehr:cd>
                    <kmehr:description L="en">Invalid patient identifier</kmehr:description>
            </core:error>
    </core:acknowledge>
</GetPatientConsentResponse>
```

5.2.3.3.4 Review of some error codes

When a business error has occurred, then the *iscomplete* field of the *acknowledge* element is set to *false*. The acknowledge block of the reply message sent after an error has occurred looks as follows:

```
    <acknowledge>
            <iscomplete>false</iscomplete>
            <error>
                    <cd SV="1.0" S="CD-ERROR">error_code</cd>
                    <description L="EN">error_description</description>
            </error>
    </acknowledge>
```

The table below provides an overview of the possible errors returned by the service for this method:

Error type	Code	Description
MH2.INPUT Invalid Input	MH2.INPUT.2	Invalid request sender
	MH2.INPUT.19	Invalid patient identifier
	MH2.INPUT.20	Invalid healthcare party identifier
	MH2.INPUT.22	Invalid transaction identifier
MH2.ACCESS Permission	MH2.ACCESS.1	Sender is not a recognized Hub

When business errors of the type “Invalid Input” or “Permission” occur, please verify your request message. When a system error occurs and persists, please contact the contact center.

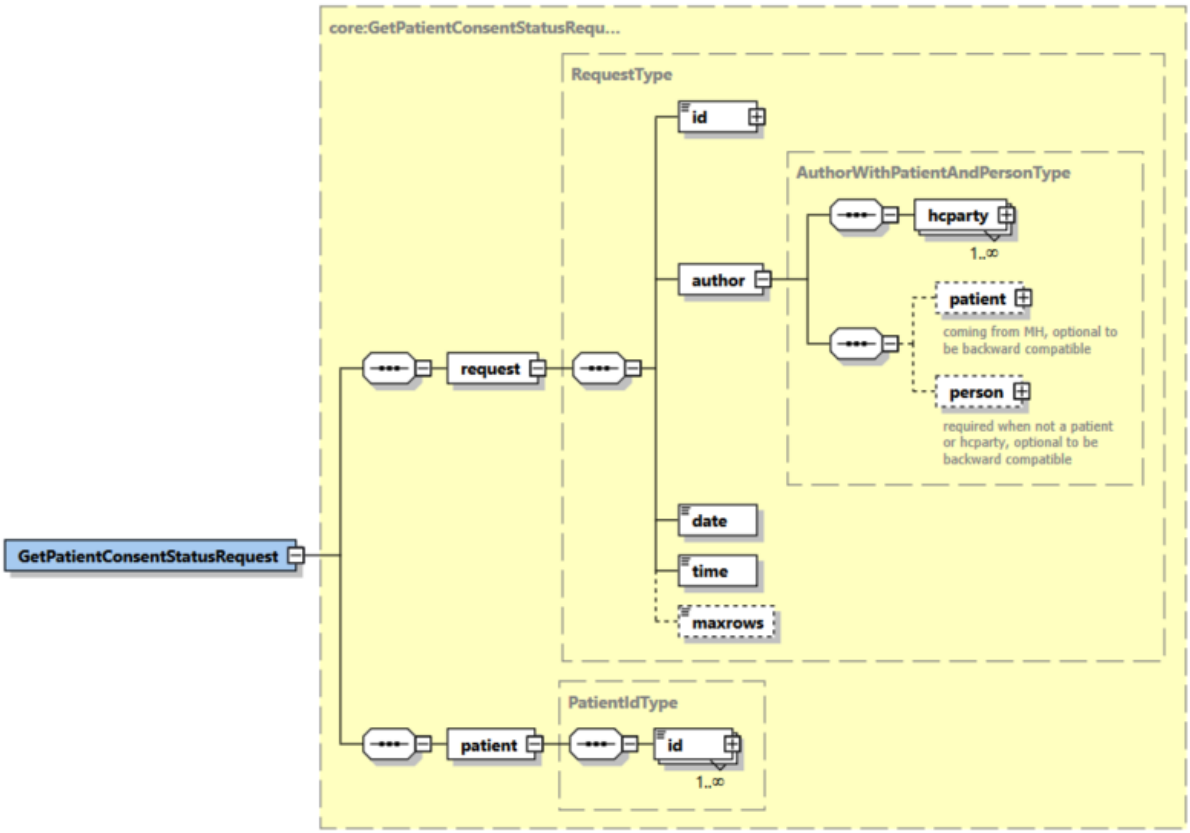
5.2.3.4 Method GetPatientConsentStatus

5.2.3.4.1 Functional description

Service name	GetPatientConsentStatus
Purpose	This method allows a hub to check the existence and the latest status of the informed patient consent for the concerned patient. The difference between this method and GetPatientConsent is that the consent status is displayed here.
Input parameters	• The sender of the request containing at least: – the hub that performs the operation call (**mandatory**) – the identification of the ‘end-user’. (optional) – If the request is made by an organization(**optional**): ○ the identification of the organization; ○ the identification of the responsible. • information about the request (id/date/time) (**mandatory**) • the information about the consent: (**mandatory**) – Information about the patient: INSS – the INSS support card number should not be used, if provided the card number is ignored (INSS and support card number are not submitted to status validation (Hub Third trusted party))
Output parameters	• the initial request • an acknowledge indicating the completion of the request • If there is an active or inactive consent for the concerned patient, then the consent and the status are returned. If the consent is inactive and unknown in the DB then there are no consent element in the response.
Post-condition	• the request is logged
Exceptions	• technical error • invalid data: – invalid sender – invalid patient identifier • Sender is not a recognized Hub. • Sender does not contain a correct HCP identification. • Sender does not contain a proper ‘end-user’ identification (INSS). • Incorrect identification of the patient.

5.2.3.4.2 Formulating a request

A request from the caller hub for an informed patient consent stored in the Metahub looks as follows:



The 'request' parameter gathers the elements relative to the

- information about the request (id, date, time),
- sender of the request (author).

The 'patient' parameter covers the

- patient identifier.

Parameter	Attributes		Comments
request [1]	Id [1]	Identifier of the request within the caller system	Identifies the **message** within the system according to ID-KMEHR identification. Must contain a value with 50 alphanumeric as maximum length.
	author [1]	Sender of the request represented as a sequence of *hcparty* elements. It must at least contain the requestor hub.	This information must be coherent with the information provided in the technical identification and authentication system (i.e. certificate and SAML[8] assertion).
	date [1]	Date of request.	Format YYYY-MM-DD
	time [1]	Time of request.	Format hh:mm:ss

[8] See cookbook STS service

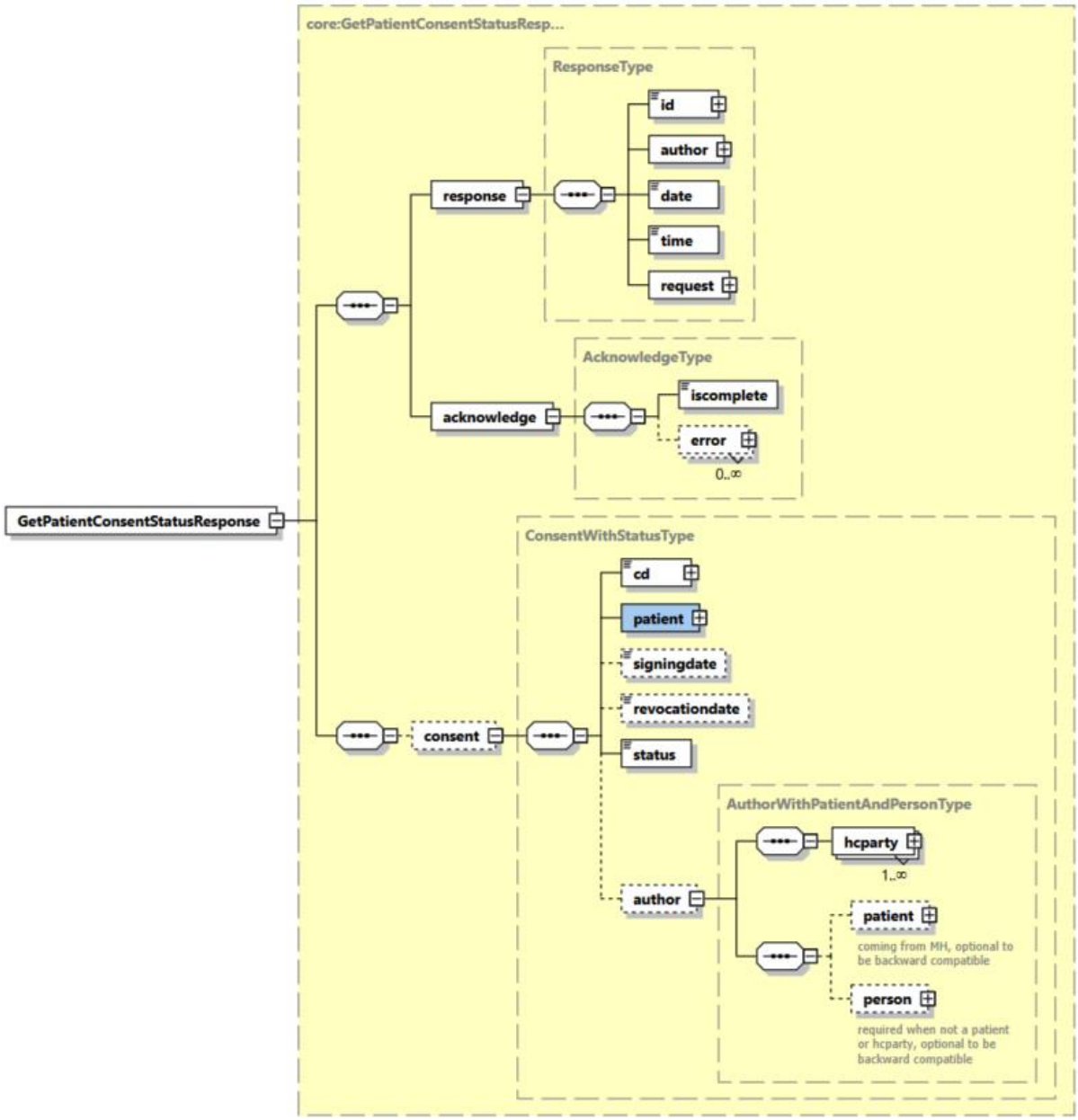
patient [1]	id [1-*]	Patient concerned by the consent.	The patient's' INSS is mandatory.

Example: GetPatientConsentStatusRequest.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientConsentStatusRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        <core:patient>
                <core:id S="INSS" SV="1.0">0xxxxxxxxx7</core:id>
        </core:patient>
</GetPatientConsentStatusRequest>
```

5.2.3.4.3 Interpretation of the reply

The reply, as sent back by the getPatientConsentStatus method, is discussed below.



The 'response' parameter gathers the elements relative to the

- information about the response (id, date, time),
- initial request,
- sender of the response (author).

The 'acknowledge' parameter gathers the elements relative to the

- service completion (iscomplete),
- errors or exceptions that occurred during the service execution.

If the consent of the given patient exists (active or inactive), the 'consent' parameter gathers the elements relative to the

- consent data,
- identifier of patient,

- author identifier.
- Status (GIVEN, REVOKED, DECEASED)

Parameter	Attributes		Comments
response [1]	id [1]	Identifier of the response within the Metahub	
	author [1]	Sender of the response (Metahub)	
	date [1]	Date of response (YYYY-MM-DD)	
	time [1]	Time of response (hh:mm:ss)	
	request [1]	Initial request	
acknowledge [1]	iscomplete [1]	Indicates if the execution has been successfully completed.	The execution is successful when the conditions to retrieve the consent were fulfilled, even if no consent was found.
	error [0-*]	Indicates the error/exception descriptions.	
consent [0-1]	cd [1]	Consent type	If there is no consent for the patient, the element 'consent' is not present.
	patient [1]	Patient concerned by the consent	The patient's' INSS is mandatory.
	signingdate [1]	Signing date of the consent.	
	author [1]	Information about the author that has registered the consent (represented as a sequence of *hcparty or patient* elements).	
	Status [1]	Consent status	Possible values : GIVEN, REVOKED, DECEASED

As the GetPatientConsentStatus the result of the response depends of the status of the consent.

For the **GIVEN** status the consent element including patient identification, consent data (the consent type and the signing date) no revocation date, the current status of the patient consent, the identification of the author of the declaration request.

For the **REVOKED** status the consent element including patient identification, consent data (the consent type, the signing date and the revocation date), the current status of the patient consent, the identification of the author of the declaration request.

For the **DECEASED** status, the consent element including patient identification, consent data (the consent type, the signing date and the revocation date if the consent was revoked before the patient is declared deceased), the current status of the patient consent, the identification of the author of the declaration request.

Example: Successful GetPatientConsentStatusResponse.xml with active consent

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientConsentStatusResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
```

```
xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
<core:response>
        <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
        <core:author>
                <kmehr:hcparty>
                        <kmehr:id S="LOCAL" SL="application_ID"
                SV="1.0">1990000332</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                        <kmehr:name>eHealth Metahub</kmehr:name>
                </kmehr:hcparty>
                <kmehr:hcparty>
                        <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                        <kmehr:name>Metahub</kmehr:name>
                </kmehr:hcparty>
        </core:author>
        <core:date>2013-11-29+01:00</core:date>
        <core:time>11:00:23.144</core:time>
        <core:request>
        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
        <core:author>
                <kmehr:hcparty>
                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                        <kmehr:name>test_hub_1</kmehr:name>
                </kmehr:hcparty>
        </core:author>
        <core:date>2013-11-29</core:date>
        <core:time>11:00:22.0Z</core:time>
</core:request>
</core:response>
<core:acknowledge>
        <core:iscomplete>true</core:iscomplete>
</core:acknowledge>
<core:consent>
         <core:cd S="CD-CONSENTTYPE" SV="1.0">retrospective</core:cd>
        <core:patient>
                <core:id S="INSS" SV="1.0">0xxxxxxxxx7</core:id>
        </core:patient>
        <core:signingdate>2013-11-29+01:00</core:signingdate>
        <core:status> GIVEN </core:status>
        <core:author>
                <kmehr:hcparty>
                        <kmehr:id S="ID-HCPARTY" SV="1.0">1990000827</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.1">hub</kmehr:cd>
                        <kmehr:name>Hub K.U.Leuven</kmehr:name>
                </kmehr:hcparty>
                <kmehr:hcparty>
                        <kmehr:id SV="1.0" S="ID-HCPARTY">7xxxxxx1</kmehr:id>
                        <kmehr:cd SV="1.1" S="CD-HCPARTY">orghospital</kmehr:cd>
                        <kmehr:name>Hopital de test</kmehr:name>
                </kmehr:hcparty>
                <kmehr:hcparty>
```

```
                        <kmehr:id SV="1.0" S="ID-HCPARTY">1xxxxxxxxx5</kmehr:id>
                        <kmehr:cd SV="1.1" S="CD-HCPARTY">persphysician</kmehr:cd>
                        <kmehr:firstname>Toto</kmehr:firstname>
                        <kmehr:familyname>Le Heros</kmehr:familyname>
                    </kmehr:hcparty>
                </core:author>
            </core:consent>
</GetPatientConsentStatusResponse>
```

Example: Successful GetPatientConsentStatusResponse.xml with inactive consent (REVOKED)

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientConsentStatusResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
        <core:consent>
                 <core:cd S="CD-CONSENTTYPE" SV="1.0">retrospective</core:cd>
                <core:patient>
                        <core:id S="INSS" SV="1.0">0xxxxxxxxx7</core:id>
                </core:patient>
```

```
                <core:signingdate>2013-11-29+01:00</core:signingdate>
                <core:status> REVOKED </core:status>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000827</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">hub</kmehr:cd>
                                <kmehr:name>Hub K.U.Leuven</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">7xxxxxxx1</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">orghospital</kmehr:cd>
                                <kmehr:name>Hopital de test</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">12345678910</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">persphysician</kmehr:cd>
                                <kmehr:firstname>Toto</kmehr:firstname>
                                <kmehr:familyname>Le Heros</kmehr:familyname>
                        </kmehr:hcparty>
                </core:author>
        </core:consent>
</GetPatientConsentStatusResponse>
```

Example: Successful GetPatientConsentStatusResponse.xml with inactive consent (DECEASED)

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientConsentStatusResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
```

```
                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                        <kmehr:name>test_hub_1</kmehr:name>
                    </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
        <core:consent>
                 <core:cd S="CD-CONSENTTYPE" SV="1.0">retrospective</core:cd>
                <core:patient>
                        <core:id S="INSS" SV="1.0">0xxxxxxx7</core:id>
                </core:patient>
                <core:signingdate>2013-11-29+01:00</core:signingdate>
                <core:status> DECEASED </core:status>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000827</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">hub</kmehr:cd>
                                <kmehr:name>Hub K.U.Leuven</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">7xxxxxx1</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">orghospital</kmehr:cd>
                                <kmehr:name>Hopital de test</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">12345678910</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">persphysician</kmehr:cd>
                                <kmehr:firstname>Toto</kmehr:firstname>
                                <kmehr:familyname>Le Heros</kmehr:familyname>
                        </kmehr:hcparty>
                </core:author>
        </core:consent>
</GetPatientConsentStatusResponse>
```

Example: Successful GetPatientConsentStatusResponse.xml when there is no consent

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientConsentStatusResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
```

```
                        <kmehr:name>Metahub</kmehr:name>
                    </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                <core:id SV="1.0" S="ID-KMEHR">19900000431.20130515090927123</core:id>
                <core:author>
                    <kmehr:hcparty>
                        <kmehr:id S="LOCAL" SL="application_ID"
                    SV="1.0">1990000332</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                        <kmehr:name>eHealth Metahub</kmehr:name>
                    </kmehr:hcparty>
                    <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                        <kmehr:name>test_hub_1</kmehr:name>
                    </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
            </core:request>
            </core:response>
            <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
            </core:acknowledge>
</GetPatientConsentStatusResponse>
```

Example: Unsuccessful GetPatientConsentStatusResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientConsentStatusResponse
            xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
            xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
            xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
            xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
            xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
            <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                    <kmehr:hcparty>
                        <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                        <kmehr:name>Metahub</kmehr:name>
                    </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                <core:id SV="1.0" S="ID-KMEHR">19900000431.20130515090927123</core:id>
                <core:author>
                    <kmehr:hcparty>
                        <kmehr:id S="LOCAL" SL="application_ID"
                    SV="1.0">1990000332</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
```

```
                    <kmehr:name>eHealth Metahub</kmehr:name>
                </kmehr:hcparty>
                <kmehr:hcparty>
                    <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                    <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                    <kmehr:name>test_hub_1</kmehr:name>
                </kmehr:hcparty>
            </core:author>
            <core:date>2013-11-29</core:date>
            <core:time>11:00:22.0Z</core:time>
        </core:request>
        </core:response>
            <core:acknowledge>
            <core:iscomplete>false</core:iscomplete>
            <core:error>
                <kmehr:cd S="CD-ERROR" SV="1.0">MH2.INPUT.19</kmehr:cd>
                <kmehr:description L="en">Invalid patient identifier</kmehr:description>
            </core:error>
        </core:acknowledge>
</GetPatientConsentStatusResponse>
```

5.2.3.4.4 Review of some error codes

When a business error has occurred, then the *iscomplete* field of the *acknowledge* element is set to *false*. The acknowledge block of the reply message sent after an error has occurred looks as follows:

```
<acknowledge>
    <iscomplete>false</iscomplete>
    <error>
        <cd SV="1.0" S="CD-ERROR">error_code</cd>
        <description L="EN">error_description</description>
    </error>
</acknowledge>
```

The table below provides an overview of the possible errors returned by the service for this method:

Error type	Code	Description
MH2.INPUT Invalid Input	MH2.INPUT.2	Invalid request sender
	MH2.INPUT.19	Invalid patient identifier
	MH2.INPUT.20	Invalid healthcare party identifier
	MH2.INPUT.22	Invalid transaction identifier

When business errors of the type “Invalid Input” or “Permission” occur, please verify your request message. When a system error occurs and persists, please contact the contact center.

5.2.4 Management of ‘Therapeutic Exclusions’

5.2.4.1 Method PutTherapeuticExclusion

This service declares a therapeutic exclusion for a certain target healthcare professional of a patient.

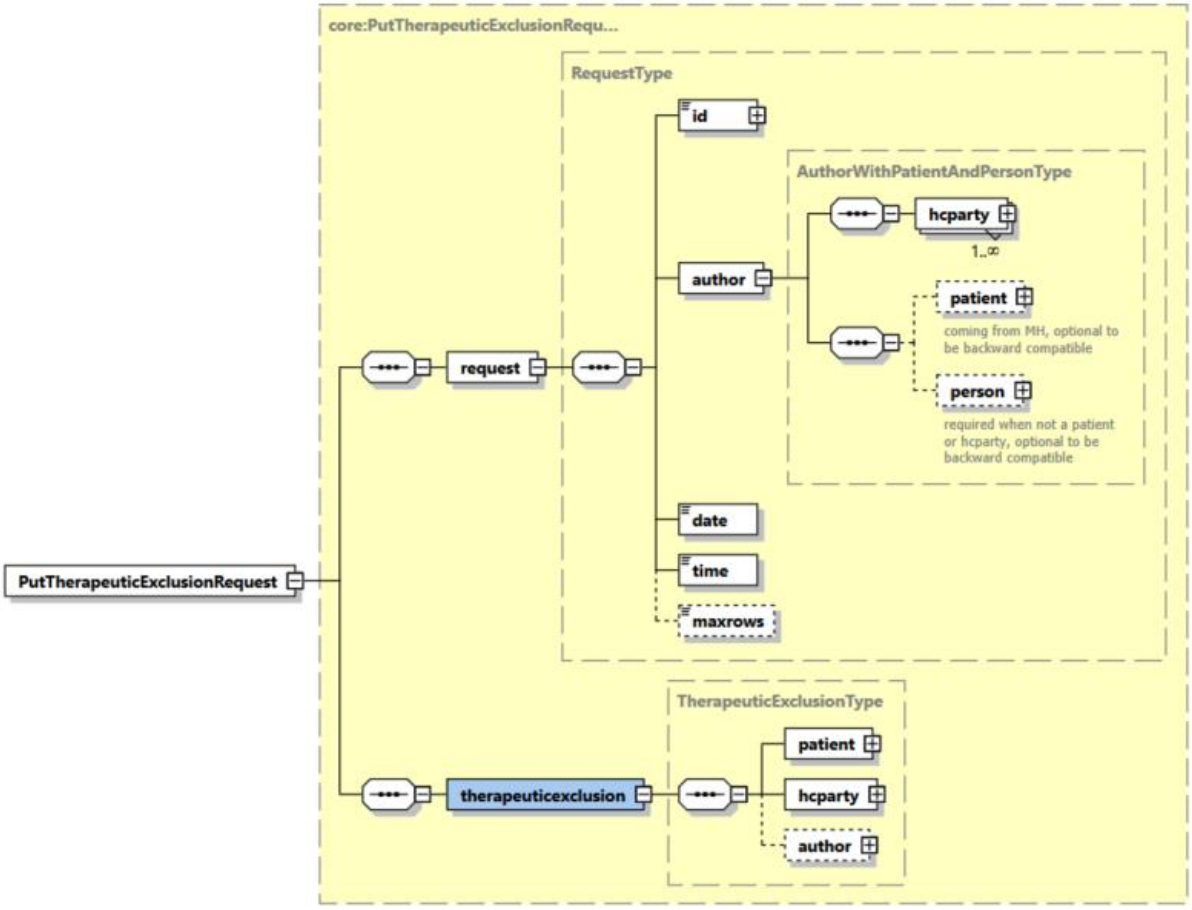
5.2.4.1.1 Functional description

Service name	PutTherapeuticExclusion

Purpose	This method allows a hub to register a patient – HCParty exclusion
Input parameters	• The sender of the request containing: – the identification of the hub that performs the operation call (**mandatory**) – If the request is made by an organization(**optional**): ○ the identification of the organization; ○ the identification of the responsible. • information about the request (id/date/time) (**mandatory**) • the information about the exclusion (**mandatory**): – Information about the patient: ○ the mandatory INSS ○ the INSS support card number should not be used, if provided then the card number is ignored (INSS and support card number are not submitted to status validation (Hub Third trusted party)) – Information about the excluded HCParty ○ Mandatory INSS number and optionally NIHII number (If provided then NIHII must be compliant. If not provided, then not enriched). Cross validation INSS vs NIHII is not applicable ○ Mandatory Category professional (If the INSS has more than 1 professional category then the HC party is considered as excluded for all professional categories). Only following HC Parties can be excluded : ***Physician**, **Nurse**, **Dentist**, **Midwife, Audician, Physiotherapist, Occupational therapist, Practical nurse, Dietician, Audiologist, Podologist, Truss maker, Logopedist, Orthoptist, Optometrist, Lab technologist, Imaging technologist, Clinical ortopedic pedagogue, Clinical psychologist, Dental hygienist, OT mobility improvement, OT bandages orthosiology, OT prosthesiology, OT shoe technology.*** ○ Optional first name and family name if not provided then they are enriched based on provided INSS and category professional
Output parameters	• the initial request • an acknowledge indicating the completion of the request
Post-condition	• the exclusion is stored in the Metahub, with the following information – target patient – Sender – Excluded HCParty • the request is logged
Exceptions	• technical error • invalid data: – invalid sender – invalid patient identifier • Sender is not a recognized Hub • Sender does not contain a correct HCP identification • Sender does not contain a proper 'end-user' identification (INSS) • Incorrect patient INSS • Incorrect excluded HC party INSS • INSS of the excluded HC party does not correspond to the provided HC party

5.2.4.1.2 Formulating a request

A request from the caller hub for the declaration of a therapeutic exclusion looks as follows:



The 'request' parameter gathers the elements relative to the

- information about the request (id, date, time),
- sender of the request (author).

The 'exclusion' parameter covers the

- identifier of patient;
- identifier of the HCParty to be excluded.

Parameter	Attributes		Comments
request [1]	id [1]	Identifier of the request within the caller system.	Identifies the **message** within the system according to ID-KMEHR. Must contain a value with 50 alphanumeric as maximum length.
	author [1]	Sender of the request represented as a sequence of *hcparty* elements. It must at least contain the requestor hub.	This information must be coherent with the information provided in the technical identification and authentication system (i.e. certificate and SAML[9] assertion).

[9] See cookbook STS service

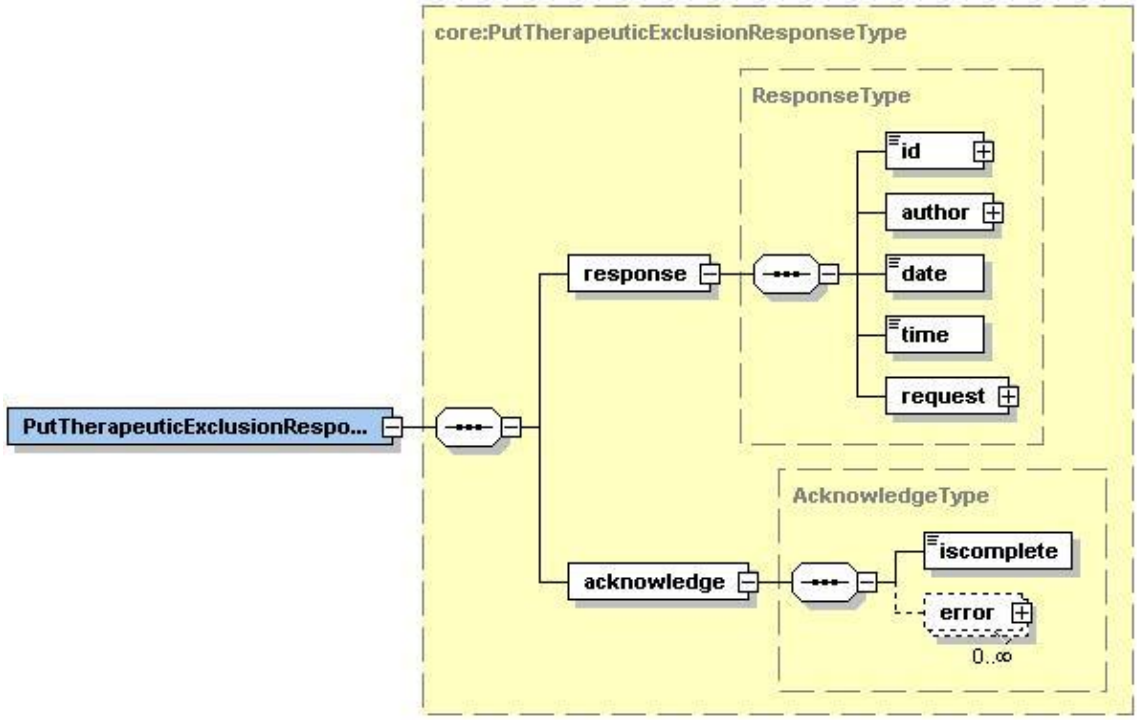
	date [1]	Date of request.	Format YYYY-MM-DD
	time [1]	Time of request.	Format hh:mm:ss
therapeuticexclusion [1]	patient [1]	Patient concerned by the exclusion	The patient's INSS is mandatory.
	hcparty[1]	HcParty concerned by the exclusion	HCParty's INSS and category professional is mandatory.
	author[0-1]	The autjor of the declaration	If provided, this information is discarded.

Example: PutTherapeuticExclusionRequest.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<PutTherapeuticExclusionRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        <core:therapeuticexclusion>
                <core:patient>
                        <core:id S="INSS" SV="1.0">0xxxxxxxxx7</core:id>
                </core:patient>
                <core:hcparty>
                        <kmehr:id SV="1.0" S="INSS">5xxxxxxxxx1</kmehr:id>
                        <kmehr:cd SV="1.1" S="CD-HCPARTY">persphysician</kmehr:cd>
                </core:hcparty>
        </core:therapeuticexclusion>
</PutTherapeuticExclusionRequest>
```

5.2.4.1.3 Interpretation of the reply

The reply, as sent back by the PutTherapeuticExclusion method, is discussed below.



The 'response' parameter gathers the elements relative to the

- information about the response (id, date, time),
- initial request,
- sender of the response.

The 'acknowledge' parameter gathers the elements relative to the

- service completion,
- errors or exceptions that occurred during the service execution.

Parameter	Attributes		Comments
response [1]	id [1]	Identifier of the response within the Metahub	
	author [1]	Sender of the response (Metahub)	
	date [1]	Date of response (YYYY-MM-DD)	
	time [1]	Time of response (hh:mm:ss)	
	request [1]	Initial request	
acknowledge [1]	iscomplete [1]	Indicates if the execution has been successfully completed	
	error [0-*]	Indicates the error/exception descriptions	

Example: Succesful PutTherapeuticExclusionResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<PutTherapeuticExclusionResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                        <core:author>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                        <kmehr:name>test_hub_1</kmehr:name>
                                </kmehr:hcparty>
                        </core:author>
                        <core:date>2013-11-29</core:date>
                        <core:time>11:00:22.0Z</core:time>
                </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>

        </core:acknowledge>
</PutTherapeuticExclusionResponse>
```

Example: Unsuccesful PutTherapeuticExclusionResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<PutTherapeuticExclusionResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
```

```
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                        <core:author>
                                <kmehr:hcparty>
                                        <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                        <kmehr:name>eHealth Metahub</kmehr:name>
                                </kmehr:hcparty>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                        <kmehr:name>test_hub_1</kmehr:name>
                                </kmehr:hcparty>
                        </core:author>
                        <core:date>2013-11-29</core:date>
                        <core:time>11:00:22.0Z</core:time>
                </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>false</core:iscomplete>
                <core:error>
                        <kmehr:cd S="CD-ERROR" SV="1.0">MH2_ACCESS_18</kmehr:cd>
                        <kmehr:description L="en">Exclusion already exists for this
party</kmehr:description>
                </core:error>
        </core:acknowledge>
</PutTherapeuticExclusionResponse>
```

5.2.4.1.4 Review of some error codes

When a business error has occurred, then the *iscomplete* field of the *acknowledge* element is set to *false*. The acknowledge block of the reply message sent after an error has occurred looks as follows:

```
        <acknowledge>
                <iscomplete>false</iscomplete>
                <error>
                        <cd SV="1.0" S="CD-ERROR">error_code</cd>
                        <description L="EN">error_description</description>
                </error>
        </acknowledge>
```

The table below provides an overview of the possible errors returned by the service for this method:

Error type	Code	Description
MH2.INPUT	MH2.INPUT.2	Invalid request sender

Invalid Input	MH2.INPUT.19	Invalid patient identifier
	MH2.INPUT.20	Invalid healthcare party identifier
	MH2.INPUT.21	Unsupporterd healthcare party type
	MH2.INPUT.22	Invalid transaction identifier
MH2.ACCESS Permission	MH2.ACCESS.18	Exclusion already exists for this hcparty

When business errors of the type “Invalid Input” or “Permission” occur, please verify your request message. When a system error occurs and persists, please contact the contact center.

5.2.4.2 Method RevokeTherapeuticExclusion

This service revokes a therapeutic exclusion for a certain target healthcare professional of a patient. The revocation of the exclusion implies that the target healthcare professional is again able to access transactions of a patient having an active consent.

5.2.4.2.1 Functional description

Service name	RevokeTherapeuticExclusion
Purpose	This method allows a hub to revoke an exclusion patient – HCParty

Input parameters	• The sender of the request containing:
	  ○ the identification of the hub that performs the operation call (**mandatory**)
	  – If the request is made by an organization (**optional**) :
	  - the identification of the organization;
	  - the identification of the responsible for the registration.
	• information about the request (id/date/time) (**mandatory**)
	• the information about the exclusion (**mandatory**):
	  ○ Information about the patient
	  - the INSS
	  - the INSS support card number should not be used, if provided then the card number is ignored (INSS and support card number are not submitted to status validation (Hub Third trusted party))
	  ○ Information about the excluded HCParty:
	  - Mandatory INSS number and optionally NIHII number (If provided then NIHII must be compliant. If not provided, then not enriched). Cross validation INSS vs NIHII is not applicable
	  - Mandatory category professional. Only following HC Parties can be excluded :
	Physician, ***Nurse***, ***Dentist***, ***Midwife, Audician, Physiotherapist, Occupational therapist, Practical nurse, Dietician, Audiologist, Podologist, Truss maker, Logopedist, Orthoptist, Optometrist, Lab technologist, Imaging technologist, Clinical ortopedic pedagogue, Clinical psychologist, Dental hygienist, OT mobility improvement, OT bandages orthosiology, OT prosthesiology, OT shoe technology.***
	  - Optional firstname and family name
	Note: If the provided INSS of the excluded HC Party does not correspond to the provided category professional, the exclusion is considered as not found thus not revoked.

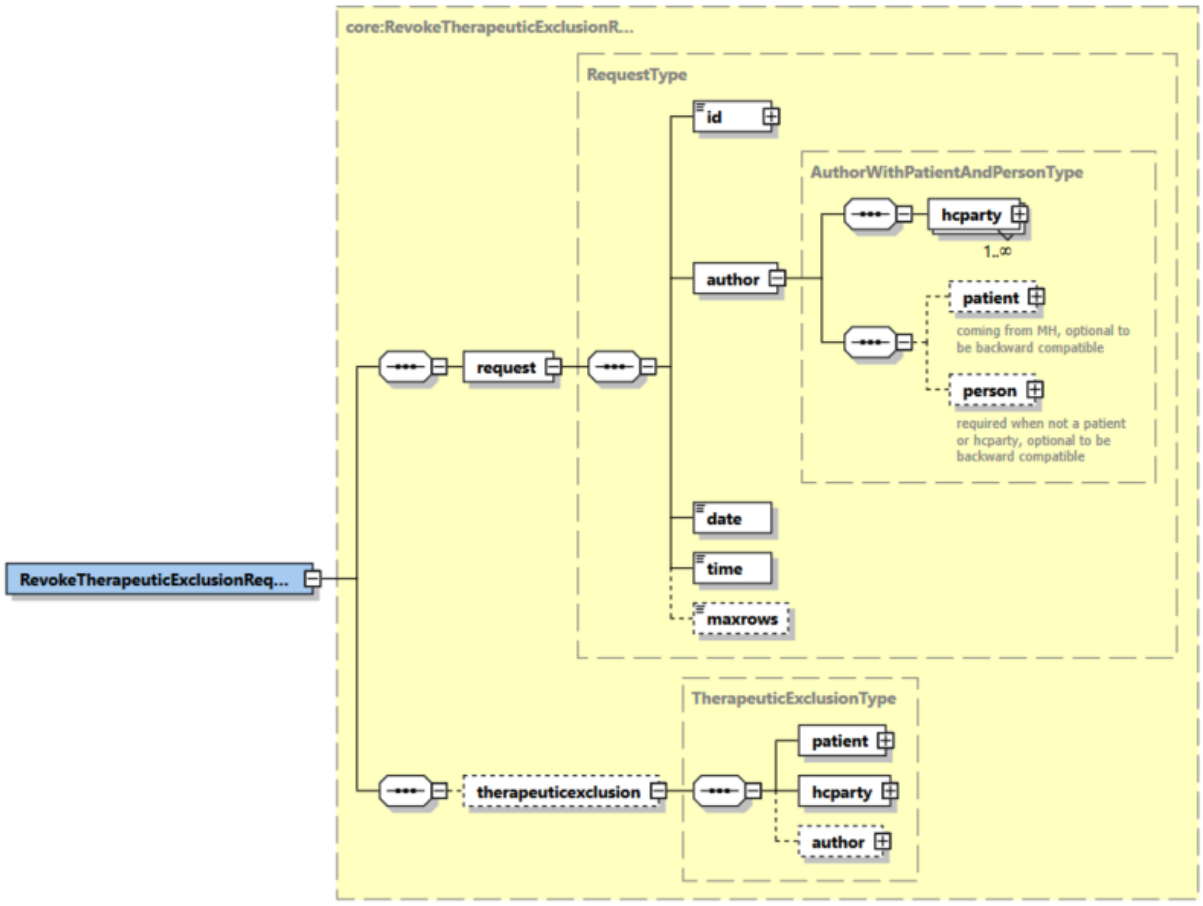
Output parameters	• the initial request • an acknowledge indicating the completion of the request

Post-condition	• the exclusion is stored in the Metahub, with the following information
	  – target patient
	  – Sender
	  – Excluded HCParty
	• the request is logged.

Exceptions	• Technical error
	• Invalid data:
	  – invalid sender
	  – invalid patient identifier
	• Sender is not a recognized Hub.
	• Sender does not contain a proper HCP identification.
	• Sender does not contain a proper 'end-user' identification (INSS).
	• Incorrect identification of the patient (INSS).

5.2.4.2.2 Formulating a request

A request from the caller hub for the revocation of a therapeutic exclusion looks as follows:



The 'request' parameter gathers the elements relative to the

- information about the request (id, date, time),
- sender of the request.

The 'exclusion' parameter covers the

- identifier of patient;
- identifier of the excluded HCParty.

Parameter	Attributes	Comments	
request [1]	id [1]	Identifier of the request within the caller system.	Identifies the **message** within the system according to ID-KMEHR identification. Must contain a value with 50 alphanumeric as maximum length.

	author [1]	Sender of the request represented as a sequence of *hcparty* elements. It must at least contain the requestor hub.	This information must be coherent with the information provided in the technical identification and authentication system (i.e. certificate and SAML[10] assertion).
	date [1]	Date of request (YYYY-MM-DD)	
	time [1]	Time of request (hh:mm:ss)	
therapeuticexclusion [0] [11]	patient [1]	Patient concerned by the exclusion	The patient's INSS is mandatory.
	hcparty[1]	identifier of the excluded HCParty	HCParty's INSS is mandatory.
	author [0-1]	The author of the declaration.	If provided, this information is discarded.

Example: RevokeTherapeuticExclusionRequest.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<RevokeTherapeuticExclusionRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        <core:therapeuticexclusion>
                <core:patient>
                        <core:id S="INSS" SV="1.0">0xxxxxxxxx7</core:id>
                </core:patient>
```

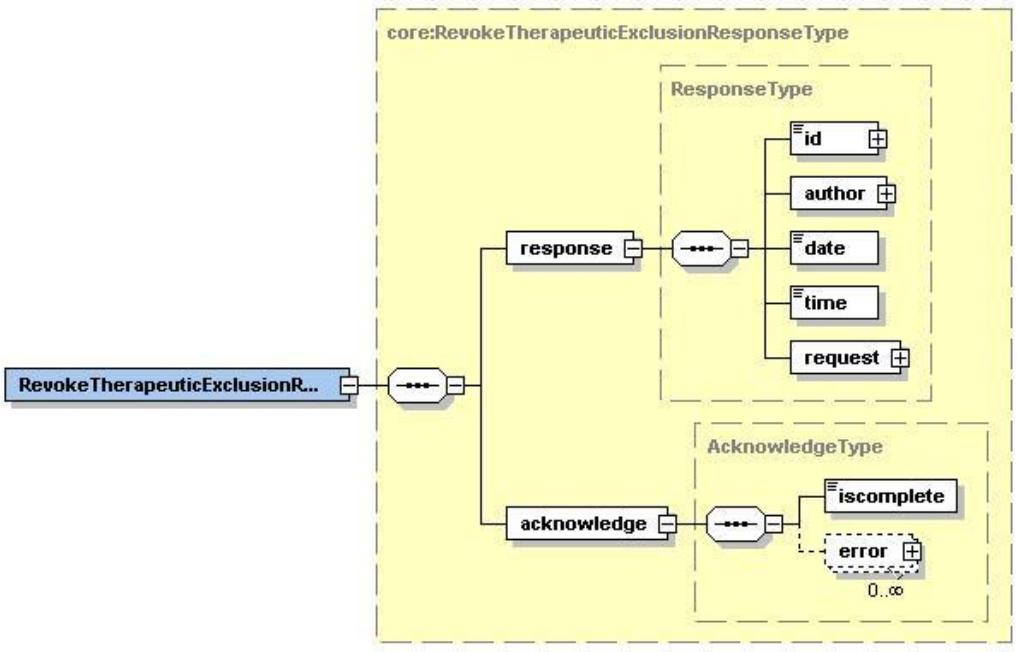
[10] See cookbook STS service

[11] Mandatory

```
            <core:hcparty>
                <kmehr:id SV="1.0" S="INSS">5xxxxxxxxx1</kmehr:id>
                <kmehr:cd SV="1.1" S="CD-HCPARTY">persphysician</kmehr:cd>
            </core:hcparty>
        </core:therapeuticexclusion>
</RevokeTherapeuticExclusionRequest>
```

5.2.4.2.3 Interpretation of the reply

The reply, as sent back by the RevokeTherapeuticExclusion method, is discussed below.



The 'response' parameter gathers the elements relative to the

- information about the response (id, date, time),
- initial request,
- sender of the response.

The 'acknowledge' parameter gathers the elements relative to the

- service completion,
- errors or exceptions that occurred during the service execution.

Parameter	Attributes		Comments
response [1]	id [1]	Identifier of the response within the Metahub	
	author [1]	Sender of the response (Metahub)	
	date [1]	Date of response (YYYY-MM-DD)	
	time [1]	Time of response (hh:mm:ss)	
	request [1]	Initial request	
acknowledge [1]	iscomplete [1]	Indicates if the execution has been successfully completed	

	error [0-*]	Indicates the error/exception descriptions	The execution is successful if the exclusion was correctly revoked within the Metahub.

Example: Successful RevokeTherapeuticExclusionResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<RevokeTherapeuticExclusionResponse
xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
</RevokeTherapeuticExclusionResponse>
```

Example: Unsuccessful RevokeTherapeuticExclusionResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<RevokeTherapeuticExclusionResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
```

```
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>false</core:iscomplete>
                <core:error>
                        <kmehr:cd S="CD-ERROR" SV="1.0">MH2_ACCESS_19</kmehr:cd>
                        <kmehr:description L="en">There is no exclusion for this
hcparty</kmehr:description>
                </core:error>
        </core:acknowledge>
</RevokeTherapeuticExclusionResponse>
```

5.2.4.2.4 Review of some error codes

When a business error has occurred, then the *iscomplete* field of the *acknowledge* element is set to *false*. The acknowledge block of the reply message sent after an error has occurred looks as follows:

```
        <acknowledge>
                <iscomplete>false</iscomplete>
                <error>
                        <cd SV="1.0" S="CD-ERROR">error_code</cd>
                        <description L="EN">error_description</description>
                </error>
        </acknowledge>
```

The table below provides an overview of the possible errors returned by the service for this method:

Error type	Code	Description
MH2.INPUT Invalid Input	MH2.INPUT.2	Invalid request sender
	MH2.INPUT.19	Invalid patient identifier
	MH2.INPUT.20	Invalid healthcare party identifier
	MH2.INPUT.22	Invalid transaction identifier
MH2.ACCESS Permission	MH2.ACCESS.19	There is no exclusion for this hcparty

When business errors of the type “Invalid Input” or “Permission” occur, please verify your request message. When a system error occurs and persists, please contact the contact center.

5.2.4.3 Method GetTherapeuticExclusion

5.2.4.3.1 Functional description

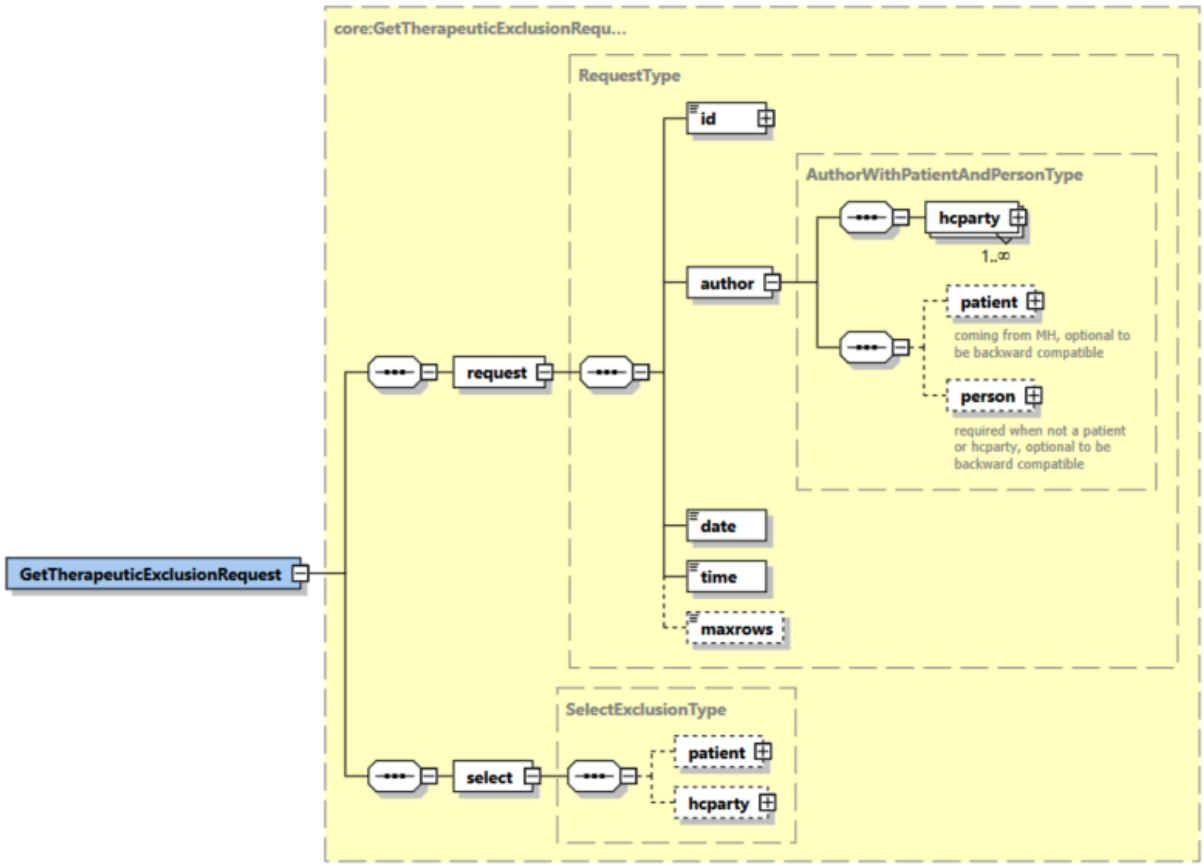
Service name	GetTherapeuticExclusion
Purpose	This method allows a hub to retrieve a patient’s exclusion list and to check the existence of an exclusion between a patient and a healthcare party
Input parameters	• The sender of the request containing at least: – the hub that performs the operation call (**mandatory**) – If the request is made by an organization(**optional**): ○ the identification of the organization; ○ the identification of the responsible. • information about the request (id/date/time) (**mandatory**) • a set of criteria including at least, – the identifier (inss) of a patient (**mandatory**). – The INSS support card number shoud not be used, if provided then the card number is ignored (INSS and support card number are not submitted to status validation (Hub Third trusted party)) – the identifier of a healthcare party HCP (**optional**) : mandatory INSS , optional NIHII, mandatory category professional. Only following HCParty can be excluded : ***Physician***, ***Nurse***, ***Dentist***, ***Midwife, Audician, Physiotherapist, Occupational therapist, Practical nurse, Dietician, Audiologist, Podologist, Truss maker, Logopedist, Orthoptist, Optometrist, Lab technologist, Imaging technologist, Clinical ortopedic pedagogue, Clinical psychologist, Dental hygienist, OT mobility improvement, OT bandages orthosiology, OT prosthesiology, OT shoe technology.*** – Optional first name and family name *Note: If the provided INSS of the excluded HC Party does not correspond to the provided category professional, the exclusion is considered as not found thus not returned.*
Output parameters	• the initial request • an acknowledge indicating the completion of the request • the list of exclusions that fulfill the provided criteria • if there is no corresponding exclusion, the service returns an empty list.

Post-condition	• the request is logged

Exceptions	• Technical error
	• Invalid data :
	  – invalid sender
	  – invalid patient identifier
	  – invalid selection
	• Sender is not a recognized Hub.
	• Sender does not contain a proper HCP identification.
	• Sender does not contain a proper 'end-user' identification (INSS).
	• There is no exclusion.

5.2.4.3.2 Formulating a request

A request from the caller hub for the list of therapeutic exclusions of a patient looks as follows:



The 'request' parameter gathers the elements relative to the

- information about the request (id, date, time),
- sender of the request.

The 'patient' parameter covers the

- patient identifier.

The 'hcparty' parameter covers the

- target healthcare professional.

Parameter	Attributes		Comments
request [1]	id [1]	Identifier of the request within the caller system.	Identifies the message within the system according to ID-KMEHR identification. Must contain a value with 50 alphanumeric as maximum length.
	author [1]	Sender of the request represented as a sequence of *hcparty* elements. It must at least contain the requestor hub.	This information must be coherent with the information provided in the technical identification and authentication system (i.e. certificate and SAML[12] assertion).
	date [1]	Date of request.	Format YYYY-MM-DD
	time [1]	Time of request.	Format hh:mm:ss
select[1]	patient [0-1]	The identifier of the patient	The patient's INSS is mandatory.
	hcparty[0-1]	The identifier of the hcparty	Must at least include the NIHDI or INSS number

Example: GetTherapeuticExclusionsRequest.xml

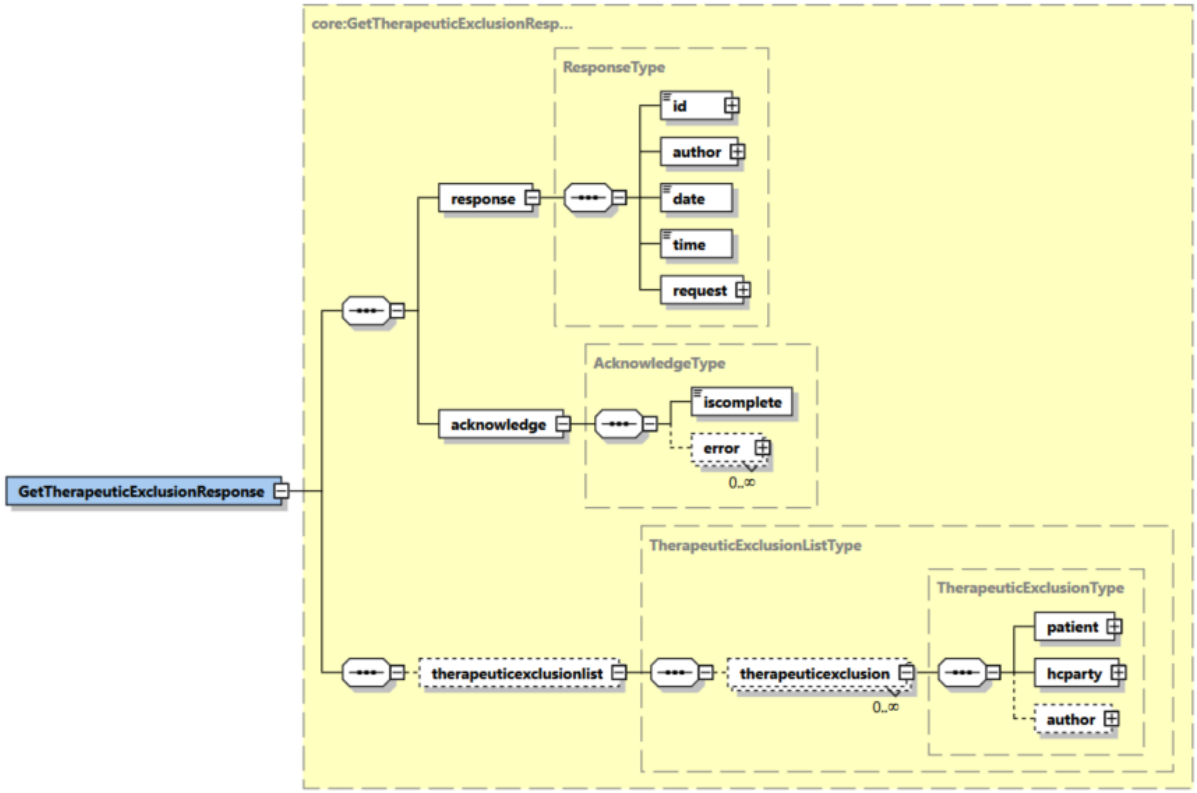
```
<?xml version="1.0" encoding="UTF-8"?>
<GetTherapeuticExclusionRequest
xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
```

[12] See cookbook STS service

```
        </core:request>
        <core:select>
                <core:patient>
                        <core:id SV="1.0" S="INSS">0xxxxxxxxx7</core:id>
                </core:patient>
                <core:hcparty>
                        <kmehr:id SV="1.0" S="INSS">5xxxxxxxxx1</kmehr:id>
                        <kmehr:cd SV="1.1" S="CD-HCPARTY">persphysician</kmehr:cd>
                </core:hcparty>
        </core:select>
</GetTherapeuticExclusionRequest>
```

5.2.4.3.3 Interpretation of the reply

The reply, as sent back by the GetTherapeuticExclusions method, is discussed below.



The ‘response’ parameter gathers the elements relative to the

- information about the response (id, date, time),
- initial request,
- sender of the response.

The ‘acknowledge’ parameter gathers the elements relative to the

- service completion,
- errors or exceptions that occurred during the service execution.

The ‘exclusionlist’ gathers a list of exclusion elements

Parameter	Attributes		Comments
response [1]	id [1]	Identifier of the response within the Metahub	

	author [1]	Sender of the response (Metahub)	
	date [1]	Date of response (YYYY-MM-DD)	
	time [1]	Time of response (hh:mm:ss)	
	request [1]	Initial request	
acknowledge [1]	iscomplete [1]	Indicates if the execution has been successfully completed	The execution is successful if the conditions were fulfilled to retrieve the exclusion, even if no exclusion was found.
	error [0-*]	Indicates the error/exception descriptions	
exclusionlist [0-1]	exclusion[0-*]	List of exclusions that are part of the result of the selection criteria	

Example: Successful GetTherapeuticExclusionResponse.xml without exclusion.

```
<?xml version="1.0" encoding="UTF-8"?>
<GetTherapeuticExclusionResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                        <core:author>
                                <kmehr:hcparty>
                                        <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                        <kmehr:name>eHealth Metahub</kmehr:name>
                                </kmehr:hcparty>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                        <kmehr:name>test_hub_1</kmehr:name>
                                </kmehr:hcparty>
                        </core:author>
                        <core:date>2013-11-29</core:date>
                        <core:time>11:00:22.0Z</core:time>
```

```
            </core:request>
        </core:response>
        <core:acknowledge>
            <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
        <core:therapeuticexclusionlist/>
</GetTherapeuticExclusionResponse>
```

Example: Successful GetTherapeuticExclusionResponse.xml with exclusion(s).

```
<?xml version="1.0" encoding="UTF-8"?>
<GetTherapeuticExclusionResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
            <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
            <core:author>
                <kmehr:hcparty>
                    <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                    <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                    <kmehr:name>Metahub</kmehr:name>
                </kmehr:hcparty>
            </core:author>
            <core:date>2013-11-29+01:00</core:date>
            <core:time>11:00:23.144</core:time>
            <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                    <kmehr:hcparty>
                        <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                        <kmehr:name>eHealth Metahub</kmehr:name>
                    </kmehr:hcparty>
                    <kmehr:hcparty>
                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                        <kmehr:name>test_hub_1</kmehr:name>
                    </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
            </core:request>
        </core:response>
        <core:acknowledge>
            <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
        <core:therapeuticexclusionlist>
            <core:therapeuticexclusion>
                <core:patient>
                    <core:id S="INSS" SV="1.0">0xxxxxxxxx7</core:id>
                </core:patient>
```

```
                    <core:hcparty>
                        <kmehr:id SV="1.0" S="INSS">5xxxxxxxxx1</kmehr:id>
                        <kmehr:cd SV="1.1" S="CD-HCPARTY">persphysician</kmehr:cd>
                    </core:hcparty>
                    <core:author>
                        <kmehr:hcparty>
                            <kmehr:id S="ID-HCPARTY" SV="1.0">1990000431</kmehr:id>
                            <kmehr:cd S="CD-HCPARTY" SV="1.1">hub</kmehr:cd>
                            <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                    </core:author>
                </core:therapeuticexclusion>
            </core:therapeuticexclusionlist>
</GetTherapeuticExclusionResponse>
```

Example: Unsuccessful GetTherapeuticExclusionResponse.xml.

```
<?xml version="1.0" encoding="UTF-8"?>
<GetTherapeuticExclusionResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
            <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
            <core:author>
                <kmehr:hcparty>
                    <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                    <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                    <kmehr:name>Metahub</kmehr:name>
                </kmehr:hcparty>
            </core:author>
            <core:date>2013-11-29+01:00</core:date>
            <core:time>11:00:23.144</core:time>
            <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                    <kmehr:hcparty>
                        <kmehr:id S="LOCAL" SL="application_ID"
                    SV="1.0">1990000332</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                        <kmehr:name>eHealth Metahub</kmehr:name>
                    </kmehr:hcparty>
                    <kmehr:hcparty>
                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                        <kmehr:name>test_hub_1</kmehr:name>
                    </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
            </core:request>
        </core:response>
        <core:acknowledge>
```

```
            <core:iscomplete>false</core:iscomplete>
            <core:error>
                  <kmehr:cd S="CD-ERROR" SV="1.0">MH2.INPUT.19</kmehr:cd>
                  <kmehr:description L="en">Invalid patient identifier</kmehr:description>
            </core:error>
      </core:acknowledge>
</GetTherapeuticExclusionResponse>
```

5.2.4.3.4 Review of some error codes

When a business error has occurred, then the *iscomplete* field of the *acknowledge* element is set to *false*. The acknowledge block of the reply message sent after an error has occurred looks as follows:

```
<acknowledge>
      <iscomplete>false</iscomplete>
      <error>
            <cd SV="1.0" S="CD-ERROR">error_code</cd>
            <description L="EN">error_description</description>
      </error>
</acknowledge>
```

The table below provides an overview of the possible errors returned by the service for this method:

Error type	Code	Description
MH2.INPUT Invalid Input	MH2.INPUT.2	Invalid request sender
	MH2.INPUT.19	Invalid patient identifier
	MH2.INPUT.20	Invalid healthcare party identifier
	MH2.INPUT.22	Invalid transaction identifier

When business errors of the type “Invalid Input” or “Permission” occur, please verify your request message. When a system error occurs and persists, please contact the contact center.

5.2.5 Management of ‘hub-patient links’

5.2.5.1 Method DeclarePatientLink

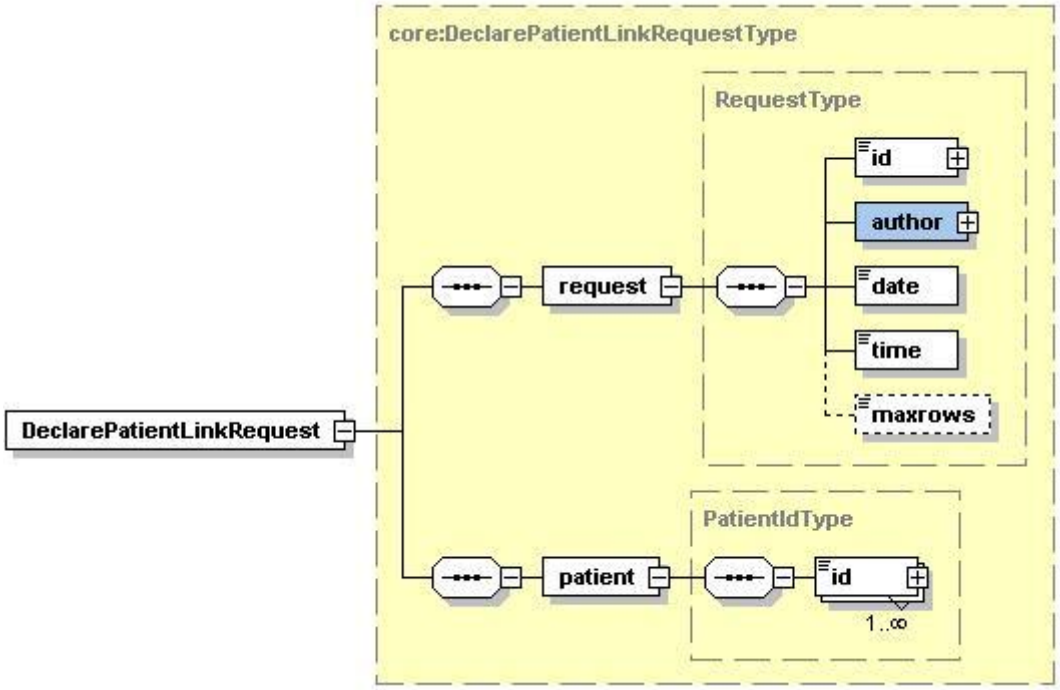
5.2.5.1.1 Functional description

Service name	DeclarePatientLink
Purpose	This method allows a hub to declare a link with a patient
Input parameters	• The sender of the request containing, at least: – the hub that performs the operation call (**mandatory**) – If the request is made by an organization(**optional**): ○ the identification of the organization; ○ the identification of the responsible. • information about the request (id/date/time) (**mandatory**) • the information about the patient: – the INSS (mandatory) – the INSS support card number should not be used (eID or ISI+), if provided INSS and support card number are NOT submitted to status validation (Hub Third trusted party)

Output parameters	• the initial request • an acknowledge indicating the completion of the request
Post-condition	• the request is logged • the link between the hub and patient is stored within the Metahub
Exceptions	• technical error • invalid data: - invalid sender - invalid patient identifier • Sender is not a recognized Hub • Sender does not contain a correct HCP identification • Incorrect patient INSS • There is already active link between provided hub and concerned Patient.
Comments	• A link between a patient and a hub indicates that at least a transaction is declared within the hub about the patient. A patient link can be declared before the registration of a patient's consent. However, if there is no active consent for the patient in the system, the patient-hub link will not be returned by the getPatientLinks service. • It is only possible to declare a patient link for the hub that sends the request. The hub is identified in the sender of the request and the coherence is checked with the technical identification and authentication system.

5.2.5.1.2 Formulating a request

A request from the caller hub for the declaration of a patient link looks as follows:



The 'request' parameter gathers the elements relative to the

- information about the request (id, date, time),
- sender of the request (author).

The 'patient' parameter covers the

- patient identifier.

Parameter	Attributes		Comments
request [1]	id [1]	Identifier of the request within the caller system.	Identifies the message within the system according to ID-KMEHR identification. Must contain a value with 50 alphanumeric as maximum length.
	author [1]	Sender of the request represented as a sequence of *hcparty* elements. It must at least contain the requestor hub.	This information must be coherent with the information provided in the technical identification and authentication system (i.e. certificate and SAML[13] assertion).
	date [1]	Date of request.	Format YYYY-MM-DD
	time [1]	Time of request.	Format hh:mm:ss

[13] See cookbook STS service

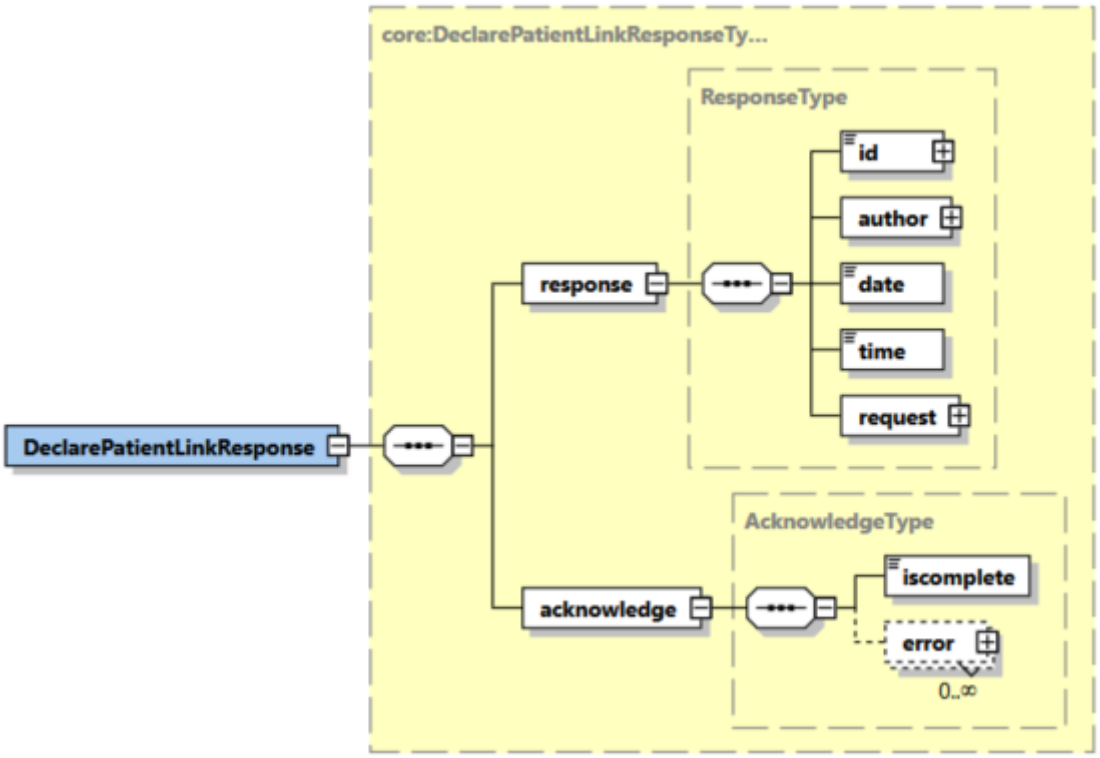
patient [1]	id [1-*]	Identifier of patient	The INSS number is mandatory. Other identifiers may be provided but they will be disregarded.

Example: DeclarePatientLinkRequest.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<DeclarePatientLinkRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        <core:patient>
                <core:id S="INSS" SV="1.0"> 0xxxxxxxxx7</core:id>
        </core:patient>
</DeclarePatientLinkRequest>
```

5.2.5.1.3 Interpretation of the reply

The reply, as sent back by the declarePatientLink method, is discussed below.



The 'response' parameter gathers the elements relative to the

- information about the response (id, date, time),
- initial request,
- sender of the response (author).

The 'acknowledge' parameter gathers the elements relative to the

- service completion (iscomplete),
- errors or exceptions that occurred during the service.

Parameter	Attributes		Comments
response [1]	id [1]	Identifier of the response within the Metahub	
	author [1]	Sender of the response (Metahub)	
	date [1]	Date of response (YYYY-MM-DD)	
	time [1]	Time of response (hh:mm:ss)	
	request [1]	Initial request	
acknowledge [1]	iscomplete [1]	Indicates if the execution has been successfully completed	The execution is successful if the link is correctly stored

	error [0-*]	Indicates the error/exception descriptions	within the Metahub. In the case where the link already exists, the execution is considered 'unsuccessful'.

Example: Successful DeclarePatientLinkResponse.xml with active consent.

```
<?xml version="1.0" encoding="UTF-8"?>
<DeclarePatientLinkResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                        <core:author>
                                <kmehr:hcparty>
                                        <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                        <kmehr:name>eHealth Metahub</kmehr:name>
                                </kmehr:hcparty>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                        <kmehr:name>test_hub_1</kmehr:name>
                                </kmehr:hcparty>
                        </core:author>
                        <core:date>2013-11-29</core:date>
                        <core:time>11:00:22.0Z</core:time>
                </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
</DeclarePatientLinkResponse>
```

Example: Successful DeclarePatientLinkResponse.xml with no active consent.

```
<?xml version="1.0" encoding="UTF-8"?>
<DeclarePatientLinkResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
```

```
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                        <core:author>
                                <kmehr:hcparty>
                                        <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                        <kmehr:name>eHealth Metahub</kmehr:name>
                                </kmehr:hcparty>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                        <kmehr:name>test_hub_1</kmehr:name>
                                </kmehr:hcparty>
                        </core:author>
                        <core:date>2013-11-29</core:date>
                        <core:time>11:00:22.0Z</core:time>
                </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
</DeclarePatientLinkResponse>
```

Example: Unsuccessful DeclarePatientLinkResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<DeclarePatientLinkResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
```

```
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                        <core:author>
                                <kmehr:hcparty>
                                        <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                        <kmehr:name>eHealth Metahub</kmehr:name>
                                </kmehr:hcparty>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                        <kmehr:name>test_hub_1</kmehr:name>
                                </kmehr:hcparty>
                        </core:author>
                        <core:date>2013-11-29</core:date>
                        <core:time>11:00:22.0Z</core:time>
                </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>false</core:iscomplete>
                <core:error>
                        <kmehr:cd S="CD-ERROR" SV="1.0"> MH2.ACCESS.13</kmehr:cd>
                        <kmehr:description L="en"> Link already exists between the hub and the
patient</kmehr:description>
                </core:error>
        </core:acknowledge>
</DeclarePatientLinkResponse>
```

5.2.5.1.4 Review of some error codes

When a business error has occurred, then the *iscomplete* field of the *acknowledge* element is set to *false*. The acknowledge block of the reply message sent after an error has occurred looks as follows:

```
        <acknowledge>
                <iscomplete>false</iscomplete>
                <error>
                        <cd SV="1.0" S="CD-ERROR">error_code</cd>
                        <description L="EN">error_description</description>
                </error>
        </acknowledge>
```

The table below provides an overview of the possible errors returned by the service for this method:

Error type	Code	Description
MH2.INPUT Invalid Input	MH2.INPUT.2	Invalid request sender
	MH2.INPUT.19	Invalid patient identifier
	MH2.INPUT.20	Invalid healthcare party identifier
	MH2.INPUT.22	Invalid transaction identifier
MH2.ACCESS	MH2.ACCESS.13	Link already exists between the hub and the patient

Permission		

When business errors of the type “Invalid Input” or “Permission” occur, please verify your request message. When a system error occurs and persists, please contact the contact center.

5.2.5.2 Method RevokePatientLink

5.2.5.2.1 Functional description

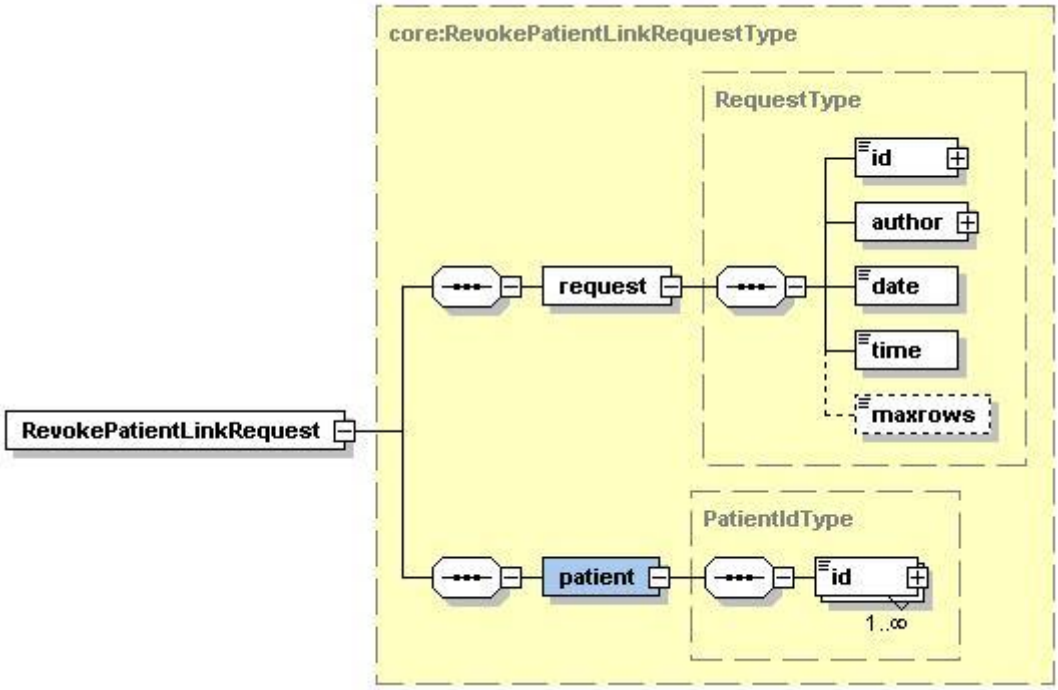
Service name	RevokePatientLink
Purpose	This method allows a hub to revoke the link between the patient and the hub.

Input parameters	• The sender of the request containing, at least:
	  – the hub that performs the operation call (**mandatory**).
	  – If the request is made by an organization(**optional**):
	  ○ the identification of the organization;
	  ○ the identification of the responsible.
	• information about the request (id/date/time) (**mandatory**)
	• the information about the patient:
	  – The INSS (**mandatory**)
	  – The INSS support card number should not be used(eID or ISI+), if provided INSS and support card number are NOT submitted to status validation (Hub Third trusted party).

Output parameters	• the initial request • an acknowledge indicating the completion of the request.
Post-condition	• the request is logged • if the link between the patient and the hub is revoked then it will not be returned anymore by the method “GetPatientLinks”.
Exceptions	• technical error • invalid data: • invalid sender • invalid patient identifier • Sender is not a recognized Hub • Sender does not contain a correct HCP identification • There is no active link between provided hub and Patient
Comments	• A link between a patient and a hub indicates that at least a transaction is declared within the hub about the patient. The revocation should be performed when there is no more transaction available within the hub about the patient. A patient link can be revoked before the registration of a patient’s consent. • It is only possible to revoke a patient link for the hub that sends the request. The hub is identified in the sender of the request and the coherence is checked with the technical identification and authentication system.

5.2.5.2.2 Formulating a request

A request from the caller hub for the revocation of a patient link looks as follows:



The 'request' parameter gathers the elements relative to the

- information about the request (id, date, time),
- sender of the request (author).

The 'patient' parameter covers the

- patient identifier.

Parameter	Attributes		Comments
request [1]	id [1]	Identifier of the request within the caller system.	Identifies the message within the system according to ID-KMEHR identification. Must contain a value with 50 alphanumeric as maximum length.
	author [1]	Sender of the request represented as a sequence of *hcparty* elements. It must at least contain the requestor hub.	This information must be coherent with the information provided in the technical identification and authentication system (i.e. certificate and SAML[14] assertion).
	date [1]	Date of request (YYYY-MM-DD)	
	time [1]	Time of request (hh:mm:ss)	

[14] See cookbook STS service

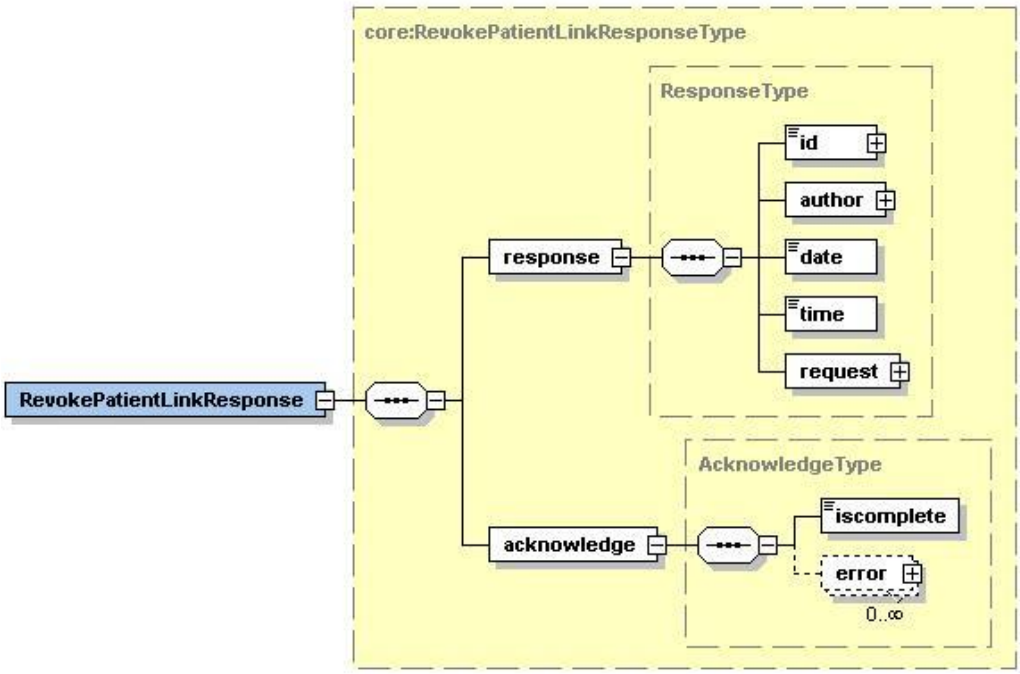
patient [1]	id [1-*]	Identifier of patient	The INSS number is mandatory. Other identifiers may be provided but they will be disregarded.

Example: RevokePatientLinkRequest.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<RevokePatientLinkRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        <core:patient>
                <core:id S="INSS" SV="1.0"> 0xxxxxxxxx7</core:id>
        </core:patient>
</RevokePatientLinkRequest>
```

5.2.5.2.3 Interpretation of the reply

The reply, as sent back by the revokePatientLink method, is discussed below.



The 'response' parameter gathers the elements relative to the

- information about the response (id, date, time),
- initial request,
- sender of the response (author).

The 'acknowledge' parameter gathers the elements relative to the

- service completion (iscomplete),
- errors or exceptions that occurred during the service execution.

Parameter	Attributes		Comments
response [1]	id [1]	Identifier of the response within the Metahub	
	author [1]	Sender of the response (Metahub)	
	date [1]	Date of response (YYYY-MM-DD)	
	time [1]	Time of response (hh:mm:ss)	
	request [1]	Initial request	
acknowledge [1]	iscomplete [1]	Indicates if the execution has been successfully completed	The execution is successful if the patient link is correctly revoked within the Metahub.
	error [0-*]	Indicates the error/exception descriptions	

Example: Successful RevokePatientLinkResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<RevokePatientLinkResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
```

```
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
</RevokePatientLinkResponse>
```

Example: Unsuccessful RevokePatientLinkResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<RevokePatientLinkResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
```

```
                <core:time>11:00:23.144</core:time>
                <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
                <core:error>
      <kmehr:cd S="CD-ERROR" SV="1.0">MH2.ACCESS.9</kmehr:cd>
      <kmehr:description L="en">No active consent for the patient</kmehr:description>
    </core:error>
      </core:acknowledge>
</RevokePatientLinkResponse>
```

5.2.5.2.4 Review of some error codes

When a business error has occurred, then the *iscomplete* field of the *acknowledge* element is set to *false*. The acknowledge block of the reply message sent after an error has occurred looks as follows:

```
        <acknowledge>
                <iscomplete>false</iscomplete>
                <error>
                        <cd SV="1.0" S="CD-ERROR">error_code</cd>
                        <description L="EN">error_description</description>
                </error>
        </acknowledge>
```

The table below provides an overview of the possible errors returned by the service for this method:

Error type	Code	Description
MH2.INPUT Invalid Input	MH2.INPUT.2	Invalid request sender
	MH2.INPUT.19	Invalid patient identifier
	MH2.INPUT.20	Invalid healthcare party identifier
	MH2.INPUT.22	Invalid transaction identifier
MH2.ACCESS Permission	MH2.ACCESS.14	No active link between the hub and the patient

When business errors of the type “Invalid Input” or “Permission” occur, please verify your request message. When a system error occurs and persists, please contact the contact center.

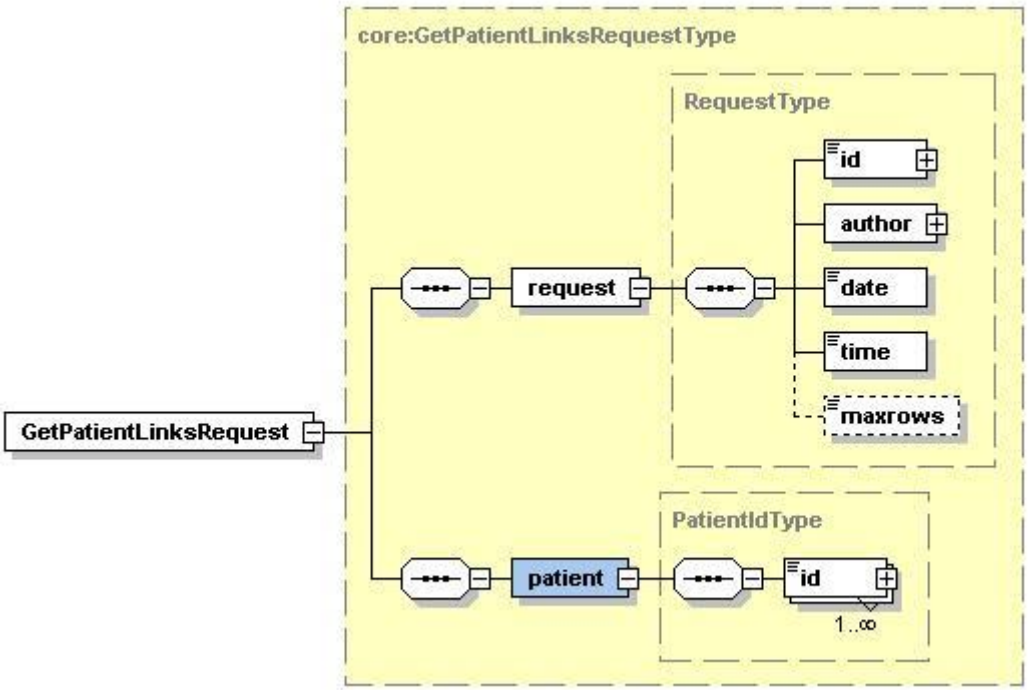
5.2.5.3 Method GetPatientLinks

5.2.5.3.1 Functional description

Service name	GetPatientLinks
Purpose	This method allows a hub to obtain the list of the existing link between the patient and all hubs if any.
Input parameters	• The sender of the request containing: – the hub that performs the operation call (**mandatory**) – If the request is made by an organization(**optional**): ○ the identification of the organization; ○ the identification of the responsible. • information about the request (id/date/time) (**mandatory**) • the information about the patient: – the INSS (**madantory**) – The INSS support card number should not be used (eID or ISI+), if provided INSS and support card number are NOT submitted to status validation (Hub Third trusted party)
Output parameters	• the initial request • an acknowledge indicating the completion of the request • the list of the hubs having an active link with the patient
Post-condition	• the request is logged
Exceptions	• technical error • invalid data: – invalid sender – invalid patient identifier • Sender does not contain a correct HCP identification • sender is not a recognized Hub • Incorrect patient INSS
Comments	A request to this service should occur when the requesting hub is performing a ‘getTransactionList’ request. A link between a patient and a hub indicates that at least a transaction is declared within the hub about the patient. A patient link can be declared before the registration of a patient’s consent. Now, the patient-hub link will be return by the getPatientLinks service even if there is no active consent for the patient in the system.

5.2.5.3.2 Formulating a request

A request from the caller hub for a list of hubs having an active link with the given patient looks as follows:



The 'request' parameter gathers the elements relative to the

- information about the request (id, date, time),
- sender of the request (author).

The 'patient' parameter covers the

- patient identifier.

Parameter	Attributes		Comments
request [1]	id [1]	Identifier of the request within the caller system.	Identifies the **message** within the system according to ID-KMEHR identification. Must contain a value with 50 alphanumeric as maximum length.
	author [1]	Sender of the request represented as a sequence of *hcparty* elements. It must at least contain the requestor hub.	This information must be coherent with the information provided in the technical identification and authentication system (i.e. certificate and SAML[15] assertion).
	date [1]	Date of request (YYYY-MM-DD)	
	time [1]	Time of request (hh:mm:ss)	

[15] See cookbook STS service

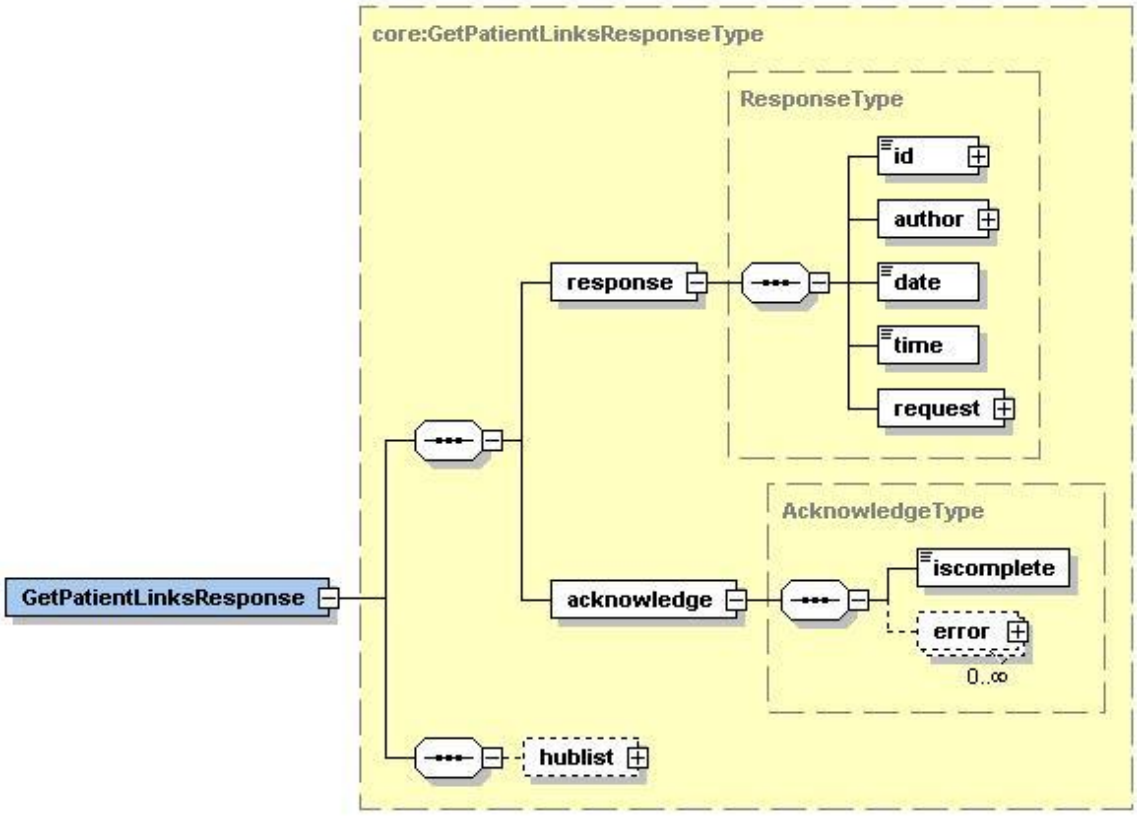
patient [1]	id [1-*]	Identifier of patient	The INSS number is mandatory. Other identifiers may be provided but they will be disregarded.

Example: GetPatientLinksRequest.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientLinksRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        <core:patient>
                <core:id S="INSS" SV="1.0"> 0xxxxxxxxx7</core:id>
        </core:patient>
</GetPatientLinksRequest>
```

5.2.5.3.3 Interpretation of the reply

The reply, as sent back by the getPatientLinks method, is discussed below.



The 'response' parameter gathers the elements relative to the

- information about the response (id, date, time),
- initial request,
- sender of the response (author).

The 'acknowledge' parameter gathers the elements relative to the

- service completion (iscomplete),
- errors or exceptions that occurred during the service execution.

The 'hublist' parameter covers the element relative to the

- hub data.

Parameter	Attributes		Comments
response [1]	id [1]	Identifier of the response within the Metahub	
	author [1]	Sender of the response (Metahub)	
	date [1]	Date of response (YYYY-MM-DD)	
	time [1]	Time of response (hh:mm:ss)	
	request [1]	Initial request	
acknowledge [1]	iscomplete [1]	Indicates if the execution has been successfully completed	If the conditions were fulfilled to compute a list

	error [0-*]	Indicates the error/exception descriptions		of results – even empty -, iscomplete is set to 'true'; it is set to 'false' otherwise.
hublist [0-1]	hub [0-*]	The hub data		The hub is defined as an type of hcparty
		id [1-*]	Identifier of the hub	
		cd [1-*]	The type of hcparty	In this case, this is always "hub"
		name	The name of the hub	

Example: Successful GetPatientLinksResponse.xml with patient-hub link(s).

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientLinksResponse
xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
```

```
        <core:hublist>
                <core:hub>
                        <kmehr:id S="ID-HCPARTY" SV="1.0">1990000431</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                        <kmehr:name>test_hub_1</kmehr:name>
                </core:hub>
        </core:hublist>
</GetPatientLinksResponse>
```

Example: Successful GetPatientLinksResponse.xml without patient-hub link.

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientLinksResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                        <core:author>
                                <kmehr:hcparty>
                                        <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                        <kmehr:name>eHealth Metahub</kmehr:name>
                                </kmehr:hcparty>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                        <kmehr:name>test_hub_1</kmehr:name>
                                </kmehr:hcparty>
                        </core:author>
                        <core:date>2013-11-29</core:date>
                        <core:time>11:00:22.0Z</core:time>
                </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
        <core:hublist/>
</GetPatientLinksResponse>
```

Example: Unsuccessful GetPatientLinksResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientLinksResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                        <core:author>
                                <kmehr:hcparty>
                                        <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                        <kmehr:name>eHealth Metahub</kmehr:name>
                                </kmehr:hcparty>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                        <kmehr:name>test_hub_1</kmehr:name>
                                </kmehr:hcparty>
                        </core:author>
                        <core:date>2013-11-29</core:date>
                        <core:time>11:00:22.0Z</core:time>
                </core:request>
         </core:response>
         <core:acknowledge>
                <core:iscomplete>false</core:iscomplete>
                <core:error>
          <kmehr:cd S="CD-ERROR" SV="1.0"> MH2.ACCESS.1</kmehr:cd>
          <kmehr:description L="en"> Sender is not a recognized Hub</kmehr:description>
        </core:error>
          </core:acknowledge>
</GetPatientLinksResponse>
```

5.2.5.3.4 Review of some error codes

When a business error has occurred, then the *iscomplete* field of the *acknowledge* element is set to *false*. The acknowledge block of the reply message sent after an error has occurred looks as follows:

```
        <acknowledge>
                <iscomplete>false</iscomplete>
                <error>
                        <cd SV="1.0" S="CD-ERROR">error_code</cd>
                        <description L="EN">error_description</description>
```

```
        </error>
    </acknowledge>
```

The table below provides an overview of the possible errors returned by the service for this method:

Error type	Code	Description
MH2.INPUT Invalid Input	MH2.INPUT.2	Invalid request sender
	MH2.INPUT.19	Invalid patient identifier
	MH2.INPUT.20	Invalid healthcare party identifier
	MH2.INPUT.22	Invalid transaction identifier

When business errors of the type “Invalid Input” or “Permission” occur, please verify your request message. When a system error occurs and persists, please contact the contact center.

5.2.6 Patient Audit

5.2.6.1 Method GetPatientAuditTrail

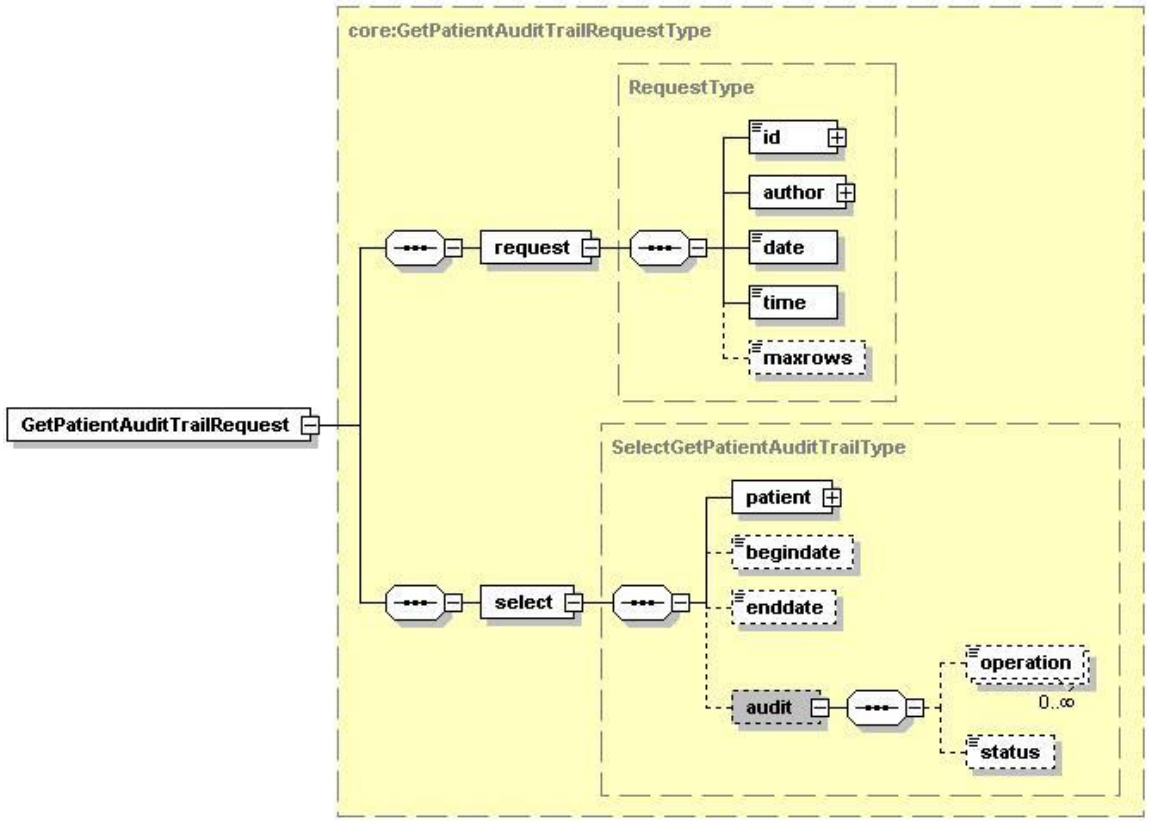
5.2.6.1.1 Functional description

Service name	GetPatientAuditTrail
Purpose	The operation allows a hub to audit the Metahub operations on a given patient (audit list of consent, exclusion, and link operations) for a certain period.
Input parameters	• The sender of the request containing, at least: – the hub that performs the operation call (**mandatory**) – If the request is made by an organization(**optional**): ○ the identification of the organization; ○ the identification of the responsible. • information about the request (id/date/time) (**mandatory**) • a set of criteria including : – INSS of the patient (**mandatory**) – a period [Begin - End] (**optional**) – an operation list (**optional**) **declarePatientConsent, revokePatientConsent, getPatientConsent, declarePatientLink, getPatientLinks, revokePatientLink, putTherapeuticExclusion, revokeTherapeuticExclusion, getTherapeuticExclusions, getTherapeuticLinks, getMetahubDelta, getPatientAuditTrail** – a completion status (all, success or failed). If omitted, the status is by default ‘success’. – a maximum number of allowed results (**optional**)
Output parameters	• The initial request • an acknowledge indicating the completion of the request • the list of recorded audit elements that fulfill the provided criteria: – the audit element is related to the patient – and, if the search criteria are provided in the request, ○ the occurence time is contained in the period [Begin-End], ○ the requested operation

	○ the completion status of the requested operations Remarks: • if there is no audit element that fulfills the provided criteria, the returned list is empty. • only successful Put (Declare) and Revoke operations audit are returned. Failed operations are not returned • the successful or failed Get operations are not returned • if the maximum number of allowed results is exceeded, the service returns the more recent access audits that fulfill the provided criteria.
Post-condition	• The request is logged
Exceptions	• Technical error • invalid or incorrect data : • Invalid patient identifier; • Invalid period. • Invalid operation • Invalid request status • invalid audit trail type • sender is not a recognized Hub • sender does not contain a proper 'end-user' identification (INSS) • incorrect identification of the patient (INSS). • Sender does not contain a correct HCP identification • more results than supported by the service.
Comments	The availability of the audit elements throughout the service is limited in time. The hub can always contact eHealth Platform in order to retrieve the archived access audits.

5.2.6.1.2 Formulating a request

A request from the caller hub for a list of audit elements looks as follows:



The 'request' parameter gathers the elements relative to the

- information about the request (id, date, time),
- maximum number of allowed results,
- sender of the request (author).

The 'select' parameter covers the

- search criteria.

Parameter	Attributes		Comments
request	id [1]	Identifier of the request within the caller system.	Identifies the **message** within the system according to ID KMEHR identification. Must contain a value with 50 alphanumeric as maximum length.

	author [1]	Sender of the request represented as a sequence of *hcparty* elements. It must at least contain the requestor hub.		This information must be coherent with the information provided in the technical identification and authentication system (i.e. certificate and SAML assertion).
	date [1]	Date of request (YYYY-MM-DD)		
	time [1]	Time of request (hh:mm:ss)		
	maxrows [0-1]	Maximum number of results returned by the search.		If more results are found, they will be omitted.
select	patient [1]	Patient concerned by the audit		Patient INSS is mandatory.
	begindate [0-1]	The begin of period		Format YYYY-MM-DD
	enddate [0-1]	The end of period		Format hh:mm:ss
	audit [0-1]	operation [0-*]	The operations in the audit elements: - declarePatientConsent - revokePatientConsent - getPatientConsent - declarePatientLink - getPatientLinks - revokePatientLink - putTherapeuticExclusion - revokeTherapeuticExclusion - getTherapeuticExclusion - getTherapeuticLinks - getMetahubDelta - getPatientAuditTrail	If the field is not present, all operations in the audit will be retrieved.
		status [0-1]	The completion status in the audit : 'all', 'success' or 'failed'	If the field is not present, the default completion status is 'success'. Only success Put (declare) and Revoke operations are returned.

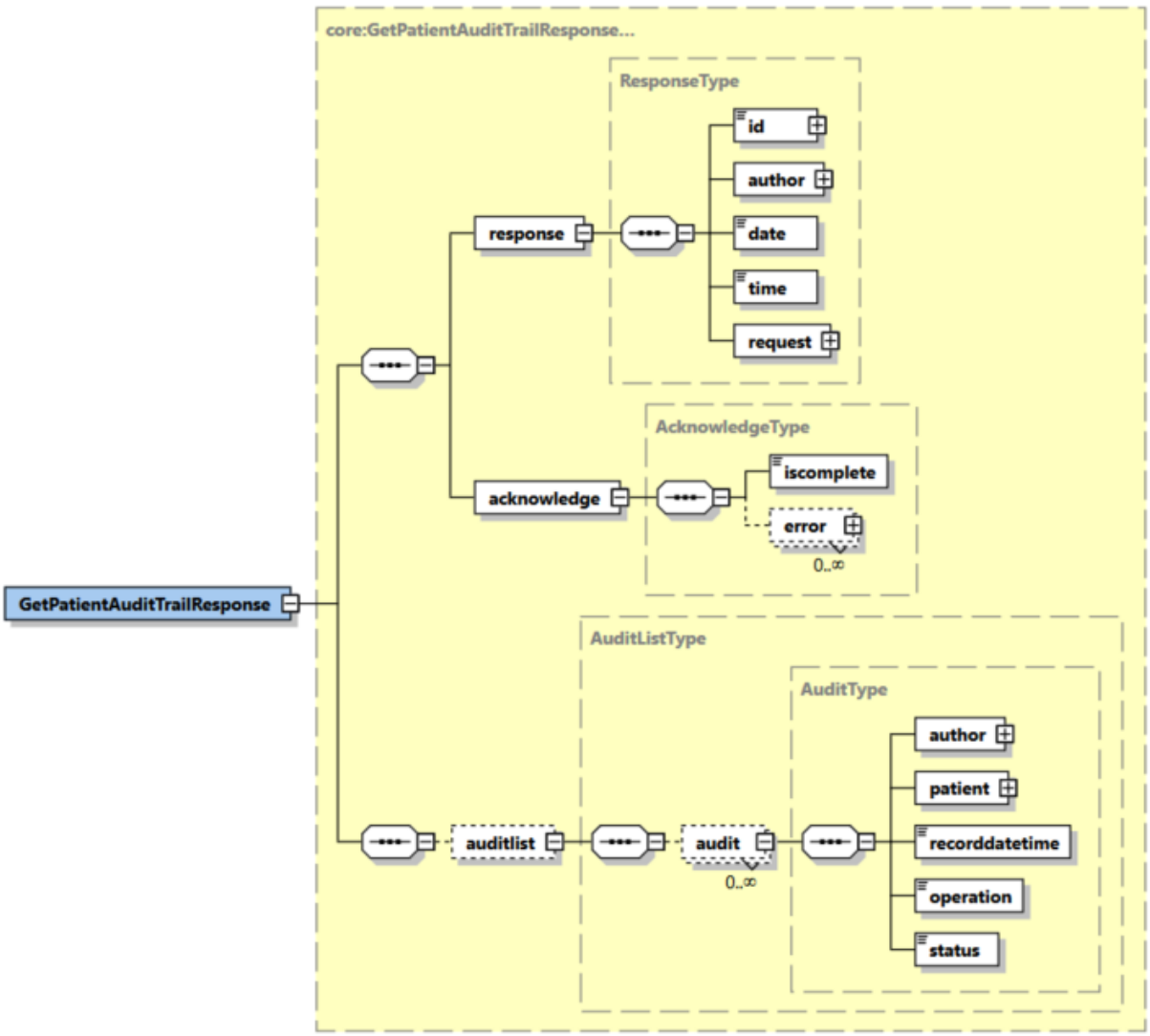
Example: GetPatientAuditTrailRequest.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientAuditTrailRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
```

```
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name> test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        <core:select>
                <core:patient>
                        <core:id S="INSS" SV="1.0"> 0xxxxxxxxx27</core:id>
                </core:patient>
                <core:begindate>2013-11-28</core:begindate>
                <core:enddate>2013-11-29</core:enddate>
                <core:audit>
                        <core:operation>declarePatientLink</core:operation>
                        <core:status>success</core:status>
                </core:audit>
        </core:select>
</GetPatientAuditTrailRequest>
```

5.2.6.1.3 Interpretation of the reply

The reply, as sent back by the getPatientAuditTrail method, is discussed below.



The 'response' parameter gathers the elements relative to the

- information about the response (id, date, time),
- initial request,
- sender of the response (author).

The 'acknowledge' parameter gathers the elements relative to the

- service completion (iscomplete),
- errors or exceptions that occurred during the service execution.

The 'auditlist' parameter covers the element relative to the

- audit elements.

Parameter	Attributes		Comments
response	id [1]	Identifier of the response within the Metahub	

	author [1]	Sender of the response (Metahub)	
	date [1]	Date of response (YYYY-MM-DD)	
	time [1]	Time of response (hh:mm:ss)	
	request [1]	Initial request	
acknowledge	iscomplete [1]	Indicates if the execution has been successfully completed	If the conditions were fulfilled to compute a list of results – even empty -, iscomplete is set to 'true'; it is set to 'false' otherwise.
	error [0-*]	Indicates the error/exception descriptions	

auditlist [0-1]	audit [0-*]	author [1]	The requestor hub as healthcare party.
		patient [1]	The identifier of the patient concerned by the audit.
		recorddatetime [1]	The occurrence time of the audit.
		operation [1]	The operation of the audit.
		status [1]	The completion status of the audit.

Example: Successful GetPatientAuditTrailResponse.xml with audit result.

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientAuditTrailResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                        <core:author>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
```

```
                                        <kmehr:name> test_hub_1</kmehr:name>
                                    </kmehr:hcparty>
                                </core:author>
                                <core:date>2013-11-29</core:date>
                                <core:time>11:00:22.0Z</core:time>
                            </core:request>
                        </core:response>
                        <core:acknowledge>
                            <core:iscomplete>true</core:iscomplete>
                        </core:acknowledge>
                        <core:auditlist>
                            <core:audit>
                                <core:author>
                                    <kmehr:hcparty>
                                        <kmehr:id S="ID-HCPARTY" SV="1.0">1990000431</kmehr:id>
                                        <kmehr:cd S="CD-HCPARTY" SV="1.1">hub</kmehr:cd>
                                        <kmehr:name>test_hub_1</kmehr:name>
                                    </kmehr:hcparty>
                                </core:author>
                                <core:patient>
                                    <core:id S="INSS" SV="1.0">0xxxxxxxxx7</core:id>
                                </core:patient>
                                <core:recorddatetime>2013-08-26T11:34:39.046+02:00</core:recorddatetime>
                                <core:operation>declarePatientLink</core:operation>
                                <core:status>success</core:status>
                            </core:audit>
                            <core:audit>
                                <core:author>
                                    <kmehr:hcparty>
                                        <kmehr:id S="ID-HCPARTY" SV="1.0">1990000431</kmehr:id>
                                        <kmehr:cd S="CD-HCPARTY" SV="1.1">hub</kmehr:cd>
                                        <kmehr:name>test_hub_1</kmehr:name>
                                    </kmehr:hcparty>
                                </core:author>
                                <core:patient>
                                    <core:id S="INSS" SV="1.0">0xxxxxxxxx7</core:id>
                                </core:patient>
                                <core:recorddatetime>2013-07-25T13:12:03.610+02:00</core:recorddatetime>
                                <core:operation>declarePatientLink</core:operation>
                                <core:status>success</core:status>
                            </core:audit>
                        </core:auditlist>
</GetPatientAuditTrailResponse>
```

Example: Successful GetPatientAuditTrailResponse.xml without audit result.

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientAuditTrailResponse
xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
            <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
            <core:author>
```

```
                    <kmehr:hcparty>
                        <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                        <kmehr:name>Metahub</kmehr:name>
                    </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                    <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                    <core:author>
                        <kmehr:hcparty>
                            <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                            <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                            <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                            <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                            <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                            <kmehr:name> test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                    </core:author>
                    <core:date>2013-11-29</core:date>
                    <core:time>11:00:22.0Z</core:time>
                </core:request>
            </core:response>
            <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
            </core:acknowledge>
            <core:auditlist/>
</GetPatientAuditTrailResponse>
```

Example: Unsuccessful GetPatientAuditTrailResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<GetPatientAuditTrailResponse
            xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
            xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
            xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
            xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
            xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
            <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                    <kmehr:hcparty>
                        <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                        <kmehr:name>Metahub</kmehr:name>
                    </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                    <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
```

```
                    <core:author>
                        <kmehr:hcparty>
                            <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                            <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                            <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                            <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                            <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                            <kmehr:name> test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                    </core:author>
                    <core:date>2013-11-29</core:date>
                    <core:time>11:00:22.0Z</core:time>
                </core:request>
            </core:response>
            <core:acknowledge>
                <core:iscomplete>false</core:iscomplete>
                <core:error>
              <kmehr:cd S="CD-ERROR" SV="1.0">MH2.INPUT.19</kmehr:cd>
              <kmehr:description L="en">Invalid patient identifier</kmehr:description>
            </core:error>
              </core:acknowledge>
</GetPatientAuditTrailResponse>
```

5.2.6.1.4 Review of some error codes

When a business error has occurred, then the *iscomplete* field of the *acknowledge* element is set to *false*. The acknowledge block of the reply message sent after an error has occurred looks as follows:

```
            <acknowledge>
                <iscomplete>false</iscomplete>
                <error>
                    <cd SV="1.0" S="CD-ERROR">error_code</cd>
                    <description L="EN">error_description</description>
                </error>
            </acknowledge>
```

The table below provides an overview of the possible errors returned by the service for this method:

Error type	Code	Description
	MH2.INPUT.2	Invalid request sender
	MH2.INPUT.19	Invalid patient identifier
	MH2.INPUT.20	Invalid healthcare party identifier

When business errors of the type “Invalid Input” or “Permission” occur, please verify your request message. When a system error occurs and persists, please contact the contact center.

5.2.7 Therapeutic Link

5.2.7.1 Method GetTherapeuticLink

5.2.7.1.1 Functional description

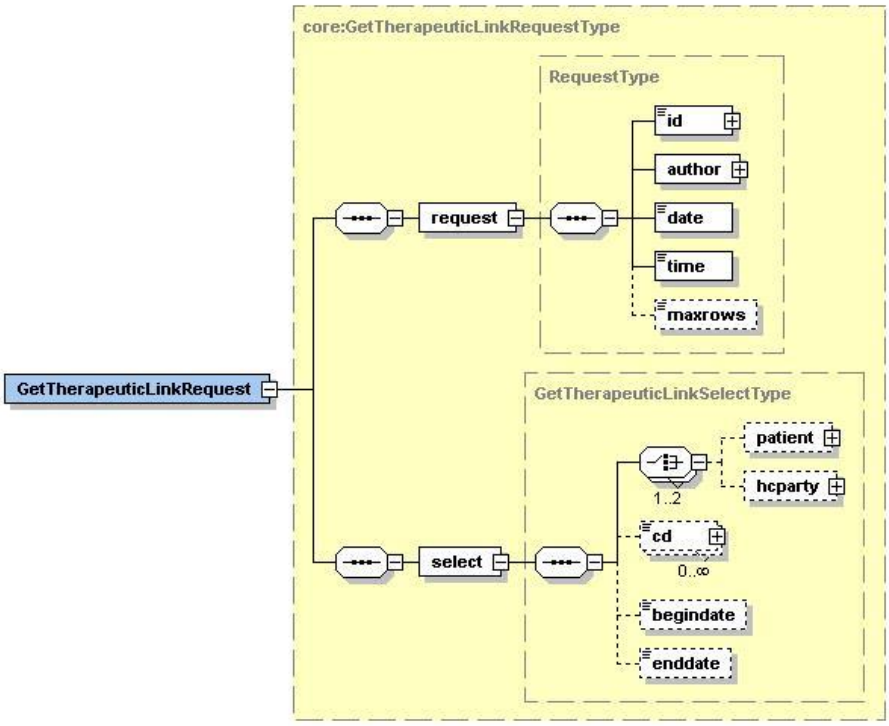
Service name	GetTherapeuticLink
Purpose	This method allows a hub to check the existence of a therapeutic link between a patient and a healthcare profesionnal. As usual, the service is built as generic as possible[16] and allows for more than currently required. Depending on the input parameters the service can: • check the existence of a specific link between a patient and a HC party; • consult the list of therapeutic links related to a patient; • consult the list of therapeutic links between given HC party and given patient over a certain period.
Input parameters	• The sender of the request containing information provided in the predetermined sequence described hereunder: – the identification of the hub that performs the operation call (**mandatory**) – the information identifying the healthcare professional end-user (**mandatory**). This information is composed of the healthcare professional identifier (inss and/or nihii if available) and the healtcare professional category. Currently, only the following healthcare professional end-users are supported: ***Physician***, ***Nurse***, ***Dentist***, ***Midwife, Audician, Physiotherapist, Occupational therapist, Practical nurse, Dietician, Audiologist, Podologist, Truss maker, Logopedist, Orthoptist, Optometrist, Lab technologist, Imaging technologist, Clinical ortopedic pedagogue, Clinical psychologist, Dental hygienist, OT mobility improvement, OT bandages orthosiology, OT prosthesiology, OT shoe technology.*** • Information about the request (id/date/time) (**mandatory**) • The number of the therapeutic links to consult (must be less or equal than 1000). • A set of criteria relative to the therapeutic link including including at least, the information related to the concerned patient: – the patient identifier inss (**mandatory**). – the support card number (**optional**) and/or • the information related to the concerned healthcare professional : – the SSIN number or NIHII number if available (one of them is mandatory) – the healthcare professional category (mandatory) – the first name and last name of the healthcare professional (**optional**) • a list of therapeutic link type (**mandatory**)
Output parameters	• the initial request • an acknowledge indicating the completion of the request • the list of therapeutic links that fulfill the provided criteria: – if P is provided in the request, the therapeutic link is related to Patient, – if HCP is provided in the request, the therapeutic link is related to HCP

[16] In a goal of standardization, the interface used for this service is the same as the one previously defined at the hub level.

	– and, if a list of therapeutic link type is provided in the request, the type of the therapeutic link is contained in TLs, – and if a therapeutic link type is not provided in the request, the therapeutic link currently active. Otherwise, the therapeutic link has been active at least one day during the period. If there is no corresponding therapeutic link, the service returns an empty list.
Post-condition	• the request is logged
Exceptions	Technical error • Invalid or incorrect data: – Missing hub identifier; – Missing healthcare professional end-user identifier; – Missing patient identifier; – Invalid patient identifier; – Invalid patient cardnumber – Invalid healthcare party identifier; – Invalid type of therapeutic link; – Invalid period.

5.2.7.1.2 Formulating a request

A request from the caller hub for a therapeutic link looks as follows:



The 'request' parameter gathers the elements relative to the

- information about the request (id, date, time),
- sender of the request.

The 'select' parameter covers the selection criteria of the therapeutic link

Parameter	Attributes		Comments
request [1]	id [1]	Identifier of the request within the caller system.	Identifies the **message** within the system according to ID-KMEHR identification. Must contain a value with 50 alphanumeric as maximum length.
	author [1]	Sender of the request represented as a sequence of *hcparty* elements. Must contain the requestor hub and the supported healthcare party end-user.	This information must be coherent with the information provided in the technical identification and authentication system (i.e. certificate and SAML assertion).
	date [1]	Date of request	Format YYYY-MM-DD
	time [1]	Time of request	Format hh:mm:ss
select[1]	patient [0-1]	Patient concerned by therapeutic link.	Patient INSS is mandatory.
	hcparty [0-1]	Healtcare professional concerned by therapeutic link.	If this information is not provided, the hcparty is enriched with the information of the hcparty end-user provided in the author of the request.
	cd[0-1]	Therapeutic link type.	See WS cookbook for all supported types.[17]
	begindate [0-1]	Start date of the therapeutic link	Currently not supported.
	enddate [0-1]	End date of the therapeutic link.	Currently not supported.

Example: GetTherapeuticLinkRequest.xml

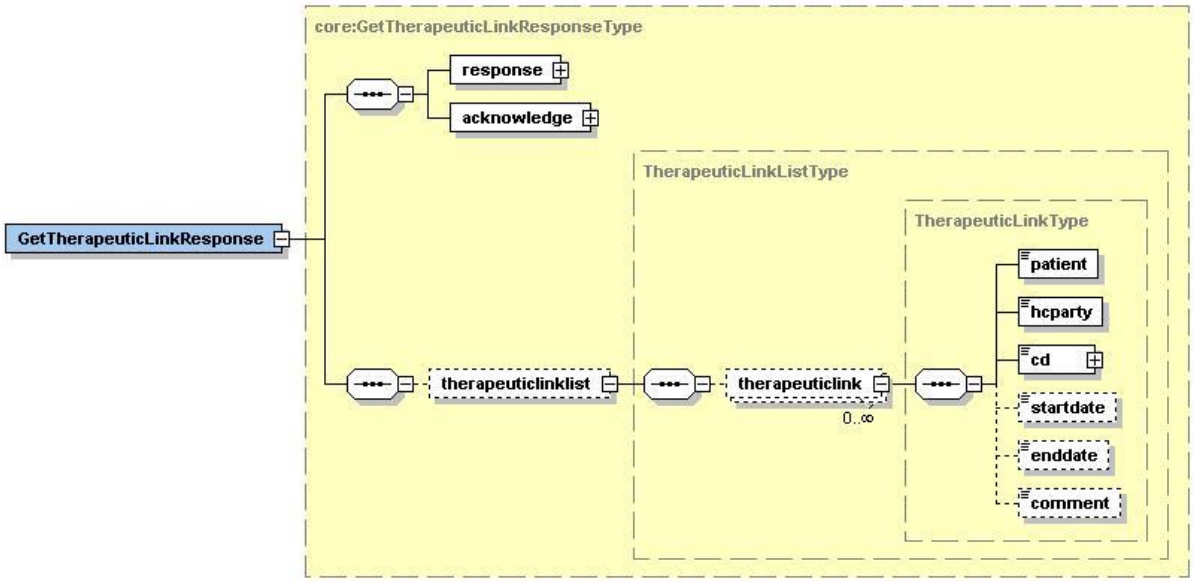
```
<?xml version="1.0" encoding="UTF-8"?>
<GetTherapeuticLinkRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
```

[17] ***https://www.ehealth.fgov.be/ehealthplatform/fr/service-ehealth-therapeutic-links***

```
                    <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                    <kmehr:name>eHealth Metahub</kmehr:name>
                </kmehr:hcparty>
                    <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                    <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                    <kmehr:name> test_hub_1</kmehr:name>
                </kmehr:hcparty>
                <kmehr:hcparty>
                    <kmehr:id SV="1.0" S="INSS">5xxxxxxxxx1</kmehr:id>
                    <kmehr:id SV="1.0" S="ID-HCPARTY">12345678910</kmehr:id>
                    <kmehr:cd SV="1.1" S="CD-HCPARTY">persphysician</kmehr:cd>
                </kmehr:hcparty>
            </core:author>
            <core:date>2013-11-29</core:date>
            <core:time>11:00:22.0Z</core:time>
        </core:request>
        <core:select>
            <core:patient>
                <core:id S="INSS" SV="1.0">8xxxxxxxxx7</core:id>
            </core:patient>
            < core:hcparty>
                <core:id SV="1.0" S="INSS">5xxxxxxxxx1</core:id>
                <core:id SV="1.0" S="ID-HCPARTY">12345678910</core:id>
                <core:cd SV="1.1" S="CD-HCPARTY">persphysician</core:cd>
            </kmehr:hcparty>
            <core:cd S="CD-THERAPEUTICLINKTYPE" SV="1.0">gmd</core:cd>
        </core:select>
</GetTherapeuticLinkRequest>
```

5.2.7.1.3 Interpretation of the reply

The reply, as sent back by the getTherapeuticLink method, is discussed below.



The 'response' parameter gathers the elements relative to the

- information about the response (id, date, time),

- initial request,
- sender of the response (author).

The 'acknowledge' parameter gathers the elements relative to the

- service completion (iscomplete),
- errors or exceptions that occurred during the service execution.

The 'therapeuticlinklist' parameter covers the elements relative to the

- therapeuticlink elements.

Parameter	Attributes		Comments
Response	id [1]	Identifier of the response within the Metahub	
	author [1]	Sender of the response (Metahub)	
	date [1]	Date of response (YYYY-MM-DD)	
	time [1]	Time of response (hh:mm:ss)	
	request [1]	Initial request	
Acknowledge	iscomplete [1]	Indicates if the execution has been successfully completed	If the conditions were fulfilled to compute a list of results – even empty - , iscomplete is set to 'true'; it is set to 'false' otherwise.
	error [0-*]	Indicates the error/exception descriptions	
therapeuticlinklist [0-1]	therapeuticlink [0-*]	patient [1]	The identifier of the patient concerned by the therapeutic link.
		hcparty[1]	The identifier of the healthcare professional that has a therapeutic link with the patient.
		cd [1]	See WS cookbook for all supported types.[18]
		startdate [0-1] [19]	Start date of the therapeutic link.
		enddate [0-1] [27]	End date of the therapeutic link.
		comment [0-1]	Comment given at the time of the creation of the therapeutic link.

Example: Successful GetTherapeuticLinkResponse.xml with gmd list.

```
<?xml version="1.0" encoding="UTF-8"?>
<GetTherapeuticLinkResponse
```

[18] ***https://www.ehealth.fgov.be/ehealthplatform/fr/service-ehealth-therapeutic-links***

[19] Format is YYYY-MM-DD. Start date and end date are not returned case of 'gmd'. Therefore, 'gmd' is considered as valid only at the time of the consultation.

```
xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
<core:response>
        <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
        <core:author>
                <kmehr:hcparty>
                        <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                        <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                        <kmehr:name>Metahub</kmehr:name>
                </kmehr:hcparty>
        </core:author>
        <core:date>2013-11-29+01:00</core:date>
        <core:time>11:00:23.144</core:time>
        <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                        SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name>test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="INSS">5xxxxxxxxx1</kmehr:id>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">12345678910</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">persphysician</kmehr:cd>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
</core:response>
<core:acknowledge>
        <core:iscomplete>true</core:iscomplete>
</core:acknowledge>
<core:therapeuticlinklist>
        <core:therapeuticlink>
                <core:patient>
                        <core:id S="INSS" SV="1.0">8xxxxxxxxx7</core:id>
                </core:patient>
                <core:hcparty>
                        <core:id S="ID-HCPARTY" SV="1.0">12345678910</core:id>
                        <core:id S="INSS" SV="1.0">5xxxxxxxxx1</core:id>
                        <core:cd S="CD-HCPARTY" SV="1.1">persphysician</core:cd>
                        <core: firstname >Concerned</core: firstname>
                        <core: familyname >Doctor</core:familyname>
                </core:hcparty>
```

```
                    <core:cd S="CD-THERAPEUTICLINKTYPE" SV="1.0">gmd</core:cd>
                </core:therapeuticlink>
            </core:therapeuticlink>
            </core:therapeuticlinklist>
</GetTherapeuticLinkResponse>
```

Example: Successful GetTherapeuticLinkResponse.xml without gmd.

```
<?xml version="1.0" encoding="UTF-8"?>
<GetTherapeuticLinkResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                        <core:author>
                                <kmehr:hcparty>
                                        <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                        <kmehr:name>eHealth Metahub</kmehr:name>
                                </kmehr:hcparty>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                        <kmehr:name> test_hub_1</kmehr:name>
                                </kmehr:hcparty>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="INSS">5xxxxxxxxx1</kmehr:id>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">12345678910</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">persphysician</kmehr:cd>
                                </kmehr:hcparty>
                        </core:author>
                        <core:date>2013-11-29</core:date>
                        <core:time>11:00:22.0Z</core:time>
                </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
        <core:therapeuticlinklist/>
</GetTherapeuticLinkResponse>
```

Example: Unsuccessful GetTherapeuticLinkResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<GetTherapeuticLinkResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                        <core:author>
                                <kmehr:hcparty>
                                        <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                        <kmehr:name>eHealth Metahub</kmehr:name>
                                </kmehr:hcparty>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                        <kmehr:name> test_hub_1</kmehr:name>
                                </kmehr:hcparty>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="INSS">5xxxxxxxxx1</kmehr:id>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">12345678910</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">persphysician</kmehr:cd>
                                </kmehr:hcparty>                                        </core:author>
                        <core:date>2013-11-29</core:date>
                        <core:time>11:00:22.0Z</core:time>
                </core:request>
         </core:response>
         <core:acknowledge>
                <core:iscomplete>false</core:iscomplete>
                <core:error>
          <kmehr:cd S="CD-ERROR" SV="1.0">NIP.INPUT.RequestValidation</kmehr:cd>
          <kmehr:description L="en">an unexpected error occured with the message: select GMD and period
not supported</kmehr:description>
        </core:error>
          </core:acknowledge>
</GetTherapeuticLinkResponse>
```

5.2.7.1.4 Review of some error codes

When a business error has occurred, then the *iscomplete* field of the *acknowledge* element is set to *false*. The acknowledge block of the reply message sent after an error has occurred looks as follows:

```
<acknowledge>
        <iscomplete>false</iscomplete>
        <error>
                <cd SV="1.0" S="CD-ERROR">error_code</cd>
                <description L="EN">error_description</description>
        </error>
</acknowledge>
```

The table below provides an overview of the possible errors returned by the service for this method:

Error type	Code	Description
MH2.INPUT Invalid Input		
	MH2.INPUT.2	Invalid request sender
	MH2.INPUT.8	Invalid period
	MH2.INPUT.19	Invalid patient identifier
	MH2.INPUT.22	Invalid transaction identifier
TL.ACCESS Therlink access	TL.ACCESS.06	Author - The category of the author is different from the category of the HC party concerned by the therapeutic link
	TL.ACCESS.08	Author - The HC party is excluded by the patient concerned by the therapeutic link
	TL.ACCESS.17	Author - Only one end user is allowed
TL.INPUT	TL.INPUT.11	Author - Invalid SSIN of the HC party
	TL.INPUT.12	Author - Invalid NIHII of the HC party
	TL.INPUT.15	Author - Invalid HC party category
	TL.INPUT.22.01	Author - NIHII does not correspond to the HC party SSIN
	TL.INPUT.27.01	Author - Invalid organization category
	TL.INPUT.30	Therapeutic link - Missing patient identifier (SSIN)
	TL.INPUT.31.01	Therapeutic Link - Invalid patient identifier (more than 1 INSS)
	TL.INPUT.31.02	Therapeutic link - Invalid patient identifier (INSS wrongly formatted)
	TL.INPUT.31.03	Therapeutic Link - Invalid patient identifier (more than 1 CARDNO)
	TL.INPUT.40	Therapeutic link - Invalid SSIN of the the HC party
	TL.INPUT.41	Therapeutic link - Invalid NIHII of the HC party
	TL.INPUT.42	Therapeutic link - NIHII does not correspond to the HC party SSIN
	TL.INPUT.44	Therapeutic link - Invalid HC party category
	TL.INPUT.48.01	Therapeutic link - Missing organization identifier

	TL.INPUT.51	Therapeutic Link - The type of therapeutic link is not allowed for the operation
	TL.INPUT.65	Therapeutic Link - Invalid time period
	TL.INPUT.67	Therapeutic Link - If the begin date (end date) is provided then the end date (begin date) must be also provided
NIP.INPUT	NIP.INPUT.RequestValidation	an unexpected error occured with the message: end date must be greater than begin date

When business errors of the type “Invalid Input” or “Permission” occur, please verify your request message. When a system error occurs and persists, please contact the contact center.

5.2.7.2 Method PutTherapeuticLink

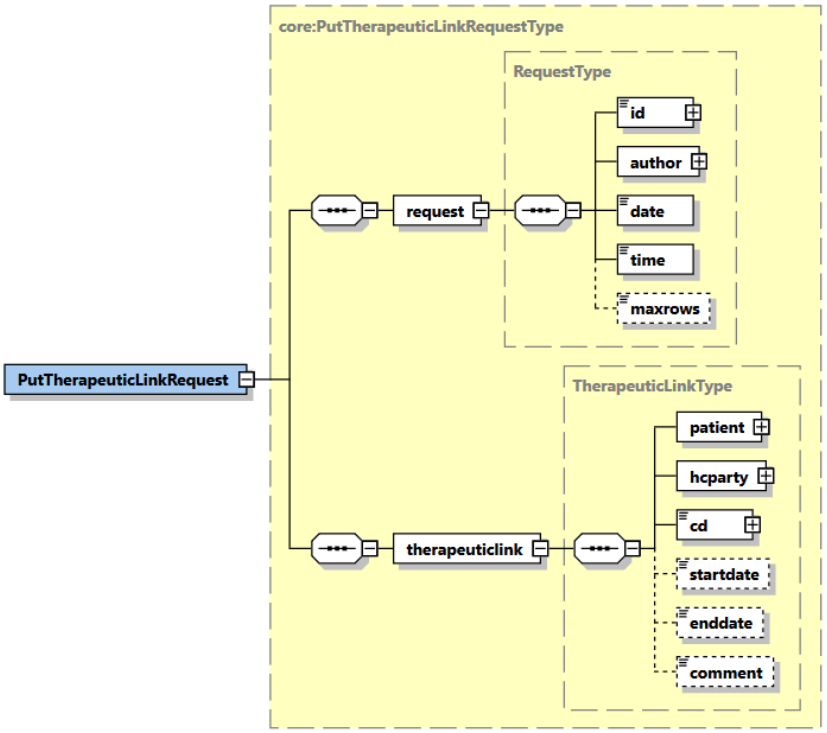
5.2.7.2.1 Functional description

Service name	PutTherapeuticLink
Purpose	This method allows a hub to declare a therapeutic link between a patient and a healthcare profesionnal.
Input parameters	• The sender of the request containing information provided in the predetermined sequence described hereunder: – the identification of the hub (hub id) that performs the operation call (**mandatory**) – the information identifying the healthcare professional end-user (**mandatory**). This information is composed of the healthcare professional identifier (inss and/or nihii if available) and the healtcare professional category. Currently, only the following healthcare professional end-users are supported : ***Physician***, ***Nurse***, ***Dentist***, ***Midwife, Audician, Physiotherapist, Occupational therapist, Practical nurse, Dietician, Audiologist, Podologist, Truss maker, Logopedist, Orthoptist, Optometrist, Lab technologist, Imaging technologist, Clinical ortopedic pedagogue, Clinical psychologist, Dental hygienist, OT mobility improvement, OT bandages orthosiology, OT prosthesiology, OT shoe technology.*** • Information about the request (id/date/time) (**mandatory**) • A set of criteria relative to the therapeutic link including including at least, the information related to the concerned patient: – the patient identifier: inss (**mandatory**). – the support card number (**optional**) and/or • the information related to the concerned healthcare professional : – the SSIN number or NIHII number if available (**mandatory**) – the healthcare professional category (**mandatory**) – the first name and last name of the healthcare professional (**optional**) • The therapeutic link type (**mandatory**) • The period of validity of the therapeutic link (optional for GMD)
Output parameters	• The information about the response: – Id, date, time of the response;

	– the identification of the sender of the response; – the initial request. • An acknowledge indicating the completion of the request: – the status of the completion; the possible errors including the error code and its description.
Post-condition	• the request is logged • the therapeutic link is created in DB
Exceptions	– Technical error. – Invalid or incorrect data: – the sender is not allowed to perform the declaration according to the predefined rules. – the HC party performing the declaration is excluded by the concerned patient in the case of referral declaration. – an active therapeutic link does not exist between the HC party performing the declaration and the concerned patient in the case of referral declaration. – the HC party performing the declaration does not belong to the same HC party category as the HC party concerned by the therapeutic link. – invalid patient (invalid SSIN or SSIN does not correspond to the provided support card number . – invalid HC party (incorrect NIHII or NIHII does not correspond to the HC party category). – invalid therapeutic link type. – invalid period of relation. – the end date is anterior to the declaration date. – a valid therapeutic link of the same type and for the same HC party already exists. – Missing hub identifier;
Comments	• Identification of patient: The patient is identified by his SSIN number. • Id**entification of HC party:** – The healthcare professional is identified by the SSIN number, the NIHII number (if available), and the HC party category.

5.2.7.2.2 Formulating a request

A request from the caller hub for the declaration of a therapeutic link looks as follows:



The 'request' parameter gathers the elements relative to the

- information about the request (id, date, time),
- sender of the request.

The '**therapeuticlink**' parameter covers

- the patient identifier;
- the HC party identifier;
- the therapeutic link data including the type of therapeutic link and the period of validity.

Parameter	Attributes		Comments
request [1]	id [1]	Identifier of the request within the caller system.	Identifies the **message** within the system according to ID-KMEHR identification. Must contain a value with 50 alphanumeric as maximum length.
	author [1]	Sender of the request represented as a sequence of *hcparty* elements. Must contain the requestor hub and the supported healthcare party end-user.	This information must be coherent with the information provided in the technical identification and authentication system (i.e. certificate and SAML assertion).
	date [1]	Date of request	Format YYYY-MM-DD
	time [1]	Time of request	Format hh:mm:ss

therapeuticlink [1]	patient [1]	Identification of the patient concerned by the therapeutic link.	Identification data of the patient composing of INSS and support card number. The xsd's element '*name*' cannot be used for the declaration but '*firstname*' and '*familyname*' instead, the element '*familyname*' must contain at least one character whilst the element '*firstname*' can be empty.
	hcparty[1-n]	Identification of the HC party concerned by the therapeutic link.	Currently the service supports only one HC Party The *hcparty* must contain the category of the HC party and at least the SSIN (case of professional), NIHII (case of organization) corresponding to its hc party category. The HC party category refers to a value of KMEHR table CD-HCPARTY.
	cd [1]	The type identifying the therapeutic link.	Corresponds to a value of the KMEHR table CD-THERAPEUTICLINKTYPE.
	startdate [0-1]	The inclusive start date of the validity period of the therapeutic link.	Format YYYY-MM-DD
	enddate [0-1]	The exclusive end date of the validity period of therapeutic link.	Format YYYY-MM-DD
	comment [0-1]	The comment justifying the declaration.	The maximum length is 256.

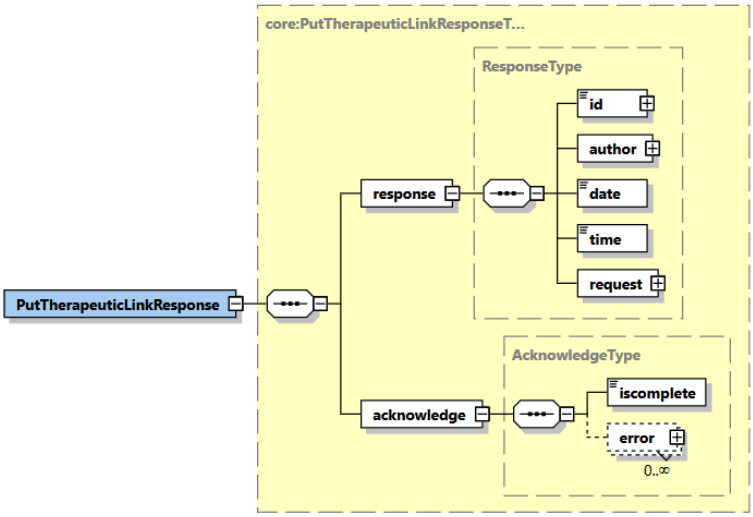
Example: PutTherapeuticLinkRequest.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<urn:PutTherapeuticLinkResponse xmlns:urn="urn:be:fgov:ehealth:metahub:protocol:v2">
        <urn1:response xmlns:urn1="urn:be:fgov:ehealth:metahub:core:v2">
                <urn1:id S="ID-KMEHR" SV="1.0">1990001916.20100120090927123</urn1:id>
                <urn1:author>
                        <v1:hcparty xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                <v1:id S="ID-HCPARTY" SV="1.0">0xxxxxxxx7</v1:id>
                                <v1:cd S="CD-HCPARTY" SV="1.0">orgpublichealth</v1:cd>
                                <v1:name>eHealth platform</v1:name>
                        </v1:hcparty>
                </urn1:author>
                <urn1:date>2018-10-10+02:00</urn1:date>
                <urn1:time>14:46:00.641+02:00</urn1:time>
                <urn1:request>
                        <urn1:id S="ID-KMEHR" SV="1.0">1990001916.20100120090927123</urn1:id>
                        <urn1:author>
```

```
                                <v1:hcparty>
                                    <v1:id S="LOCAL" SL="application_ID" SV="1.0">1990000332</v1:id>
                                    <v1:cd S="CD-HCPARTY" SV="1.1">application</v1:cd>
                                    <v1:name>eHealth Metahub</v1:name>
                                </v1:hcparty>
                                <v1:hcparty
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                    <v1:id S="ID-HCPARTY" SV="1.0">1990000431</v1:id>
                                    <v1:cd S="CD-HCPARTY" SV="1.1">hub</v1:cd>
                                    <v1:name>test_hub_1</v1:name>
                                </v1:hcparty>
                                <v1:hcparty
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                    <v1:id S="ID-HCPARTY" SV="1.0">123456789</v1:id>
                                    <v1:cd S="CD-HCPARTY" SV="1.1">orghospital</v1:cd>
                                    <v1:name>HOSPITAL WILMAR 1</v1:name>
                                </v1:hcparty>
                                <v1:hcparty
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                    <v1:id S="ID-HCPARTY" SV="1.0">12345678910</v1:id>
                                    <v1:id S="INSS" SV="1.0">5xxxxxxxxx1</v1:id>
                                    <v1:cd S="CD-HCPARTY" SV="1.1">persphysician</v1:cd>
                                    <v1:firstname>FakeFirstName</v1:firstname>
                                    <v1:familyname>FakeLastName</v1:familyname>
                                </v1:hcparty>
                            </urn1:author>
                            <urn1:date>2017-12-06</urn1:date>
                            <urn1:time>10:31:00</urn1:time>
                        </urn1:request>
                    </urn1:response>
                    <urn1:acknowledge xmlns:urn1="urn:be:fgov:ehealth:metahub:core:v2">
                        <urn1:iscomplete>true</urn1:iscomplete>
                    </urn1:acknowledge>
</urn:PutTherapeuticLinkResponse>
```

5.2.7.2.3 Interpretation of the reply

The reply, as sent back by the putTherapeuticLink method, is discussed below.



The '**response**' parameter gathers the elements relative to

- the information about the response (id, date, time).
- the sender of the response.
- the initial request.

The '**acknowledge**' parameter gathers the elements relative to

- the service completion (*iscomplete*),
- the errors or exceptions that occurred during the service execution.

Parameter	Attributes		Comments
response [1]	id [1]	Identifier of the response within the responder system.	
	author [1]	Sender of the response.	
	date [1]	Date of the response.	Format YYYY-MM-DD
	time [1]	Time of the response.	Format hh:mm:ss
	request [1]	The author part of the initial request.	
acknowledge [1]	iscomplete [1]	Indicates whether the execution has been successfully completed.	The execution is successful if the therapeutic link has been correctly stored in DB.
	error [0-*]	Indicates the error/exception descriptions.	

Example: PutTherapeuticLinkResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<urn:PutTherapeuticLinkResponse xmlns:urn="urn:be:fgov:ehealth:metahub:protocol:v2">
        <urn1:response xmlns:urn1="urn:be:fgov:ehealth:metahub:core:v2">
                <urn1:id S="ID-KMEHR" SV="1.0">1990001916.20100120090927123</urn1:id>
                <urn1:author>
                        <v1:hcparty xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                <v1:id S="ID-HCPARTY" SV="1.0">0xxxxxxxxx7</v1:id>
                                <v1:cd S="CD-HCPARTY" SV="1.0">orgpublichealth</v1:cd>
                                <v1:name>eHealth platform</v1:name>
                        </v1:hcparty>
                </urn1:author>
                <urn1:date>2018-10-10+02:00</urn1:date>
                <urn1:time>14:46:00.641+02:00</urn1:time>
                <urn1:request>
                        <urn1:id S="ID-KMEHR" SV="1.0">1990001916.20100120090927123</urn1:id>
                        <urn1:author>
                                <v1:hcparty>
                                        <v1:id S="LOCAL" SL="application_ID"
SV="1.0">1990000332</v1:id>
                                         <v1:cd S="CD-HCPARTY" SV="1.1">application</v1:cd>
                                        <v1:name>eHealth Metahub</v1:name>
                                </v1:hcparty>
                                <v1:hcparty
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                        <v1:id S="ID-HCPARTY" SV="1.0">1990000431</v1:id>
```

```
                                        <v1:cd S="CD-HCPARTY" SV="1.1">hub</v1:cd>
                                        <v1:name>test_hub_1</v1:name>
                                    </v1:hcparty>
                                    <v1:hcparty
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                        <v1:id S="ID-HCPARTY" SV="1.0">123456789</v1:id>
                                        <v1:cd S="CD-HCPARTY" SV="1.1">orghospital</v1:cd>
                                        <v1:name>HOSPITAL WILMAR 1</v1:name>
                                    </v1:hcparty>
                                    <v1:hcparty
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                        <v1:id S="ID-HCPARTY" SV="1.0">12345678910</v1:id>
                                        <v1:id S="INSS" SV="1.0">5xxxxxxxx1</v1:id>
                                        <v1:cd S="CD-HCPARTY" SV="1.1">persphysician</v1:cd>
                                        <v1:firstname>FakeFirstName</v1:firstname>
                                        <v1:familyname>FakeLastName</v1:familyname>
                                    </v1:hcparty>
                                </urn1:author>
                                <urn1:date>2017-12-06</urn1:date>
                                <urn1:time>10:31:00</urn1:time>
                            </urn1:request>
                        </urn1:response>
                        <urn1:acknowledge xmlns:urn1="urn:be:fgov:ehealth:metahub:core:v2">
                            <urn1:iscomplete>true</urn1:iscomplete>
                        </urn1:acknowledge>
</urn:PutTherapeuticLinkResponse>
```

Example: Unsuccessful PutTherapeuticLinkResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<urn:PutTherapeuticLinkResponse xmlns:urn="urn:be:fgov:ehealth:metahub:protocol:v2">
        <urn1:response xmlns:urn1="urn:be:fgov:ehealth:metahub:core:v2">
            <urn1:id S="ID-KMEHR" SV="1.0">1990001916.20100120090927123</urn1:id>
            <urn1:author>
                <v1:hcparty xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                    <v1:id S="ID-HCPARTY" SV="1.0">0xxxxxx7</v1:id>
                    <v1:cd S="CD-HCPARTY" SV="1.0">orgpublichealth</v1:cd>
                    <v1:name>eHealth platform</v1:name>
                </v1:hcparty>
            </urn1:author>
            <urn1:date>2018-10-10+02:00</urn1:date>
            <urn1:time>14:46:56.453+02:00</urn1:time>
            <urn1:request>
                <urn1:id S="ID-KMEHR" SV="1.0">1990001916.20100120090927123</urn1:id>
                <urn1:author>
                    <v1:hcparty>
                        <v1:id S="LOCAL" SL="application_ID"
SV="1.0">1990000332</v1:id>
                         <v1:cd S="CD-HCPARTY" SV="1.1">application</v1:cd>
                        <v1:name>eHealth Metahub</v1:name>
                    </v1:hcparty>
                    <v1:hcparty
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                        <v1:id S="ID-HCPARTY" SV="1.0">1990000431</v1:id>
                        <v1:cd S="CD-HCPARTY" SV="1.1">hub</v1:cd>
```

```
                                        <v1:name>test_hub_1</v1:name>
                                    </v1:hcparty>
                                    <v1:hcparty
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                        <v1:id S="ID-HCPARTY" SV="1.0">123456789</v1:id>
                                        <v1:cd S="CD-HCPARTY" SV="1.1">orghospital</v1:cd>
                                        <v1:name>HOSPITAL WILMAR 1</v1:name>
                                    </v1:hcparty>
                                    <v1:hcparty
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                        <v1:id S="ID-HCPARTY" SV="1.0">12345678910</v1:id>
                                        <v1:id S="INSS" SV="1.0">5xxxxxxxxx1</v1:id>
                                        <v1:cd S="CD-HCPARTY" SV="1.1">persphysician</v1:cd>
                                        <v1:firstname>FakeFirstName</v1:firstname>
                                        <v1:familyname>FakeLastName</v1:familyname>
                                    </v1:hcparty>
                                </urn1:author>
                                <urn1:date>2017-12-06</urn1:date>
                                <urn1:time>10:31:00</urn1:time>
                            </urn1:request>
                        </urn1:response>
                        <urn1:acknowledge xmlns:urn1="urn:be:fgov:ehealth:metahub:core:v2">
                            <urn1:iscomplete>false</urn1:iscomplete>
                            <urn1:error>
                                <v1:cd S="CD-ERROR" SV="1.0"
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">NIP.META.TlServiceBean</v1:cd>
                                <v1:description L="en"
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">an unexpected error occured with the
message: a valid therapeutic link exists: 10/10/2018-10/01/2020</v1:description>
                            </urn1:error>
                        </urn1:acknowledge>
</urn:PutTherapeuticLinkResponse>
```


5.2.7.2.4 Review of some error codes

When a business error has occurred, then the *iscomplete* field of the *acknowledge* element is set to *false*. The acknowledge block of the reply message sent after an error has occurred looks as follows:

```
<acknowledge>
    <iscomplete>false</iscomplete>
    <error>
        <cd SV="1.0" S="CD-ERROR">error_code</cd>
        <description L="EN">error_description</description>
    </error>
</acknowledge>
```

The table below provides an overview of some possible errors returned by the service for this method.

This list is not exhaustive.

Error type	Code	Description
	TL.ACCESS.06	Author - The category of the author is different from the category of the HC party concerned by the therapeutic link
	TL.ACCESS.08	Author - The HC party is excluded by the patient concerned by the therapeutic link

	TL.ACCESS.17	Author - Only one end user is allowed
	TL.INPUT.15	Author - Invalid HC party category
	TL.INPUT.22.01	Author - NIHII does not correspond to the HC party SSIN
	TL.INPUT.27.01	Author - Invalid organization category
	TL.INPUT.30	Therapeutic link - Missing patient identifier (SSIN)
	TL.INPUT.31.01	Therapeutic Link - Invalid patient identifier (more than 1 INSS)
	TL.INPUT.31.02	Therapeutic link - Invalid patient identifier (INSS wrongly formatted)
	TL.INPUT.31.03	Therapeutic Link - Invalid patient identifier (more than 1 CARDNO)
	TL.INPUT.35	Therapeutic link - Missing patient first name or family name
	TL.INPUT.40	Therapeutic link - Invalid SSIN of the HC party
	TL.INPUT.41	Therapeutic link - Invalid NIHII of the HC party
	TL.INPUT.42	Therapeutic link - NIHII does not correspond to the HC party SSIN
	TL.INPUT.47	Therapeutic link – HC party not found.
	TL.INPUT.48.01	Therapeutic link - Missing organization identifier
	TL.INPUT.51	Therapeutic Link - The type of therapeutic link is not allowed for the operation
	TL.INPUT.52	Therapeutic Link - GMD is not supported
	TL.INPUT.62	Therapeutic Link - The start date must be equal to the declaration date
NIP.META	NIP.META.TlServiceBean	an unexpected error occured with the message: a valid therapeutic link exists:*
NIP.GENERIC	NIP.GENERIC.UndeclaredThrowableException	Patient Identification data - Format error
IDS2	IDS2.INPUT.53	Patient Identification data - Invalid Combination - Card (- Invalid Combination - Card: isi COMBINATION)

When business errors of the type “Invalid input” or “Permission” occur, please verify your request message. When a system error occurs and persists, please contact the contact center.

5.2.7.3 Method RevokeTherapeuticLink

5.2.7.3.1 Functional description

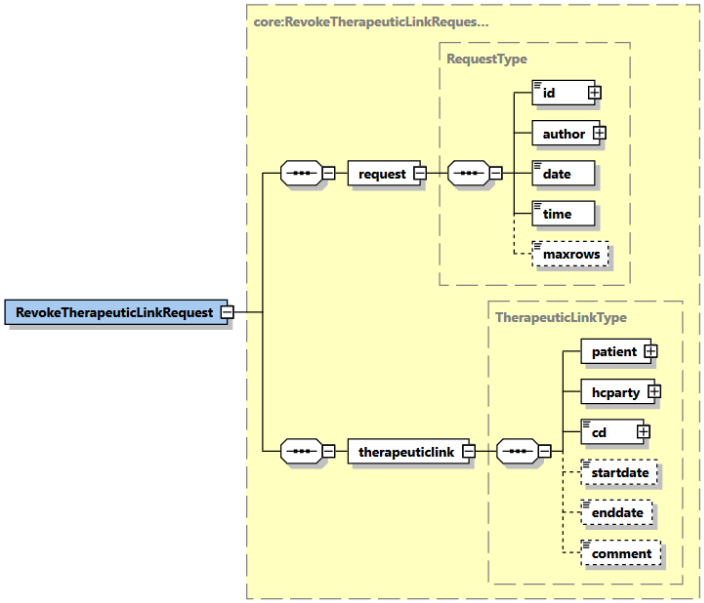
Service name	RevokeTherapeuticLink
Purpose	This method allows a hub to revoke a therapeutic link between a patient and a healthcare profesionnal.
Input parameters	• The sender of the request containing information provided in the predetermined sequence described hereunder: – the identification of the hub (hub id) that performs the operation call (**mandatory**)

	– the information identifying the healthcare professional end-user (**mandatory**). This information is composed of the healthcare professional identifier (inss and/or nihii if available) and the healtcare professional category. Currently, only the following healthcare professional end-users are supported : ***Physician***, ***Nurse***, ***Dentist***, ***Midwife, Audician, Physiotherapist, Occupational therapist, Practical nurse, Dietician, Audiologist, Podologist, Truss maker, Logopedist, Orthoptist, Optometrist, Lab technologist, Imaging technologist, Clinical ortopedic pedagogue, Clinical psychologist, Dental hygienist, OT mobility improvement, OT bandages orthosiology, OT prosthesiology, OT shoe technology.*** • Information about the request (id/date/time) (**mandatory**) • A set of criteria relative to the therapeutic link including including at least, the information related to the concerned patient: – the patient identifier: inss (**mandatory**). – optionally, the support card number. (**optional**) and/or • the information related to the concerned healthcare professional : – the SSIN number or NIHII number if available (**mandatory**) – the healthcare professional category (**mandatory**) – the first name and last name of the healthcare professional (**optional**) • The therapeutic link type. (**mandatory**) • The period of validity of the therapeutic link (optional for GMD)
Output parameters	• The information about the response: – Id, date, time of the response; – the identification of the sender of the response; – the initial request. • An acknowledge indicating the completion of the request: – the status of the completion; the possible errors including the error code and its description.
Post-condition	• the request is logged • the given therapeutic link, if found, is revoked in DB. • All overlapped period of validity of the same relation are revoked
Exceptions	• Technical error. • Invalid or incorrect data: – sender is not allowed to perform the revocation; – HC party performing the revocation is excluded by the concerned patient in the case of referral revocation; – active therapeutic link does not exist between the HC party performing the revocation and the concerned patient in the case of referral revocation; – HC party performing the revocation does not have the same professional category as the HC party concerned by the therapeutic link; – invalid patient (invalid SSIN or SSIN does not correspond to the provided support card number); – invalid therapeutic link type. – the revocation end date is anterior to the start date;

	– there is no active therapeutic link of this type for the given HC party.
Comments	• **Identification of patient**: The patient is identified by his SSIN number. • **Identification of HC party:** – The healthcare professional is identified by the SSIN number, the NIHII number (if available) and the HC party category.

5.2.7.3.2 Formulating a request

A request from the caller hub for the revocation of a therapeutic link looks as follows:



The '**request**' parameter gathers the elements relative to

- the information about the request (id, date, time);
- the author of the request (end-user).

The '**therapeuticlink**' parameter covers

- the patient identifier;
- the HC party identifier;
- the therapeutic link data including the type of therapeutic link and the period of validity.

Parameter	Attributes		Comments
request [1]	id [1]	Identifier of the request within the caller system.	Identifies the **message** within the system according to ID-KMEHR identification. Must contain a value with 50 alphanumeric as maximum length.
	author [1]	Sender of the request represented as a sequence of *hcparty* elements. Must contain the requestor hub and the supported healthcare party end-user.	This information must be coherent with the information provided in the technical identification and authentication system (i.e. certificate and SAML assertion).
	date [1]	Date of request	Format YYYY-MM-DD
	time [1]	Time of request	Format hh:mm:ss

therapeuticlink [1]	patient [1]	Identification of the patient concerned by the therapeutic link.	Identification data of the patient composing of INSS and support card number. The xsd's element '*name*' cannot be used for the declaration but '*firstname*' and '*familyname*' instead, the element '*familyname*' must contain at least one character whilst the element '*firstname*' can be empty.
	hcparty[1-n]	Identification of the HC party concerned by the therapeutic link.	Currently the service supports only one HC Party The *hcparty* must contain the category of the HC party and at least the SSIN (case of professional), NIHII (case of organization) corresponding to its hc party category. The HC party category refers to a value of KMEHR table CD-HCPARTY.
	cd [1]	The type identifying the therapeutic link.	Corresponds to a value of the KMEHR table CD-THERAPEUTICLINKTYPE.
	startdate [0-1]	The inclusive start date of the validity period of the therapeutic link.	Format YYYY-MM-DD
	enddate [0-1]	The exclusive end date of the validity period of therapeutic link.	Format YYYY-MM-DD
	comment [0-1]	The comment justifying the declaration.	The maximum length is 256.

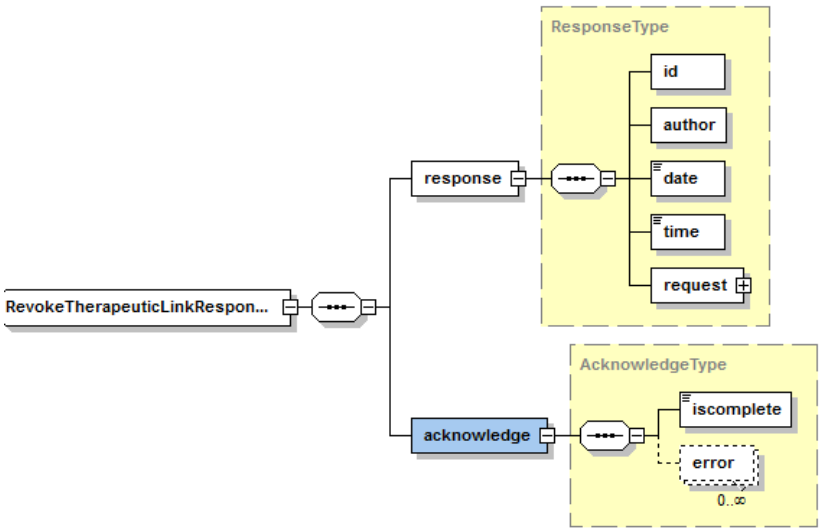
Example: RevokeTherapeuticLinkRequest.xml

```
<urn:RevokeTherapeuticLinkRequest>
        <urn1:request>
                <urn1:id S="ID-KMEHR" SV="1.0">1990001916.20100120090927123</urn1:id>
                <urn1:author>
                        <v1:hcparty>
                                <v1:id S="LOCAL" SL="application_ID" SV="1.0">1990000332</v1:id>
                                <v1:cd S="CD-HCPARTY" SV="1.1">application</v1:cd>
                                <v1:name>eHealth Metahub</v1:name>
                        </v1:hcparty>
                        <v1:hcparty>
                                <v1:id S="ID-HCPARTY" SV="1.0">1990000431</v1:id>
                                <v1:cd S="CD-HCPARTY" SV="1.1">hub</v1:cd>
                                <v1:name>test_hub_1</v1:name>
                        </v1:hcparty>
                        <v1:hcparty>
                                <v1:id S="ID-HCPARTY" SV="1.0">123456789</v1:id>
```

```
                        <v1:cd S="CD-HCPARTY" SV="1.1">orghospital</v1:cd>
                        <v1:name>HOSPITAL WILMAR 1</v1:name>
                    </v1:hcparty>
                    <v1:hcparty>
                        <v1:id S="ID-HCPARTY" SV="1.0">12345678910</v1:id>
                        <v1:id S="INSS" SV="1.0">5xxxxxxxxx1</v1:id>
                        <v1:cd S="CD-HCPARTY" SV="1.1">persphysician</v1:cd>
                        <v1:firstname>FakeFirstName</v1:firstname>
                        <v1:familyname>FakeLastName</v1:familyname>
                    </v1:hcparty>
                </urn1:author>
                <urn1:date>2017-12-06</urn1:date>
                <urn1:time>10:31:00</urn1:time>
            </urn1:request>
            <urn1:therapeuticlink>
                <urn1:patient>
                    <v1:id S="INSS" SV="1.0">1xxxxxxxxx2</v1:id>
                    <v1:firstname>FakeFistName</v1:firstname>
                    <v1:familyname>FakeLastName</v1:familyname>
                </urn1:patient>
                <urn1:hcparty>
                    <v1:id S="ID-HCPARTY" SV="1.0">12345678910</v1:id>
                    <v1:id S="INSS" SV="1.0">5xxxxxxxxx1</v1:id>
                    <v1:cd S="CD-HCPARTY" SV="1.1">persphysician</v1:cd>
                </urn1:hcparty>
                <urn1:cd S="CD-THERAPEUTICLINKTYPE" SV="1.0">gpconsultation</urn1:cd>
            </urn1:therapeuticlink>
</urn:RevokeTherapeuticLinkRequest>
```

5.2.7.3.3 Interpretation of the reply

The reply, as sent back by the revokeTherapeuticLink method, is discussed below.



The '**response**' parameter gathers the elements relative to

- the information about the response (id, date, time);
- the sender of the response;

- the initial request.

The '**acknowledge**' parameter gathers the elements relative to

- the service completion (*iscomplete*);
- the errors or exceptions that occurred during the service execution.

Parameter	Attributes		Comments
response [1]	id [1]	Identifier of the response within the responder system.	
	author [1]	Sender of the response.	
	date [1]	Date of the response.	Format YYYY-MM-DD
	time [1]	Time of the response.	Format hh:mm:ss
	request [1]	The author part of the initial request.	
acknowledge [1]	iscomplete [1]	Indicates whether the execution has been successfully completed.	The execution is successful if the therapeutic link has been correctly stored in DB.
	error [0-*]	Indicates the error/exception descriptions.	

Example: RevokeTherapeuticLinkResponse.xml

```
<urn:RevokeTherapeuticLinkResponse xmlns:urn="urn:be:fgov:ehealth:metahub:protocol:v2">
        <urn1:response xmlns:urn1="urn:be:fgov:ehealth:metahub:core:v2">
                <urn1:id S="ID-KMEHR" SV="1.0">1990001916.20100120090927123</urn1:id>
                <urn1:author>
                        <v1:hcparty xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                <v1:id S="ID-HCPARTY" SV="1.0">123456789</v1:id>
                                <v1:cd S="CD-HCPARTY" SV="1.0">orgpublichealth</v1:cd>
                                <v1:name>eHealth platform</v1:name>
                        </v1:hcparty>
                </urn1:author>
                <urn1:date>2018-10-10+02:00</urn1:date>
                <urn1:time>14:55:20.559+02:00</urn1:time>
                <urn1:request>
                        <urn1:id S="ID-KMEHR" SV="1.0">1990001916.20100120090927123</urn1:id>
                        <urn1:author>
                                <v1:hcparty>
                                        <v1:id S="LOCAL" SL="application_ID"
SV="1.0">1990000332</v1:id>
                                        <v1:cd S="CD-HCPARTY" SV="1.1">application</v1:cd>
                                        <v1:name>eHealth Metahub</v1:name>
                                </v1:hcparty>
                                <v1:hcparty
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                        <v1:id S="ID-HCPARTY" SV="1.0">1990000431</v1:id>
                                        <v1:cd S="CD-HCPARTY" SV="1.1">hub</v1:cd>
                                        <v1:name>test_hub_1</v1:name>
                                </v1:hcparty>
```

```
                                <v1:hcparty
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                        <v1:id S="ID-HCPARTY" SV="1.0">123456789</v1:id>
                                        <v1:cd S="CD-HCPARTY" SV="1.1">orghospital</v1:cd>
                                        <v1:name>HOSPITAL WILMAR 1</v1:name>
                                </v1:hcparty>
                                <v1:hcparty
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                        <v1:id S="ID-HCPARTY" SV="1.0">12345678910</v1:id>
                                        <v1:id S="INSS" SV="1.0">5xxxxxxxxx1</v1:id>
                                        <v1:cd S="CD-HCPARTY" SV="1.1">persphysician</v1:cd>
                                        <v1:firstname>FakeFirstName</v1:firstname>
                                        <v1:familyname>FakeLastName</v1:familyname>
                                </v1:hcparty>
                        </urn1:author>
                        <urn1:date>2017-12-06</urn1:date>
                        <urn1:time>10:31:00</urn1:time>
                </urn1:request>
        </urn1:response>
        <urn1:acknowledge xmlns:urn1="urn:be:fgov:ehealth:metahub:core:v2">
                <urn1:iscomplete>true</urn1:iscomplete>
        </urn1:acknowledge>
</urn:RevokeTherapeuticLinkResponse>
```

Example: Unsuccessful PutTherapeuticLinkResponse.xml

```
<urn:RevokeTherapeuticLinkResponse xmlns:urn="urn:be:fgov:ehealth:metahub:protocol:v2">
        <urn1:response xmlns:urn1="urn:be:fgov:ehealth:metahub:core:v2">
                <urn1:id S="ID-KMEHR" SV="1.0">1990001916.20100120090927123</urn1:id>
                <urn1:author>
                        <v1:hcparty xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                <v1:id S="ID-HCPARTY" SV="1.0">123456789</v1:id>
                                <v1:cd S="CD-HCPARTY" SV="1.0">orgpublichealth</v1:cd>
                                <v1:name>eHealth platform</v1:name>
                        </v1:hcparty>
                </urn1:author>
                <urn1:date>2018-10-10+02:00</urn1:date>
                <urn1:time>14:56:01.135+02:00</urn1:time>
                <urn1:request>
                        <urn1:id S="ID-KMEHR" SV="1.0">1990001916.20100120090927123</urn1:id>
                        <urn1:author>
                                <v1:hcparty>
                                        <v1:id S="LOCAL" SL="application_ID"
SV="1.0">1990000332</v1:id>
                                        <v1:cd S="CD-HCPARTY" SV="1.1">application</v1:cd>
                                        <v1:name>eHealth Metahub</v1:name>
                                </v1:hcparty>
                                <v1:hcparty
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                        <v1:id S="ID-HCPARTY" SV="1.0">1990000431</v1:id>
                                        <v1:cd S="CD-HCPARTY" SV="1.1">hub</v1:cd>
                                        <v1:name>test_hub_1</v1:name>
                                </v1:hcparty>
                                <v1:hcparty
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                        <v1:id S="ID-HCPARTY" SV="1.0">123456789</v1:id>
```

```
                                        <v1:cd S="CD-HCPARTY" SV="1.1">orghospital</v1:cd>
                                        <v1:name>HOSPITAL WILMAR 1</v1:name>
                                    </v1:hcparty>
                                    <v1:hcparty
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
                                        <v1:id S="ID-HCPARTY" SV="1.0">12345678910</v1:id>
                                        <v1:id S="INSS" SV="1.0">5xxxxxxxxx1</v1:id>
                                        <v1:cd S="CD-HCPARTY" SV="1.1">persphysician</v1:cd>
                                        <v1:firstname>FakeFirstName</v1:firstname>
                                        <v1:familyname>FakeLastName</v1:familyname>
                                    </v1:hcparty>
                                </urn1:author>
                                <urn1:date>2017-12-06</urn1:date>
                                <urn1:time>10:31:00</urn1:time>
                            </urn1:request>
                        </urn1:response>
                        <urn1:acknowledge xmlns:urn1="urn:be:fgov:ehealth:metahub:core:v2">
                            <urn1:iscomplete>false</urn1:iscomplete>
                            <urn1:error>
                                <v1:cd S="CD-ERROR" SV="1.0"
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">NIP.META.TlServiceBean</v1:cd>
                                <v1:description L="en"
xmlns:v1="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">an unexpected error occured with the
message: no therapeutic link found</v1:description>
                            </urn1:error>
                        </urn1:acknowledge>
</urn:RevokeTherapeuticLinkResponse>
```

5.2.7.3.4 Review of some error codes

When a business error has occurred, then the *iscomplete* field of the *acknowledge* element is set to *false*. The acknowledge block of the reply message sent after an error has occurred looks as follows:

```
<acknowledge>
    <iscomplete>false</iscomplete>
    <error>
        <cd SV="1.0" S="CD-ERROR">error_code</cd>
        <description L="EN">error_description</description>
    </error>
</acknowledge>
```

The table below provides an overview of some possible errors returned by the service for this method.

This list is not exhaustive.

Error type	Code	Description
TL.ACCESS	TL.ACCESS.06	Author - The category of the author is different from the category of the HC party concerned by the therapeutic link
	TL.ACCESS.08	Author - The HC party is excluded by the patient concerned by the therapeutic link
	TL.ACCESS.17	Author - Only one end user is allowed
TL.INPUT	TL.INPUT.15	Author - Invalid HC party category
	TL.INPUT.22.01	Author - NIHII does not correspond to the HC party SSIN
	TL.INPUT.27.01	Author - Invalid organization category
	TL.INPUT.30	Therapeutic link - Missing patient identifier (SSIN)

	TL.INPUT.31.01	Therapeutic Link - Invalid patient identifier (more than 1 INSS)
	TL.INPUT.31.02	Therapeutic link - Invalid patient identifier (INSS wrongly formatted)
	TL.INPUT.31.03	Therapeutic Link - Invalid patient identifier (more than 1 CARDNO)
	TL.INPUT.35	Therapeutic link - Missing patient first name or family name
	TL.INPUT.40	Therapeutic link - Invalid SSIN of the HC party
	TL.INPUT.41	Therapeutic link - Invalid NIHII of the HC party
	TL.INPUT.48.01	Therapeutic link - Missing organization identifier
	TL.INPUT.51	Therapeutic Link - The type of therapeutic link is not allowed for the operation
	TL.INPUT.52	Therapeutic Link - GMD is not supported
	TL.INPUT.62	Therapeutic Link - The start date must be equal to the declaration date
NIP.INPUT	NIP.INPUT.Request Validation	an unexpected error occured with the message: no therapeutic link found
NIP.GENERIC	NIP.GENERIC.UndeclaredThrowableException	Patient Identification data - Format error
IDS2	IDS2.INPUT.53	Patient Identification data - Invalid Combination - Card (- Invalid Combination - Card: isi COMBINATION)

When business errors of the type “Invalid input” or “Permission” occur, please verify your request message. When a system error occurs and persists, please contact the contact center. (See chapter 3)

5.2.8 Metahub Delta

5.2.8.1 Method GetMetahubDelta

5.2.8.1.1 Functional description

Service name	getMetahubDelta
Purpose	Allows a hub to obtain all requests that have been registered in the Metahub regarding consents, exclusions and/or hub-patient link data, for a certain period.

Input parameters	• The sender of the request containing at least:
	  – the hub that performs the operation call (**mandatory**)
	• information about the request (id/date/time) (**mandatory**)
	• a set of criteria including:
	  – a period [Begin - End]; if the end of the interval is not provided, the interval is considered to be [Begin – ‘Present DateTime’] (mandatory)
	  – the Delta type (**mandatory**):
	  ○ ALL
	  ○ CONSENTS
	  ○ EXCLUSIONS
	  ○ PATIENTHUBLINKS.

	We strongly recommend minimizing the period by using the request criteria 'begindate',' begintime', 'enddate' and 'endtime'. Indeed, the maximum of the records returned in the result set by the service is currently 1500. A 'Warning' is returned when there are more results than supported by the service.

Output parameters	• the initial request
	• an acknowledge indicating the completion of the request
	• the list of recorded delta elements that fulfill the provided criteria:
	  – if the corresponding search criterion is provided in the request,
	  ○ the occurrence time is contained in the period [Begin-End],
	  ○ the type of the delta element corresponds to timeperiod
	Remarks:
	• if there is no delta element that fulfills the provided criteria, the returned list is empty.

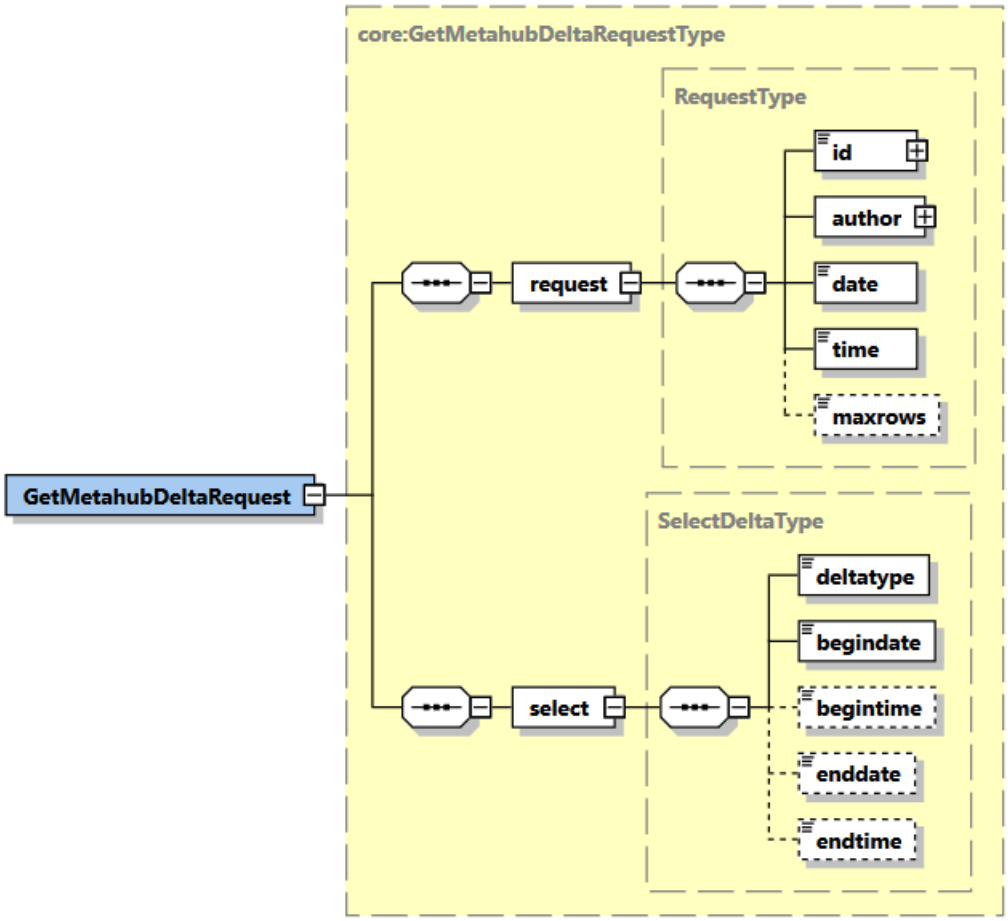
Post-condition	• the request is logged.

Exceptions	• Technical error.
	• Invalid or incorrect data:
	  – Invalid sender
	  – Invalid period
	  – Invalid delta type.
	• Does not contain a recognized Hub.
	• Unsupported period.

Comments	Due to technical limitations, the availability of the delta elements throughout the service is limited in time. The size of the response is also limited. The hubs are expected to update their systems with the Metahub deltas once in a certain period, as to assure to their patients that their application information is up to date.

5.2.8.1.2 Formulating a request

A request from the caller hub for the metahubdelta looks as follows:



The 'request' parameter gathers the elements relative to the

- information about the request (id, date, time),
- sender of the request.

The 'select' parameter covers the

- search criteria.

Parameter	Attributes		Comments
request [1]	id [1]	Identifier of the request within the caller system.	Identifies the **message** within the system according to ID-KMEHR identification. Must contain a value with 50 alphanumeric as maximum length.
	author [1]	Sender of the request represented as a sequence of *hcparty* elements. It must at least contain the requestor hub.	This information must be coherent with the information provided in the technical identification and authentication system (i.e. certificate and SAML assertion).

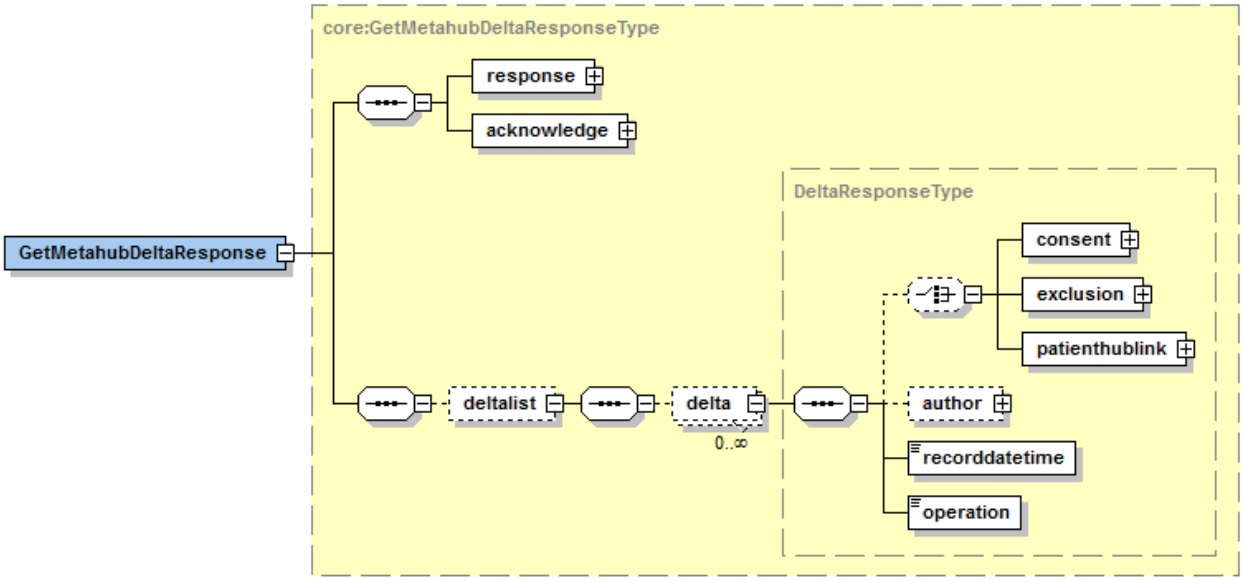
	date [1]	Date of request	Format YYYY-MM-DD
	time [1]	Time of request	Format hh:mm:ss
select[1]	deltatype [1]	Type of delta that is requested: -ALL - CONSENT - EXCLUSIONS - PATIENTHUBLINKS	
	begindate [1]	The begin date of the period	Format YYYY-MM-DD
	begintime [0-1]	The begin time of the period	Format hh:mm:ss
	enddate [0-1]	The end date of the period	Format YYYY-MM-DD
	endtime [0-1]	The end time of the period	Format hh:mm:ss

Example: GetMetahubDeltaRequest.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<GetMetahubDeltaRequest
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:request>
                <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="LOCAL" SL="application_ID"
                                SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                <kmehr:name>eHealth Metahub</kmehr:name>
                        </kmehr:hcparty>
                        <kmehr:hcparty>
                                <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                <kmehr:name> test_hub_1</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29</core:date>
                <core:time>11:00:22.0Z</core:time>
        </core:request>
        <core:select>
                <core:deltatype>ALL</core:deltatype>
                <core:begindate>2012-11-29</core:begindate>
                <core:begintime>08:00:00</core:begintime>
                <core:enddate>2013-11-29</core:enddate>
                <core:endtime>23:59:00</core:endtime>
        </core:select>
</GetMetahubDeltaRequest>
```

5.2.8.1.3 Interpretation of the reply

The reply, as sent back by the getMetahubDelta method, is discussed below.



The 'response' parameter gathers the elements relative to the

- information about the response (id, date, time),
- initial request,
- sender of the response.

The 'acknowledge' parameter gathers the elements relative to the

- service completion,
- errors or exceptions that occurred during the service execution.

The 'deltalist' parameter covers the element relative to the

- delta elements.

Parameter	Attributes		Comments
Response	id [1]	Identifier of the response within the Metahub	
	author [1]	Sender of the response (Metahub)	
	date [1]	Date of response	
	time [1]	Time of response	
	request [1]	Initial request	
acknowledge	iscomplete [1]	Indicates if the execution has been successfully completed	If the conditions were fulfilled to compute a list of results – even empty - , iscomplete is set to 'true'; it is set to 'false' otherwise.
	error [0-*]	Indicates the error/exception descriptions	
deltalist [0-1]	delta[0-*]	consent[0-1]	This element contains all information related to the management of the 'informed patient consent' for a given period.

		exclusion[0-1]	This element contains all information related to the management of the therapeutic exclusion for a given period.
		patienthublink[0-1]	This element contains all information related to the management of the links between hubs and HCParties for a given period.
		author [0-1]	The requestor of the operation.
		recorddatetime [1]	The occurence time of the event.
		operation [1]	The operation.

Example: Successful GetMetahubDeltaResponse.xml with delta.

```
<?xml version="1.0" encoding="UTF-8"?>
<GetMetahubDeltaResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                        <core:author>
                                <kmehr:hcparty>
                                        <kmehr:id S="LOCAL" SL="application_ID"
                                        SV="1.0">1990000332</kmehr:id>
                                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                        <kmehr:name>eHealth Metahub</kmehr:name>
                                </kmehr:hcparty>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                        <kmehr:name> test_hub_1</kmehr:name>
                                </kmehr:hcparty>
                        </core:author>
                        <core:date>2013-11-29</core:date>
                        <core:time>11:00:22.0Z</core:time>
                </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
```

```
<core:deltalist>
	<core:delta>
		<core:consent>
			<core:cd S="CD-CONSENTTYPE" SV="1.0">retrospective</core:cd>
			<core:patient>
				<core:id S="INSS" SV="1.0">0xxxxxxxxx6</core:id>
			</core:patient>
			<core:signingdate>2011-03-09</core:signingdate>
			<core:author>
				<kmehr:hcparty>
					<kmehr:id S="ID-HCPARTY"
SV="1.0">1990000431</kmehr:id>
					<kmehr:cd S="CD-HCPARTY" SV="1.1">hub</kmehr:cd>
					<kmehr:name>test_hub_1</kmehr:name>
				</kmehr:hcparty>
			</core:author>
		</core:consent>
		<core:recorddatetime>2012-07-26T15:42:48.621</core:recorddatetime>
		<core:operation>declarePatientConsent</core:operation>
	</core:delta>
	<core:delta>
		<core:patienthublink>
			<core:patient>
				<core:id S="INSS" SV="1.0">0xxxxxxxxx7</core:id>
			</core:patient>
			<core:hub>
				<kmehr:id S="ID-HCPARTY" SV="1.0">1990000431</kmehr:id>
				<kmehr:cd S="CD-HCPARTY" SV="1.1">hub</kmehr:cd>
				<kmehr:name>test_hub_1</kmehr:name>
			</core:hub>
		</core:patienthublink>
		<core:recorddatetime>2012-07-18T09:54:24.096</core:recorddatetime>
		<core:operation>declarePatientLink</core:operation>
	</core:delta>
	<core:delta>
		<core:exclusion>
			<core:patient>
				<core:id S="INSS" SV="1.0">0xxxxxxxxx7</core:id>
			</core:patient>
			<core:hcparty>
				<kmehr:id SV="1.0" S="INSS">5xxxxxxxxx1</kmehr:id>
				<kmehr:id SV="1.0" S=" ID-HCPARTY "> 12345678910</kmehr:id>
				<kmehr:cd S="CD-HCPARTY" SV="1.1">persphysician</kmehr:cd>
				<kmehr:firstname>FakeFirstName</kmehr:firstname>
				<kmehr:familyname>FakeLastName</kmehr:familyname>
			</core:hcparty>
			<core:author>
				<kmehr:hcparty>
					<kmehr:id S="ID-HCPARTY"
SV="1.0">1990000431</kmehr:id>
					<kmehr:cd S="CD-HCPARTY" SV="1.1">hub</kmehr:cd>
					<kmehr:name>test_hub_1</kmehr:name>
				</kmehr:hcparty>
			</core:author>
		</core:exclusion>
```

```
                    <core:recorddatetime>2012-07-18T09:54:28</core:recorddatetime>
                    <core:operation>putTherapeuticExclusion</core:operation>
                </core:delta>
        </core:deltalist>
</GetMetahubDeltaResponse>
```

Example: Successful GetMetahubDeltaResponse.xml without delta.

```
<?xml version="1.0" encoding="UTF-8"?>
<GetMetahubDeltaResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                        <core:author>
                                <kmehr:hcparty>
                                        <kmehr:id S="LOCAL" SL="application_ID"
                                        SV="1.0">1990000332</kmehr:id>
                                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                        <kmehr:name>eHealth Metahub</kmehr:name>
                                </kmehr:hcparty>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                        <kmehr:name> test_hub_1</kmehr:name>
                                </kmehr:hcparty>
                        </core:author>
                        <core:date>2013-11-29</core:date>
                        <core:time>11:00:22.0Z</core:time>
                </core:request>
        </core:response>
        <core:acknowledge>
                <core:iscomplete>true</core:iscomplete>
        </core:acknowledge>
        <core:deltalist/>
</GetMetahubDeltaResponse>
```

Example: Unsuccessful GetMetahubDeltaResponse.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<GetMetahubDeltaResponse
        xsi:schemaLocation="urn:be:fgov:ehealth:metahub:protocol:v2 metahub_protocol-2_3.xsd"
        xmlns="urn:be:fgov:ehealth:metahub:protocol:v2"
        xmlns:kmehr="http://www.ehealth.fgov.be/standards/kmehr/schema/v1"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xmlns:core="urn:be:fgov:ehealth:metahub:core:v2">
        <core:response>
                <core:id S="ID-KMEHR" SV="1.0">1990000332.SRAM4LC3YHK3</core:id>
                <core:author>
                        <kmehr:hcparty>
                                <kmehr:id S="ID-HCPARTY" SV="1.0">1990000332</kmehr:id>
                                <kmehr:cd S="CD-HCPARTY" SV="1.0">hub</kmehr:cd>
                                <kmehr:name>Metahub</kmehr:name>
                        </kmehr:hcparty>
                </core:author>
                <core:date>2013-11-29+01:00</core:date>
                <core:time>11:00:23.144</core:time>
                <core:request>
                        <core:id SV="1.0" S="ID-KMEHR">1990000431.20130515090927123</core:id>
                        <core:author>
                                <kmehr:hcparty>
                                        <kmehr:id S="LOCAL" SL="application_ID"
                                        SV="1.0">1990000332</kmehr:id>
                                        <kmehr:cd S="CD-HCPARTY" SV="1.1">application</kmehr:cd>
                                        <kmehr:name>eHealth Metahub</kmehr:name>
                                </kmehr:hcparty>
                                <kmehr:hcparty>
                                        <kmehr:id SV="1.0" S="ID-HCPARTY">1990000431</kmehr:id>
                                        <kmehr:cd SV="1.1" S="CD-HCPARTY">hub</kmehr:cd>
                                        <kmehr:name> test_hub_1</kmehr:name>
                                </kmehr:hcparty>
                        </core:author>
                        <core:date>2013-11-29</core:date>
                        <core:time>11:00:22.0Z</core:time>
                </core:request>
         </core:response>
         <core:acknowledge>
                <core:iscomplete>false</core:iscomplete>
                <core:error>
          <kmehr:cd S="CD-ERROR" SV="1.0">MH2.INPUT.8</kmehr:cd>
          <kmehr:description L="en">Invalid time period</kmehr:description>
        </core:error>
          </core:acknowledge>
</GetMetahubDeltaResponse>
```

5.2.8.1.4 Review of some error codes

When a business error has occurred, then the *iscomplete* field of the *acknowledge* element is set to *false*. The acknowledge block of the reply message sent after an error has occurred looks as follows:

```
<acknowledge>
        <iscomplete>false</iscomplete>
        <error>
                <cd SV="1.0" S="CD-ERROR">error_code</cd>
                <description L="EN">error_description</description>
        </error>
</acknowledge>
```

The table below provides an overview of the possible errors returned by the service for this method:

Error type	Code	Description
	MH2.INPUT.2	Invalid request sender
	MH2.INPUT.8	Invalid period
	MH2.INPUT.20	Invalid healthcare party identifier
	MH2.INPUT.22	Invalid transaction identifier

When business errors of the type “Invalid Input” or “Permission” occur, please verify your request message.
When a system error occurs and persists, please contact the contact center.

6. Risks and security

6.1 Security

6.1.1 Business security

In case the development adds an additional use case based on an existing integration, eHealth must be informed at least one month in advance with a detailed estimate of the expected load. This will ensure an effective capacity management.

In case of technical issues on the WS, the partner may obtain support from the contact center that is responsible for this service.

In case eHealth finds a bug or vulnerability in its software, the partner is advised to update his application with the newest version of the software within 10 business days.

In case the partner finds a bug or vulnerability in the software or WS that eHealth delivered, he is obliged to contact and inform eHealth immediately, and he is not allowed to publish this bug or vulnerability in any case.

6.2 Web service

WS security used in this manner is in accordance with the common standards. Your call will provide:

- SSL one way
- Time-to-live of the message: one minute.
- Signature of the timestamp, body and binary security token. This will allow the eHealth platform to verify the integrity of the message and the identity of the message author.
- No encryption on the message.

6.3 The use of username, password and token

The username, password and token are strictly personal and are not allowed to transfer.
Every user takes care of his username, password and token and is forced to confidentiality of it. Every user is also responsible of every use which includes the use by a third party, until the inactivation.

7. Release and test processes

7.1 Request to integrate the service (acceptation environment first)

Please contact the eHealth platform at ***info@ehealth.fgov.be***

7.2 Development and test procedures

You have to develop a client to connect to the WS. Thereafter, the eHealth platform asks you to test your client first with a mock-up service.

The eHealth platform recommends performing tests for all of the following services, with a successful and unsuccessful case:

1. Consent service
   - DeclarePatientConsent
   - RevokePatientConsent
   - GetPatientConsent
2. Therapeutic Exclusion service
   - PutTherapeuticExclusion
   - RevokeTherapeuticExclusion
   - GetTherapeuticExclusions
3. Therapeutic Links service
   - PutTherapeuticLinks
   - RevokeTherapeuticLinks
   - GetTherapeuticLinks
4. Patient Link service
   - DeclarePatientLink
   - RevokePatientLink
   - GetPatientLinks
5. Audit Trail service
   - GetPatientAuditTrail
6. Delta service
   - GetMetahubDelta

7.3 Request for release into production

If acceptance tests are successful with the Metahub, the partner in the health sector sends his test results, test performance results, to the eHealth contact.

When the tests are conclusive, the eHealth platform and the partner agree on a release date. The eHealth platform provides the partner with the URL of the Metahub service in the production environment.

During the release day, the partner in the health sector provides feed-back to the eHealth contact on the release tests result.

7.4 Maintenance, support and monitoring of the service

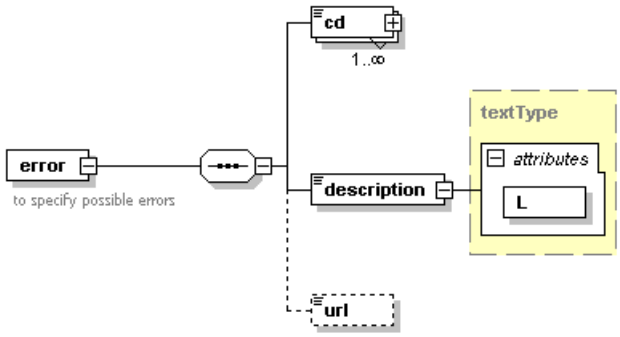
Once in production, the partner in the health sector who is using the Metahub service for one of its applications will always test first in acceptance before releasing any adaptations of its implementation. In addition, the partner will inform eHealth on the changes and test period.

In case of technical issues on the Metahub service, the technician of the partner in the health sector may obtain support from eHealth contact center.

8. Error and failure messages

8.1 Business errors

Business error(s) in Metahub service that has occurred is described as follows (common to all errors returned by the service):



Field name	Descriptions
Cd	The error code describing the type of the error. "cd" is a generic type described in the KMEHR standard, see also section:Generic structure.
description	This field contains a short text description of the error. The attribute L of this field is the language code that can be set, for example, to "EN" for English.
url	Currently, the *url* field is unused.

The error codes of Metahub originating from the eHealth platform are described below:

Error type	Code	Description
MH2.INPUT Input	MH2.INPUT.2	Invalid request sender
	MH2.INPUT.8	Invalid period
	MH2.INPUT.15	Invalid signing date
	MH2.INPUT.16	The date of signing cannot be posterior to the current date
	MH2.INPUT.19	Invalid patient identifier
	MH2.INPUT.20	Invalid healthcare party identifier
	MH2.INPUT.21	Unsupported healthcare party type
	MH2.INPUT.22	Invalid transaction identifier.
	MH2.INPUT.24	Invalid consent type
	MH2.INPUT.32	Invalid revocation date
	MH2.INPUT.33	Invalid delta type
MH2.ACCESS Permission	MH2.ACCESS.8	Consent already exists for the patient
	MH2.ACCESS.9	No active consent for the patient

	MH2.ACCESS.13	Link already exists between the hub and the patient
	MH2.ACCESS.14	No active link between the hub and the patient
	MH2.ACCESS.18	Exclusion already exists for this hcparty
	MH2.ACCESS.19	There is no exclusion for this hcparty
CO.UPDATE Permission	CO.UPDATE.01	The consent of a deceased patient cannot be updated

The error codes originating from getTherapeuticLink operation are described below:

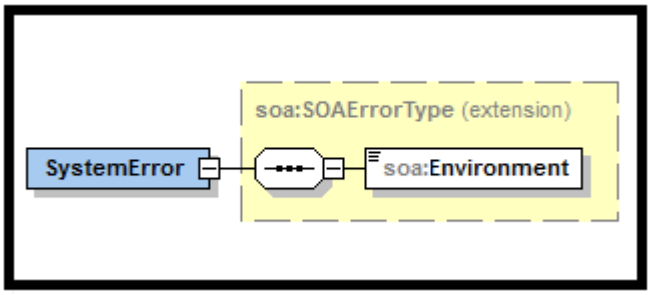
Error type	Code	Description
TL.ACCESS	TL.ACCESS.06	Author - The category of the author is different from the category of the HC party concerned by the therapeutic link
	TL.ACCESS.08	Author - The healthcare professional is excluded by the patient concerned by the therapeutic link.
	TL.ACCESS.09	Author - Therapeutic link does not exist between the author and the concerned patient.
	TL.ACCESS.17	Author - Only one author end user is allowed.
TL.INPUT	TL.INPUT.11	Author - Invalid SSIN of the healthcare professional.
	TL.INPUT.12	Author - Invalid NIHII.
	TL.INPUT.15	Author - Invalid professional category.
	TL.INPUT.22.01	Author - NIHII does not correspond to the HC party SSIN
	TL.INPUT.27.01	Author - Invalid organization category
	TL.INPUT.30	Therapeutic link - Missing patient identifier (SSIN).
	TL.INPUT.31.01	Therapeutic link - Invalid patient identifier (more than 1 INSS).
	TL.INPUT.31.02	Therapeutic link - Invalid patient identifier (INSS wrongly formatted).
	TL.INPUT.31.03	Therapeutic Link - Invalid patient identifier (more than 1 CARDNO).
	TL.INPUT.35	Therapeutic link - Missing patient first name or family name.
	TL.INPUT.40	Therapeutic link - Invalid SSIN of the healthcare professional.
	TL.INPUT.41	Therapeutic link - Invalid NIHII of the healthcare professional.
	TL.INPUT.42	Therapeutic link – NIHII does not correspond to the healthcare professional SSIN.
	TL.INPUT.44	Therapeutic link – Invalid professional category.

	TL.INPUT.48.01	Therapeutic link - Missing organization identifier
	TL.INPUT.51	Therapeutic Link - The type of therapeutic link is not allowed for the operation.
	TL.INPUT.52	Therapeutic Link - The type of therapeutic link is not allowed for the operation
	TL.INPUT.62	Therapeutic Link - The start date must be equal to the declaration date
	TL.INPUT.65	Therapeutic Link - Invalid time period
	TL.INPUT.67	Therapeutic Link - If the begin date (end date) is provided then the end date (begin date) must be also provided
NIP.INPUT	NIP.INPUT.RequestValidation	an unexpected error occured with the message: The proof element should not be provided.
	NIP.INPUT.RequestValidation	an unexpected error occured with the message: select GMD and period not supported
NIP.META	NIP.META.TlServiceBean	an unexpected error occured with the message: a valid therapeutic link exists
NIP.GENERIC	NIP.GENERIC.UndeclaredThrowableException	an unexpected error occured with the message: javax.persistence.PersistenceException: org.hibernate.exception.GenericJDBCException: Cannot open connection
IDS2	IDS2.INPUT.53	Patient Identification data - Invalid Combination - Card (- Invalid Combination - Card: isi COMBINATION)

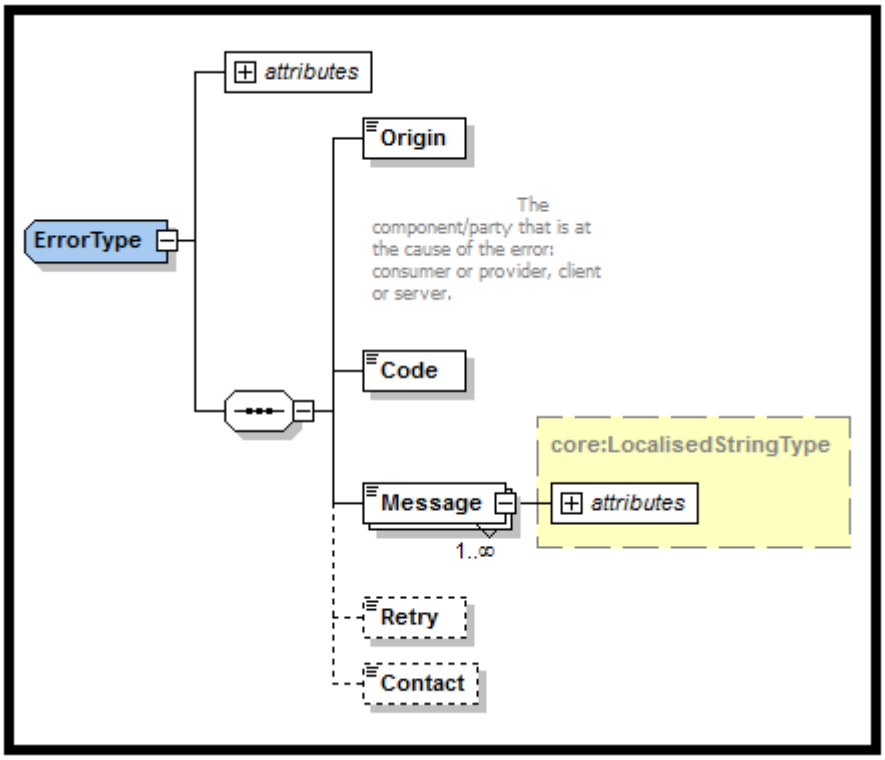
8.2 Technical errors

Technical errors are errors inherent to the internal working of a WS. They are returned as SOAP Faults with the following structure/

- **ehealth-errors-chema-soa-1_0.xsd**



- **ehealth-errors-schema-core-1_0.xsd**



The SOAP Fault element has the following sub elements:

Element name	Descriptions	Optionality
Faultcode	A code for identifying the fault	Mandatory
Faultstring	A human readable explanation of the fault	Mandatory
Faultactor	Information about who caused the fault to happen (the origin)	Optional

Detail	Holds application specific error information related to the Body element. For example, it could include a java stack trace or any other kind of trace, used internally, to document on the cause of this error.	Optional

The default SOAP faultcode values are defined in an extensible manner that allows for new SOAP faultcode values to be defined while maintaining backwards compatibility with existing faultcode values. The mechanism used is very similar to the 1xx, 2xx, 3xx etc basic status classes defined in HTTP. However, instead of integers, they are defined as XML qualified names. The character "." (dot) is used as a separator of faultcode values indicating that what is to the left of the dot is a more generic fault code value than the value to the right, e.g., “Client.Authentication”.

The set of faultcode values:

Element name	Descriptions
VersionMismatch	Found an invalid namespace for the SOAP Envelope element
MustUnderstand	An immediate child element of the Header element, with the mustUnderstand attribute set to "1", was not understood
Client	The message was incorrectly formed or contained incorrect information
Server	There was a problem with the server so the message could not proceed

Example:

```
<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope>
	<soapenv:Body>
		<soapenv:Fault>
			<faultcode>soapenv:Client</faultcode>
			<faultstring>SOA-01001</faultstring>
			<detail>
				<soa:SystemError Id="48da1f13-cbc2-40e9-9907-33cc52deabf0">
					<Origin>Consumer</Origin>
					<Code>SOA-01001</Code>
					<Message xml:lang="en">Service call not
authenticated.</Message>
					<soa:Environment>Acceptation</soa:Environment>
				</soa:SystemError>
			</detail>
		</soapenv:Fault>
	</soapenv:Body>
</soapenv:Envelope>
```

Description of the possible SOAP fault exceptions

Code	Message
SOA-00001	Service error
SOA-01001	Service call not authenticated
SOA-01002	Service call not authorized
SOA-02001	Service temporarily not available. Please try later
SOA-02002	Message must be SOAP
SOA-03001	Malformed message
SOA-03002	Message must be SOAP
SOA-03003	Message must contain SOAP body
SOA-03004	WS-I compliance failure
SOA-03005	WSDL compliance failure
SOA-03006	XSD compliance failure
SOA-03007	Message content validation failure

8.3 WS-I Basic Profile 1.1 - Errors

When your request is not WS-I Compliant you will receive the following errors.

SOA-03001	***Malformed message***	*Consumer*	*This is the default error for content related errors in case no more details are known.*
SOA-03002	***Message must be SOAP***	*Consumer*	*Message does not respect the SOAP standard.*
SOA-03003	***Message must contain SOAP body***	*Consumer*	*Message respects the SOAP standard, but body is missing.*