BelRAI 2.0 Web services

Cookbook

Version 1.12

Date: 27/05/2023

Table of Contents

Table of Contents **2**

1. Document management **4**

1.1. Document History 4

2. Introduction **6**

2.1. Goal of the service 6

2.2. Goal of the document 6

2.3. eHealth platform document references 6

2.4. External document references 7

3. Support **8**

3.1. Helpdesk eHealth platform 8

3.2. Status 8

4. Step-by-step **9**

4.1. End-to-End Encryption 9

4.2. WS-I Basic Profile 1.1 9

4.3. Tracing 9

4.4. Technical requirements 9

4.5. Use of the eHealth SSO solution 10

4.6. Security policies to apply 10

5. Invoking the BelRAI web services **12**

5.1. Conditions for Acceptance testing 12

5.2. Procedure 13

6. Principles for using the web services **14**

6.1. Access to patient data 14

6.2. Retrieving templates and labels 14

6.3. Circle of Trust 15

7. Methods offered **16**

7.1. Types of BelRAI assessments 16

7.2. Type of organizational healthcare parties 16

7.3. Type of individual healthcare parties 17

7.4. Format of the exchanged assessment 17

8. Structure of the KMEHR message **18**

8.1. General information 18

8.2. PutTransaction 33

8.3. PutTransaction Response 35

8.4. GetTransactionList 35

8.5. GetTransaction 36
9. Error and failure messages 38
9.1. Business errors 38
9.2. Technical errors 41
10. Method examples 44
10.1. PutTransaction – Request 44
10.2. PutTransaction - Response 45
10.3. GetTransactionList – Request 46
10.4. GetTransactionList – Response 47
10.5. GetTransaction – Request 49
10.6. GetTransaction – Response 49

1. Document management

1.1. Document History

Version	Date	Status	Description of the alterations/comments
1	23/02/2018	Draft	Initial version of the cookbook
1.1	02/03/2018	Draft	Additional input Michel Legrand and Dirk Vanneste
1.2	03/03/2018	Draft	Start description of web services validation and errors
1.3	08/03/2018	Draft	KMEHR message: request updated (id_encryption_actor & cd_encryption_actor)
1.3.1	14/03/2018	Draft	Updates to the lay-out of the document: changing footer & document name
1.4	26/03/2018	Draft	Addition of the sequence diagram (procedure to invoke the web services) Addition of transaction types Corrections to KMEHR examples Adding JSON of full assessment Explanation of encrypted data
1.4.1	06/04/2018	Draft	Adjusting of method examples to interface v1
1.5	11/04/2018	Draft	Renewing of method examples to interface v1
1.5.1	21/06/2018	Final	Small adjustments because of comparison with Dutch cookbook. Examples of each method were added to the document.
1.6	19/04/2019	Draft	Adjustment of: Local lists Errors Examples Validations Allowed organizations
1.7	18/03/2020	Final	Addition of: Validation of the reference date of an evaluation (iA9 needs to match the content of the KMEHR folder on putTransaction) Fixation of a fixed date-time and iA9 format (putTransaction) Update error messages
1.8	26/04/2021	Final	Addition of: Chapter 6.5: Template version p.17 Adjustment of: Chapter 5.1: AC premorbid has been deleted p.8 Chapter 5.2: results in transaction corrected p.8 Chapter 6.4: little correction of the description p.14

			Chapter 6.5:Transaction value p.17 corrected: report -> contact report Chapter 6.6: correction of BelRAI errors p.21
1.8.1	24/08/2021	Final	Modified chapter 3.1.1 Added Chapter 5.2 Type of healthcare parties
1.9	17/01/2022	Final	Refactoring of the cookbook, new chapter: chapter 4 step-by-step, new mandatory field: cd SV="1.0" S="LOCAL" SL="TOKEN" (see chapter 5.1.3)
1.10	20/07/2022	Final	§ 2.3 eHealth document references (updated) § 3.2 Status (added) § 4.3 Tracing (updated)
1.11	21/12/2022	Final	§ 8.1.3 Added score labels directly in the response § 5.1.3 Update of software requirement protocol § 6.3 added the circle of trust criterion § 6.1.2 added chapter about the therapeutic relation
1.12	27/05/2023	Final	§ 8.1.2: added explanation for MyBelRAI 8.4.1: added explanation for the informed consent Some corrections in the BelRAI Error list

2. Introduction

2.1. Goal of the service

The BelRAI 2.0 project fits into action point 8 of the eHealth Action Plan for the years 2013 to 2018, "Introduction of a uniform assessment tool", with the following objectives:

- Generalize the use of BelRAI in Belgium for all vulnerable people who are confronted with complex and multidimensional problems (medical and/or mobility problems, food, hygiene, disability, etc.).
- Have an IT tool that is user-friendly, can be adapted to the environment of the field actors and facilitates multidisciplinary cooperation.

The "BelRAI 2.0" project aims to fully support action point 8 of the eHealth plan, by rolling out a web application, web service, mobile app, demo application and a database, which will allow to scale the vulnerability, care needs and self-reliance of people. It is a multidisciplinary application which transcends regions and communities. BelRAI 2.0 aims to measure a person's care needs in a standardized and structured manner. The figure below shows the different interfaces offered by BelRAI. This cookbook only deals with the web service for the care provider.

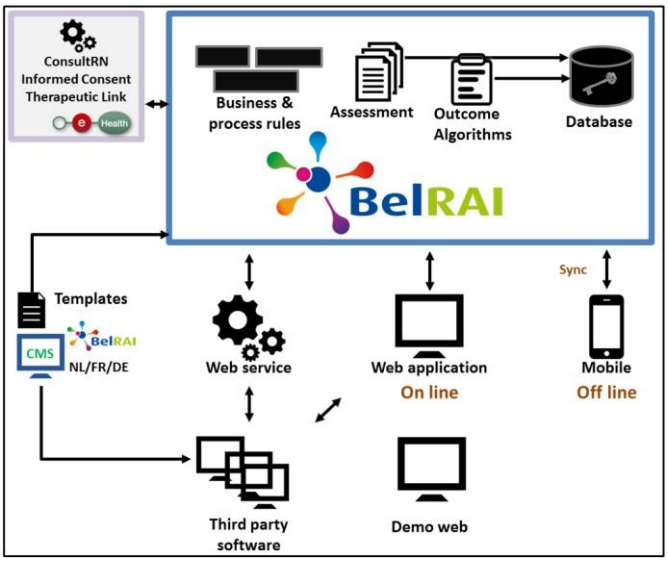

Figure 1: High level architecture BelRAI

2.2. Goal of the document

The purpose of this cookbook is to make BelRAI accessible to **organizations** that wish to make use of the BelRAI web services. The document is aimed at developers who want to integrate BelRAI web services into an external software application.

2.3. eHealth platform document references

All the document references can be found on the eHealth platform portal[1]. These versions or any following versions can be used for the eHealth platform services.

ID	Title	Version	Date	Author
1	STS Cookbook	1.6	25/01/2023	eHealth platform

[1] ***https://www.ehealth.fgov.be/ehealthplatform/***

2	End-to-End Encryption Known recipient	2.9	18/07/2022	eHealth platform
3	Verklaring op eer/ Déclaration sur l'honneur (Circle-of-Trust - CoT)	1.0	21/03/2022	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 – WSs security – SAML Token Profile 1.1	***https://www.oasis-open.org/committees/download.php/16768/wssv1.1-spec-os-SAMLTokenProfile.pdf***	01/02/2006	OASIS Standard
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

Certificates are required to communicate with the BelRAI WS. The entry point to reach the web service is an eHealth URL. In order to access the secured eHealth environment you have to obtain an x509 eHealth certificate delivered by a trusted party used to identify the initiator of the request. A certificate is bound with the encryption token key, and is a requirement to be able to generate an encryption token.

- ***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. Step-by-step

4.1. End-to-End Encryption

In order to secure the information exchanged between the service user and BelRAI WS, most of the requests and responses contain encrypted data. Encryption is performed with a public encryption key belonging to the recipient. This means that a request sent to BelRAI WS has to use BelRAI public encryption token and the response will use the public encryption key of the service user that sent the request to encrypt the data (The public encryption token key is required in the request). The eHealth platform delivers the procedures to create a pair of private/public keys and the public encryption token[2].

Process of decryption upon consulting of data (GetTransaction):

- Verify validity of signature
- Decrypt KMEHR data using your private key.

Therefore, the GetTransaction request has to contain your public key used to encrypt the GetTransaction response.

In XML, the encrypted data is represented in base64 binary format, translating each byte of binary data into an ASCII string format. Thus from XML data, this representation has first to be decoded into byte using the base64 encoding scheme before being decrypted.

Note: While the base64 files are in ASCII format, they should still be encoded using the UTF-8 format.

4.2. WS-I Basic Profile 1.1

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

4.3. 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***

4.4. Technical requirements

All the xml requests that are submitted to the WS must be encoded in the UTF-8 format.

[2] For more information, please consult
https://www.ehealth.fgov.be/ehealthplatform/nl/service-systeem-voor-end-to-end-vercijfering (NL) or
https://www.ehealth.fgov.be/ehealthplatform/fr/service-systeme-de-cryptage-end-to-end (F)

4.5. Use of the eHealth SSO solution

For each WS accessed on eHealth platform, authentication ensures that the requester is allowed. eHealth certificates are used to trust the requester. In order to use BelRAI WS, prior authentication has to be made on STS with the use of the eHealth Certificate and with specific parameters. An assertion will be generated that can then be used to make a call and access the BelRAI WS service.

The complete overview of the profile and a step-by-step implementation to start protecting a new application with SSO @ eHealth is described in the eHealth STS cookbook.

In order to implement a call to the eHealth STS you can reuse the implementation as provided in the "eHealth technical connector":

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

Nevertheless, eHealth implementations use standards and any other compatible technology (WS stack for the client implementation) can be used instead.

The attributes that need to be provided and the attributes that should be certified by the eHealth platform in order to obtain a token valid for BelRAI WS 2.0 are described in following section. To access the BelRAI WS 2.0, the response token must contain “true” for all of the certification attributes. If you obtain “false”, contact the eHealth platform to verify that the requested test cases were correctly configured (See section 3).

4.6. Security policies to apply

See section 4.1 for the update in the TLS configuration.

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

As WS security policy, we expect:

- A timestamp (the date of the request), with a time to live of one minute.(if the message does not arrive during this minute, it shall not be treated).
- The signature with the certificate of
  - the timestamp, (the one mentioned above)
  - the body (the message itself)
  - and the binary security token: an eHealth certificate or a SAML token issued by STS

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

A document explaining how to implement this security policy can be obtained at the eHealth platform. Please refer to the STS cookbook which can be found on the eHealth portal.

For an organisation willing to use the BelRAI 2.0 WS we expect the following attributes:

- the holder of a certificate
- the identifier of an organization
- the recognised attribute
- The recognised COT attribute (see 6.3 for more information)

An example:

```
<saml:AttributeDesignator AttributeName="urn:be:fgov:ehealth:1.0:certificateholder:hospital:nihii-number" AttributeNamespace="urn:be:fgov:identification-namespace"/>
<saml:AttributeDesignator AttributeName="urn:be:fgov:ehealth:1.0:hospital:nihii-number:recognisedhospital:boolean" AttributeNamespace="urn:be:fgov:certified-namespace:ehealth"/>
<saml:AttributeDesignator AttributeName="urn:be:fgov:ehealth:1.0:organization:belrai:recognisedcot:boolean" AttributeNamespace="urn:be:fgov:certified-namespace:ehealth"/>
```

For an individual care provide willing to use the BelRAI 2.0 WS we expect the following attributes:

- the holder of a certificate
- the identifier of the person
- the recognised profession attribute

An example:

```
<saml:AttributeDesignator AttributeName="urn:be:fgov:ehealth:1.0:certificateholder:person:ssin" AttributeNamespace="urn:be:fgov:identification-namespace"/>
<saml:AttributeDesignator AttributeName="urn:be:fgov:person:ssin" AttributeNamespace="urn:be:fgov:identification-namespace"/>
<saml:AttributeDesignator AttributeName="urn:be:fgov:person:ssin:doctor:boolean" AttributeNamespace="urn:be:fgov:certified-namespace:ehealth"/>
```

5. Invoking the BelRAI web services

This chapter discusses the conditions and procedure for invoking the BelRAI web services. The conditions are discussed first, followed by an explanation of the process. If the conditions are not respected, the web services will not be accessible.

5.1. Conditions for Acceptance testing

5.1.1. Application for eHealth certificate for the organisation

In order to access the BelRAI web services, an eHealth Secure Token Service (STS) token is required. This token will authenticate the user, and will be used for all interactions with the BelRAI web services during the started session.

A token can only be obtained when the organization has a certificate which was handed out by the eHealth platform. Implementation testing of the BelRAI WSwill take place on the acceptance environment. Therefor you need an acceptance certificate.

Organizations (with INAMI/RIZIV number) that can invoke BelRAI' s web service[3] are listed on the website: ***https://www.ehealth.fgov.be/ehealthplatform/nl/service-BelRAI-belgian-resident-assessment-instrument-webservices*** in the file "**BelRAI supported healthcare parties**".

5.1.2. Whitelist of organisations

Unlike the BelRAI web application, the web services do not verify the identity of the user from the organization. The responsibility of user management lies with the organization that invokes the web service.

For privacy and security reasons, BelRAI requires an additional security on its web services. After having received an eHealth certificate, the organization wanting to implement the BelRAI web services, must first request access to the whitelist of organizations in the acceptance environment.

5.1.3. Software requirements

The organization requesting the use of BelRAI' s web services will need specific software application which has to meet BelRAI' s distinct requirements. As a supplier of customized software, you must meet the accreditation criteria as set out in the BelRAI terms of use which are available on the BelRAI website or on the content management system. There are two sorts of accreditation: the full homologation and the partial one.

Each year, homologation tests will be performed to validate the software. The validated software will receive a unique identifier (UUID). This identifier will be used to identify the calling software in each request. The UUID has to be added in an hcparty cd SV="1.0" S="LOCAL" SL="TOKEN"(see GetTransactionList, GetTransaction and PutTransaction for more details).

[3] This list will be extended in line with the integration of authentic sources of recognized legal entities.

5.2. Procedure

Once the organization meets all the conditions, the methods offered can be invoked. The procedure is explained in the sequence diagram below.

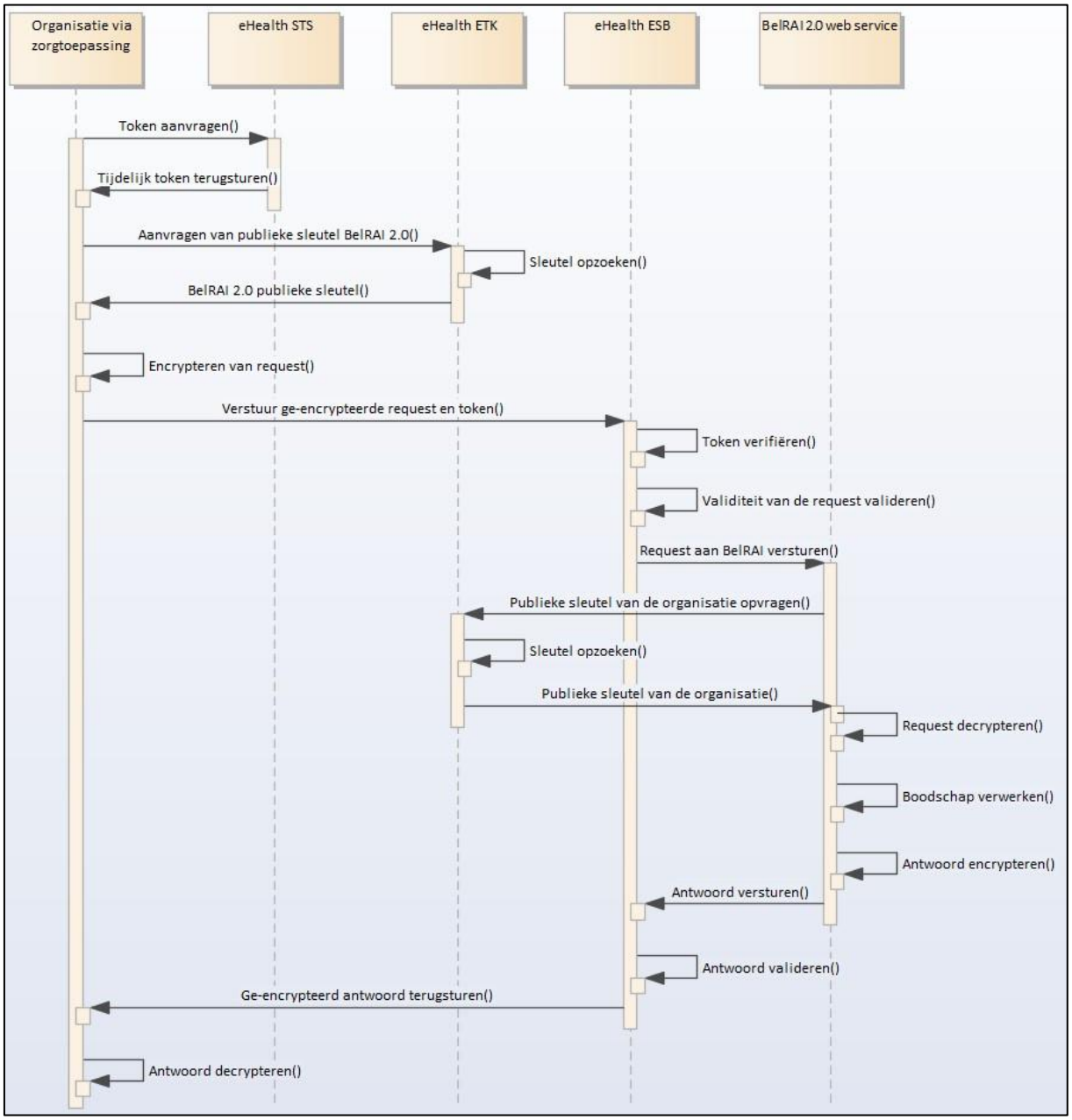

Figure 2: Sequence diagram: using the BelRAI 2.0 web services

6. Principles for using the web services

The BelRAI web services are aimed at exchanging BelRAI assessments between organization's own software and the BelRAI database. The characteristics of the assessments exchanged are as follows:

- All assessments exchanged are final and concluded and cannot be modified, overwritten nor deleted.
- CAPs and scales are calculated centrally after uploading of the assessment. If you have calculated CAPs and care scales locally, they will not be adopted.
- Multidisciplinary assessments are not possible via the web services.

6.1. Access to patient data

Patient assessments can be retrieved from and uploaded to the BelRAI database, using the BelRAI web services. However, this should take into account the informed consent of the patient for the electronic sharing of health data and the therapeutic relation with the patient. An explanation of informed consent is available on the eHealth website. If the web service user is an organization, the check of therapeutic relation is the responsibility of the organization that signed the COT agreement (see chapter 6.3). If the web service user is an individual care provider, the check of therapeutic relation will be done by BelRAI.

6.1.1. Informed consent

"[...] *is the permission that you, as a patient, give for the electronic and secure sharing of your health data between the persons treating you. These data are only shared in the context of the continuity and quality of medical care, taking into account the regulations for the protection of your private life. These are your data and they will be protected. You can at any time decide whether or not to share these data*.[4]

If a patient has not given his informed consent, his health data may not be shared between healthcare providers. In this case, the BelRAI WSwill only return evaluations of the patient if these evaluations were filled in by the organization that requests the evaluations.

6.1.2. Therapeutic relation

The existence of a therapeutic relationship is one of the fundamental prerequisites for the HC providers to access a patient's medical data. Therefore, the eHealth platform makes available to the actors, involved in the exchange, storage or referencing personal data, a relay service to manage those therapeutic relationships and associated means of evidence. "[5]

If there is no therapeutic relation between the care provider and the patient, the care provider should only see his own evaluations.

If there is a therapeutic exclusion between the care provider and the patient, the care provider will no longer be able to use BelRAI WS 2.0 on this patient.

6.2. Retrieving templates and labels

The templates and labels are indispensable for the implementation of the BelRAI 2.0 web services. These can be retrieved by subscribing to BelRAI[6]:

---

[4] More information on informed consent can be found at:
Geïnformeerde toestemming voor de uitwisseling van uw medische gegevens | FOD Volksgezondheid (belgium.be)
Consentement éclairé pour le partage électronique de vos données de santé | SPF Santé publique (belgium.be)
Aufgeklärte Einwilligung zum Austausch Ihrer medizinischen Daten | FÖD Volksgesundheit (belgium.be)

[5] More information on therapeutic link can be found at:
https://www.ehealth.fgov.be/ehealthplatform/therapeutische_zorgrelatie_nota
https://www.ehealth.fgov.be/ehealthplatform/relations_therapeutiques_note

[6] *https://www.belrai.org/nl/ik-ben-softwareontwikkelaar* ***(available in Dutch, English, French and German)***

- Make the templates available, and have them filled in by employees;
- Interpret the results obtained with the correct conclusions.

BelRAI 2.0 is responsible for the storage of the evaluations, and for the calculation of the algorithms associated with these evaluations. Communication with BelRAI is therefore based on key-value pairs (see chapter *Retrieving templates and labels*).

6.3. Circle of Trust

The organization willing to create or consult an evaluation should be part of the circle of trust.

A "Circle-of-Trust" is awarded to an organization active in the field of healthcare and emergency services which, with respect to its data users, takes and enforces information security measures at various levels and monitors compliance with them, so that other organizations and/or care and assistance providers and/or authorities and the citizens concerned can reasonably trust that these security measures are complied with and do not have to organize or monitor them themselves.[7]

[7] More information on the circle of trust can be found on the eHealth platform (see document reference 3)

7. Methods offered

BelRAI offers three methods, namely:

- GetTransactionList: requesting a patient assessment list
- GetTransaction: requesting a specific assessment
- PutTransaction: uploading an assessment

Each of the assessments requested or uploaded is complete; this goes for all three methods. It is not possible to download or upload an incomplete assessment. Methods offered in the past but not mentioned in this cookbook are outdated and are no longer used.

7.1. Types of BelRAI assessments

BelRAI 2.0 accommodates different types of assessments. To exchange these evaluations with the central database, local lists are being used.

- belrai.form.id: identifier of the evaluation
- belrai-form-type: denominator of the type of evaluation. The table below lists all types available in BelRAI.

Assessment	CD-TRANSACTION TYPE
Palliative screener	palliative_screener
Palliative Care	palliative_care
Mental Health	mental_health
Long Term Care Facilities	long_term_care_facilities
Home Care	home_care
Community Mental Health	community_mental_health
BelRAI screener	belrai_screener
Acute Care - Discharge Assessment	acute_care_discharge_assessment
Acute Care - Comprehensive Geriatric Assessment Review	acute_care_comp_geriatric_assessment_review
Acute Care - Comprehensive Geriatric Assessment Discharge	acute_care_comp_geriatric_assessment_discharge
Acute Care - Comprehensive Geriatric Assessment Admission	acute_care_comp_geriatric_assessment_admission
Acute Care - Admission Assessment	acute_care_admission_assessment

An assessment which is uploaded to or downloaded from BelRAI via the web services should be encrypted. The structure of the encrypted assessment is explained below.

7.2. Type of organizational healthcare parties

The list of accepted organizational healthcare parties that can use BelRAI can be found in the document "**BelRAI supported healthcare parties"** on:
https://www.ehealth.fgov.be/ehealthplatform/nl/service-BelRAI-belgian-resident-assessment-instrument-webservices.

7.3. Type of individual healthcare parties

The list of accepted individual healthcare parties that can use BelRAI can be found in the document "**BelRAI supported healthcare parties"** on:
https://www.ehealth.fgov.be/ehealthplatform/nl/service-BelRAI-belgian-resident-assessment-instrument-webservices.

7.4. Format of the exchanged assessment

As explained earlier, BelRAI offers three methods for exchanging the contents of an assessment, namely PutTransaction, GetTransactionList and GetTransaction. The three methods are compared below.

Method	**Explanation**	**Results in transaction**
PutTransaction	Uploads an assessment to the BelRAI database; when uploaded the results are calculated.	[0]
GetTransctionList	Lists assessments with only metadata of the assessment	[0-N]
GetTransaction	Downloads an assessment from the BelRAI 2.0 database	[0-1]

Due to the different nature of the data exchanged (result versus no results), the evaluation exchanged looks somewhat different.

8. Structure of the KMEHR message

Each transaction should be drawn up following the KMEHR structure. This chapter will show you what this structure looks like by means of xsd-schemes and tables.

8.1. General information

8.1.1. KMEHR

The xsd schema below shows the general information that is included in both KMEHR requests and responses. The general information is repeated in each of the methods described below.

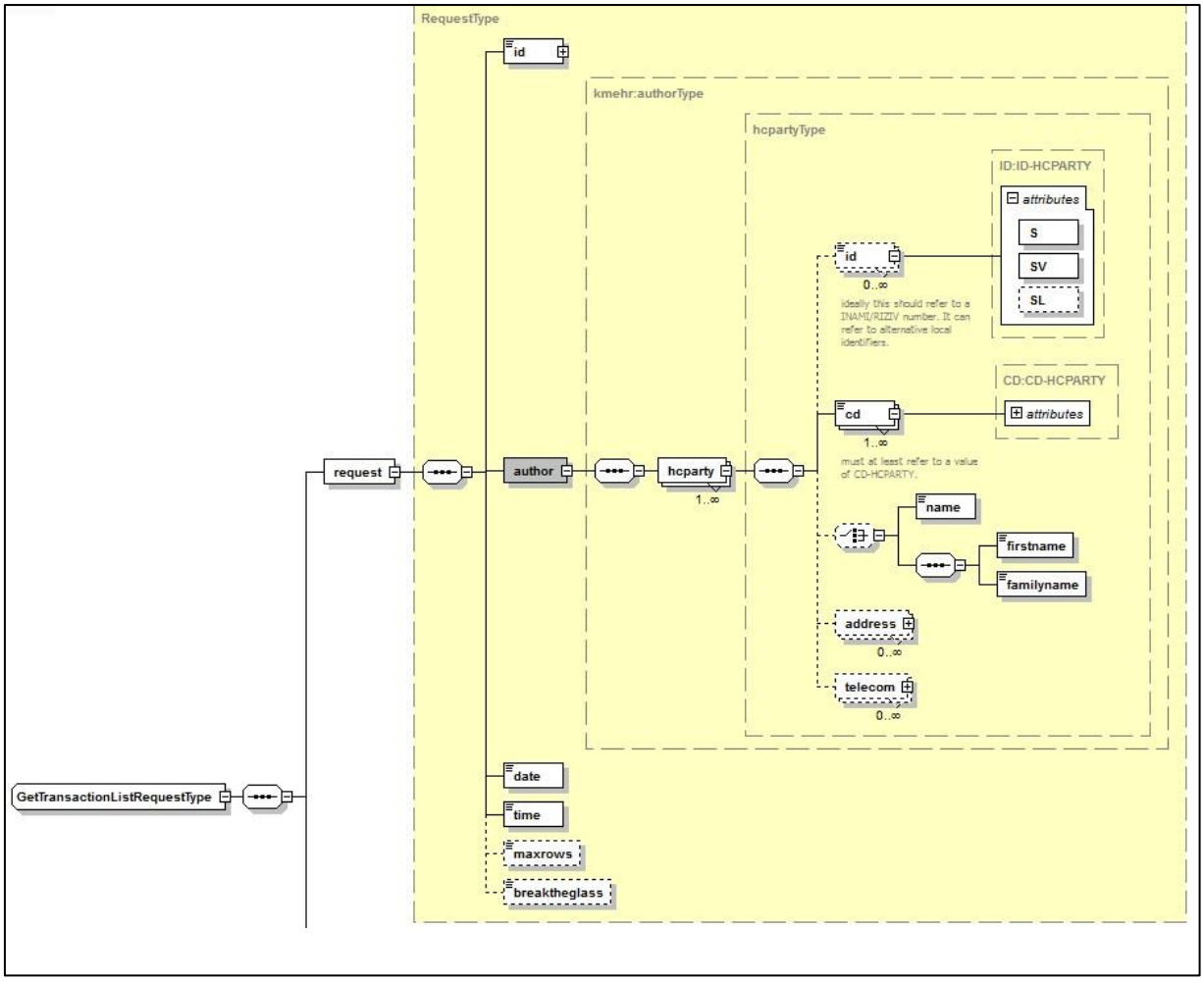

Figure 3: xsd schema: general information

This table provides an overview of the interpretation of the schema shown above:

Id [1-1]	ID-KMEHR, consists of: The first HCparty of the sender (see HCparty below) A dot A local unique identifier within the system sending the request/response This composition is used when the ID-KMEHR is a part of the HEADER. If the ID-KMEHR occurs in the FOLDER, TRANSACTION, HEADING, or ITEM element, the value is a sequential number beginning with 1.

author	A transaction request or response is given by an organization which must be identified. In the case of a request, the identity of the person making the request must also be provided.
Hcparty [3-3] or [2-2]	Generic element representing the healthcare party. For BelRAI web services there will be one or more HCparty, namely: *If the sender is an organization:* • Fields [as an organization] [1-1]: o ID-HCPARTY: INAMI/RIZIV number [0-1]. o CD-HCPARTY: Type of organization [1-1]. o Name of the organization: Name [1-1]. • Fields [as individual] [1-1]: o INAMI/RIZIV [0-1] o SSIN [1-1] o CD-HCPARTY: Type of individual [1-1] o Name [0-1] o First name [0-1] • Field [to identify the software] [1-1]: o cd SV="1.0" S="LOCAL" SL="TOKEN": UUID [1-1] *If the sender is an individual care provider:* • Fields [as individual] [1-1]: o INAMI/RIZIV [0-1] o SSIN [1-1] o CD-HCPARTY: Type of individual [1-1] o Name [0-1] o First name [0-1] • Field [to identify the software] [1-1]: cd SV="1.0" S="LOCAL" SL="TOKEN": UUID [1-1]
date [1-1]	Date of the transaction
time [1-1]	Time of the transaction
Maxrows [0-1]	The number of transactions retrieved (only applicable for getTransactionList). If not specified, the default value is 10.

Specifically for a response, the following fields will be returned as well:

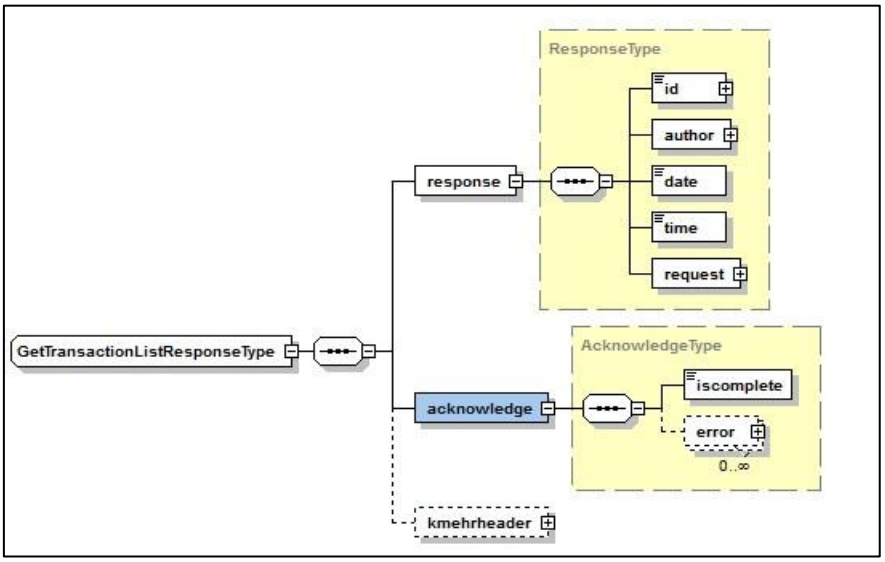

Figure 4: xsd schema: general information in a response

Request	Each response repeats the request.
Acknowledge	iscomplete [1-1] if this is true then the response will be displayed.
Error [0-*]	The error type is displayed here.

8.1.2. Encrypted assessment

BelRAI assessments are sent with Base64EncryptedData. Base64EncryptedData contains an encrypted KMEHR, with the structure of the folder from the KMEHR message. This folder contains the exchanged assessment. The schema below shows the structure of this folder.

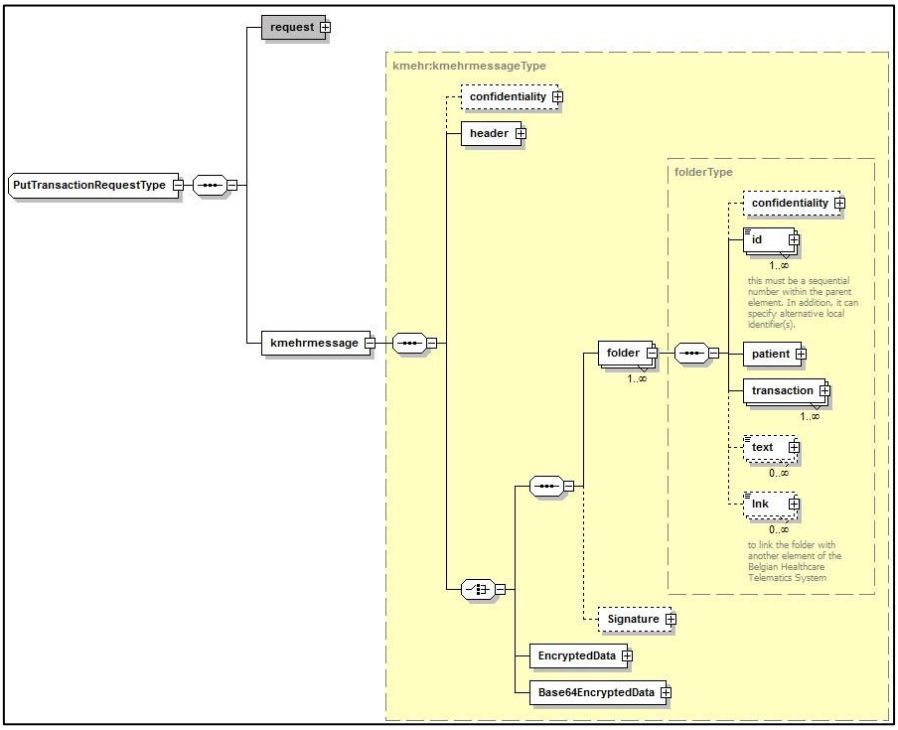

Figure 5: Structure of the folder

This structure contains the following information:

Id [1-1]	ID-KMEHR, consists of: • the first HCparty of the sender (see HCparty below) • a dot • a local unique identifier within the system sending the request/response. This composition is used when the ID-KMEHR is a part of the HEADER. If the ID-KMEHR occurs in the FOLDER, TRANSACTION, HEADING, or ITEM element, the value is a sequential number beginning with 1.
Patient ID [1-1].	National Register Number of the client to which the assessment applies. Other data about the patient can be sent, but will not be taken into account by BelRAI. All patient data will be fetched from the National Register using the National Register Number.
Transaction [1-1]	This contains the assessment with its metadata: • ID [1-1]: Local ID of the transaction, this is not taken into account in BelRAI; • CD-TRANSACTION [1-1]: The value is contact report • cd S="LOCAL" SV="1.0" SL="belrai-form-type”[1-1]: this contains the type of the assessment (see 5.1) • cd S="LOCAL" SV="1.0" SL=" template-version” [1-1]: this contains the version of the template. The accepted version(s) will be communicated by the SPF Health.

	• putTransaction: cd S="LOCAL" SV="1.0" SL=" myBelRAIShare" [0-1]: a boolean (true of false) giving the opportunity to share immediately in MyBelRAI[8] • getTransaction: cd S="LOCAL" SV="1.0" SL=" myBelRAIShareDate" [0-1]: date on which the evaluation was shared in myBelRAI. If not present, it means that it has not been shared yet. • Date [1-1]: Date on which the assessment was carried out o Must match the response of iA9 that can be found in Item-Text node o Format: YYYY-MM-DD • Time [1-1]: Time at which the assessment was carried out • Author [1-1]: the author [as an organization] doing the assessment o id: ID-HCPARTY: INAMI/RIZIV number [1-1]. o cd: CD-HCPARTY: Type of organization [1-1]. o name: Name of the organization [1-1]. • Iscomplete [1-1] • Isvalidated [1-1] • Item-Text: this contains the Base64 encoded evaluation. The structure of this evaluation is described in 5.2.1 and 5.2.2. o Because of the validation of iA9, it is imperative that iA9 has the following format: **YYYY-MM-DDThh:mm:ss+00:00** (example: iA9": "2020-02-18T00:00:00+02:00")

- An example of this data is shown below.

```
<folder xmlns="http://www.ehealth.fgov.be/standards/kmehr/schema/v1" xmlns:ns2
="http://www.w3.org/2000/09/xmldsig#" xmlns:ns3="http://www.w3.org/2001/04/xml
enc#">
   <id S="ID-KMEHR" SV="1.12">Belrai.238941</id>
   <patient>
      <id S="INSS" SV="1.0">91###</id>
      <firstname>Jan</firstname>
      <familyname>Smets</familyname>
      <sex>
         <cd S="CD-SEX" SV="1.12">unknown</cd>
      </sex>
   </patient>
   <transaction>
      <id S="LOCAL" SV="1.0" SL="belrai.form.id">238941</id>
      <cd S="CD-TRANSACTION" SV="1.12">contactreport</cd>
      <cd S="LOCAL" SV="1.0" SL="belrai-form-type">home_care</cd>
      <cd S="LOCAL" SV="1.0" SL="template-version">1.4</cd>
      <date>2020-02-18Z</date>
      <time>00:00:00.000Z</time>
```

[8] myBelrai is a webapp where the client can consult simplified versions of his evaluations. If the care provider does not choose to share the evaluation immediately, it will automatically be shared after 7 days.

```
      <author>
         <hcparty>
            <cd S="CD-HCPARTY" SV="1.12">application</cd>
            <name>Belrai</name>
         </hcparty>
         <hcparty>
            <id S="ID-HCPARTY" SV="1.12">71089914</id>
            <cd S="CD-HCPARTY" SV="1.12">orghospital</cd>
            <name>TEST ZIEKENHUIS ALPHA</name>
         </hcparty>
         <hcparty>
            <id S="ID-HCPARTY" SV="1.0">71050643439</id>
            <id S="INSS" SV="1.0">79###</id>
            <cd S="CD-HCPARTY" SV="1.12">persphysician</cd>
            <firstname>Piet</firstname>
            <familyname>Pienter</familyname>
         </hcparty>
      </author>
      <iscomplete>true</iscomplete>
      <isvalidated>true</isvalidated>
      <item>
         <text>
ew0KICAicmVzcG9uc2VzIiA6IHsNCiAgICAiaVUxIiA6ICI5NSIsDQogICAgImlVMiIgOiAiMjAyMi
0wMS0xOFQxMzo1NzoyOFoiDQogIH0sDQogICJzY29yZXMiDogeyB9DQp9</text>
      </item>
   </transaction>
</folder>
```

8.1.3. Base 64 encoded assessment

The text node contains the Base64 encoded evaluation. The assessment from the BelRAI system is displayed as a JSON. The JSON groups key value pairs. The keys are the iCodes from the iMatrix of BelRAI. When uploading an assessment, only the object *"responses"* should be present. When consulting an evaluation, there will also be an object "*scores*" present. Therefore, when an assessment is downloaded from BelRAI, this assessment will also include the calculated results. This means that the download will not only contain *"responses"*, but *"scores"* as well. The example below is illustrative, but gives an idea of what the JSON looks like.

```
{
  "responses" : {
    "iJ2a" : "4",
    "iK4b" : "1",
    "iJ2b" : "4",
    "iK4c" : "1",
    "iJ2c" : "4",
    "iK4d" : "1",
    "iJ2d" : "4",
    "iK4e" : "1",
```

```
  "iN2a" : "3",
  "iJ2e" : "4",
  "iK4f" : "1",
  "iN2b" : "3",
  "iJ2f" : "4",
  "iN2c" : "3",
  "iJ2g" : "4",
  "iN2d" : "3",
  "iJ2h" : "4",
  "iN2e" : "3",
  "iJ2i" : "4",
  "iN2f" : "3",
  "iJ2j" : "4",
  "iN2g" : "3",
  "iJ2k" : "4",
  "iN2h" : "3",
  "iJ2l" : "4",
  "iN2i" : "3",
  "iJ2m" : "4",
  "iN2j" : "3",
  "iJ2n" : "4",
  "iN2k" : "3",
  "iJ2o" : "4",
  "iN2l" : "3",
  "iJ2p" : "4",
  "iH2" : "3",
  "iH1" : "8",
  "iH4" : "1",
  "iH3" : "8",
  "iM14" : "15",
  "iH5" : "1",
  "iM15" : "15",
  "iM16" : "1",
  "iM17" : "8",
  "iK4a" : "1",
  "iN1a" : "1",
  "iN1b" : "1",
  "iN1c" : "1",
  "iN1d" : "1",
  "iN1e" : "1",
```

```
  "iN1f" : "1",
  "iA13" : "5",
  "iN1g" : "1",
  "iN1h" : "1",
  "iS2h" : "4",
  "iS2i" : "4",
  "iO1ex" : "8",
  "iS2j" : "4",
  "iS2k" : "4",
  "iS2l" : "4",
  "iS2m" : "4",
  "iS2n" : "4",
  "iS2o" : "4",
  "iS2r" : "4",
  "iA4" : "6",
  "iA9" : "2021-07-05T16:36:52+02:00",
  "iA8" : "7",
  "iR7" : "5",
  "iI1q" : "3",
  "iI1r" : "3",
  "iJ1" : "3",
  "iI1s" : "3",
  "iJ4" : "4",
  "iI1t" : "3",
  "iJ3" : "3",
  "iA11b_res" : "24",
  "iI1w" : "3",
  "iJ7" : "8",
  "iB2" : "2021-07-05T16:36:52+02:00",
  "iG6a" : "4",
  "iG6b" : "3",
  "iJ2mm" : "4",
  "iB6" : "8",
  "iB7" : "1",
  "iI1a" : "3",
  "iI1b" : "3",
  "iI1c" : "3",
  "iI1d" : "3",
  "iI1e" : "3",
  "iI1f" : "3",
```

```
  "iI1g" : "3",
  "iI1h" : "3",
  "iS3" : "3",
  "iI1i" : "3",
  "iI1j" : "3",
  "iI1k" : "3",
  "iI1l" : "3",
  "iI1m" : "3",
  "iI1n" : "3",
  "iI1o" : "3",
  "iI1p" : "3",
  "iN2m" : "3",
  "iJ2q" : "4",
  "iK3" : "9",
  "iN2n" : "3",
  "iJ2r" : "4",
  "iJ2s" : "4",
  "iK5" : "3",
  "iO2ex" : "1",
  "iJ2t" : "4",
  "iC1" : "5",
  "iN6a" : "5",
  "iN6b" : "5",
  "iN6c" : "5",
  "iG8a2" : "8",
  "iR6a" : "1",
  "iR6b" : "1",
  "iT2" : "25",
  "iR6c" : "1",
  "iT1" : "2021-07-05T16:36:52+02:00",
  "iT4" : "1",
  "iA12a" : "9",
  "iL2" : "1",
  "iL1" : "5",
  "iL4" : "1",
  "iL3" : "1",
  "iL6" : "1",
  "iL5" : "1",
  "iL7" : "4",
  "iJ6a" : "1",
```

```
  "iJ6b" : "1",
  "iJ6c" : "1",
  "iJ5d" : "1",
  "iJ5e" : "5",
  "iU2" : "2021-07-05T16:36:52+02:00",
  "iA11a" : "24",
  "iM3" : "8",
  "iG12" : "99",
  "iM2" : "1",
  "iB5a" : "1",
  "iB5b" : "1",
  "iB5c" : "1",
  "iG7a" : "1",
  "iI1cc" : "3",
  "iB5d" : "1",
  "iG7b" : "1",
  "iB5e" : "1",
  "iJ5a" : "3",
  "iJ5b" : "4",
  "iJ5c" : "3",
  "iG2d" : "8",
  "iK2a" : "1",
  "iG2e" : "8",
  "iK2b" : "1",
  "iG2f" : "8",
  "iK2c" : "1",
  "iG2g" : "8",
  "iG2h" : "8",
  "iG2i" : "8",
  "iO2a" : "1",
  "iG2j" : "8",
  "iO2b" : "1",
  "iO2c" : "1",
  "iK2h" : "1",
  "iO2d" : "1",
  "iS2a" : "4",
  "iO2e" : "1",
  "iS2b" : "4",
  "iO2f" : "1",
  "iS2c" : "4",
```

```
    "iS2d" : "4",
    "iO2h" : "1",
    "iS2e" : "4",
    "iS2f" : "4",
    "iS2g" : "4",
    "iJ12" : "1",
    "iJ8a" : "2",
    "iJ8b" : "3",
    "iG2a" : "8",
    "iG2b" : "8",
    "iG2c" : "8",
    "iO1a" : "8",
    "iO1b" : "8",
    "iO1c" : "8",
    "iI1xxxex" : "3",
    "iO1d" : "8",
    "iO1e" : "8",
    "iS1b" : "3",
    "iO1f" : "8",
    "iG3" : "3",
    "iG5" : "8",
    "iG4" : "5"
  },
  "scores" : {
    "sADLH" : {
      "value" : "6",
      "label_translation_id" : "12606",
      "label_translation" : {
        "nl" : "Totale afhankelijkheid bij de 4 ADL-functies.",
        "fr" : "Dépendance totale pour les 4 fonctions AVQ.",
        "de" : "Vollständige Abhängigkeit für die 4 ADL-Funktionen."
      }
    },
    "sADLLF" : {
      "value" : "28",
      "label_translation_id" : "15600",
      "label_translation" : {
        "nl" : "Hogere scores (op een schaal van 0 tot 28) duiden op meer moeilijkheden bij het uitvoer
en van activiteiten, een grotere afhankelijkheid of hulpbehoevendheid.",
        "fr" : "Des scores plus élevés (sur une échelle de 0 à 28) montrent plus de difficultés pour l'
'introduction d''activités, une plus grande dépendance envers une tierce personne.",
```

```
        "de" : "Hohe Werte (0 bis 28 auf der Skala) deuten auf größere Schwierigkeiten bei der Durchführung einer Aktivität hin, eine größere Abhängigkeit oder den Bedarf auf Hilfe hin."
      }
    },
    "sADLSF" : {
      "value" : "16",
      "label_translation_id" : "15700",
      "label_translation" : {
        "nl" : "Hogere scores (op een schaal van 0 tot 16) duiden op meer moeilijkheden bij het uitvoeren van activiteiten, een grotere afhankelijkheid of hulpbehoevendheid.",
        "fr" : "Des scores plus élevés (sur une échelle de 0 à 16) montrent plus de difficultés pour l''introduction d''activités, une plus grande dépendance envers une tierce personne.",
        "de" : "Hohe Werte (0 bis 16 auf der Skala) deuten auf größere Schwierigkeiten bei der Durchführung einer Aktivität hin, eine größere Abhängigkeit oder den Bedarf auf Hilfe hin."
      }
    },
    "sAGE" : {
      "value" : "30"
    },
    "sPAIN" : {
      "value" : "4",
      "label_translation_id" : "12904",
      "label_translation" : {
        "nl" : "Dagelijks vreselijke of ondraaglijke pijn",
        "fr" : "Douleur journalière atroce ou insupportable",
        "de" : "Tägliche nichtaushaltbare Schmerzen"
      }
    },
    "sPAIN1" : {
      "value" : "3"
    },
    "sPURS" : {
      "value" : "8",
      "label_translation_id" : "13004",
      "label_translation" : {
        "nl" : "Zeer hoog risico",
        "fr" : "Risque très élevé",
        "de" : "Sehr hohes Risiko"
      }
    },
    "xFALLS" : {
```

```
      "value" : "3"
    },
    "cADD" : {
      "value" : "1",
      "label_translation_id" : "12301",
      "label_translation" : {
        "nl" : "Geactiveerd wegens dagelijks roken en/of alcoholbehoefte.",
        "fr" : "Activé : fume et consomme de l''alcool quotidiennement.",
        "de" : "Aktiviert: raucht und trinkt regelmäßig Alkohol."
      }
    },
    "cCARDIO" : {
      "value" : "1",
      "label_translation_id" : "11801",
      "label_translation" : {
        "nl" : "Geactiveerd wegens één of meerdere cardiorespiratoire symptomen.",
        "fr" : "Activé en raison de la présence d''un ou plusieurs symptômes cardio-respiratoires.",
        "de" : "Aktiviert aufgrund einem oder von mehreren kardio-pulmonalen Symptomen."
      }
    },
    "cDRUG" : {
      "value" : "1",
      "label_translation_id" : "12201",
      "label_translation" : {
        "nl" : "Geactiveerd wegens hoge prioriteit: meer dan negen verschillende geneesmiddelen gecombi
neerd met een onstabiele gezondheid.",
        "fr" : "Activé en raison d''une priorité élevée : combinaison de plus de neuf médicaments diffé
rents avec une santé instable.",
        "de" : "Aktiviert aufgrund von hohem Risiko: Kombination von mehr als neun verschiedenen Medika
menten mit einem instabilen Gesundheitszustand."
      }
    },
    "cFALLS" : {
      "value" : "2",
      "label_translation_id" : "11502",
      "label_translation" : {
        "nl" : "Geactiveerd wegens een hoog risico op valincidenten, gebaseerd op veel gerapporteerde v
alincidenten in de laatste 30 dagen.",
        "fr" : "Activé en raison d''un risque élevé de chutes, basé sur beaucoup de chutes rapportées d
ans les 30 derniers jours.",
        "de" : "Aktiviert: hohes Sturzrisiko, aufgrund mehrerer Stürze innerhalb der letzten 30 Tage."
```

```
      }
    },
    "cFEEDTB" : {
      "value" : "0",
      "label_translation_id" : "12100",
      "label_translation" : {
        "nl" : "Niet geactiveerd.",
        "fr" : "Non activé.",
        "de" : "Nicht aktiviert."
      }
    },
    "cPACTIV" : {
      "value" : "0",
      "label_translation_id" : "10100",
      "label_translation" : {
        "nl" : "Niet geactiveerd: geen mogelijkheid tot verbetering.",
        "fr" : "Pas activé : pas de possibilité d''amélioration.",
        "de" : "Nicht aktiviert: keine Möglichkeit der Verbesserung."
      }
    },
    "cPAIN" : {
      "value" : "2",
      "label_translation_id" : "11602",
      "label_translation" : {
        "nl" : "Geactiveerd als hoge prioriteit wegens hevige, vreselijke of ondraaglijke pijn ongeacht
 de frequentie.",
        "fr" : "Activé comme priorité élevée en raison de douleurs intenses, terribles ou insupportable
s indépendamment de la fréquence.",
        "de" : "Aktiviert mit hoher Priorität aufgrund von starken, heftigen oder nichtaushaltbaren Sch
merzen unabhängig von der Frequenz."
      }
    },
    "cPULCER" : {
      "value" : "1",
      "label_translation_id" : "11701",
      "label_translation" : {
        "nl" : "Geactiveerd wegens de aanwezigheid van een decubitus stadium II of hoger waarbij genezi
ng het zorgdoel is.",
        "fr" : "Activé en raison de présence d''une escarre de stade II ou supérieur et pour lequel la
guérison est le but des soins.",
```

```
        "de" : "Aktiviert wegen eines Dekubitus Stadium II oder mehr und bei dem es das Ziel der Pflege
 ist diesen zu heilen."
      }
    },
    "cRESTR" : {
      "value" : "0",
      "label_translation_id" : "10500",
      "label_translation" : {
        "nl" : "Niet geactiveerd: de bewegingsvrijheid van de persoon wordt niet beperkt door fixatiema
teriaal.",
        "fr" : "Non activé : la liberté de mouvement de la personne n''est pas limitée par du matériel
de contention.",
        "de" : "Nicht aktiviert: Die Bewegungsfreiheit der Person ist nicht durch freiheitsbeschränkend
e Maßnahmen eingeschränkt."
      }
    },
    "cURIN" : {
      "value" : "0",
      "label_translation_id" : "12400",
      "label_translation" : {
        "nl" : "Niet geactiveerd : zwakke besluitvorming en/of beperkte cognitieve vaardigheden bij het
 begin van het onderzoek.",
        "fr" : "Non activé : processus décisionnel faible et/ou restrictions des aptitudes cognitives l
ors du début de la recherche.",
        "de" : "Nicht aktiviert: schwache Entscheidungsfindung und oder Einschränkungen der kognitiven
Fähigkeiten bei dem Beginn einer Recherche."
      }
    }
  }
}
```


As mentioned above, the response contains two subjects:

- Responses [1]: containing the key-value pairs of iCode and the value of the response
- Scores[0-1]: containing the calculated scores of the evaluation.
  The ‘scores’ object will contain the name of the calculated score which will contain:
  - Value [1] : the calculated score
  - Label_translation_id [0-1]: reference to the corresponding label
  - nl: [0-1] : label in Dutch of the corresponding score
  - fr: [0-1]: label in French of the corresponding score
  - de: [0-1]: label in German of the corresponding score

8.2. PutTransaction

The PutTransaction is used to upload a finalized assessment to BelRAI. The following information can be found in the KMEHR message of PutTransaction:

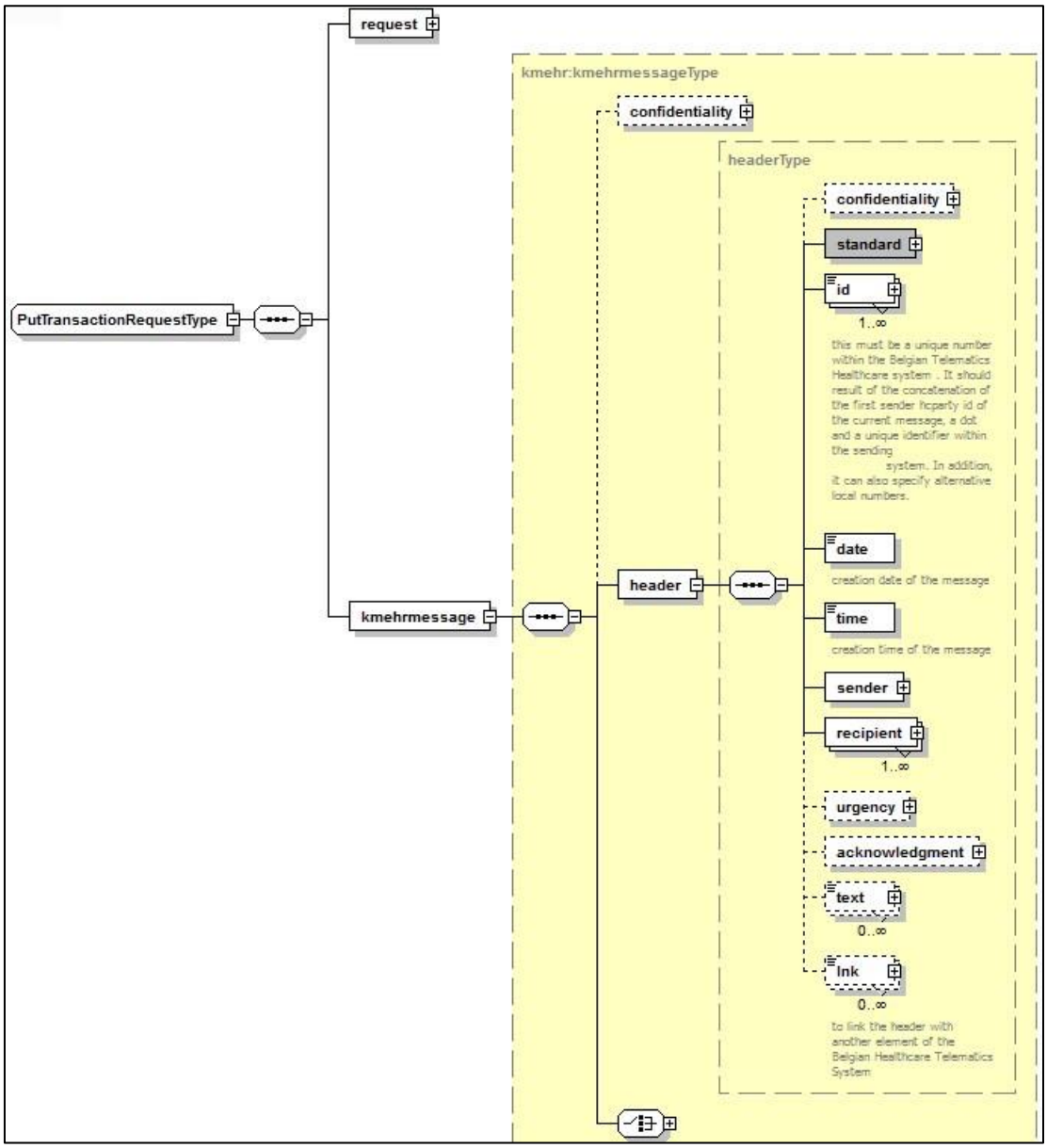

Figure 6: xsd schema: PutTransaction request

Standard	Header Standard: this is the version of the KMEHR specification used. [1-1]
Id [1-1]	ID-KMEHR, consists of: • The first HCparty of the sender (see HCparty below) • A dot • A local unique identifier within the system sending the request/response This composition is used when the ID-KMEHR is a part of the HEADER. If the ID-KMEHR occurs in the FOLDER, TRANSACTION, HEADING, or ITEM element, the value is a sequential number beginning with 1.

Date [1-1]	Date of the assessment
Time [1-1]	Time of the assessment
Sender [3-3] or [2-2]	It should be indicated here who is sending the assessment, who has completed the it and which software is used. This information is mandatory. The sender consists of one or more HCparty, namely: *If the sender is an organization:* • Fields [as an organization] [1-1]: o ID-HCPARTY: INAMI/RIZIV number [0-1]. o CD-HCPARTY: Type of organization [1-1]. o Name of the organization: Name [1-1]. • Fields [as individual] [1-1]: o INAMI/RIZIV [0-1] o SSIN [1-1] o CD-HCPARTY: Type of individual [1-1] o Name [0-1] o First name [0-1] • Field [to identify the software] [1-1]: o cd SV="1.0" S="LOCAL" SL="TOKEN": UUID [1-1] *If the sender is an individual care provider:* • Fields [as individual] [1-1]: o INAMI/RIZIV [0-1] o SSIN [1-1] o CD-HCPARTY: Type of individual [1-1] o Name [0-1] o First name [0-1] • Field [to identify the software] [1-1]: o cd SV="1.0" S="LOCAL" SL="TOKEN": UUID [1-1]
Recipient [1-1]	This is the recipient of the transaction, in this case the BelRAI application.
Base64EncryptedData [1-1]	The encrypted assessment is stored in a base64 encoded format. The criteria for this assessment are as follows: • It should be valid (the type of assessment must be known, all questions and answers must be known in the form type); • It may not include results, these are calculated in BelRAI. Please see chapter encrypted assessment for the content of this field.

8.3. PutTransaction Response

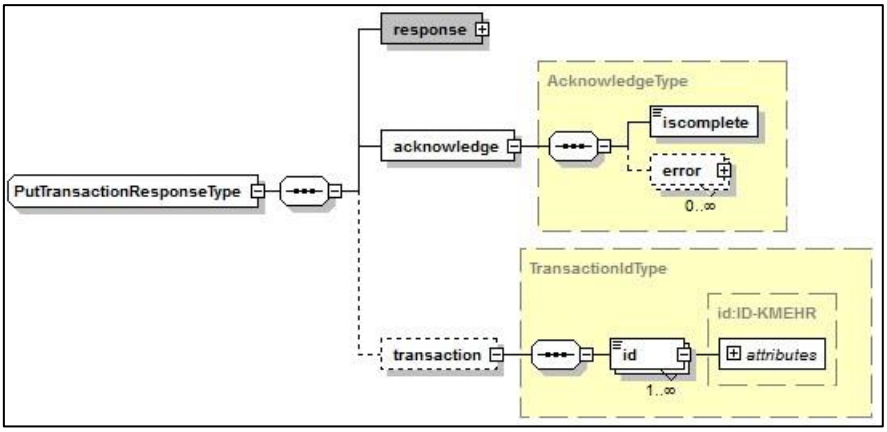

Figure 7: xsd schema: PutTransaction response

An assessment without a version will be interpreted by BelRAI as the most recently known version. A successful PutTransaction will be answered by BelRAI with a transaction ID. This transaction ID corresponds to the ID of the uploaded assessment in BelRAI.

The results of the uploaded assessment are not automatically included in PutTransaction response. This ID can be used in GetTransaction to obtain the assessment and its results.

8.4. GetTransactionList

In addition to the general information discussed above, the following elements must be added to the GetTransactionList request:

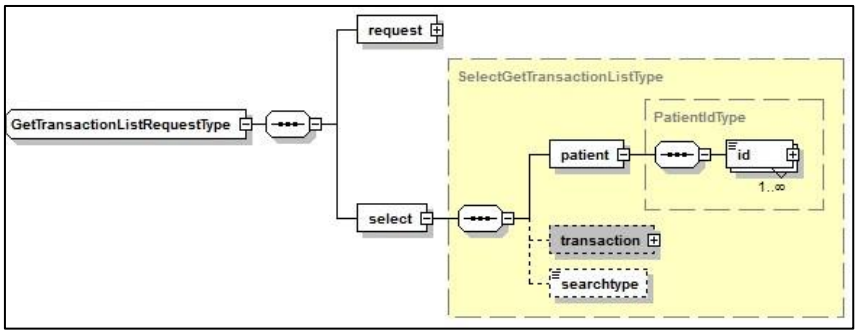

Figure 8: xsd schema: getTransactionList request

Patient	Assessments are linked to a patient (client). This patient is identified by his National Register Number. If you want to request the list of patient assessments, the patient must be included in the request. Id: Patient National Register Number (SSIN) [1-1].

8.4.1. GetTransactionList Response

In addition to the general information described above, GetTransactionList's response provides a list of assessments performed on behalf of the client. Only closed evaluations can be consulted. These assessments can be found in the response as follows.

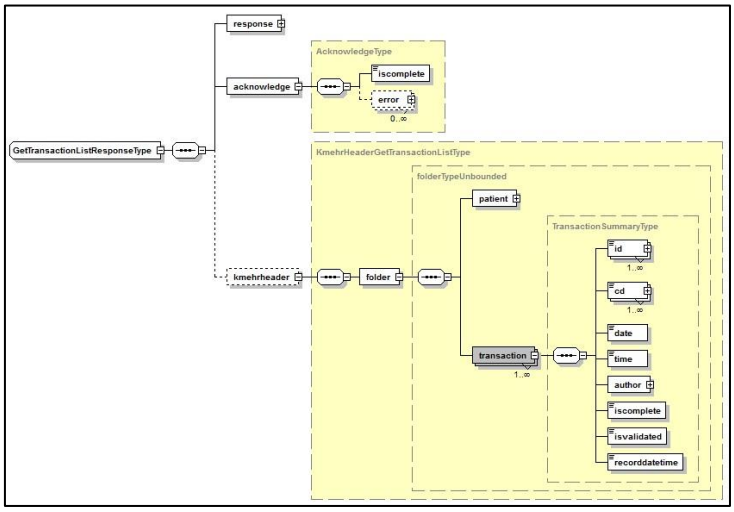

Figure 9: GetTransactionList response

kmehrheader [0-1]	If the request is processed successfully, a kmehrheader is returned. This KMEHR header contains a folder with:
	Patient identification data:
	• INSS
	• Firstname
	• Familyname
	• sex: will always be unknown
	• text: two values possible:
	  ○ Informed consent: true
	  ○ Informed consent: false
	
	Multiple transactions: this is a list of assessments that have taken place on behalf of the client.

8.5. GetTransaction

The structure of the GetTransaction request is largely the same as that of the GetTransactionList. The major difference, however, is that with this method a specific assessment is requested.

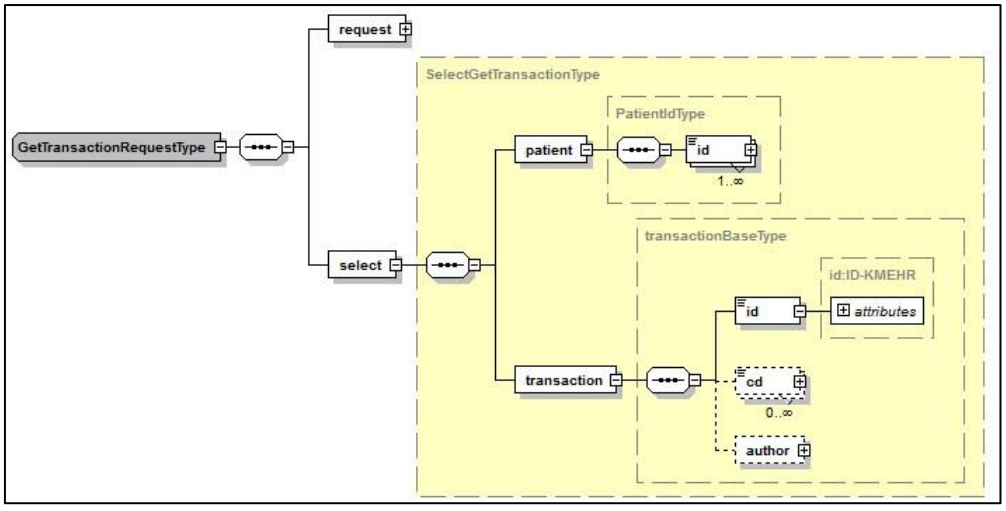

Figure 10: xsd schema: GetTransaction request

Id	TRANSACTION-ID: this is the id of the BelRAI assessment [1-1]. <v11:transaction> <v11:id S="LOCAL" SL="belrai.form.id" SV="1.0">43</v11:id> </v11:transaction>

8.5.1. GetTransaction Response

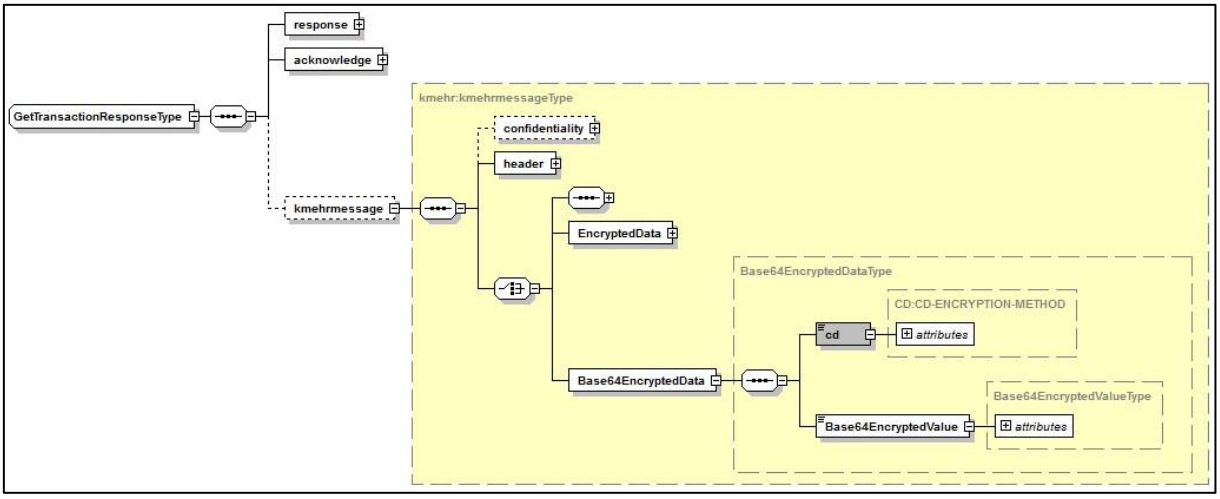

Figure 11: xsd schema: GetTransaction response

The GetTransaction response largely contains the same general fields as described above. Unlike GetTransactionList (where the list of transactions was requested), here a specific assessment is requested. Since sensitive information is exchanged during this process, the assessment is encrypted and included in the Base64EncryptedData.

9. Error and failure messages

There are three different possible types of response:

- If there are no technical or business errors, a business response returns.
- If a business error occurred, it is contained in a business response that undergoes a regular transformation (see chapter 9.1 Business errors).
- In the case of a technical error, you will receive a SOAP fault exception (see chapter 9.2).

9.1. Business errors

belrai_001	**Request not defined** The 'request' element is missing or incomplete in the sent KMEHR structure.
belrai_002	**Syntax error, missing a valid hcparty.** The hcparty is wrong or a hcparty is missing
belrai_003	**No valid syntax on careprovider HCparty** Check the error message to identify the problem**.**
belrai_004	**No valid syntax on organisation HCparty** Check the error message to identify the problem**.**
belrai_006	**Form not found in local database with the specified id** Error that may occur with GetTransaction. The requested assessment was not found in BelRAI.
belrai_007	**The specified form id fetched a form but this one does not match with the selected patient SSIN** Error that may occur with GetTransaction. The requested assessment was found in BelRAI, but does not belong to the patient who was mentioned in the request.
belrai_008	**The selected patient does not have any closed form yet** Error that may occur with GetTransactionList. There are no finalised assessments for this patient yet.
belrai_010	**No valid syntax on Transaction.**
belrai_011	**The folder should contain at least one valid KMEHR Id, at least one Patient and only one Transaction** Error that may occur with PutTransaction. The message included does not contain the necessary information.
belrai_014	**No valid syntax on Kmehrmessage** Occurs when recipient in header is not correct.
belrai_015	**No Patient SSIN specified** Error that may occur with all methods. If no National Registration Number is specified for the patient, no assessments can be retrieved or uploaded.
belrai_017	**Unknown error, contact the support team**
belrai_018	**Encryption/decryption error** Error that occurs during the encryption or decryption of the assessment.
belrai_019	**Missing attribute in SAML assertion**

	Could be a mismatch between the organization from the first HC PARTY in the request and the organization from the SAML assertion.
belrai_020	**Invalid or missing CN in SAML assertion**
belrai_021	**Invalid SSIN** The SSIN is invalid, there is an therapeutic exclusion between the care provider & the patient or the SSIN is not yet known in BelRAI
belrai_023	**This method is not supported by the BelRAI web services**
belrai_025	**This form is not closed.**
belrai_026	**No informed consent**
belrai_027	**KMEHR date and iA9 date are different** Error on putTransaction. The date in the evaluation json (iA9) must be the same as the date in the encrypted folder.
belrai_028	**syntax error on KMEHR date (or iA9 date)** Format must be: • Date in encrypted folder: **YYYY-MM-DD** • iA9: **YYYY-MM-DDThh:mm:ss+00:00**
belrai_029	**Bad Request submitting form to evaluation form**
belrai_030	**Evaluation type not found (e.a. bad BelRAI-form-type, bad template version)**
Belrai_033	**The software validation token is invalid** Error that occurs when software token is not valid

Example

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
   <soap:Body>
      <ns5:GetTransactionResponse xmlns:ns5="http://www.ehealth.fgov.be/kmehrservices/protocol/v1" xmlns:ns4="http://www.w3.org/2001/04/xmlenc#" xmlns:ns3="http://www.w3.org/2000/09/xmldsig#" xmlns:ns2="http://www.ehealth.fgov.be/standards/kmehr/schema/v1" xmlns="http://www.ehealth.fgov.be/kmehrservices/core/v1">
         <response>
            <id S="ID-KMEHR" SV="1.12">8984</id>
            <author>
               <ns2:hcparty>
                  <ns2:cd S="CD-HCPARTY" SV="1.12">application</ns2:cd>
                  <ns2:name>Belrai</ns2:name>
               </ns2:hcparty>
            </author>
            <date>2022-01-17+01:00</date>
            <time>14:21:40.421+01:00</time>
            <request>
               <id S="ID-KMEHR" SV="1.0">94704860.12345</id>
               <author>
```

```
                  <ns2:hcparty>
                     <ns2:id S="ID-HCPARTY" SV="1.0">71089914</ns2:id>
                     <ns2:cd S="CD-HCPARTY" SV="1.1">orghospital</ns2:cd>
                     <ns2:name>TEST ZIEKENHUIS ALPHA</ns2:name>
                  </ns2:hcparty>
                  <ns2:hcparty>
                     <ns2:id S="ID-HCPARTY" SV="1.0">71050643439</ns2:id>
                     <ns2:id S="INSS" SV="1.0">79###</ns2:id>
                     <ns2:cd S="CD-HCPARTY" SV="1.12">persphysician</ns2:cd>
                     <ns2:firstname>Jan</ns2:firstname>
                     <ns2:familyname>Smet</ns2:familyname>
                  </ns2:hcparty>
                  <ns2:hcparty>
                     <ns2:cd S="LOCAL" SV="1.0" SL="TOKEN">f7943###</ns2:cd>
                  </ns2:hcparty>
               </author>
               <date>2022-01-17</date>
               <time>14:42:12</time>
            </request>
         </response>
         <acknowledge>
            <iscomplete>false</iscomplete>
            <error>
               <ns2:cd S="CD-ERROR" SV="1.0">belrai_006</ns2:cd>
               <ns2:cd S="LOCAL" SV="1.0" SL="ticket_number">1642461744124</ns
2:cd>
               <ns2:description L="EN">Form with id "2389136" not found</ns2:d
escription>
            </error>
         </acknowledge>
      </ns5:GetTransactionResponse>
   </soap:Body>
</soap:Envelope>
```

9.2. Technical errors

Technical errors are errors inherent to the internal working of a WS. They are returned as SOAP Faults. The SOA Standard for Errorhandling specifies a structure for SystemError and BusinessError, thrown as SOAP Faults.

A **SystemError** MUST be thrown when a system failure occurred. It is not related to the business of the service. The SOA system error structure is as follows:

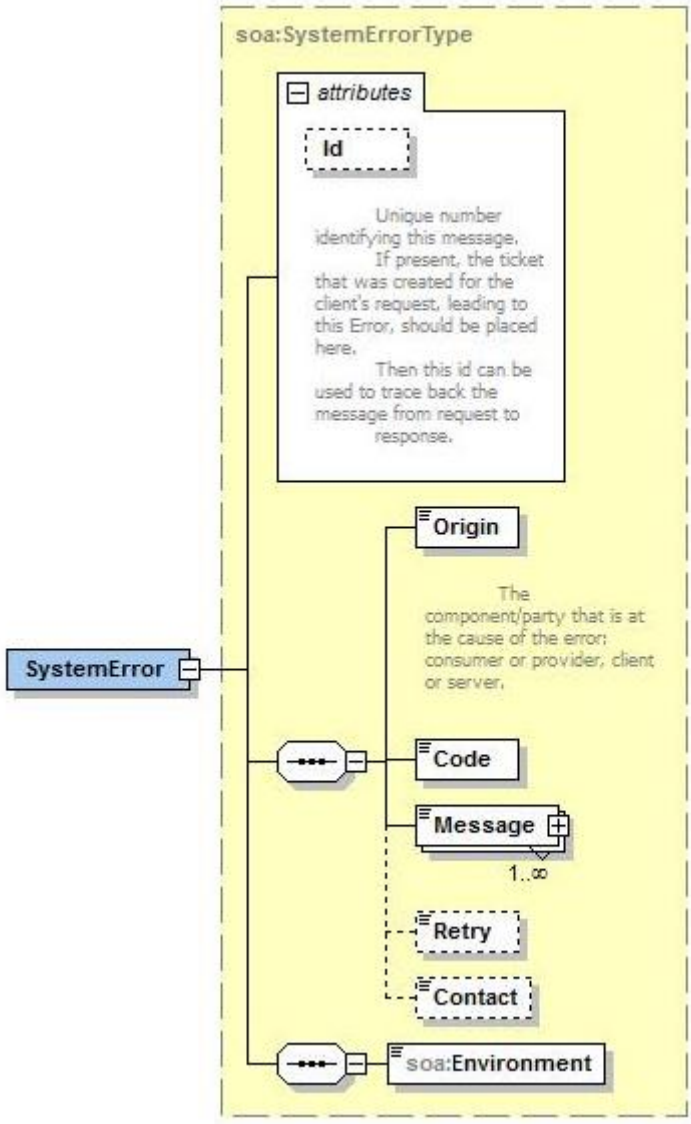

Figure 12: SystemError

The SystemError element MUST contain a unique Id attribute for tracing.

The Origin MUST be set to Server or Provider.

Retry SHOULD be set to true if the consumer can try again immediately without interventions.

Example:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
   <soapenv:Body>
      <soapenv:Fault>
         <faultcode>soapenv:Server</faultcode>
         <faultstring>SOA-
02001: Service is not available. Please contact service desk.</faultstring>
```

```
        <detail>
           <urn:SystemError Id="Id-
0ab63c6044370e219bb557dd" xmlns:urn="urn:be:fgov:ehealth:errors:soa:v1">
              <Origin>Server</Origin>
              <Code>SOA-02001</Code>
              <Message xml:lang="en">Service is not available. Please contact
 service desk.</Message>
              <urn:Environment>Acceptation</urn:Environment>
           </urn:SystemError>
        </detail>
     </soapenv:Fault>
  </soapenv:Body>
</soapenv:Envelope>
```

The SOAP Fault element has the following sub elements:

Element name	Descriptions	Mandatory
faultcode	A code for identifying the fault	Yes
faultstring	A human readable explanation of the fault	Yes
faultactor	Information about who/what caused the fault to happen (the origin)	No
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.	No

The default SOAP faultcode values are defined in an extensible manner that allows for new SOAP fault code values to be defined while maintaining backwards compatibility with existing fault code 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.

Description of the possible SOAP fault exceptions:

Error code	Component	Description	Solution/Explanation
SOA-00001	Undefined	Service error	This is the default error sent to the consumer in case no more details are known.
SOA-01001	Consumer	Service call not authenticated	Information regarding the security: • or the consumer could not be identified • or the credentials provided are not correct
SOA-01002	Consumer	Service call not authorized	The consumer is identified and authenticated but is not allowed to call the given service.

SOA-02001	Provider	Service not available. Please contact service desk	An unexpected error has occurred • Retries will not work • Service desk may help with root cause analysis
SOA-02002	Provider	Service temporarily not available. Please try later	An unexpected error has occurred • Retries should work • If the problem persists service desk may help
SOA-03001	Consumer	Malformed message	This is default error for content related errors in case more details are lacking.
SOA-03002	Consumer	Message must be SOAP	Message does not respect the SOAP standard
SOA-03003	Consumer	Message must contain SOAP body	Message respects the SOAP standard, but body is missing
SOA-03004	Consumer	WS-I compliance failure	Message does not respect the WS-I standard
SOA-03005	Consumer	WSDL compliance failure	Message is not compliant with WSDL in Registry/Repository
SOA-03006	Consumer	XSD compliance failure	Message is not compliant with XSD in Registry/Repository
SOA-03007	Consumer	Message content validation failure	From the message content (conform XSD): • Extended checks on the element format failed • Cross-checks between fields failed

10. Method examples

In this chapter you will find some examples of each method discussed above. These examples may help to construct the KMEHR message. The examples are listed in order of the proposed methods, and each consists of a pair (request-response).

10.1. PutTransaction – Request

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:v1="http://www.ehealth.fgov.be/kmehrservices/protocol/v1" xmlns:v11="http://www.ehealth.fgov.be/kmehrservices/core/v1" xmlns:v12="http://www.ehealth.fgov.be/standards/kmehr/schema/v1" xmlns:xd="http://www.w3.org/2000/09/xmldsig#" xmlns:xe="http://www.w3.org/2001/04/xmlenc#">
   <soapenv:Header/>
   <soapenv:Body>
      <v1:PutTransactionRequest>
         <v11:request>
            <v11:id S="ID-KMEHR" SV="1.0">1000000001.237</v11:id>
            <v11:author>
               <v12:hcparty>
                  <v12:id S="ID-HCPARTY" SV="1.0">71089914</v12:id>
                  <v12:cd S="CD-HCPARTY" SV="1.1">orghospital</v12:cd>
                  <v12:name>HOSPITAL</v12:name>
               </v12:hcparty>
               <v12:hcparty>
                  <v12:id S="ID-HCPARTY" SV="1.0">71050643439</v12:id>
                  <v12:id S="INSS" SV="1.0">79###</v12:id>
                  <v12:cd S="CD-HCPARTY" SV="1.12">persphysician</v12:cd>
                  <v12:firstname>Piet</v12:firstname>
                  <v12:familyname>Pienter</v12:familyname>
               </v12:hcparty>
               <v12:hcparty>
                  <v12:cd SV="1.0" S="LOCAL" SL="TOKEN">f7943###</v12:cd>
               </v12:hcparty>
            </v11:author>
            <v11:date>2009-11-20</v11:date>
            <v11:time>09:09:26</v11:time>
         </v11:request>
         <v11:kmehrmessage>
            <v12:header>
               <v12:standard>
                  <v12:cd S="CD-STANDARD" SV="1.19">20121001</v12:cd>
               </v12:standard>
               <v12:id S="ID-KMEHR" SV="1.0">10000000001.456</v12:id>
               <v12:date>2009-01-01</v12:date>
               <v12:time>12:00:00</v12:time>
               <v12:sender>
                  <v12:hcparty>
                     <v12:id S="ID-HCPARTY" SV="1.0">71089914</v12:id>
                     <v12:cd S="CD-HCPARTY" SV="1.1">orghospital</v12:cd>
                     <v12:name>HOSPITAL</v12:name>
                  </v12:hcparty>
                  <v12:hcparty>
                     <v12:id S="ID-HCPARTY" SV="1.0">71050643439</v12:id>
                     <v12:id S="INSS" SV="1.0">7910###</v12:id>
                     <v12:cd S="CD-HCPARTY" SV="1.12">persphysician</v12:cd>
                     <v12:firstname>Piet</v12:firstname>
```

```
                  <v12:familyname>Pienter</v12:familyname>
               </v12:hcparty>
            </v12:sender>
            <v12:recipient>
               <v12:hcparty>
                  <v12:cd S="CD-HCPARTY" SV="1.3">application</v12:cd>
                  <v12:name>BELRAI</v12:name>
               </v12:hcparty>
            </v12:recipient>
         </v12:header>
         <v12:Base64EncryptedData>
            <v12:cd S="CD-ENCRYPTION-METHOD" SV="1.0">CMS</v12:cd>
            <v12:Base64EncryptedValue>MIAG###B</v12:Base64EncryptedValue>
         </v12:Base64EncryptedData>
      </v11:kmehrmessage>
   </v1:PutTransactionRequest>
</soapenv:Body>
</soapenv:Envelope>
```

10.2. PutTransaction - Response

```
soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:v1="http://www.ehealth
.fgov.be/kmehrservices/protocol/v1" xmlns:v11="http://www.ehealth.fgov.be/kmehrservices/core/v1" xmlns:
v12="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
   <soapenv:Header/>
   <soapenv:Body>
      <v1:GetTransactionListRequest>
         <v11:request>
            <v11:id S="ID-KMEHR" SV="1.0">71071801001</v11:id>
            <v11:author>
               <v12:hcparty>
                  <v12:id S="ID-HCPARTY" SV="1.0">71089914</v12:id>
                  <v12:cd S="CD-HCPARTY" SV="1.1">orghospital</v12:cd>
                  <v12:name>TEST ZIEKENHUIS ALPHA</v12:name>
               </v12:hcparty>
               <v12:hcparty>
                  <v12:id S="ID-HCPARTY" SV="1.0">71050643439</v12:id>
                  <v12:id S="INSS" SV="1.0">7910####</v12:id>
                  <v12:cd S="CD-HCPARTY" SV="1.12">persphysician</v12:cd>
                  <v12:firstname>Piet</v12:firstname>
                  <v12:familyname>Pienter</v12:familyname>
               </v12:hcparty>
               <v12:hcparty>
                  <v12:cd SV="1.0" S="LOCAL" SL="TOKEN">f7943###</v12:cd>
               </v12:hcparty>
            </v11:author>
            <v11:date>2021-01-17</v11:date>
            <v11:time>14:42:12</v11:time>
            <v11:maxrows>50</v11:maxrows>
         </v11:request>
         <v11:select>
```

```
            <v11:patient>
               <v11:id S="INSS" SV="1.0">7910####</v11:id>
            </v11:patient>
         </v11:select>
      </v1:GetTransactionListRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

10.3. GetTransactionList – Request

```
soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:v1="http://www.ehealth
.fgov.be/kmehrservices/protocol/v1" xmlns:v11="http://www.ehealth.fgov.be/kmehrservices/core/v1" xmlns:
v12="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
   <soapenv:Header/>
   <soapenv:Body>
      <v1:GetTransactionListRequest>
         <v11:request>
            <v11:id S="ID-KMEHR" SV="1.0">71071801001</v11:id>
            <v11:author>
               <v12:hcparty>
                  <v12:id S="ID-HCPARTY" SV="1.0">71089914</v12:id>
                  <v12:cd S="CD-HCPARTY" SV="1.1">orghospital</v12:cd>
                  <v12:name>TEST ZIEKENHUIS ALPHA</v12:name>
               </v12:hcparty>
               <v12:hcparty>
                  <v12:id S="ID-HCPARTY" SV="1.0">71050643439</v12:id>
                  <v12:id S="INSS" SV="1.0">7910####</v12:id>
                  <v12:cd S="CD-HCPARTY" SV="1.12">persphysician</v12:cd>
                  <v12:firstname>Piet</v12:firstname>
                  <v12:familyname>Pienter</v12:familyname>
               </v12:hcparty>
               <v12:hcparty>
                  <v12:cd SV="1.0" S="LOCAL" SL="TOKEN">f7943###</v12:cd>
               </v12:hcparty>
            </v11:author>
            <v11:date>2021-01-17</v11:date>
            <v11:time>14:42:12</v11:time>
            <v11:maxrows>50</v11:maxrows>
         </v11:request>
         <v11:select>
            <v11:patient>
               <v11:id S="INSS" SV="1.0">7910####</v11:id>
            </v11:patient>
         </v11:select>
      </v1:GetTransactionListRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

10.4. GetTransactionList – Response

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ns5:GetTransactionListResponse xmlns:ns5="http://www.ehealth.fgov.be/kmehrservices/protocol/v1" xmlns:ns4="http://www.w3.org/2001/04/xmlenc#" xmlns:ns3="http://www.w3.org/2000/09/xmldsig#" xmlns:ns2="http://www.ehealth.fgov.be/standards/kmehr/schema/v1" xmlns="http://www.ehealth.fgov.be/kmehrservices/core/v1">
      <response>
        <id S="ID-KMEHR" SV="1.12">8994</id>
        <author>
          <ns2:hcparty>
            <ns2:cd S="CD-HCPARTY" SV="1.12">application</ns2:cd>
            <ns2:name>Belrai</ns2:name>
          </ns2:hcparty>
        </author>
        <date>2022-01-17+01:00</date>
        <time>15:56:10.188+01:00</time>
        <request>
          <id S="ID-KMEHR" SV="1.0">71071801001</id>
          <author>
            <ns2:hcparty>
              <ns2:id S="ID-HCPARTY" SV="1.0">71089914</ns2:id>
              <ns2:cd S="CD-HCPARTY" SV="1.1">orghospital</ns2:cd>
              <ns2:name>TEST ZIEKENHUIS ALPHA</ns2:name>
            </ns2:hcparty>
            <ns2:hcparty>
              <ns2:id S="ID-HCPARTY" SV="1.0">71050643439</ns2:id>
              <ns2:id S="INSS" SV="1.0">7910###</ns2:id>
              <ns2:cd S="CD-HCPARTY" SV="1.12">persphysician</ns2:cd>
              <ns2:firstname>Piet</ns2:firstname>
              <ns2:familyname>Pienter</ns2:familyname>
            </ns2:hcparty>
            <ns2:hcparty>
              <ns2:cd S="LOCAL" SV="1.0" SL="TOKEN">f7943###</ns2:cd>
            </ns2:hcparty>
          </author>
          <date>2022-01-17</date>
          <time>14:42:12</time>
          <maxrows>2</maxrows>
        </request>
      </response>
      <acknowledge>
        <iscomplete>true</iscomplete>
      </acknowledge>
      <kmehrheader>
        <folder>
          <patient>
            <ns2:id S="INSS" SV="1.0">91###</ns2:id>
            <ns2:firstname>Bert</ns2:firstname>
            <ns2:familyname>Janssens</ns2:familyname>
            <ns2:sex>
              <ns2:cd S="CD-SEX" SV="1.12">unknown</ns2:cd>
            </ns2:sex>
          <ns2:text L="EN">informed_consent_true</ns2:text>
          </patient>
          <transaction>
```

```
      <id S="ID-KMEHR" SV="1.12">1</id>
      <id S="LOCAL" SV="1.0" SL="belrai.form.id">238940</id>
      <cd S="CD-TRANSACTION" SV="1.12">contactreport</cd>
      <cd S="LOCAL" SV="1.0" SL="belrai-form-type">home_care</cd>
      <cd S="LOCAL" SV="1.0" SL="template-version">1.4</cd>
      <date>2020-02-18Z</date>
      <time>00:00:00.000Z</time>
      <author>
         <ns2:hcparty>
            <ns2:cd S="CD-HCPARTY" SV="1.12">application</ns2:cd>
            <ns2:name>Belrai</ns2:name>
         </ns2:hcparty>
         <ns2:hcparty>
            <ns2:id S="ID-HCPARTY" SV="1.12">71089914</ns2:id>
            <ns2:cd S="CD-HCPARTY" SV="1.12">orghospital</ns2:cd>
            <ns2:name>TEST ZIEKENHUIS ALPHA</ns2:name>
         </ns2:hcparty>
         <ns2:hcparty>
            <ns2:id S="ID-HCPARTY" SV="1.0">71050643439</ns2:id>
            <ns2:id S="INSS" SV="1.0">7910###</ns2:id>
            <ns2:cd S="CD-HCPARTY" SV="1.12">persphysician</ns2:cd>
            <ns2:firstname>Jean</ns2:firstname>
            <ns2:familyname>Dupont</ns2:familyname>
         </ns2:hcparty>
      </author>
      <iscomplete>true</iscomplete>
      <isvalidated>true</isvalidated>
      <recorddatetime>2020-02-18T00:00:00.000Z</recorddatetime>
   </transaction>
   <transaction>
      <id S="ID-KMEHR" SV="1.12">2</id>
      <id S="LOCAL" SV="1.0" SL="belrai.form.id">238939</id>
      <cd S="CD-TRANSACTION" SV="1.12">contactreport</cd>
      <cd S="LOCAL" SV="1.0" SL="belrai-form-type">home_care</cd>
      <cd S="LOCAL" SV="1.0" SL="template-version">1.4</cd>
      <date>2020-02-18Z</date>
      <time>00:00:00.000Z</time>
      <author>
         <ns2:hcparty>
            <ns2:cd S="CD-HCPARTY" SV="1.12">application</ns2:cd>
            <ns2:name>Belrai</ns2:name>
         </ns2:hcparty>
         <ns2:hcparty>
            <ns2:id S="ID-HCPARTY" SV="1.12">71089914</ns2:id>
            <ns2:cd S="CD-HCPARTY" SV="1.12">orghospital</ns2:cd>
            <ns2:name>TEST ZIEKENHUIS ALPHA</ns2:name>
         </ns2:hcparty>
         <ns2:hcparty>
            <ns2:id S="ID-HCPARTY" SV="1.0">71050643439</ns2:id>
            <ns2:id S="INSS" SV="1.0">79###</ns2:id>
            <ns2:cd S="CD-HCPARTY" SV="1.12">persphysician</ns2:cd>
            <ns2:firstname>Sara</ns2:firstname>
            <ns2:familyname>Roos</ns2:familyname>
         </ns2:hcparty>
      </author>
      <iscomplete>true</iscomplete>
```

```
                <isvalidated>true</isvalidated>
                <recorddatetime>2020-02-18T00:00:00.000Z</recorddatetime>
              </transaction>
            </folder>
          </kmehrheader>
        </ns5:GetTransactionListResponse>
    </soap:Body>
</soap:Envelope>
```

10.5. GetTransaction – Request

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:v1="http://www.ehealth.fgov.be/kmehrservices/protocol/v1" xmlns:v11="http://www.ehealth.fgov.be/kmehrservices/core/v1" xmlns:v12="http://www.ehealth.fgov.be/standards/kmehr/schema/v1">
   <soapenv:Header/>
   <soapenv:Body>
      <v1:GetTransactionRequest>
       <v11:request>
          <v11:id S="ID-KMEHR" SV="1.0">94704860.12345</v11:id>
          <v11:author>
             <v12:hcparty>
                   <v12:id S="ID-HCPARTY" SV="1.0">71089914</v12:id>
               <v12:cd S="CD-HCPARTY" SV="1.1">orghospital</v12:cd>
               <v12:name>TEST ZIEKENHUIS ALPHA</v12:name>
             </v12:hcparty>
              <v12:hcparty>
               <v12:id S="ID-HCPARTY" SV="1.0">71050643439</v12:id>
               <v12:id S="INSS" SV="1.0">7910###</v12:id>
               <v12:cd S="CD-HCPARTY" SV="1.12">persphysician</v12:cd>
               <v12:firstname>Piet</v12:firstname>
               <v12:familyname>Pienter</v12:familyname>
             </v12:hcparty>
                <v12:hcparty>
                  <v12:cd SV="1.0" S="LOCAL" SL="TOKEN">f7943###</v12:cd>
                </v12:hcparty>
          </v11:author>
          <v11:date>2022-01-17</v11:date>
          <v11:time>14:42:12</v11:time>
       </v11:request>
       <v11:select>
          <v11:patient>
             <v11:id S="INSS" SV="1.0">910###</v11:id>
          </v11:patient>
          <v11:transaction>
             <v11:id S="LOCAL" SV="1.0" SL="belrai.form.id">238937</v11:id>
          </v11:transaction>
       </v11:select>
    </v1:GetTransactionRequest>
   </soapenv:Body>
</soapenv:Envelope>
```

10.6. GetTransaction – Response

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
   <soap:Body>
      <ns5:GetTransactionResponse xmlns:ns5="http://www.ehealth.fgov.be/kmehrservices/protocol/v1" xmlns:ns4="http://www.w3.org/2001/04/xmlenc#" xmlns:ns3="http://www.w3.org/2000/09/xmldsig#" xmlns:ns2="http://www.ehealth.fgov.be/standards/kmehr/schema/v1" xmlns="http://www.ehealth.fgov.be/kmehrservices/core/v1">
```

```
<response>
   <id S="ID-KMEHR" SV="1.12">9003</id>
   <author>
      <ns2:hcparty>
         <ns2:cd S="CD-HCPARTY" SV="1.12">application</ns2:cd>
         <ns2:name>Belrai</ns2:name>
      </ns2:hcparty>
   </author>
   <date>2022-01-18+01:00</date>
   <time>09:07:12.689+01:00</time>
   <request>
      <id S="ID-KMEHR" SV="1.0">94704860.12345</id>
      <author>
         <ns2:hcparty>
            <ns2:id S="ID-HCPARTY" SV="1.0">71089914</ns2:id>
            <ns2:cd S="CD-HCPARTY" SV="1.1">orghospital</ns2:cd>
            <ns2:name>TEST ZIEKENHUIS ALPHA</ns2:name>
         </ns2:hcparty>
         <ns2:hcparty>
            <ns2:id S="ID-HCPARTY" SV="1.0">71050643439</ns2:id>
            <ns2:id S="INSS" SV="1.0">79###</ns2:id>
            <ns2:cd S="CD-HCPARTY" SV="1.12">persphysician</ns2:cd>
            <ns2:firstname>Piet</ns2:firstname>
            <ns2:familyname>Pienter</ns2:familyname>
         </ns2:hcparty>
         <ns2:hcparty>
            <ns2:cd S="LOCAL" SV="1.0" SL="TOKEN">f7943###</ns2:cd>
         </ns2:hcparty>
         <ns2:hcparty>
            <ns2:id S="ID-HCPARTY" SV="1.0">1234</ns2:id>
            <ns2:cd S="CD-HCPARTY" SV="1.1">orgretirementhome</ns2:cd>
            <ns2:name>TEST BELRAI</ns2:name>
         </ns2:hcparty>
      </author>
      <date>2022-01-18</date>
      <time>14:42:12</time>
   </request>
</response>
<acknowledge>
   <iscomplete>true</iscomplete>
</acknowledge>
<kmehrmessage>
   <ns2:header>
      <ns2:standard>
         <ns2:cd S="CD-STANDARD" SV="1.12">20150301</ns2:cd>
      </ns2:standard>
      <ns2:id S="ID-KMEHR" SV="1.12">Belrai.9004</ns2:id>
      <ns2:date>2022-01-18+01:00</ns2:date>
      <ns2:time>09:07:12.696+01:00</ns2:time>
      <ns2:sender>
         <ns2:hcparty>
            <ns2:cd S="CD-HCPARTY" SV="1.12">application</ns2:cd>
            <ns2:name>Belrai</ns2:name>
         </ns2:hcparty>
      </ns2:sender>
      <ns2:recipient>
```

```
                <ns2:hcparty>
                   <ns2:id S="ID-HCPARTY" SV="1.0">71089914</ns2:id>
                   <ns2:cd S="CD-HCPARTY" SV="1.1">orghospital</ns2:cd>
                   <ns2:name>TEST ZIEKENHUIS ALPHA</ns2:name>
                </ns2:hcparty>
                <ns2:hcparty>
                   <ns2:id S="ID-HCPARTY" SV="1.0">71050643439</ns2:id>
                   <ns2:id S="INSS" SV="1.0">79###</ns2:id>
                   <ns2:cd S="CD-HCPARTY" SV="1.12">persphysician</ns2:cd>
                   <ns2:firstname>Piet</ns2:firstname>
                   <ns2:familyname>Pienter</ns2:familyname>
                </ns2:hcparty>
                <ns2:hcparty>
                   <ns2:cd S="LOCAL" SV="1.0" SL="TOKEN">f7943###</ns2:cd>
                </ns2:hcparty>
                <ns2:hcparty>
                   <ns2:id S="ID-HCPARTY" SV="1.0">1234</ns2:id>
                   <ns2:cd S="CD-HCPARTY" SV="1.1">orgretirementhome</ns2:cd>
                   <ns2:name>TEST BELRAI</ns2:name>
                </ns2:hcparty>
             </ns2:recipient>
          </ns2:header>
          <ns2:Base64EncryptedData>
             <ns2:cd S="CD-ENCRYPTION-METHOD" SV="1.0">CMS</ns2:cd>
             <ns2:Base64EncryptedValue>MIAG###B</ns2:Base64EncryptedValue>
          </ns2:Base64EncryptedData>
       </kmehrmessage>
    </ns5:GetTransactionResponse>
 </soap:Body>
</soap:Envelope>
```

Example of content of the Base64EncryptedValue

```
<folder xmlns="http://www.ehealth.fgov.be/standards/kmehr/schema/v1" xmlns:ns2="http://www.w3.org/2000/09/xmldsig#" xmlns:ns3="http://www.w3.org/2001/04/xmlenc#">
   <id S="ID-KMEHR" SV="1.12">Belrai.39086</id>
   <patient>
      <id S="INSS" SV="1.0">7910###</id>
      <firstname>Piet</firstname>
      <familyname>Pienter</familyname>
      <sex>
         <cd S="CD-SEX" SV="1.12">unknown</cd>
      </sex>
   </patient>
   <transaction>
      <id S="LOCAL" SV="1.0" SL="belrai.form.id">39086</id>
      <cd S="CD-TRANSACTION" SV="1.12">contactreport</cd>
      <cd S="LOCAL" SV="1.0" SL="belrai-form-type">belrai_screener</cd>
      <cd S="LOCAL" SV="1.0" SL="template-version">1.4</cd>
      <date>2021-06-01Z</date>
      <time>00:00:00.000Z</time>
      <author>
         <hcparty>
```

```
            <cd S="CD-HCPARTY" SV="1.12">application</cd>
            <name>Belrai</name>
         </hcparty>
         <hcparty>
            <id S="ID-HCPARTY" SV="1.12">71089914</id>
            <cd S="CD-HCPARTY" SV="1.12">1.1</cd>
            <name>TEST ZIEKENHUIS ALPHA</name>
         </hcparty>
         <hcparty>
            <id S="ID-HCPARTY" SV="1.0">71050643439</id>
            <id S="INSS" SV="1.0">7910###</id>
            <cd S="CD-HCPARTY" SV="1.12">persphysician</cd>
            <firstname>Piet</firstname>
            <familyname>Pinter</familyname>
         </hcparty>
      </author>
      <iscomplete>true</iscomplete>
      <isvalidated>true</isvalidated>
      <item>
         <text>ewogICJyZXNwb25zZXMiIDogewogICAgImlBOSIgOiAiMjAyMS0wNi0wMVQwMDowMDowMCswMjowMCIsCiAgICAi
aUcyZiIgOiAiMCIsCiAgICAiaUcxaGEiIDogIjAiLAogICAgImlHMmgiIDogIjAiLAogICAgImlHMWhiIiA6ICIwIiwKICAgICJpRzF
mYSIgOiAiMCIsCiAgICAiaUcyaiIgOiAiMCIsCiAgICAiaUcxZmIiIDogIjAiLAogICAgImlEMSIgOiAiMCIsCiAgICAiaUcxZGEiID
ogIjAiLAogICAgImlHMWRiIiA6ICIwIiwKICAgICJpQzJhIiA6ICIwIiwKICAgICJpRzFiYSIgOiAiMCIsCiAgICAiaUMyYiIgOiAiM
CIsCiAgICAiaUcxYmIiIDogIjAiLAogICAgImlHMmIiIDogIjAiLAogICAgImlHMWdhIiA6ICIwIiwKICAgICJpRzFnYiIgOiAiMCIs
CiAgICAiaUcxZWEiIDogIjAiLAogICAgImlCMTBkIiA6ICIwIiwKICAgICJNT0QxIiA6ICIwIiwKICAgICJpQjEwZSIgOiAiMCIsCiA
gICAiaUIxMGIiIDogIjAiLAogICAgImlCMTBjIiA6ICIwIiwKICAgICJpQjEwYSIgOiAiMCIsCiAgICAiTU9EMiIgOiAiMCIsCiAgIC
AiTU9EMyIgOiAiMCIsCiAgICAiTU9ENCIgOiAiMCIsCiAgICAiaUMxIiA6ICIwIiwKICAgICJNT0Q1IiA6ICIwIiwKICAgICJpRzFlY
iIgOiAiMCIsCiAgICAiaUcxY2EiIDogIjAiLAogICAgImlFM2EiIDogIjAiLAogICAgImlHMWNiIiA6ICIwIiwKICAgICJpRzFhYSIg
OiAiMCIsCiAgICAiaUUzYiIgOiAiMCIsCiAgICAiaUcxYWIiIDogIjAiLAogICAgImlFM2MiIDogIjAiLAogICAgImlFM2QiIDogIjA
iLAogICAgImlFM2UiIDogIjAiLAogICAgImlFM2YiIDogIjAiCiAgfSwKICAic2NvcmVzIiA6IHsKICAgICJzZWN0aW9uXzAyIiA6IH
sKICAgICAgInZhbHVlIiA6ICIwIiwKICAgICAgImxhYmVsX3RyYW5zbGF0aW9uX2lkIiA6ICIxMDAwMCIsCiAgICAgICJsYWJlbF90c
mFuc2xhdGlvbiIgOiB7CiAgICAgICAgIm5sIiA6ICJEZXplIHBlcnNvb24gaGVlZnQgZ2VlbiBJQURMLXByb2JsZW1lbi4iLAogICAg
ICAgICJmciIgOiAiTGEgcGVyc29ubmUgbmUgcHLDqXNlbnRlIGF1Y3VuIHByb2Jsw6htZSBBSVZRLiIsCiAgICAgICAgImRlIiA6ICJ
EaWVzZSBQZXJzb24gaGF0IGt1aW5lIElBVEwtUHJvYmxlbWUuIgogICAgICB9CiAgICB9LAogICAgInNlY3Rpb25fMDMiIDogewogIC
AgICAidmFsdWUiIDogIjAiLAogICAgICAibGFiZWxfdHJhbnNsYXRpb25faWQiIDogIjEwMTAwIiwKICAgICAgImxhYmVsX3RyYW5zb
GF0aW9uIiA6IHsKICAgICAgICAibmwiIDogIlplbGZzdGFuZGlnIGJpaiBkZSA0IEFETC1mdW5jdGllcy4iLAogICAgICAgICJmciIg
OiAiSW5kw6lwZW5kYW50IHBvdXIgbGVzIDQgZm9uY3Rpb25zIEFWUS4iLAogICAgICAgICJkZSIgOiAiU2VsYnN0c3TDpG5kaWcgYmV
pIGFsbGVuIDQgQVRMLUZ1bmt0aW9uZW4uIgogICAgICB9CiAgICB9LAogICAgInNlY3Rpb25fMDQiIDogewogICAgICAidmFsdWUiID
ogIjAiLAogICAgICAibGFiZWxfdHJhbnNsYXRpb25faWQiIDogIjEwMjAwIiwKICAgICAgImxhYmVsX3RyYW5zbGF0aW9uIiA6IHsKI
CAgICAgICAibmwiIDogIkRlIGNvZ25pdGlldmUgc3RhdHVzIHZhbiBkZXplIHBlcnNvb24gaXMgaW50YWN0LiIsCiAgICAgICAgImZy
IiA6ICJMZSBzdGF0dXQgY29nbml0aWYgZGUgbGEgcGVyc29ubmUgZXN0IGludGFjdC4iLAogICAgICAgICJkZSIgOiAiRGVyIGtvZ25
pdGl2ZSBTdGF0dXMgZGllc2VyIFBlcnNvbiBpc3QgaW50YWt0LiIKICAgICAgfQogICAgfSwKICAgICJzZWN0aW9uXzA1IiA6IHsKIC
AgICAgInZhbHVlIiA6ICIwIiwKICAgICAgImxhYmVsX3RyYW5zbGF0aW9uX2lkIiA6ICIxMDMwMCIsCiAgICAgICJsYWJlbF90cmFuc
2xhdGlvbiIgOiB7CiAgICAgICAgIm5sIiA6ICJEZXplIHBlcnNvb24gaGVlZnQgZ2VlbiB2YW4gZGUgZ2Vub2VtZGUgcHN5Y2hpc2No
ZSBwcm9ibGVtZW4uIiwKICAgICAgICAiZnIiIDogIkxhIHBlcnNvbm5lIG5lIHByw6lzZW50ZSBhdWN1biB0cm91YmxlIHBzeWNoaXF
1ZS4iLAogICAgICAgICJkZSIgOiAiRGllc2UgUGVyc29uIGhhdCBrZWluZXMgZGVyIGdlbmFubnRlbiBwc3ljaGlzY2hlbiBQcm9ibG
VtZS4iCiAgICAgIH0KICAgIH0sCiAgICAic2VjdGlvbl8wNiIgOiB7CiAgICAgICJ2YWx1ZSIgOiAiMCIsCiAgICAgICJsYWJlbF90c
mFuc2xhdGlvbl9pZCIgOiAiMTA0MDAiLAogICAgICAibGFiZWxfdHJhbnNsYXRpb24iIDogewogICAgICAgICJubCIgOiAiRGV6ZSBw
ZXJzb29uIGhlZW0IGdlZW4gZ2VkcmFnc3Byb2JsZW1lbi4iLAogICAgICAgICJmciIgOiAiTGEgcGVyc29ubmUgbmUgcHLDqXNlbnR
```

lIGF1Y3VuIHRyb3VibGUgZHUgY29tcG9ydGVtZW50LiIsCiAgICAgICAgImRlIiA6ICJEaWVzZSBQZXJzb24gaGF0IGtlaW4gVmVyaG
FsdGVuc3Byb2JsZW0uIgogICAgICB9CiAgICB9LAogICAgIm1haW4iIDogewogICAgICAidmFsdWUiIDogIjAiCiAgICB9LAogICAgI
mZ1bGxFdmFsIiA6IHsKICAgICAgInZhbHVlIiA6ICJmYWxzZSIsCiAgICAgICJsYWJlbF90cmFuc2xhdGlvbl9pZCIgOiAiMTA1MDEi
LAogICAgICAibGFiZWxfdHJhbnNsYXRpb24iIDogewogICAgICAgICJubCIgOiAiVm9vciBkZXplIHBlcnNvb24gaG9lZnQgdSBpbiB
wcmluY2lwZSBvcCBkaXQgbW9tZW50IGdlZW4gdm9sbGVkaWdlIEJlbFJBSS1iZW9vcmRlbGluZyBvcCB0ZSBzdGFydGVuLiBIZXQgc3
RhYXQgdSB1aXRlcmFhcmQgdnJpaiBkYXQgd2VsIHRlIGRvZW4gb3AgYmFzaXMgdmFuIHByb2Zlc3Npb25lZWwgZW4ga
2xpbmlzY2ggb29yZGVlbCBvZiBkYXQgdmFuIHV3IGNvbGxlZ2HigJlzLiIsCiAgICAgICAgImZyIiA6ICJVbmUgw6l2YWx1YXRpb24g
Y29tcGzDqHRlIG7igJll c3QgcGFzIG7DqWNlc3NhaXJlLiBDZXBlbmRhbnQsIHZvdXMgcG91dmV6IHRvdWpvdXJzIHLDqWFsaXNlciB
1bmUgw6l2YWx1YXRpb24gc3VyIGJhc2UgZGUgdm90cmUganVnZW1lbnQgcHJvZmVzc2lvbm5lbCBvdSBzdXIgYmFzZSBkdSBqdWdlbW
VudCBkZSB2b3MgY29sbMOoZ3Vlcy4iLAogICAgICAgICJkZSIgOiAiRsO8ciBkaWVzZSBQZXJzb24gaXN0IGVzIGltIFByaW56aXAgb
mljaHQgZXJmb3JkZXJsaWNoLCBlaW5lIHZvbGxzdMOkbmRpZ2UgQmVsUkFJLUJld2VydHVuZyBkdXJjaHp1ZsO8aHJlbi4gTmF0w7xy
bGljaCBrw7ZubmVuL2TDvHJmZW4gU2llIGVpbmUgdm9sbHN0w6RuZGlnZSBCZWxSQUktQmV3ZXJ0dW5nIGJlZ2lubmVuIGF1ZiBkZXI
gR3J1bmRsYWdlIElocmVyIGVpZ2VuZW4gZmFjaGxpY2hlbiB1bmQga2xpbmlzY2hlbiBCZXVydGVpbHVuZyBvZGVyIGRlciBJaHJlci
BLb2xsZWdlbi4iCiAgICAgIH0KICAgIH0KICB9Cn0=</text>
      </item>
   </transaction>
</folder>