

**Cookbook  
eCarmed  
Version 1.01**

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**eHealth platform**

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# 1 Document management

## 1.1 Document history

<i>Version</i>	<i>Date</i>	<i>Author</i>	<i>Description of changes / remarks</i>
1.0	22/08/2010	eHealth	First version
1.01	02/09/2014	eHealth	First revision



## 2 Introduction

### 2.1 Goal of the service

In the context of medical assistance, CPAS & SPP IS (OCMW & POD MI) can intervene in medical costs of people experiencing financial distress or unable to pay these fees. Part of this intervention is supported by the federal state represented by the POD MI. In general, the workflow of medical assistance is as follows:

The person in distress applied for financial aid for the payment of medical expenses from the OCMW which he depends on. This request should be done before granting care (in some cases urgent requests for assistance may be made after the granting of aid). The OCMW must conduct a social survey to ascertain whether the conditions for granting medical assistance are met.

The OCMW will make a decision in determining the duration of the intervention, the level of care and medical benefits covered - for example care co-payments or care not included in the nomenclature of the RIZIV (INAMI). This decision will be achieved by a medical card and the system eCarmed.

Then, when the beneficiary of the medical card goes to a health care provider, the health care provider should be able to see whether the patient is covered for the care requested through the eCarmed system. If the patient is covered, the invoice will be sent to the HKZIV (CAAMI). If the invoice is admissible, the HKZIV will pay part of the POD MI and transmit the invoice to the appropriate OCMW so it can pay the remaining portion under the terms of the electronic card.

The goal of the eCarmed service provided by eHealth is to give the health care providers the means to consult the financial coverage of a patient and obtain an agreement number that guarantees payment.

### 2.2 Goal of the document

This document is not a development or programming guide for internal applications. Instead it provides functional and technical information and allows an organization to integrate and use the eHealth service.

But in order to interact in a smooth, homogeneous and risk controlled way with a maximum of partners, eHealth partners must commit to comply with the requirements of specifications, data format and release processes described in this document.

Technical and business requirements must be met in order to allow the integration and validation of the eHealth service in the client application.

### 2.3 eHealth document references

All the document references can be found in the support section of the eHealth portal<sup>1</sup>. These versions or any following versions can be used for the eHealth service.

<i>ID</i>	<i>Title</i>	<i>Version</i>	<i>Date</i>	<i>Author</i>
1	Glossary	1.0	01/01/2010	eHealth
2	Certificate agreement for software firms	1.1	18/05/2010	eHealth

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<sup>1</sup> [www.ehealth.fgov.be](http://www.ehealth.fgov.be)



3	Procedure to obtain a certificate for acceptance	1.0	30/07/2012	eHealth
4	Mandate form to get a certificate on behalf of an organization	1.0	12/09/2011	eHealth
5	Procedure to request an eHealth certificate	3.0	30/07/2012	eHealth
6	Cookbook STS	1.0	31/08/2010	eHealth

## 2.4 External document references

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

<i>ID</i>	<i>Title</i>	<i>Source</i>	<i>Date</i>	<i>Author</i>
1	2012_eCarmed_TSS.pdf (v1.2)	KSZ/BCSS	16/08/2012	KSZ/BCSS

## 2.5 Service history

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

<i>Previous version</i>	<i>Previous release date</i>	<i>changes</i>
None		



## 3 Business and privacy requirements

### 3.1 Certificates

An eHealth certificate is used to identify the initiator of the request. If you don't have one, see:

Dutch version:

<https://www.ehealth.fgov.be/nl/support/basisdiensten/ehealth-certificaten>

French version:

<https://www.ehealth.fgov.be/fr/support/services-de-base/certificats-ehealth>

### 3.2 eHealth contact

- eHealth contact center:

02 / 788 51 55 or via mail on [support@ehealth.fgov.be](mailto:support@ehealth.fgov.be)

- For users in production please contact

Dutch version

<https://www.ehealth.fgov.be/nl/neem-contact-met-de-openbare-instelling-eHealth-platform>

French version

<https://www.ehealth.fgov.be/fr/contactez-institution-publique-plate-forme-eHealth>

- For users in acceptance, please contact

[info@ehealth.fgov.be](mailto:info@ehealth.fgov.be)



## 4 Global overview

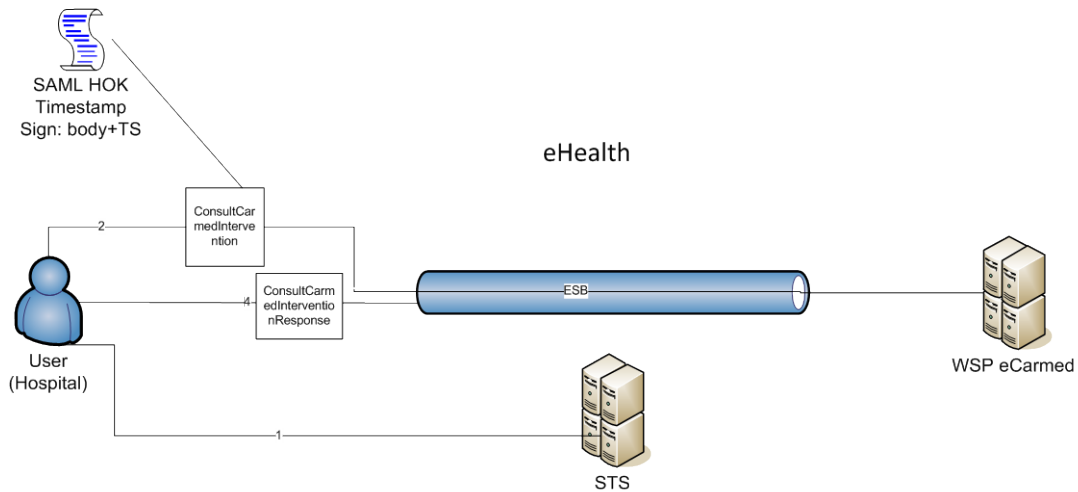


Figure 1

The eCarmed service is secured with the SAML Holder-of-Key (HOK) policy. Therefore, prior to calling the service, a SAML token must be obtained at the eHealth Secure Token Service (STS). The obtained token must be then included in the header of the request message (2), together with the timestamp, where the timestamp and the body must be signed with the certificate as used in the Holder-Of-Key profile of the SAML token (see also more detailed technical description further in the cookbook). The body contains the eCarmed request (ConsultCarMedIntervention). The eHealth ESB verifies the security (authentication, authorization, etc.) and forwards the request to the WSP. The service can return an xml response (4), or the response can be formatted as "flat" – dependently on the called operation (ConsultCarMedInterventionResponse). You can find more information about the first step in the STS Cookbook found on the eHealth portal (see Section 2.3). Next we will describe step 2 in further detail.



## 5 Step-by-step

### 5.1 Technical requirements

In order to implement a web service call protected with a SAML token you can reuse the implementation as provided in the "eHealth technical connector". Nevertheless, eHealth implementations use standards and any other compatible technology (web service stack for the client implementation) can be used instead.

Dutch version: <https://www.ehealth.fgov.be/fr/support/connectors>

French version: <https://www.ehealth.fgov.be/fr/support/connectors>

Alternatively, you can write your own implementation. The usage of the Secure Token Service (STS) and the structure of the exchanged xml-messages are described in the eHealth STS cookbook.

Dutch version: <https://www.ehealth.fgov.be/nl/support/sts-secure-token-service>

French version: <https://www.ehealth.fgov.be/fr/support/sts-secure-token-service>

#### 5.1.1 Use of the eHealth Single Sign On (SSO) solution

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 SSO cookbook.

This section specifies how the call to STS must be done to have access to the web service. You must precise several attributes in the request. In certain cases, the attributes we need are the following (AttributeNamespace="urn:be:fgov:identification-namespace"):

- The NIHII number of the hospital: *urn:be:fgov:ehealth:1.0:certificateholder:hospital:nihii-number* and *urn:be:fgov:ehealth:1.0:hospital:nihii-number*

You also have to precise which information must be validated by eHealth. To have access to the web service, the following data must at least be validated (AttributeNamespace="urn:be:fgov:certified-namespace:ehealth"):

- The NIHII number of the hospital (namespace: *urn:be:fgov:identification-namespace*): *urn:be:fgov:ehealth:1.0:certificateholder:hospital:nihii-number* and *urn:be:fgov:ehealth:1.0:hospital:nihii-number*
- The hospital must be a recognized hospital with a nihii hospital (AttributeNamespace: *urn:be:fgov:certifiednamespace:ehealth*): *urn:be:fgov:ehealth:1.0:hospital:nihii-number:recognisedhospital:nihii11*
- To have access to the eCarmed web service, the hospital must be a recognized hospital (AttributeNamespace: *urn:be:fgov:certifiednamespace:ehealth*): *urn:be:fgov:ehealth:1.0:certificateholder:hospital:nihii-number:recognisedhospital:boolean*

To access the eCarmed web service, the response token must contain "true" for all of the boolean certification attributes.

If you obtain "false", contact eHealth to verify that the requested test cases were correctly configured.

#### 5.1.2 Security policies to apply

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

As web service security policy, we expect:

- A timestamp (the date of the request), with a Time to live of one minute (if the message doesn't 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);
  - 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 eHealth.

The STS cookbook can be found on the eHealth portal:

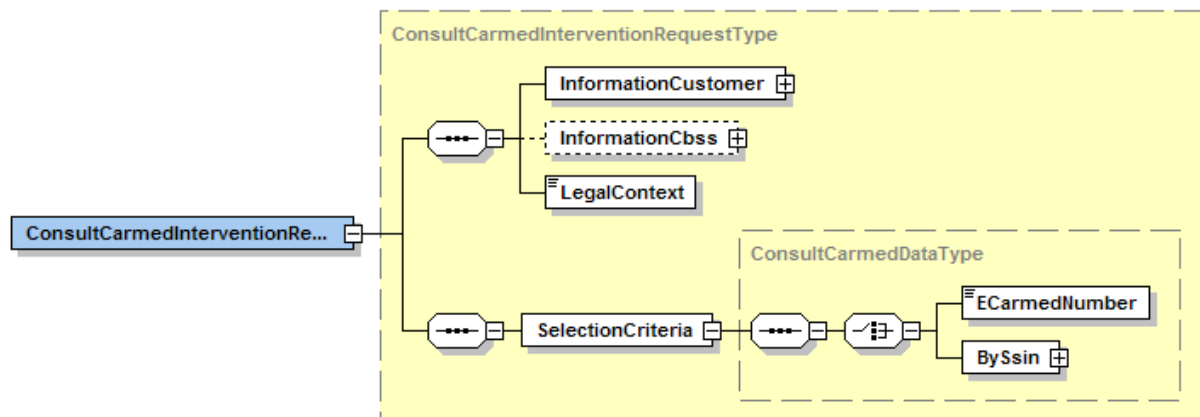
Dutch version: <https://www.ehealth.fgov.be/nl/support/sts-secure-token-service>

French version: <https://www.ehealth.fgov.be/fr/support/sts-secure-token-service>

## 5.2 Description of xml-message

Steps 2 in Figure 1 are described in more detail hereafter.

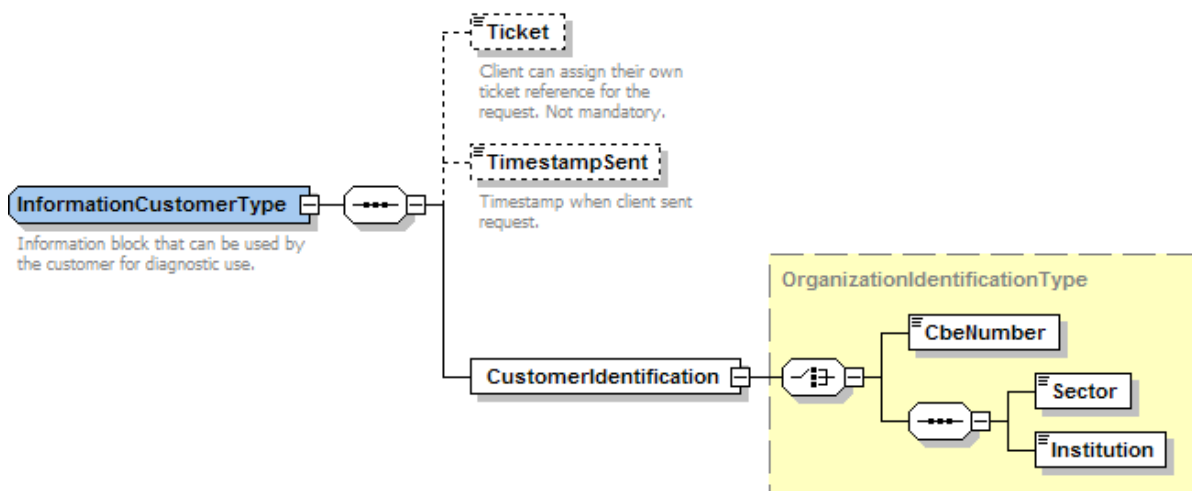
### 5.2.1 ConsultCarmedInterventionRequest



Field name	Descriptions
InformationCustomer	See 6.2.1.1: InformationCustomer
InformationCbss	See 6.2.1.2: InformationCBSS
LegalContext	This should always be "rights eCarmed"
SelectionCriteria	See 6.2.1.3: ConsultCarmedData

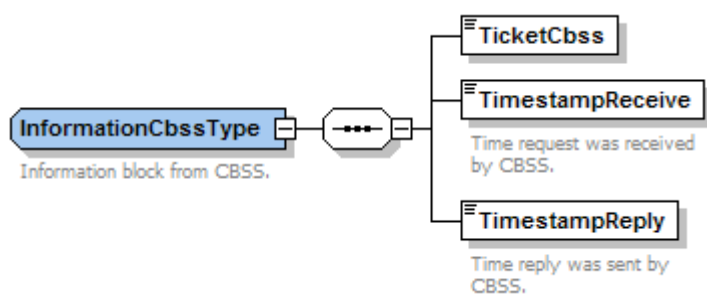


### 5.2.1.1 InformationCustomer



Field name	Descriptions
Ticket	The ticket number can be used as reference for the request. It is not mandatory. When used, it should match the following regular expression: [0-9,a-z]{0,36}
TimestampSent	This is a Timestamp indicating when the request was sent. (E.g. 2012-08-22T09:30:47.OZ)
CustomerIdentification	CustomerIdentification can have a CbeNumber or a Sector and Institution. The CbeNumber is the CBE number identifying the enterprise or business unit. It consists of a 10 digit string. Sector and Institution must both be numbers $\leq 999$

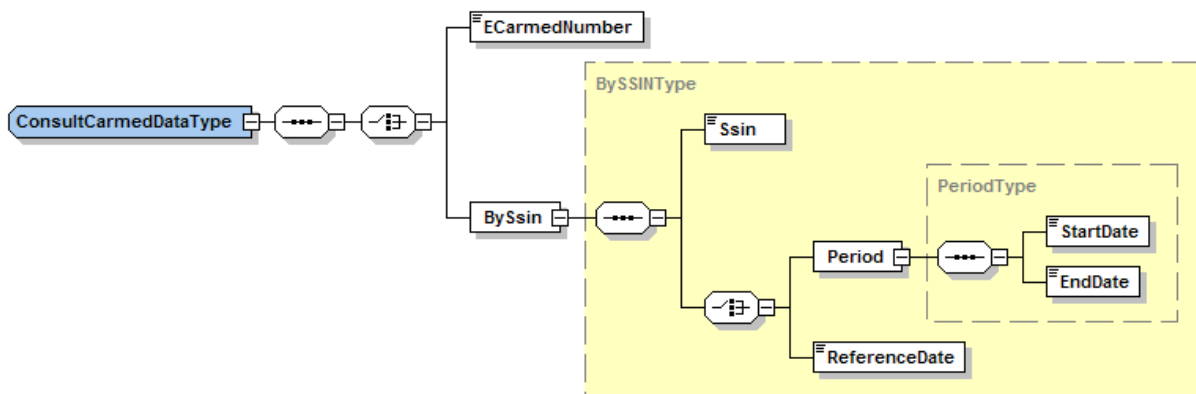
### 5.2.1.2 InformationCbssType



The InformationCbssType provides transaction information and should **not** be used in the ConsultCarmedInterventionRequest. For more info see the 2012\_eCarmed\_TSS.pdf (v1.2) document (cfr. section 2.4).



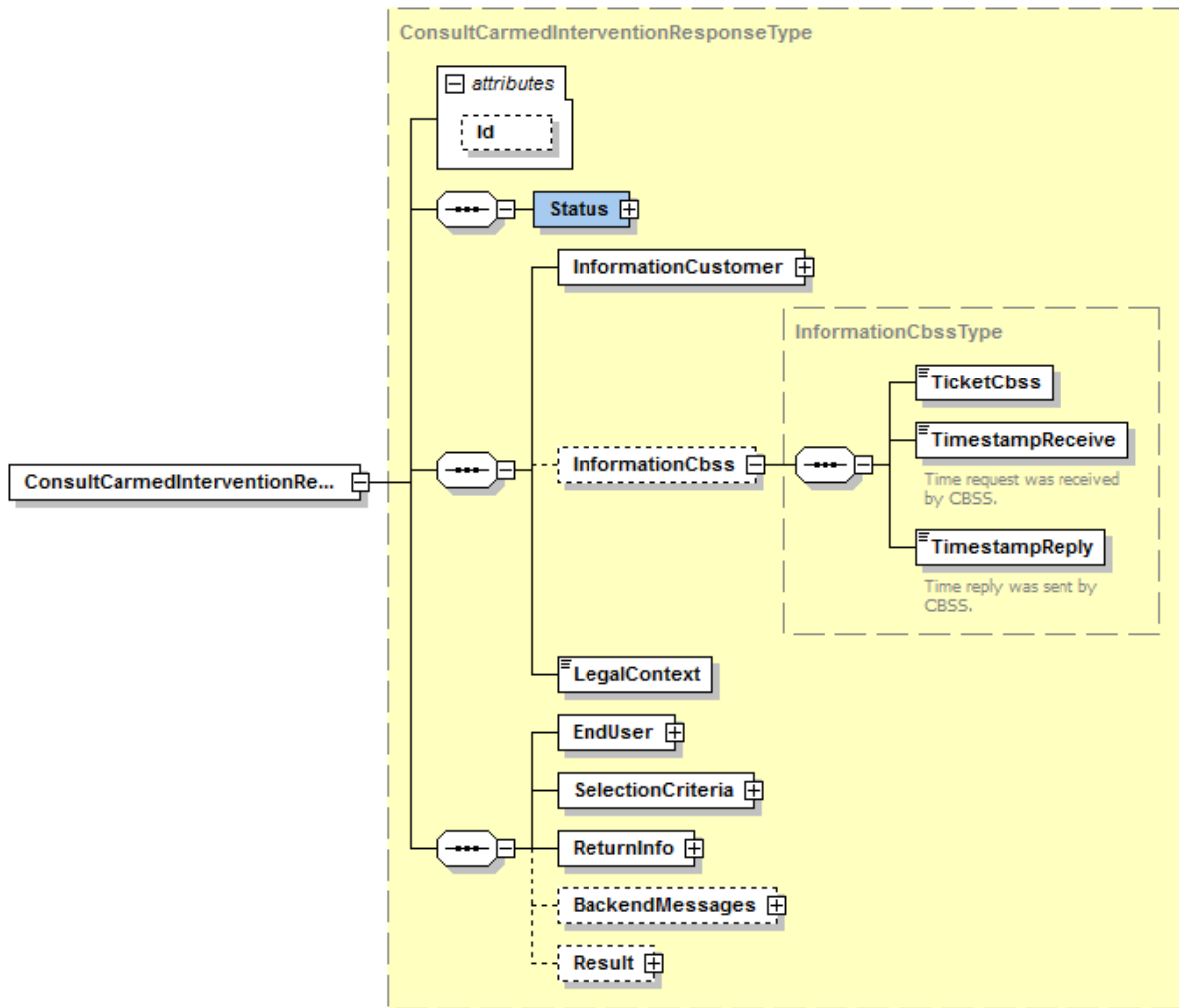
### 5.2.1.3 ConsultCarmedData



The ConsultCarmedData should contain the patient details (BySsin).

<b>Field name</b>	<b>Descriptions</b>
ECarmedNumber	Should not be used
BySsin	This field should always contain the patients SSIN in combination with a Period or ReferenceDate.

## 5.2.2 ConsultCarmedInterventionReply



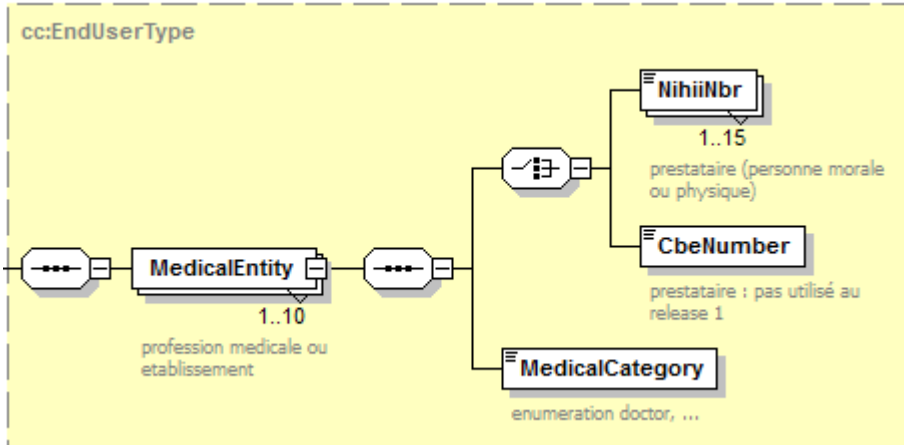
The reply returns the active decision that met the search criteria. The content of the decision is limited to the different coverages and interventions supported by the POD MI. The POD MI can also limit the coverages further down to the list provided by the OCMW. For interventions, a registration number is provided. The Id attribute can be used in case you are communicating errors to our helpdesk.

<b>Field name</b>	<b>Descriptions</b>
Status	See Section 6.2.2.2
InformationCustomer	Contains the same info as sent in the request. (See Section 5.2.1.1)
InformationCBSS	Contains date-time information about the treatment of the request.
LegalContext	“rights eCarmed”
Enduser	See Section 6.2.2.1
SelectionCriteria	Contains the same info as sent in the request
ReturnInfo	See Section 6.2.2.3



BackendMessages	See documentation 2012_eCarmed_TSS.pdf (v1.2) (cfr 2.4)
Result	See documentation 2012_eCarmed_TSS.pdf (v1.2) (cfr 2.4)

### 5.2.2.1 EndUserType



This part is the information regarding the *BySsin* element sent in the original request. An EndUser can represent 1 to 10 medical entities. Each medical entity is either care professional or an organization. For each medical entity, a MedicalCategory can be associated (see Figure 2 URN - MedicalCategory). For now, only nihii number will be present. If for one urn, multiple values are present, all the values can be found in the NihiiNbr element.

Remark: For now, only hospital will be supported.

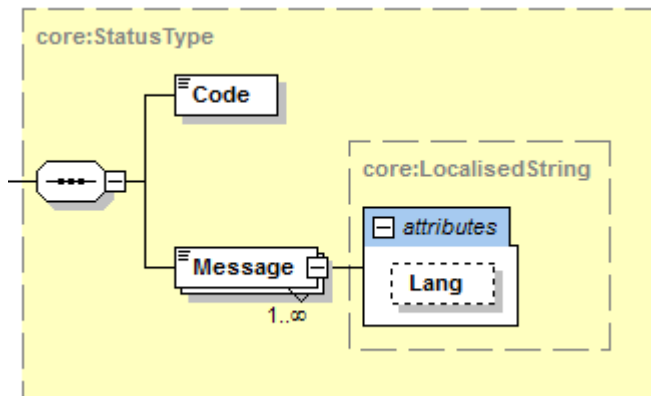
	medicalCategory
Professionnal	doctor
	pharmacist
	dentist
	midwife
	nurse
	physiotherapist
	dietist
	podiatrist
	logopedist
	orthoptist
	orthopedist
	bandagist
	implantprovider
	occupationaltherapist
	opticien
	audicien
	biologistpharmacist
	psychologist
	mastergerontology
	masterremedialeducation
	specializededucator
	bachelorfamilyscience
	bachelorreadaptation
	masterpsychomotorthrapy
	masterappliedpsychology
	practicalnurse
retirementnurse	
socialworker	



	daycarecenter
	groupofnurses
	hospital
	retirement
	medicalhouse
Organization	pharmacy

Figure 2 URN - MedicalCategory

### 5.2.2.2 StatusType

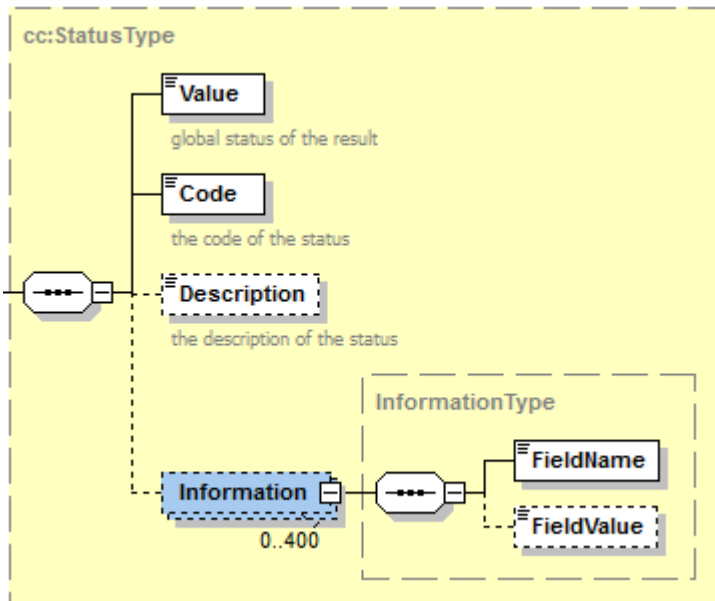


Summary of the status of the treatment of the service. If there is a technical error, a SOAP error message is returned (see section 8). Be aware that a code 200 doesn't mean that all necessary data was found. You should see the element *ReturnInfo* for more info (see next section).

Field name	Descriptions
Code	200 in the case no error occurred.
Message	'Success' in case there is no error.



### 5.2.2.3 ReturnInfo (StatusType)



Technical errors will always return SOAP fault. Business errors will return the additional fields *description* or *information*. For extra information see Section 2.4 2012\_eCarmed\_TSS.pdf.

Field name	Descriptions								
Value	Global status of the result. <table border="1"> <thead> <tr> <th>status/value</th> <th>Signification</th> </tr> </thead> <tbody> <tr> <td>DATA_FOUND</td> <td>Requested information was found.</td> </tr> <tr> <td>NO_DATA_FOUND</td> <td>The requested information was not all found: See the <i>information</i> field for more info.</td> </tr> <tr> <td>NO_RESULT</td> <td>The request could not be handled: See the <i>description</i> field for more info.</td> </tr> </tbody> </table>	status/value	Signification	DATA_FOUND	Requested information was found.	NO_DATA_FOUND	The requested information was not all found: See the <i>information</i> field for more info.	NO_RESULT	The request could not be handled: See the <i>description</i> field for more info.
status/value	Signification								
DATA_FOUND	Requested information was found.								
NO_DATA_FOUND	The requested information was not all found: See the <i>information</i> field for more info.								
NO_RESULT	The request could not be handled: See the <i>description</i> field for more info.								
Code	The code of the result. MSG00000 for a successful handling of the request. MSG00001 in case of 'NO_RESULT'.								
Description	A short description of the status. Only present if value is equal to 'NO_RESULT'. The values can be: ERROR[n], WARNING[n'] or INFORMATION[n''] where n, n' and n'' > 0.								
Information	Additional information in case the value is equal to 'NO_DATA_FOUND'. fieldName can have the following values: ERROR, WARNING or INFORMATION. fieldValue is a code generated by the backend: xxxx-xx								



## 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 web service, 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 web service 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.

#### 6.1.2 Web service

Web service 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 eHealth to verify the integrity of the message and the identity of the message author.
- No encryption on the message.

#### 6.1.3 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 Test and release procedure

This procedure explains the complete process to integrate a web service. Starting from the initial demand just until it's put in production.

### 7.1 Project application

The first step to start a project is the start up phase. Here, the partner asks eHealth to integrate a certain service in their software.

The request must be sent to the project team ([info@ehealth.fgov.be](mailto:info@ehealth.fgov.be)). eHealth and the partner make a business description with the goals and an estimate of the number of users.

If, in the business description, it's mentioned that medical data is used, a request must be sent to the commission of the protection of privacy. More info can be found on <http://www.privacycommission.be>. When this is approved, the partner can continue development.

### 7.2 Certificates

First steps to get access to the secured eHealth environment are the eHealth certificates.

### 7.3 Procedure

The rest of this chapter explains the procedures for testing and releasing an application in acceptance or production.

#### 7.3.1 Initiation

If you intend to use the eHealth service, please contact [info@ehealth.fgov.be](mailto:info@ehealth.fgov.be). The Project department will provide you with the necessary information and mandatory documents.

#### 7.3.2 Development and test procedure

You have to develop a client in order to connect to our web service. Most of the required integration info to integrate is published in the technical library on the eHealth portal.

In some cases eHealth provides you with a mock-up service or test cases in order for you to test your client before releasing it in the acceptance environment.

#### 7.3.3 Release procedure

When development tests are successful, you can request to access the eHealth acceptance environment.

From this moment, you start integration and acceptance tests. eHealth suggests testing during minimum one month.

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

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



For further information and instructions, please contact: [integration@ehealth.fgov.be](mailto:integration@ehealth.fgov.be).

### 7.3.4 Operational follow-up

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

## 7.4 Test cases

In order to test the service, a test case must be created first by the eHealth development team. The rules to access the eCarmed web service are the same in test as in production.

Access rules:

- authentication with a hospital's certificate (see section 4.1)

All test cases have to be configured by the eHealth development team.

**Before doing any test, request your test cases from the eHealth development team ([info@ehealth.fgov.be](mailto:info@ehealth.fgov.be)) using the template "[request.testcases.ecarmed.webservice.xls](#)".**

The template must be completely filled out. If you have any question about the template, you can send an e-mail to [info@ehealth.fgov.be](mailto:info@ehealth.fgov.be).



## 8 Error and failure messages

Error codes originating from the eHealth platform:

These error codes first indicate a problem in the arguments sent, or a technical error.

Error code	Description
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

