

Tandvårdsstöd
Care Provider Interfaces
Check Patient v5

IT-product

Date

Version

CheckPatient.v5

2018-05-09

RevE

Versions

Version	Date	Description	Name
RevA	2018-03-06	New version, CheckPatient.v5, changes from version v4: <ul style="list-style-type: none"> Added Complex Type < EZcrmComment> in Fel! Hittar inte referenskölla. to make it possible to send information messages Elements that are part of a Complex Type are now marked with bright yellow (description in Table 1) Added item level for Complex Types 	Lars Dalenius
RevB	2018-03-06	Corrected faulty examples in Figure 6 and Figure 7	Lars Dalenius
RevC	2018-03-29	Updated text in information messages according to changed requirement, Table 4.	Lars Dalenius
RevD	2018-05-08	Updated for MajR 2018: <ul style="list-style-type: none"> New information messages, Table 4 Updated reference list for Confluence Elements that are part of a Complex Type are now marked with bright yellow (described in Table 1) Added item level for Complex Types Reviewed and approved by Alexander Karczewski	Lars Dalenius
RevE	2018-05-09	Minor update: Changed message numbers for the new information messages (mistake by author) from 274,275 to 276,277 in Table 4	Lars Dalenius

Attachment- and reference list

Number	Title, document ID, search path
1	Confluence: 002_01_02_I-125_CheckPatientV4_FS http://confluence.sfa.se/x/yIhSAg 002_01_02_I-125_CheckPatientV5.docx
2	Git: XML-schema http://stash.sfa.se/projects/FORS/repos/tandvardsstod/browse/shsschema?at=refs%2Fheads%2Fdevelop
3	Grupprum Tandvårdsstöd förvaltning, typ=Systemdokument: Teknisk arkitektur Tandvårdsstöd

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1 Introduction

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Release	MajR 2018

The main information in this document is the tables which contain all parameters and their translation between XML and SAP parameters. There are some color codes used in the tables:

Color	Description
	Cells are changed or added in this version of the document.
	Parameters that are removed in this version of the document.
	Parameter is not translated between XML and SAP.
	Complex Type which does not contain a single value, but several parameters.
	Parameters that are part of a Complex Type.

Table 1 Color codes used in the parameter and translation tables.

2 Integrations

The Care Provider Interface "CheckPatient.v4" makes use of one interface for the internal FK communication with SAP:

No.	Description
1	<p>The interface is used to retrieve information about a patient by providing the patient's social security number or foreign identity number. The returned information includes details about the patient, ATB and STB information, high-cost information and any available subscription details.</p> <p>Another recommended use of this interface is for verification of the communication with TVS (SAP-CRM). This replaces the interface TestRoundTrip which only verifies the asynchronous communication with SHS (access server) since TestRoundTrip have no communication with SAP-CRM.</p>

The message request will be sent via the SHS internal queue service as a WS request from SHS to SAP-CRM. The anticipated message flow is depicted in the following diagram (SHS = FK:s Spridning och HämtningsSystem):

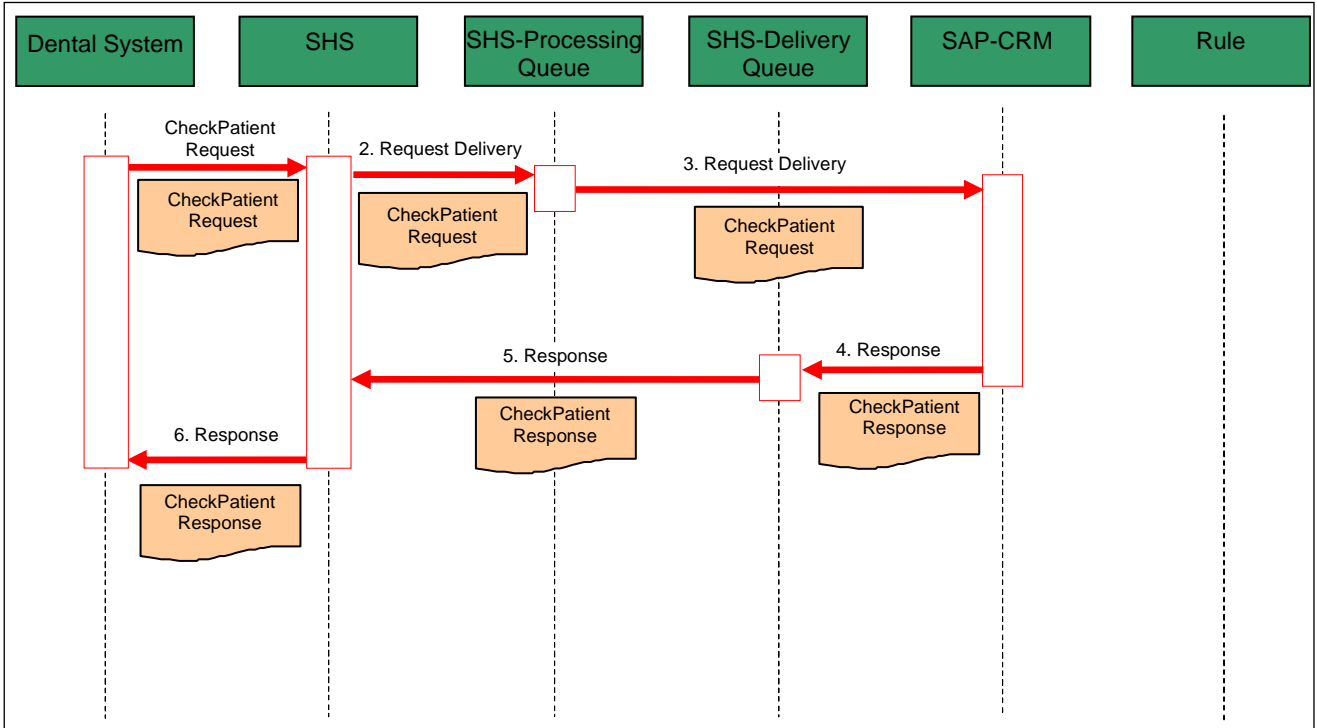


Figure 1 Sequence diagram for the CheckPatient interface.

Architecturally, the messages will flow in the following manner:

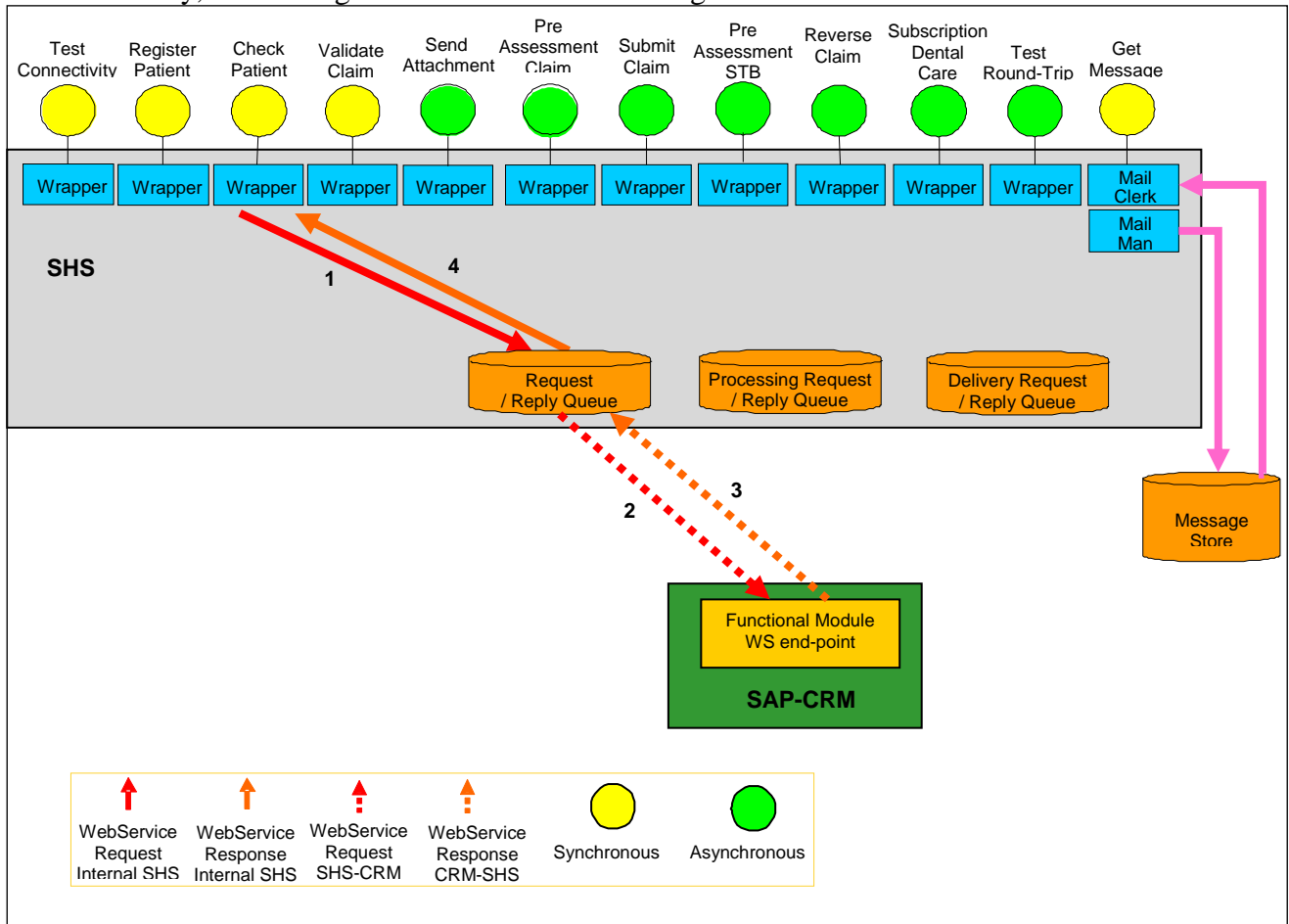


Figure 2 Architectural overview for the CheckPatient interface.

3 Integration 1

3.1 CheckPatient request

The following section describes the incoming XML elements and attributes to the external SHS interface. It also describes the SHS translation into the WS request sent to SAP-CRM.

3.1.1 Message and translation

XML				SAP-XML	Transformation info		Details	
Name	Element / Attribute	Optional	Data type	Parameter	Comp.	Transformation	Description	Comments
request-id	Attribute		char (36)	IRequestId			ID used to link the request with the response.	This attribute must be copied to the Response Message.
shs-invoked-interface	Attribute		char (36)					This attribute may be ignored. It is not sent to SAP-CRM.
vendor-name	Attribute		char (30)					This attribute is mandatory, it is used for statistics.
product-name	Attribute	X	char (30)					This attribute may be ignored. It is not sent to the SAP-CRM.
version-number	Attribute	X	char (15)					This attribute may be ignored. It is not sent to SAP-CRM.

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XML				SAP-XML	Transformation info		Details	
Name	Element / Attribute	Optional	Data type	Parameter	Comp.	Transformation	Description	Comments
organization-number	Attribute	X	int (10)	IOrgNum	No	No	The organizational number of the care provider. Used to compare with the care provider which created any subscriptions for the patient	This attribute is copied to the Response Message as the "organization-number". This XML attribute is always overwritten by SHS with the ID from the certificate. The certificate is issued with the care provider's organization number as ID.
user-id	Attribute		int (12)	IUserId	No	No	User sending the request.	Used for iLogging purposes.
social-security-number	Element		int (12)	IPatientId	No	No	The social security number of the Patient.	The inbound XML Message will contain either the social-security-number or the foreign-identity number, but not both.
foreign-identity-number	Element		char (20)	IPatientId	No	The SHS integration will add an F in front of this value before sending it to CRM.	The passport ID or other foreign ID of the patient.	The inbound XML Message will contain either the social-security-number or the foreign-identity number, but not both.

Table 2 Overview over parameters and their translation for the CheckPatient request.

3.1.2 Sample XML

Sample XML message for a Swedish citizen.

```
<FK.TV.CheckPatientRequest.v5
  xmlns="http://fk.se/SHS/xsd/tanden"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://fk.se/SHS/xsd/tanden ../TandenTypes.xsd"
  shs-invoked-interface="Check Patient v5"
  request-id="a4924e42-4214-ba93-af22-98739237ba23"
  vendor-name="Vendor-Name"
  product-name="Product-Name"
  version-number="Vx"
  organization-number="2929291234"
  user-id="197512141502">
  <social-security-number>196710141234</social-security-number>
</FK.TV.CheckPatientRequest.v5>
```

Figure 3 Sample XML for a CheckPatient request for a Swedish citizen.

Sample XML message for a foreign person.

```
<FK.TV.CheckPatientRequest.v5
  xmlns="http://fk.se/SHS/xsd/tanden"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://fk.se/SHS/xsd/tanden ../TandenTypes.xsd"
  shs-invoked-interface="Check Patient v5"
  request-id="a4924e42-4214-ba93-af22-98739237ba23"
  vendor-name="Vendor-Name"
  product-name="Product-Name"
  version-number="Vx"
  organization-number="5122914591"
  user-id="197512141502">
  <foreign-identity-number>EU 0124568 A15</foreign-identity-number>
</FK.TV.CheckPatientRequest.v5>
```

Figure 4 Sample XML for a CheckPatient request for a foreign person.

3.2 CheckPatient response

The following section describes how to translate the response parameters received by SAP-CRM system into the required XML response.

3.2.1 Message and translation

SAP-XML	XML				Transformation info		Details	
Parameter	Name	Element / Attribute	Optional	Data type	Comp.	Transformation	Description	Comments
ERequestId	request-id	Attribute		char (36)			ID used to link the response with the request.	This value must be copied from the "request-id" message on the inbound request XML message.
EStatus							Internal status from SAP-CRM used by SHS to determine which xml structure to use. Valid values: S=Success	If status=S, this xml structure is used. If status=E, the xml structure for error message is used, see ch. 0.
	organization-number	Attribute		int (10)			The care provider's organization number	This value must be copied from the "organization-number" parameter in the inbound request XML message.
EBirthDate	birth-date	Element		date	DATS to xs:date	No	The birth date of the patient.	This field is returned so that dental systems may conduct local validation of future corresponding requests based on the age of the patient.
EEligibilityStatus	eligible	Element		boolean	No	T maps to true, and F maps to false	A Boolean value (true/false) indicating if the patient is eligible for dental care.	

SAP-XML	XML				Transformation info		Details	
Parameter	Name	Element / Attribute	Optional	Data type	Comp.	Transformation	Description	Comments
EAtbDetails\item	atb	Complex Type	X					This structure can occur 0, 1 or 2 times.
EAtbDetails\item EAtbAmount	atb/ amount	Element		int (13)	No	No	The amount of the ATB.	If the ATB amount is empty, the XML structure should not be created
EAtbDetails\item EAtbStartDate	atb/ start-date	Element		date	DATS to xs:date	No	The start date of the ATB.	Example: 2009-12-13
EAtbDetails\item EAtbEndDate	atb/ end-date	Element		date	DATS to xs:date	No	The date when the ATB expires.	Example: 2009-12-13
EAtbDetails\item EAtbUsageFlag	atb/ used	Element		boolean	No	T maps to true, and F maps to false	A Boolean value (true/false) indicating whether ATB is used or not.	Indicates whether the ATB has been used or not.
EStbAmount	stb-amount-available	Element	X	int			The remaining unused STB amount for the patient. Allowed values are 0-599.	This element is only present in the response if the patient has used STB and there is an unused amount left, i.e. a presented amount is 0-599 SEK.
EPaStbDetails\item	pre-assessment-stb	Complex Type	X					This structure is used only if the patient has a PA-STB in status A.
EPaStbDetails\item EPaStb	pre-assessment-stb/ pa-stb-id	Element		int (positive int)			The unique identifier of the PA-STB.	
EPaStbDetails\item EValidFromDate	pre-assessment-stb/ valid-from	Element		date			The start-date for the patient's current STB period.	

SAP-XML	XML				Transformation info		Details	
Parameter	Name	Element / Attribute	Optional	Data type	Comp.	Transformation	Description	Comments
EPaStbDetails\item EValidToDate	pre-assessment-stb/ valid-to	Element		date			The end-date for the patient's current STB period.	Two valid periods exist starting from "valid-from" date: 4 years (default) Life-time (9999-12-31)
EHighCostDetails\item	high-cost-details	Complex Type						
EHighCostDetails\item EHighCostAmount	high-cost-details/ amount	Element		float (13,2)	No	No	The accumulated High-Cost Amount of reimbursable treatments since the High-Cost Period Start Date.	
EHighCostDetails\item EHcpStartDate	high-cost-details/ start-date	Element		date	DATS to xs:date	No	The start date of the current High-Cost Protection period.	Example: 2009-12-13
EHighCostDetails\item EHcpEndDate	high-cost-details/ end-date	Element		date	DATS to xs:date	No	The end date of the current High-Cost Protection period.	Example: 2009-12-13
EHighCostDetails\item ELastTreatDate	high-cost-details/ last-treatment-date	Element		date	DATS to xs:date	No	The date in which the last treatment reported to FK was reported.	Example: 2009-12-13
ESubscriptionContract\item	subscription	Complex Type	X					If the Patient does not have a contract this structure will be empty.
ESubscriptionContract\item EContractId2	subscription/ contract-id	Element		int (7-10)	No	No	The unique identifier of the Service Contract that was created in the Dental Care System.	New contracts will be created with length=10 digits while existing contracts uses 7 digits.

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SAP-XML	XML				Transformation info		Details	
Parameter	Name	Element / Attribute	Optional	Data type	Comp.	Transformation	Description	Comments
ESubscriptionContract\item ECareproviderId	subscription/ care-provider-id	Element	X	int (10)	No	No	The organization number of the Care Provider on the contract.	Will only be returned by CRM if the call is made by the same care provider as the one who created the contract.
ESubscriptionContract\item EContractPrice	subscription/ price	Element	X	int (13)	No	No	The price of the contract	Will only be returned by CRM if the call is made by the same care provider as the one who created the contract.
ESubscriptionContract\item EValidFrom	subscription/ start-date	Element		date	DATS to xs:date	No	The date from which the subscription dental care contract is valid.	Start date of the subscription
ESubscriptionContract\item EvVlidTo	subscription/ end-date	Element		date	DATS to xs:date	No	The date which the subscription dental care contract expires.	End date of the subscription
ESubscribedDiagnosis\item	subscription	Complex Type	X					If the Patient does not have a contract this structure will be empty.
ESubscribedDiagnosis\item EOrderedProd	subscription/ diagnosis	Element		int (4)	No	No	The code of the diagnosis from the Reference Price List.	All diagnosis in the contract will be sent, including the ones in the standard package.
EZcrmComment\item	commentary	Complex Type	X				This is an information and warning field.	
EZcrmComment\item ECommentaryNumber	commentary/ id	Attribute		int(10)			A unique identifier for each line item	

SAP-XML	XML				Transformation info		Details	
Parameter	Name	Element / Attribute	Optional	Data type	Comp.	Transformation	Description	Comments
EZcrmComment\item ECommentaryMessage	commentary/ code	Element		int(3)				See Table 4 for information message codes and text.
EZcrmComment\item ECommentaryDetail	commentary/ commentary	Element		char(255)				

Table 3 Overview over the parameters and their translation for the CheckPatient response.

3.2.2 Sample XML

The following example demonstrates a response for a patient with the following profile:

- valid insurance period (eligible)
- information message 275
- no subscription
- oldest ATB unused
- newest ATB used
- no STB used
- no PA-STB in status = A

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
    <FK.TV.CheckPatientResponse.v5
      organization-number="2021005521"
      request-id="00000001-1000-0000-0000-000000000010"
      xmlns="http://fk.se/SHS/xsd/tanden">
      <birth-date>1967-03-11</birth-date>
      <eligible>true</eligible>
      <atb>
        <amount>150</amount>
        <start-date>2016-07-01</start-date>
        <end-date>2018-06-30</end-date>
        <used>false</used>
      </atb>
      <atb>
        <amount>150</amount>
        <start-date>2017-07-01</start-date>
        <end-date>2019-06-30</end-date>
        <used>true</used>
      </atb>
      <high-cost-details>
        <amount>1200.00</amount>
        <start-date>2017-11-15</start-date>
        <end-date>2018-11-14</end-date>
        <last-treatment-date>2017-11-22</last-treatment-date>
      </high-cost-details>
      <commentary id="1">
        <code>275</code>
        <commentary>Patienten är registrerad i Försäkringskassan från och med 2008-03-15</commentary>
      </commentary>
    </FK.TV.CheckPatientResponse.v5>
  </soapenv:Body>
</soapenv:Envelope>
```

Figure 5 Sample 1 for a CheckPatient response.

The following example demonstrates a response for a patient with the following profile:

- valid insurance period (eligible)
- information message 275
- valid subscription, visible price and care-provider-id (the contract belongs to the same care-provider as the clinic sending the CheckPatient request)
- both ATB used
- no STB used
- no PA-STB in status = A

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
    <FK.TV.CheckPatientResponse.v5
      organization-number="2021005521"
      request-id="00000001-1000-0000-0000-000000000010"
      xmlns="http://fk.se/SHS/xsd/tanden">
      <birth-date>1938-01-07</birth-date>
      <eligible>true</eligible>
      <atb>
        <amount>300</amount>
        <start-date>2016-07-01</start-date>
        <end-date>2018-06-30</end-date>
        <used>true</used>
      </atb>
      <atb>
        <amount>300</amount>
        <start-date>2017-07-01</start-date>
        <end-date>2019-06-30</end-date>
        <used>true</used>
      </atb>
      <high-cost-details>
        <amount>0.00</amount>
        <start-date>2014-01-28</start-date>
        <end-date>2015-01-27</end-date>
        <last-treatment-date>2018-01-22</last-treatment-date>
      </high-cost-details>
      <subscription>
        <contract-id>5001817</contract-id>
        <care-provider-id>2021005521</care-provider-id>
        <price>4500</price>
        <start-date>2018-01-09</start-date>
        <end-date>2021-01-08</end-date>
        <diagnosis>1001</diagnosis>
        ...
        <diagnosis>4884</diagnosis>
      </subscription>
      <commentary id="1">
        <code>275</code>
        <commentary>Patienten är registrerad i Försäkringskassan från och med 1959-01-11
      </commentary>
    </FK.TV.CheckPatientResponse.v5>
  </soapenv:Body>
</soapenv:Envelope>
```

Figure 6 Sample 2 for a CheckPatient response

The following example demonstrates a response for a patient with the following profile:

- valid insurance period (eligible)
- information message 275
- valid subscription, no price, no care-provider-id (the contract belongs to another care-provider than the clinic sending the CheckPatient request)
- both ATB used
- used STB amount = 175 (SEK)
- PA-STB in status = A (valid for the patient's life time)

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
    <FK.TV.CheckPatientResponse.v5
      organization-number="2021005521"
      request-id="00000001-1000-0000-0000-000000000010"
      xmlns="http://fk.se/SHS/xsd/tanden">
      <birth-date>1975-08-10</birth-date>
      <eligible>true</eligible>
      <atb>
        <amount>150</amount>
        <start-date>2017-07-01</start-date>
        <end-date>2018-06-30</end-date>
        <used>true</used>
      </atb>
      <atb>
        <amount>300</amount>
        <start-date>2017-07-01</start-date>
        <end-date>2019-06-30</end-date>
        <used>true</used>
      </atb>
      <stb-amount-available>425</stb-amount-available>
      <pre-assessment-stb>
        <pa-stb-id>8123456789</pa-stb-id>
        <valid-from>2015-01-01</valid-from>
        <valid-to>9999-12-31</valid-to>
      </pre-assessment-stb>
      <high-cost-details>
        <amount>0.00</amount>
        <start-date>2001-01-28</start-date>
        <end-date>2002-01-27</end-date>
        <last-treatment-date>2016-11-22</last-treatment-date>
      </high-cost-details>
      <subscription>
        <contract-id>5222444</contract-id>
        <start-date>2017-06-12</start-date>
        <end-date>2020-06-11</end-date>
        <diagnosis>1001</diagnosis>
        ...
        <diagnosis>4884</diagnosis>
      </subscription>
      <commentary id="1">
        <code>275</code>
        <commentary>Patienten är registrerad i Försäkringskassan från och med 1998-08-14
        </commentary>
      </commentary>
    </FK.TV.CheckPatientResponse.v5>
  </soapenv:Body>
</soapenv:Envelope>
```

Figure 7 Sample 3 for a CheckPatient response

The following example demonstrates a response for a patient with the following profile:

- no valid insurance period (not eligible)
- information message 274
- no valid subscription
- no ATB used
- no STB used
- no PA-STB in status = A

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Body>
    <FK.TV.CheckPatientResponse.v5
      organization-number="2021005521"
      request-id="00000001-1000-0000-0000-000000000003"
      xmlns="http://fk.se/SHS/xsd/tanden">
      <birth-date>1988-03-11</birth-date>
      <eligible>false</eligible>
      <atb>
        <amount>150</amount>
        <start-date>2016-07-01</start-date>
        <end-date>2018-06-30</end-date>
        <used>false</used>
      </atb>
      <atb>
        <amount>150</amount>
        <start-date>2017-07-01</start-date>
        <end-date>2019-06-30</end-date>
        <used>true</used>
      </atb>
      <high-cost-details>
        <amount>0.00</amount>
        <start-date>1901-01-01</start-date>
        <end-date>1901-01-01</end-date>
        <last-treatment-date>1901-01-01</last-treatment-date>
      </high-cost-details>
      <commentary id="1">
        <code>274</code>
        <commentary>Patienten är inte registrerad i Försäkringskassan</commentary>
      </commentary>
    </FK.TV.CheckPatientResponse.v5>
  </soapenv:Body>
</soapenv:Envelope>
```

Figure 8 Sample 4 for a CheckPatient response

3.2.3 Information messages

The following table shows possible information messages for the CheckPatient.v5 interface.

Code	Type	Description	Source
276	Information	Patienten är inte registrerad som försäkrad hos Försäkringskassan.	CRM
277	Information	Patienten är registrerad som försäkrad hos Försäkringskassan från och med YYYY-MM-DD.	CRM

Table 4 List of possible CheckPatient.v5 information messages

3.3 CheckPatient Error response

An error response is sent if there is a technical problem or if the header validation fails. Technical errors could be sent directly from SHS, but header validation errors are sent from SAP-CRM.

3.3.1 Message and translation

SAP-XML	XML				Transformation info		Details	
Parameter	Name	Element / Attribute	Optional	Data type	Comp.	Transformation	Description	Comments
ERequestId	request-id	Attribute		char (36)			ID used to link the response with the request.	This value must be copied from the "request-id" message on the inbound request XML message.
EStatus							Internal status from SAP-CRM used by SHS to determine which xml structure to use. Valid values: E=Error	If status=E, this xml structure is used.
	organization-number	Attribute		int (10)			The organizational number of the care provider.	This value must be copied from the "organization-number" message from the inbound request XML message.
EZclaimMessage\item	error	Complex Type						
EZclaimMessage\item EErrorNumber	error/ error-code	Element		int (3)	No	No	The unique code for the type of error that has occurred	

SAP-XML	XML				Transformation info		Details	
Parameter	Name	Element / Attribute	Optional	Data type	Comp.	Transformation	Description	Comments
EZclaimMessage\item EErrorMessage	error/ error-text	Element		char (255)	No	No	The header/short description of the error	
EZclaimMessage\item EErrorDetail	error/ error-details	Element	X	char (255)	No	No	A more detailed description of the error.	Not used today

Table 5 Overview over the parameters and their translation for an Error response.

3.3.2 Sample XML

The following example demonstrates a possible error message:

```
<FK.TV.ErrorResponse organization-number="2021005521"
request-id=597bdbbd-351b-4fc6-946f-3c1ac392de17" xmlns="http://fk.se/SHS/xsd/tanden">
  <error>
    <error-code>221</error-code>
    <error-text>Patienten kunde inte hittas</error-text>
    <error-details/>
  </error>
</FK.TV.ErrorResponse>
```

Figure 9 Sample XML for a CheckPatient Error response.

3.3.3 Error messages

Code	Description	Source
001	Connection Error	Any
002	Technical Error	Any
003	Invalid XML	SHS
201	Obligatoriska parametern <parameter> saknades	CRM
205	Användaren kunde inte hittas	
221	Patienten kunde inte hittas	CRM
222	Vårdgivar-ID kunde inte hittas	CRM

Table 6 List of possible CheckPatient Error messages.

4 Volumes

The following data is based on the total traffic during Mars 2018 (31 days).
Distribution to be spread throughout the day, but likely to be more load during the workday hours.

Received CheckPatient requests:

per Year	per Month	per Day	per Hour	Size
74 758 836	6 229 903	200 964	8 373	~1 kb

Table 7 Preliminary forecast for the volumes of CheckPatient requests.