

Recip-e – Dematerialisation specifications

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1. Scope

The scope of this document is to guide software companies to use the Recip-e functions. This is as for prescriber and executor software as for the patient portals. This is in an ambulatory setting outside or inside a hospital.

Sections 2 and 3 are applicable for all the integrators.

Sections 4, 5 and 6 are made specifically for respectively prescriber, executor and patient software.

2. General principles

In order to enable the next steps in handling electronic prescriptions, some minor changes (header format) and additional web-service calls are introduced.

The Recip-e business statuses of the electronic prescription and their transition rules remain unchanged:

“Not delivered”, “In Process”, “Delivered”, “Archived”, “Revoked”, “Expired”.

Due to the changes in the regulations regarding the medical validity period and reimbursement of medication prescriptions, the obligation to make use of the SAM medication database and in order to improve the follow-up, **the Recip-e headers include six more fields:**

- the **ProgramIdentification**; identity of the softwarehouse, program name and version number
- the **ReferenceVersion**, identification of the SAM database that was used to specify the prescribed medication
- the **ultimate validity date**, taking into account the “default” three months period or flexible validity date as indicated by the prescriber
- the **VISI flag** by which the patient can control the “visibility” of each prescription individually

-
- **MGUID**, for tracking of each request/response in the Recip-e system
 - **PrescriptionVersion**, version of the KMEHR that is used to create the prescription, current version 1.28

Moreover, to facilitate unambiguous processing down the chain and in view of future interaction with the medication scheme [VIDIS project], **electronic prescriptions will now contain only a single item.**

Dematerialisation entails that a prescriber will be able to submit validated (by himself) and acknowledged electronic prescriptions

- without printing or
- by submitting to the patient an electronic format of a “proof of electronic prescription”, or
- by giving the RID (bar-code or alphanumeric value) to the patient, be it digital or by paper (the last one being exceptional), but it is preferred to have a complete digital proof of electronic prescription with the content included.

unless the patient requests a paper-based proof of electronic prescription.

The prescriber will be able to help the patient via his software to hide the visibility for any pharmacy by setting the **VISI-flag**. See more info on VISI Flag in the prescriber and patient sections of this document.

When allowed by the patient and when the pharmacist has an explicit therapeutic relationship (registered in the database at the eHealth-Platform) with the patient, then the pharmacist will get access to the “not delivered” prescriptions {list and contents} via new web-service calls, only based on the patient’s identity (i.e., digital access).

The pharmacist can also have access to the “not delivered” prescriptions when a patient or his mandate holder comes with an electronic format of a proof of electronic prescription or with a RID alphanumeric value.

Pharmacists will set up a Therapeutic Relation (TR) with the patient through the eHealth-Platform system.

The patients will be able to activate additional interactions with their “not delivered” prescriptions, via patient portal access (patient platforms/ Apps): (the VISI-flag controls the webservices related to obtaining prescription information, solely based on the SSIN ¹number of the patient)

- for each prescription, set the VISI flag to “PHARMACY” (only visible for one specific pharmacy), “OPEN” (visible for any pharmacy) or “LOCKED” (only available to pharmacists when requested via the RID).
- for each prescription, establish a “reservation” towards a specific pharmacy
- assigning a third person or persons as trustees to collect the corresponding medication for the patient for all available prescriptions, linked to a given patient]

¹ INSS ("Identifizierungsnummer der Sozialen Sicherheit") in German.
 INSZ ("identificatienummer van de sociale zekerheid) in Dutch,
 NISS ("No. d'identification de Sécurité Sociale") in French or
 SSIN ("Social Security Identification Number") in English

When set to PHARMACY, a prescription with VISI-flag will limit the visibility to the pharmacy with the corresponding NIHI-Pharmacy, when the request is made, based on the SSIN of the patient. The full decision tree for the combined options can be found in [annex 1](#).

Whatever the status of the VISI-flag, access to a prescription always remains possible by presenting its proof of electronic prescription (digital/ paper) or RID (digital/ paper) at any pharmacy chosen by the patient.

Points of attention:

The document Best Practices, on how to use the different functions of Recip-e, can best be read before developing the functions.

Shortly summarized, the general mode of operation is unchanged: activation of Recip-e calls (whether active: creation / delivery) or informative (list-type operations) were designed to be initiated **MANUALLY** and **in person** by individual prescribers and deliverers **at the moment of the encounter with the patient**. (not via automatic, large volume periodic batch processes, and surely not during the day!).

➔ In particular hospital software should take this into consideration

3. Common features

The following fields are added in the Recip-e body headers for all platforms (prescriber, executor and patient oriented) software

- **Program Identification:** the identity of the software package, program name and version number ([see Program Identification](#))
- **MGuid:** This is a 128-bit long value which allows tracking of each request/response in the Recip-e system. When using the SDK, this identifier is generated automatically. When calling the Recip-e web services directly, java.util.UUID (or equivalent) should be used to generate a MGuid. An example of the format: id123e4567-e89b-12d3-a456-556642440000.
Note it should be prefixed with "id".

The other fields will be more explained in the prescriber section as they have to be provided during the creation of the prescription.

3.1. Program identification

Every software vendor (prescriber, executor and patient software) that wants to use Recip-e needs to request a ProgramIdentification at the Servicedesk of Recip-e (servicedesk@recip-e.be). This identifier must be used for all web service calls. This also allows Recip-e to restrict access to certified software vendors.

More details about the naming convention and usage of the program identification parameter can be found in document “Software vendor identification.pdf” on the website of Recip-e.

3.2. Single item prescription

In order to link up with the medication scheme projects VIDIS/VITALINK, it is mandatory to process prescriptions, only containing 1 single item.

Exception to this rule are documented in the package and can be found in document “Recip-e 1-item list information.pdf”

In 2018, a medication prescription contained on average three “items”.

The “single item per Recip-e prescription” can be made transparent to the prescriber.

The disadvantage of this for the prescriber is that for each RID generated, a “proof of electronic prescription” must be generated (either in electronic or in printed form, as long as this is required and in all cases on the patient’s request). In the dematerialized setting, the patient can also leave the cabinet of the prescriber without anything, if he wishes so (and get his medication with his e-ID).

The software can foresee that 2 PEP can be printed on 1 A4 paper to reduce paper consumption.

Prescriber software packages must allow the prescribers to have a correct overview of the medication prescribed for the patient.

When making a new prescription, based on the “prescription history” of the patient, it should not be a copy from the “history”:

- Not taking over old dates, like “creation date” and “begin moment”
- Make sure that the prescription contains only 1 item.
- The new prescription item should be matched with one coming from the current SAM version, and include its specific up-to-date identifiers, thus avoiding old products or old packages that are no longer available.

3.3. Access modalities available to pharmacists

In summary, following modalities will be available to access the electronic prescriptions:

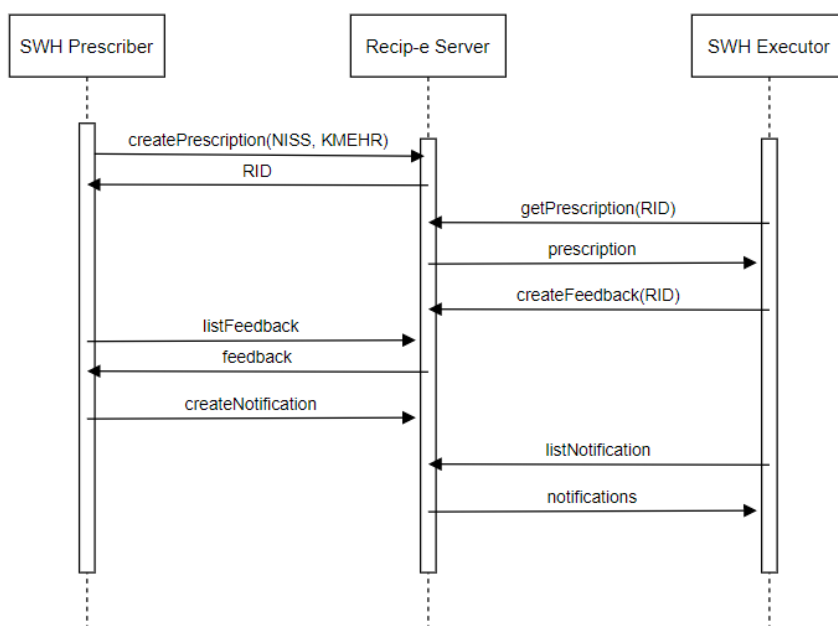
- in the presence of the patient himself or a mandated person, a pharmacist will be able to access Recip-e to retrieve the “not delivered prescriptions” of the patient, based on the patient’s SSIN number. This under the conditions that
 - the pharmacist has a registered therapeutic relation with that patient on the eHealth-Platform (listOpenPrescriptions)
 - the VISI flag of the prescription
 - has status “OPEN” OR
 - contains the registration number of the pharmacy
- reading the RID via electronic media-based “proofs of electronic prescription” presented by the patients or the persons mandated by the patients (Apps, tablets, portable phones, ...)
- reading the RID from the paper-based “proofs of electronic prescription” presented by the patients or the persons mandated by the patients
- giving in the RID-code into the pharmacy software as presented by the patient, or exceptionally by the prescriber to the pharmacist (with the consent of the patient)

3.4. Feedback / Notification flow

To facilitate the communication between the prescriber and the executor, Recip-e provides a mechanism to make this possible.

Because the prescriber does not know where the patient will go for his medication, a flag can be set on the prescription so the executor that will deliver the medication can give feedback to the requesting prescriber.

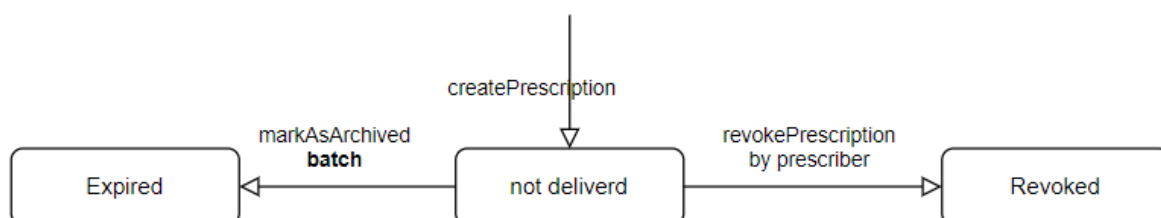
Those functions are detailed in the API documentation and are required to be implemented to facilitate communication.



4. Prescriber software

4.1. Prescriber state flows

In the context of prescribers the following state transitions are possible.

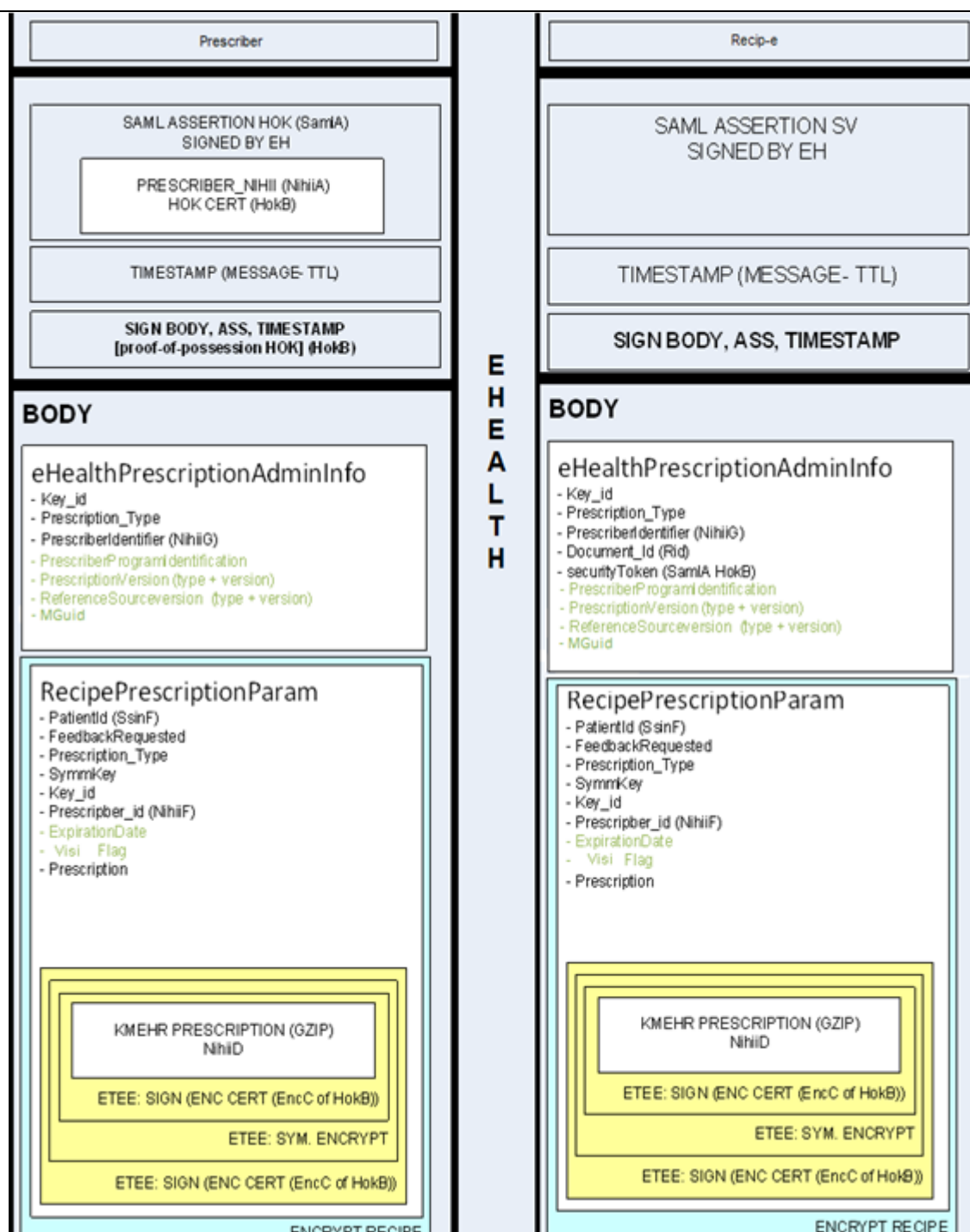


A prescriber will set a prescription in **not delivered** state when creating the prescription. The only transition done by a prescriber is towards the **revoked** state by the operation **revokePrescription**

The transition towards the **expired** state is done by the Recip-e batch processing based on the expirationdate.

4.2. Header and KMEHR modifications at create prescription

The Recip-e body headers, generated by the prescribers must contain additional fields, or the prescriptions will not be considered as “valid”



The definition of the KMEHR 1.28 can be found at:

<https://www.ehealth.fgov.be/standards/kmehr/en/page/xschema>

```
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>
<KMEHRmessage xmlns="http://www.ehealth.fgov.be/standards/KMEHR/schema/v1">
  <header>
    <standard>
      <cd S="CD-STANDARD" SV="1.29">20190301</cd>
    </standard>
    <id S="ID-KMEHR" SV="1.0">14675011004.200901100900000000</id>
    <id S="LOCAL" SL="ID-RECIPE" SV="1.0">8e1c4ea4-3825-48e4-bcc2b8cadfa7a897</id>
    <date>2020-08-01</date>
  </header>
</KMEHRmessage>
```

```

<time>09:00:00</time>
<sender>
  <hparty>
    <id S="ID-HCPARTY" SV="1.0">14675011004</id>
    <cd S="CD-HCPARTY" SV="1.0">persphysician</cd>
    <name>Dr. Duck Donald</name>
  </hparty>
</hparty>
  <id S="LOCAL" SV="1.0" SL="MyUsualSoftware">MyUsualSoftware-v1.2.3</id>
  <cd S="CD-HCPARTY" SV="1.10">application</cd>
</hparty>
</sender>
<recipient>
  <hparty>
    <id S="ID-HCPARTY" SV="1.0">RECIPE</id>
    <cd S="CD-HCPARTY" SV="1.0">orgpublichealth</cd>
    <name>Recip-e</name>
  </hparty>
</recipient>
<externalsource>
  <source>
    <cd SV="1.0" S="CD-EXTERNALSOURCE">samv2</cd>
    <version>W20200725</version>
  </source>
</externalsource>
</header>
<folder>
  <id S="ID-KMEHR" SV="1.0">1</id>
  <patient>
    <id S="ID-PATIENT" SV="1.0">76020727360</id>
    <firstname>Fred</firstname>
    <familyname>Flintstone</familyname>
    <birthdate>
      <date>1976-02-07</date>
    </birthdate>
    <sex>
      <cd S="CD-SEX" SV="1.1">male</cd>
    </sex>
  </patient>
  <transaction>
    <id S="ID-KMEHR" SV="1.0">1</id>
    <cd S="CD-TRANSACTION" SV="1.9">pharmaceuticalprescription</cd>
    <date>2016-09-28</date>
    <time>09:00:00</time>
    <author>
      <hparty>
        <id S="ID-HCPARTY" SV="1.0">19006951001</id>
        <cd S="CD-HCPARTY" SV="1.9">persphysician</cd>
        <name>Dr. Duck Donald</name>
        <address>
          <cd S="CD-ADDRESS" SV="1.1">work</cd>
          <country>
            <cd S="CD-FED-COUNTRY" SV="1.2">be</cd>
          </country>
          <zip>1000</zip>
          <city>Brussel</city>
          <street>Grote Markt</street>
          <housenumber>7</housenumber>
        </address>
        <telecom>
          <cd S="CD-ADDRESS" SV="1.1">work</cd>
          <cd S="CD-TELECOM" SV="1.0">phone</cd>
          <telecomnumber>02/221.21.21</telecomnumber>
        </telecom>
      </hparty>
    </author>
    <iscomplete>true</iscomplete>
    <isvalidated>true</isvalidated>
    <expirationdate>2020-09-28</expirationdate>
    <heading>

```

```

<id S="ID-KMEHR" SV="1.0">1</id>
<cd S="CD-HEADING" SV="1.2">prescription</cd>
<item>
  <id S="ID-KMEHR" SV="1.0">1</id>
  <cd S="CD-ITEM" SV="1.9">medication</cd>
  <content>
    <medicinalproduct>
      <intendedcd S="CD-DRUG-CNK" SV="LOCALDB">0318717</intendedcd>
      <intendedname>ADALAT OROS 30 COMP 28 X 30 MG</intendedname>
    </medicinalproduct>
  </content>
  <content>
    <cd SV="1.0" S="LOCAL" SL="SAMPROOF">
      UjBsR09EbGhjZOU1GUxhEUzhijhbjA
      -some special code here that a software cannot auto-
      generate but has to get from SAM
    </cd>
  </content>
  <beginmoment>
    <date>2019-09-28</date>
  </beginmoment>
  <lifecycle>
    <cd S="CD-LIFECYCLE" SV="1.7">prescribed</cd>
  </lifecycle>
  <quantity>
    <decimal>1</decimal>
  </quantity>
  <frequency>
    <periodicity>
      <cd S="CD-PERIODICITY" SV="1.1">D</cd>
    </periodicity>
  </frequency>
  <posology>
    <text L="fr">1 comprimé par jour, le matin</text>
  </posology>
  <regimen>
    <daytime>
      <dayperiod>
        <cd S="CD-DAYPERIOD" SV="1.1">morning</cd>
      </dayperiod>
    </daytime>
    <quantity>
      <decimal>1</decimal>
      <unit>
        <cd S="CD-ADMINISTRATIONUNIT" SV="1.2">00005</cd>
      </unit>
    </quantity>
  </regimen>
  <route>
    <cd SV="2.0" S="CD-DRUG-ROUTE">00060</cd>
  </route>
  <instructionforpatient L="nl">Inslikken en doorspoelen met een glas water
</instructionforpatient>
</item>
</heading>
</transaction>
</folder>
</KMEHRmessage>

```

```

<ns2:createPrescription xmlns:ns2="http://services.recipe.be/prescriber">
  <createPrescriptionParamSealed>MIAGCSqGSI...</CreatePrescriptionParamSealed>
  <PrescriptionType>P0</PrescriptionType>²
  <KeyId>Y82C8r82M2ZAUCsaDUwZJQ==</KeyId>
  <ProgramIdentification>prescriberProgramIdentification</ProgramIdentification>
  <PrescriptionVersion>1.28</PrescriptionVersion>
  <ReferenceSourceVersion>referenceSourceVersion</ReferenceSourceVersion>
  <Mguid>idc4cc7e33-aa78-4e42-90de-4c3de51091cf</Mguid>

```

```
</ns2:createPrescription>
```

And

```
<ns2:createPrescriptionParam xmlns:ns2="http://services.recipe.be/prescriber">
  <prescriberId>10050881001</prescriberId>
  <patientId>72081061175</patientId>
  <prescription>Encrypted byte array of the KMEHR prescription above</prescription>
  <prescriptionType>P0</prescriptionType>
  <feedbackRequested>true</feedbackRequested>
  <keyId>0nbZ/kaluwP/Pwal/fpyPA==</keyId>
  <symmKey>sJE7uWhwrS8EvNybIKJJ3MdKH50qB0n0</symmKey>
  <expirationDate>2020-04-16</expirationDate>
  <vision>LOCKED/null</vision>
  <visionOtherPrescribers>open</visionOtherPrescribers>
</ns2:createPrescriptionParam>
```

The default namespace *xmlns:ns2="http://services.recipe.be/prescriber"* is required

4.2.1. SAM database version

The unique source for medication and other items that are available in pharmacies with mandatory use is the SAM-v2 system, preferably accessed via webservice calls or via downloads.

Webservice calls will guarantee optimal up-to-dateness, downloads should happen at least twice per month.

Each version of the SAM database will obtain an identifier which specifies the exact date of release.

The prescriber software must copy SAM identifier of the reference source that was used to identify and code the prescribed products in the header of each Recip-e prescription in the field "ReferenceSourceVersion" and in the KMEHR.

In: `<cd SV="1.0" S="CD-EXTERNALSOURCE">samv2</cd> <version>W20200725</version>`

The string "W20200725" will be found in the highest level of the SAM-v2:

- SamId: W (webcall source) or D (download version) followed by the date of creation of the SAM-v2 database as in: "D20200725", indicating a SAMv2 created on July 25th 2020
 - Export : as attribute of the root element
 - Dics : as attribute of the element depending on the body
 - SAMv2-BCP : property of the principal object

4.2.2. SAMPROOF Parameter

In the prescription itself: the cd SL="SAMPROOF" element should contain the string associated with the SAM2 product-version code associated with the "intendedcd"; this product-version code is

associated with each medicinal product in SAM and it changes, according to each release of the SAM database

In: `<cd SV="1.0" S="LOCAL" SL="SAMPROOF">UjBsR09EbGhjZ0U1GUXhEUzhijhbjA</cd>`

The string: “UjBsR09EbGhjZ0U1GUXhEUzhijhbjA” will be found at the level of the prescribable object:

- VMP Group – next to the code VMP Group
 - DMPP – next to the CNK
 - Non-Medicinal Product – next to the CNK
 - Compound Formula/Ingredient – next to the CNK
- The ProductId string field should be copied to the cd SAMPROOF element

Details on SAM will be further worked out by RIZIV.

4.2.3. Validity period of the prescription

The prescriber package will allow the prescriber to determine the validity period of the prescription; the rules given by RIZIV/INAMI are:

- By default, a medication prescription is valid for a period of three months – 1 day, day by day starting at the date of creation, both for delivery and for reimbursement of the medication.
- It can be set longer - In the context of chronic treatments, the prescriber can decide to allow for a longer validity period, maximally 1 year-1day. In these cases, the longer validity period also applies to the reimbursability, but the pharmacist must, in the interest of public health and to avoid unnecessary spending, dispense no more packages (or units), than necessary for six months of treatment.
- It can be shorter - If it is appropriate, the prescriber can also determine a shorter validity period. In these cases, the shorter period is also applicable for reimbursement.
- A prescriber can create multiple prescriptions during a consultation, eg with different validity period.
- Discrepancies between validity periods of prescriptions for reimbursed and not reimbursed medications do not exist anymore.

This procedure allows the prescriber to have the liberty – taking into account the clinical condition and the type of patient – to determine the frequency of follow-up consultations with the patient and allows to create several prescriptions, allowing to bridge the gap between consecutive consults, without the necessity to calculate delayed “starts of execution” (that could lead to problems in day to day reality). For

the dispenser (pharmacist), a simple rule applies: a prescription is valid for execution and for reimbursement during the period, determined by the prescriber.

The expiration date, present in each prescription must be copied to the Recip-e header, and this MUST be AN EXACT COPY of the expiration date in the KMEHR field. The reason is that Recip-e takes up an active role to remove the “expired” prescriptions, exceeding their validity date, and to no longer show these prescriptions to the pharmacist.

ACTIVE ROLE OF RECIP-E:

Recip-e takes up the administrative role to show only valid prescriptions to the pharmacist.

The “expired” prescriptions, exceeding their validity date will no longer be shown to the pharmacist, except those created before 1/11/2019, and this until 31/1/2021, including the prescriptions “in process”

METHOD OF CALCULATION:

The calculation method used to validate the expiration date is part of the technical dematerialisation validator in the client. The default expiration date is 3 months – 1d (day by day after the date of creation and can be extended to 1 year-1d.

ELEMENT OF RECIP-E PRESCRIPTION:

The expiration date in the prescription parameters should have the following format: yyyy-mm-dd and should be calculated by the software vendor. The Recip-e SDK takes this as input for the actual Recip-e call. The technical validator (in the business connector) will throw an error if the expiration date in the header does not match the expiration date in the KMEHR of the prescription body.

As mentioned before, prescriber software packages not using the SDK have to make sure that the dates in the header and in the KMEHR are filled in and are identical before sending the prescription to Recip-e.

Please note that the pharmacist will only look into the KMEHR field for the valid date to deliver the medication.

POINT OF ATTENTION:

The FOD Volksgezondheid/ SPF Santé publique, different than the legislation of the RIZIV, provides still the possibility to have a later “startdate of therapy” as this might be necessary from health perspective (eg, abuse of drugs). This date should be set in the KMEHR field “beginmoment” and is in fact not a change (remains). With the new format of the proof of electronic prescription, this

startdate of therapy should be set at the medication line when different from the creation date and not in the footer of the proof of electronic prescription, where the two other dates are present.

The prescriber can thus still set a date for a therapeutic start date of the prescription in the KMEHR message with the KMEHR element

```
<beginmoment>
    <date>2019-09-28</date>
</beginmoment>
```

4.2.4. PrescriptionVersion

The KMEHR version used during the creation of prescription must be added in the header when creating the prescription.

```
<ns2:createPrescription xmlns:ns2="http://services.recipe.be/prescriber">
  <createPrescriptionParamSealed>MIAGCSqGSI...</CreatePrescriptionParamSealed>
  <PrescriptionType>P0</PrescriptionType>
  <KeyId>Y82C8r82M2ZAUCsaDUwZJQ==</KeyId>
  <ProgramIdentification>prescriberProgramIdentification</ProgramIdentification>
  <PrescriptionVersion>1.28</PrescriptionVersion>
  <ReferenceSourceVersion>referenceSourceVersion</ReferenceSourceVersion>
  <Mguid>idc4cc7e33-aa78-4e42-90de-4c3de51091cf</Mguid>
</ns2:createPrescription>
```

4.3. Format and content verification

Format and content validation is 1 of the key features of the Recip-e SDK (prescriber).

The SDK will use the following configuration for the client side validation:

- XSD-files used to validate the KMEHR when creating a new prescription
 - kmehr-1.28.xsd / kmehr_elements-1.28.xsd
 - Files are provided with the SDK release
- XPATH-expressions used to validate the KMEHR when creating a prescription
 - Validation.properties (prescriber SDK)
 - File is provided with the SDK release

When the SDK starts, the method GETVALIDATIONPROPERTIES is called to check if the changes have been made to the XSD and XPATH-expressions files used by the SDK.

The prescriber software has to provide the “body” of the prescription (full KMEHR message), containing a single item, the connector code will then:

- fill in the appropriate headers (expirationdate, programidentification, identification SAMV2 DB, PrescriptionVersion, VISI flag, MGUID)
- perform the (technical) verifications on the KMEHR
 - if the verifications are successfully, the prescription is sent to Recip-e and a RID is obtained

- when errors are detected while creating a new prescription, it is not possible to send this prescription in to Recip-e and validation errors are returned to the prescribing software, possibly resulting in a request to complete/correct the data. Technical validation errors are appended to the log file in the prescriber's system.

The SDK is will also validate the SSIN and BISS number used during the creation of prescription.

In case the prescriber software does not use the Recip-e SDK, those validations on format and content have to be done by the software before the prescription is sent to Recip-e.

Following checks must be done additional to the XSD and XPATH validation:

- expirationdate must be identical in the header as in the KMEHR field
- creationdate must be the current date (not in the future or the past)
- validation of the SSIN and BIS number, [see annex 2](#)
- Use the method GETVALIDATIONPROPERTIES to make sure you always use the correct XSD and XPATH-expression files.

The header information must be added by the prescriber software as parameters in the createprescription operation.

When no prescriber SDK is used, information must be added by the software creating the prescription.

!! When creating a prescription from the history of the EMD, make sure the creation date is not set in the past.

When a mismatch exists between de expiration dates (header and KMEHR) problems can occur when Recip-e takes the responsibility to expire the prescription. It's possible a prescription is removed although the PEP mentioned still a valid prescription.

4.4. VISI flag for executors <vision>

The visi flag for executors determines whether a prescription is visible for all, none or one specific executor.

By default the VISI flag must be "OPEN" at the creation of a prescription.

The prescriber can change the VISI flag during the creation of the prescription on patients request.

When the patient does change his mind, the prescriber must be able to change the VISI flag to OPEN or LOCKED after the creation of the prescription.

When the patient goes with his electronic format of a proof of electronic prescription or with a RID to the pharmacist, this Visi flag is overruled, and the pharmacist can consult and deliver the medication.

For more info on the management of the coexisting flags VISI and RESERVATION, [see annex 1](#)

4.5. VISI flag for prescribers <visionOtherPrescribers>

Prescribers can indicate who among the other prescribers is allowed to see the prescription. This must be considered in the context of prescription sharing between prescribers.

The following options are available:

- open: the prescription is shared with all prescribers.
- locked: the prescription is only available to the original prescriber.
- gmd prescriber: the prescription is only available to the holder of the GMD.

4.6. Create prescription

4.6.1. New parameters

The CreatePrescriptionParam-object contains three additional parameters:

- The visi-flag of the prescription indicating the privacy set by the patient or prescriber for the executors (<vision>)
- The visi-flag of the prescription indication the privacy set by the patient or prescriber for the other prescribers (<visionOtherPrescribers>)
- The expiration date of the prescription

```
<ns2:createPrescriptionParam>
  <prescriberId>10050881001</prescriberId>
  <patientId>72081061175</patientId>
  <prescription>Encrypted byte array of the KMEHR prescription above</prescription>
  <prescriptionType>P0</prescriptionType>
  <feedbackRequested>true</feedbackRequested>
  <keyId><kgss_key_id></keyId>
  <symmKey><symm_key></symmKey>
  <expirationDate>2020-04-16</expirationDate>
  <vision><LOCKED/null></vision>
  <visionOtherPrescribers>open</visionOtherPrescribers>
</ns2:createPrescriptionParam>
```

And

The createPrescription contains following new parameters:

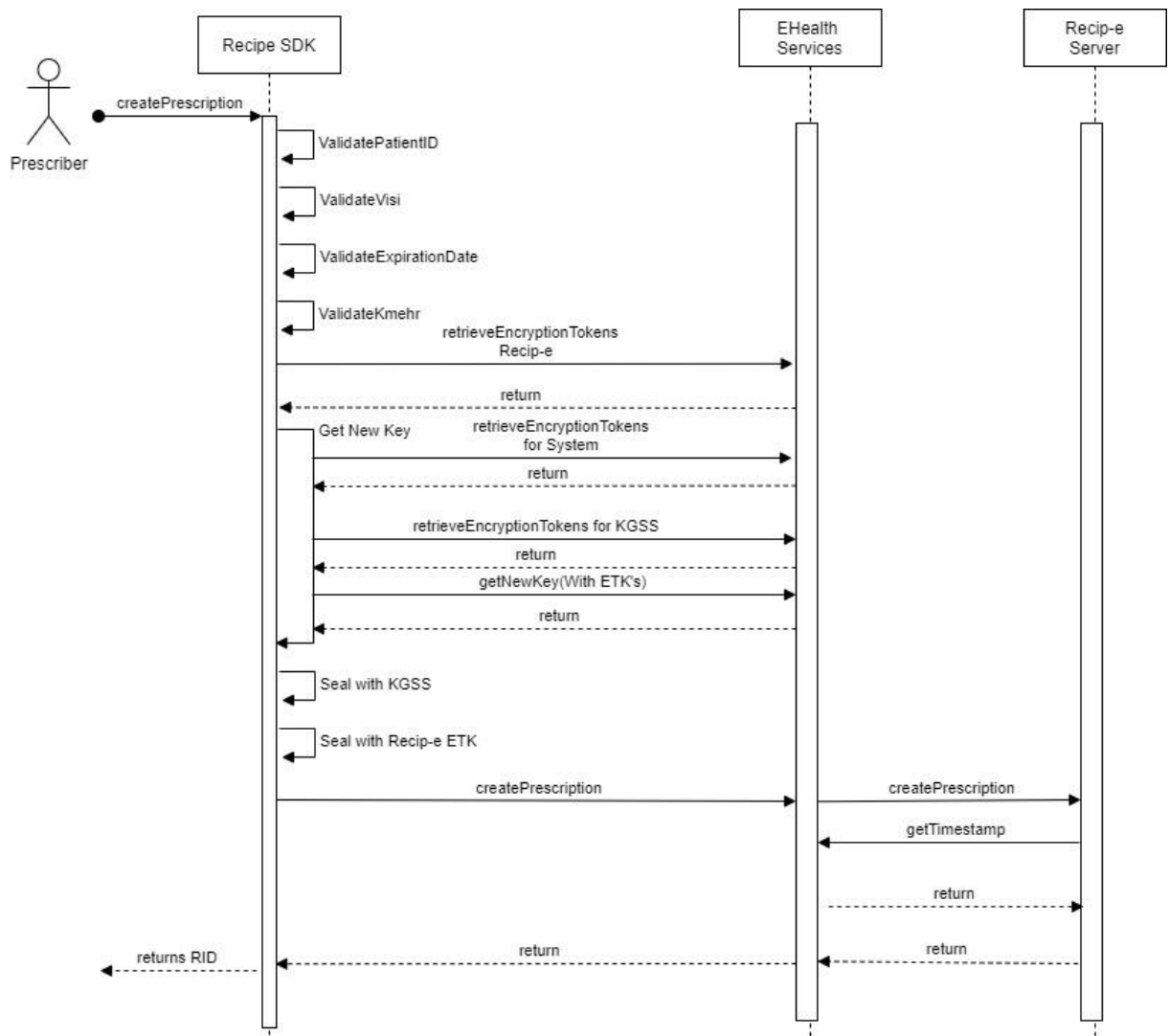
- programIdentification
- prescriptionVersion
- referenceSourceVersion
- mguid

```
<ns2:createPrescription>
  <CreatePrescriptionParamSealed>MIAGCSqGSI...</CreatePrescriptionParamSealed>
  <PrescriptionType>P0</PrescriptionType>
  <KeyId><kgss_key_id></KeyId>
  <ProgramIdentification><vendor-program_name_version></ProgramIdentification>
  <PrescriptionVersion><prescription_version></PrescriptionVersion>
  <ReferenceSourceVersion><reference_source_version></ReferenceSourceVersion>
```

```
<Mguid>idc4cc7e33-aa78-4e42-90de-4c3de51091cf</Mguid>

</ns2:createPrescription>
```

The complete flow to create a prescription is visualized in the following drawing.



4.7. Setting AllowedReaders

When requesting the KGSS key to encrypt the KMEHR data the AllowedReaders must be set. These AllowedReaders are all the parties who might be allowed to view the contents of the prescription. The following [healthcare party types](#) must be included:

```
urn:be:fgov:identification-
namespace,urn:be:fgov:person:ssin:ehealth:1.0:nihi:%TYPE%:nihi11,%PRESCRIBER_NIHII%
urn:be:fgov:identification-namespace,urn:be:fgov:person:ssin,%PATIENT_SSIN%
```

```
urn:be:fgov:certified-namespace:ehealth,urn:be:fgov:person:ssin:ehealth:1.0:doctor:nihi11
urn:be:fgov:certified-namespace:ehealth,urn:be:fgov:ehealth:1.0:hospital:nihi1-number
urn:be:fgov:certified-namespace:ehealth,urn:be:fgov:ehealth:1.0:pharmacy:nihi1-
number:recognisedpharmacy:boolean,true
```

If the Recip-e SDK is used for development this will be done automatically. If the SDK is not used the KGSS request would look like this:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<GetNewKeyRequestContent xmlns="urn:be:fgov:ehealth:etee:kgss:1_0:protocol">
  <AllowedReader>
    <Namespace>urn:be:fgov:certified-namespace:ehealth</Namespace>
    <Name>urn:be:fgov:person:ssin:ehealth:1.0:%TYPE%:nihi11</Name>
    <Value>%PRESCRIBER_NIHII%</Value>
  </AllowedReader>
  <AllowedReader>
    <Namespace>urn:be:fgov:certified-namespace:ehealth</Namespace>
    <Name>urn:be:fgov:person:ssin:ehealth:1.0:doctor:nihi11</Name>
    <Value></Value>
  </AllowedReader>
  <AllowedReader>
    <Namespace>urn:be:fgov:certified-namespace:ehealth</Namespace>
    <Name>urn:be:fgov:ehealth:1.0:hospital:nihi1-number</Name>
    <Value></Value>
  </AllowedReader>
  <AllowedReader>
    <Namespace>urn:be:fgov:certified-namespace:ehealth</Namespace>
    <Name>urn:be:fgov:ehealth:1.0:pharmacy:nihi1-number:recognisedpharmacy:boolean</Name>
    <Value>true</Value>
  </AllowedReader>
  <AllowedReader>
    <Namespace>urn:be:fgov:identification-namespace</Namespace>
    <Name>urn:be:fgov:person:ssin</Name>
    <Value>%PATIENT_SSIN%</Value>
  </AllowedReader>
</GetNewKeyRequestContent>
```

4.8. Create Prescriptions

To improve the performance when creating prescriptions, an additional operation is added to the Prescriber SDK. This operation allows the prescriber software to specify a list of prescriptions, which will be treated in parallel to create new prescriptions.

Once all the prescriptions are created, the initial list is returned, enriched by the RID, in case of success or an exception, in case of a failure.

Some rules apply on the usage of this function:

- A maximum of 30 CreatePrescriptionDTOs can be passed on to the function at once. If you have more prescriptions to create, you must call the function multiple times.
- The input for this function is a list of CreatePrescriptionDTOs. This CreatePrescriptionDTO contains the input fields of the well-known createPrescription-operation (KMEHR message, patientId, prescriptionType, ...).
- The validation of the KMEHR messages will be done before sending the prescriptions to Recip-e.
- The result of the function is the list of CreatePrescriptionDTOs from the input which is enriched with the following information:
 - o RID (in case of a successful creation)

-
- Boolean errorOccured (to indicate error during creation)
 - Exception (in case of an error during creation process)
 - When interpreting the response retrieved from the createPrescriptions-operation, the software must react properly when the list contains (an) error(s):
 - Remove the succesfull CreatePrescriptionDTOs from the inputlist. Resending these prescriptions leads to duplicate prescriptions at Recip-e.
 - Correct the errors from the invalid CreatePrescriptionDTOs in case of validation errors.
 - In case of errors due to other exceptions then validation errors: resubmit the prescription on a later point in time.
 - Each CreatePrescriptionDTO that contains a RID in return is a correctly created prescription.

To further improve the performance of this operation, the operation 'prepareCreatePrescription' should be called.

4.9. Prepare Create prescription

In order to improve the performance, the prescriber software can call prepareCreatePrescription when the patient dossier is opened by the prescriber.

This operation will prefetch a KGSS-key which will be used to encrypt all the kmehr-messages for one patient. Furthermore, the ETKs of Recip-e, KGSS and the prescriber will also be prefetched for further use.

4.10. Proof of prescription

In case of printing of a PEP in a 1-item context the following can be used.

4 PEP's on 1 A4 can be printed so the scanners at the pharmacy have no issues when scanning the barcodes. When more PEP's are printed, the risk increases the scanner cannot read the barcodes anymore.

| | |
|--|---|
| Welke opties heeft u om <u>naar de apotheek te gaan indien u dit document verloren zou zijn?</u> 1) Via Mijgezondheid.be – Myhealthviewer – Mijngeneesmiddelen App of elke andere App, kan u uw voorschrift tonen aan de apotheker, die de barcode zal scannen. 2) Daarnaast kan u ook met uw e-ID uw producten afhalen (of rijksregisternummer indien u reeds uw e-ID liet scannen, niet langer dan 15 maanden geleden, bij de apotheek waar u afhaalt) | |
| BEWIJS VAN ELEKTRONISCH VOORSCHRIFT | |
| Gelieve dit document voor te leggen aan uw apotheker om de barcode te scannen en de voorgeschreven geneesmiddelen af te leveren. | |
| Voorschrijver: Naam Voornaam RIZIV nr Rechthebbende: Naam Voornaam INSZ | |
| Inhoud van het elektronisch voorschrift | |
| <div style="border: 1px solid #ccc; width: 100px; height: 50px; margin: 0 auto; text-align: center; line-height: 50px;">RID 1</div> <div style="text-align: center; margin-top: 5px;">12 mm</div> | Product 1 Datum: Einddatum van de uitvoerbaarheid: |
| <div style="border: 1px solid #ccc; width: 100px; height: 50px; margin: 0 auto; text-align: center; line-height: 50px;">RID 2</div> <div style="text-align: center; margin-top: 5px;">12 mm</div> | Product 2 Datum: Einddatum van de uitvoerbaarheid: |
| <div style="border: 1px solid #ccc; width: 100px; height: 50px; margin: 0 auto; text-align: center; line-height: 50px;">RID 3</div> <div style="text-align: center; margin-top: 5px;">12 mm</div> | Product 3 Datum: Einddatum van de uitvoerbaarheid: |
| <div style="border: 1px solid #ccc; width: 100px; height: 50px; margin: 0 auto; text-align: center; line-height: 50px;">RID 4</div> <div style="text-align: center; margin-top: 5px;">12 mm</div> | Product 4 Datum: Einddatum van de uitvoerbaarheid: |
| Opgelet: met manuele toevoegingen op dit document zal geen rekening gehouden worden. | |

Figure . Proof electronic prescription (model valid from 15/9/2021 mandatory from 1/2/2022)

De quelles options disposez-vous pour **vous rendre à la pharmacie si vous avez perdu ce document ?**

1) Via Masanté.be – Myhealthviewer – App Mesmédicaments ou toute autre App, vous pouvez montrer votre prescription au pharmacien, qui lira le code-barres .

2) Vous pouvez également aller chercher les produits prescrits avec votre e-ID (ou votre numéro de registre national si votre e-ID a déjà été lue par le pharmacien qui vous délivre les produits dans les 15 mois précédents)

PREUVE DE PRESCRIPTION ELECTRONIQUE

Veuillez présenter ce document à votre pharmacien pour scanner le code-barres et vous délivrer les médicaments prescrits

Prescripteur : Nom Prénom N° INAMI Bénéficiaire: Nom Prénom NISS

Contenu de la prescription électronique

RID 1

12 mm

Produit 1

Date:

Date de fin pour l'exécution:

RID 2

12 mm

Produit 2

Date:

Date de fin pour l'exécution:

RID 3

12 mm

Produit 3

Date:

Date de fin pour l'exécution:

RID 4

12 mm

Produit 4

Date:

Date de fin pour l'exécution:

Attention: Aucun ajout manuscrit à ce document ne sera pris en compte.

Figure . Proof electronic prescription (model valid from 15/9/2021 mandatory from 1/2/2022)

Welche Möglichkeiten gibt es für Sie, um mit der Apotheke Kontakt aufzunehmen, wenn Sie diesen Beleg verloren haben?

1) Über Meine.Gesundheit.belgien.be – Myhealthviewer – App "Meine Medikamente" oder jegliche andere App - Sie legen Ihrem Apotheker diese Verschreibung vor, damit er den Barcode einlesen kann.

2) Sie können ebenso die verschriebenen Produkte mithilfe Ihrer eID (oder Ihres Nationalregisternummers) abholen, sobald die eID vom Apotheker, die Ihnen die Produkte in den 15 vergangenen Monaten aushändigt hat, eingelesen wurde)

Nachweis einer elektronischen Verschreibung

Bitte legen Sie Ihrem Apotheker diesen Beleg vor, damit dieser den Barcode scannen und Ihnen die verschriebenen Arzneimittel aushändigen kann

Verschreiber: Name Vorname LIKIV-Nummer Begünstigte(r): Name Vorname ENSS

Inhalt der elektronischen Verschreibung

Produkt 1

RID 1

12 mm

Datum:
Enddatum für die Ausführung:

Produkt 2

RID 2

12 mm

Datum:
Enddatum für die Ausführung:

Produkt 3

RID 3

12 mm

Datum:
Enddatum für die Ausführung:

Produkt 4

RID 4

12 mm

Datum:
Enddatum für die Ausführung:

Achtung: Jede handschriftliche Änderung dieses Beleges wird nicht berücksichtigt.

Figure . Proof electronic prescription (model valid from 15/9/2021 mandatory from 1/2/2022)

4.11. Prescriber functions since dematerialization

Please refer also to the Best Practice document on how to use new functions and old functions so that load is manageable.

PUTVISIONFORPRESCRIBER

This operation sets the visibility for a given prescription. The visibility can be set for executors through the *vision* flag and the *visionOtherPrescribers* flag sets the visibility for prescribers.

Possible values for the vision flag are:

- Null: visible for all pharmacies ("OPEN")
- Locked: only visible in the pharmacy where the patient presents the (paper/ digital) proof of prescription or the RID.

The prescriber can modify the vision flag, on request of the patient, only of the prescriptions he made! This function can/must be used when the prescription is created and the VISI flag must be changed afterwards.

Possible values for the *visionOtherPrescribers* flag are:

- open: the prescription is shared with all prescribers.
- locked: the prescription is only available to the original prescriber.
- gmd prescriber: the prescription is only available to the holder of the GMD.

GETPRESCRIPTIONSTATUS

This function retrieves the status of a prescription, as it is currently present on the Recip-e server. The prescriber may want to know if a prescription, submitted on an earlier date, was delivered or not. This new function **GETPRESCRIPTIONSTATUS** is far more efficient than the call "getPrescription" as the decryption key is not necessary, so less load on the bus and no decryption is to be made, relieving the client machine.

LISTRIDSHISTORY

This function returns a list of RIDs and their current statuses [open / in process / delivered / expired/revoked/archived] for a given patientId. A flag allows to specify where to search for the rids: active partition or all other partitions including history partitions. The search for rids history in active partition is faster since it contains prescriptions created the last 12 months. The active partition flag must be set by default to true, when the end-user wants to search for older prescriptions then he has to unselect the flag. The request contains a pagination parameter while the response will contain a boolean indicating whether there are additional results or not.

GETVALIDATIONPROPERTIES (prescriber)

This function returns the current configured validation properties on the server to be used by the technical validator. This operation returns a set of xsd files, a set of xpath expressions, an expiration date validation expression and any other properties which are used to validate the KMEHR message before sending the sealed prescription to Recip-e.

LISTOPENRIDS

This function returns a list of RIDs in the status “open” for a given patientId. A flag allows to specify where to search for the rids: active partition or all other partitions including history partitions. The search for rids history in active partition is faster since it contains prescriptions created the last 12 months. The active partition flag must be set by default to true, when the end-user wants to search for older prescriptions then he has to unselect the flag. The request contains a pagination parameter while the response will contain a boolean indicating whether there are additional results or not.

Technical details of the different functions can be found in files:

- Prescriber_Documentation_eHealth_API.docx
- Prescriber_Documentation_SDK_API.docx
- Prescriber_Documentation_Server_API.docx_
- PrescriberServices-v4.wsdl
- PrescriberServices-v4.xsd

In the Recip-e_tech_docs_API en tech specs zip from the documentation package

LISTPRESCRIPTIONS

The listPrescriptions function can be used to retrieve all the prescriptions for a patient. It is a more generic and more complete version of ListOpenRids or ListRidsHistory. The function can also be used to filter the list of prescription for a specific patient on *status* or to request the prescriptions in a specific interval.

This function will return:

- All prescriptions prescribed by the caller.
- The prescriptions in status not-delivered and in-process prescribed by others which have been shared.

RIDs that have the status revoked, expired, archived, or delivered will not have the content of the prescription since Recip-e is required to delete it for those statuses.

It is also possible that the list contains prescriptions that cannot be decrypted by the current prescriber because:

1. The prescription was created before the sharing functionality was available.
2. The client software creating the prescription has not set AllowedReaders correctly.

The client software should manage this case correctly and provide a meaningful message to the prescriber.

The list returned by ListPrescriptions might not contain all the available prescriptions. This would be the case, for example, if the prescriber is excluded for a specific prescription.

In that case the `hiddenPrescriptions` value will be set to true and the following message should be shown to the user:

- NL: Lijst is onvolledig, informatie op te vragen bij de patiënt.
- FR: Liste incomplète, informations à demander au patient.
- EN: List is incomplete, information to be requested from the patient.

The `hiddenPrescriptions` flag **will not be set** if the hidden prescriptions were created before the functionality was available. This to avoid having `hiddenPrescriptions` set to TRUE for most list operations for a year.

To make this clear to the physician using the software the following message must be displayed on the screen showing the list of prescriptions of a patient:

- NL: De voorschriften van een andere voorschrijver van voor datum X zijn niet zichtbaar (functionaliteit was nog niet beschikbaar)
- FR: Les prescriptions d'un autre prescripteur antérieures à la date X ne sont pas visibles (la fonctionnalité n'était pas encore disponible)
- EN: Prescriptions from another prescriber prior to date X are not visible (functionality was not yet available)

The exact date will be communicated soon. This message will be removed in about a year.

4.12. Content verification before sending in prescriptions

As there will potentially be no more paper printout (proof of electronic prescription), Recip-e strongly insists that everything must be activated to ensure that the intention of the prescriber is correctly transmitted and understood without any ambiguity between the prescriber and the executor! Therefore Recip-e recommends that the prescriber package explicitly asks the prescriber to acknowledge and verify that the medication that is transmitted via Recip-e really corresponds to his intended medicinal product (content validator). This can be performed by having the prescriber select and pick the product he wants to prescribe (based on SAM-v2) and to show on the screen the content of the `<intendedname>` element that is filled into the KMEHR `<item>` field. This to make sure that no coding/look-up errors happen before the prescription is sent out.

`<intendedname>ADALAT OROS 30 COMP 28 X 30 MG</intendedname>`

The pharmacists can also verify correspondence of this field versus the CNK-encoded medication, that arrives in the electronic prescription, in case of any doubt. It is indeed possible that the pharmacist delivers when a new version of SAM-v2 has already been published.

4.13. Prescriptions that contain items that can be delivered by bandagists

A prescription for bandagistery cannot be done by the system Recip-e.

It must always be printed out on classic paper prescription and can currently not be sent to Recip-e. Bandagists need also to be able to deliver the product, and not only pharmacists (who can also deliver bandagistery products).

Databases including bandagistery products exist.

4.14. Prescription sharing between prescribers

The original prescriber of a prescription can make the prescription visible to other physicians ([HC-Party](#) persphysician) by setting the `visiOtherPrescribers` flag. The following options are available:

- Locked: Only the original prescriber
- GMD: The gmd holder (and the original prescriber)
- Open: All physicians

All prescribers of the prescription can set the flag for sharing but only physicians can see the shared prescription if:

- The patient has given informed consent to allow sharing of prescriptions with other prescribers. If informed consent is not given only the original prescriber can see it.
- The physician is not excluded by the patient.
- A TR between the patient and the physician exists, unless the prescriber is in a hospital, in that case the shared prescription can always be seen.

These requirements are checked by Recip-e. A prescription will not be returned if the prescriber does not have access to it.

In a future release patients will be able to modify this flag as well.

4.14.1. Correctly setting `AllowedReaders`

`AllowedReaders` defines who can decrypt the content of the prescription. Currently this is set to original prescriber + patient + all executors by the client software when creating the prescription.

To allow other physicians to view the content of the prescription the following HC-parties need to be added as well: all persphysician + all orghospital.

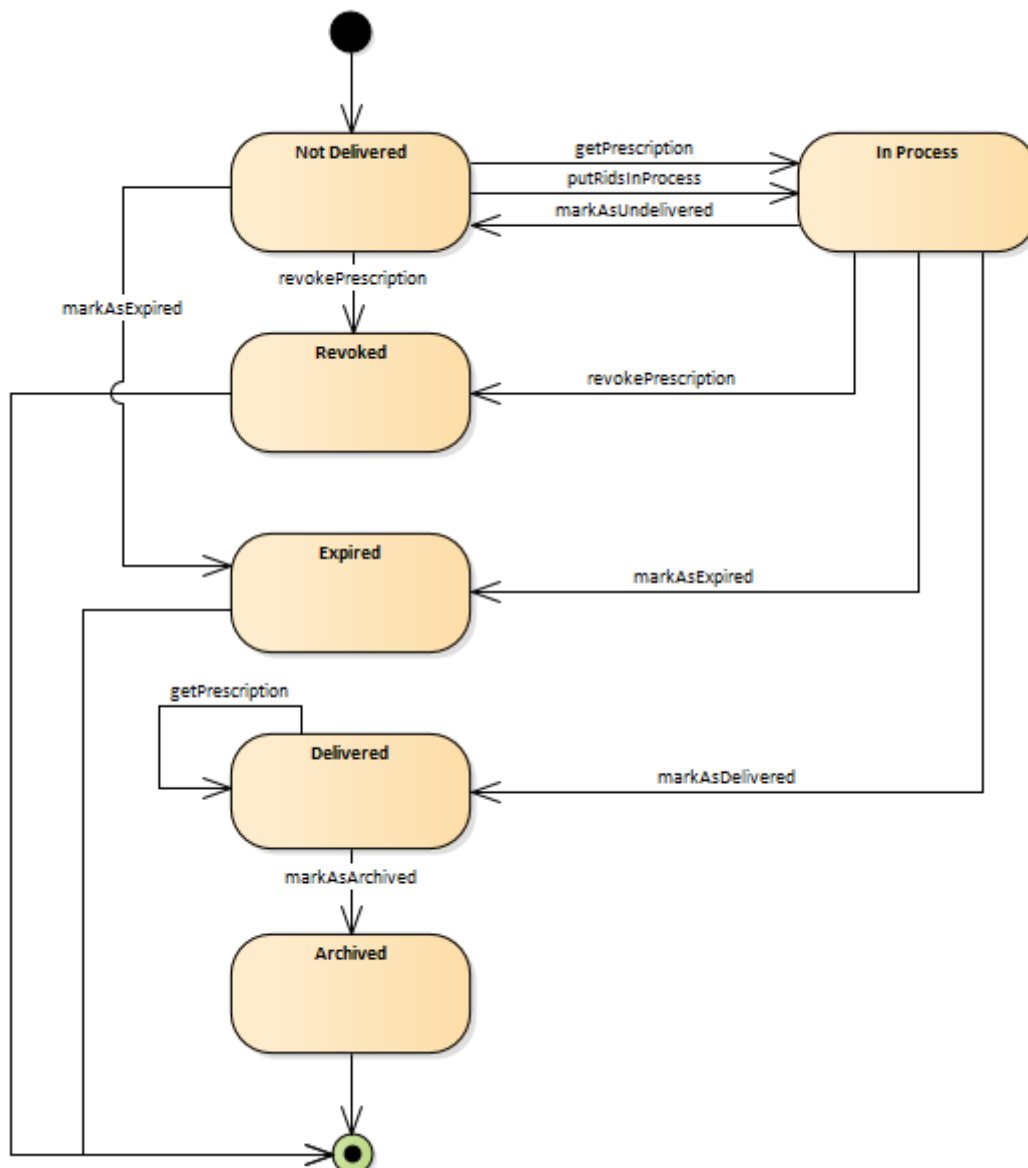
5. Executor software

5.1. Delivery scenario in the pharmacy

All previously valid scenarios based on RID's (via scanning of bar-codes or manual input of the 12 digit RID codes) and "single prescription" handling remain valid. On top of that, delivery via e-ID will become possible (be it by the patient or by a mandateholder for the patient; e-ID of mandateholder).

For the electronic prescriptions that are kept on the Recip-e server all statuses: "not delivered", "in process", "delivered", "archived" and "expired" remain and the allowed status transitions as shown in figure below remain valid and are to be followed precisely and implemented by pharmacy packages. A Recip-e status variable should be associated with each Recip-e prescription that is known to the

package and it should be updated to reflect the actions taken by the deliverer in his/her practice and explicitly followed up by program of the deliverer (pharmacist).



Only major change is that Recip-e will automatically modify the statuses of all prescriptions that exceed the ultimate validity (expiration date) date (as marked in the headers, by default three months-1d and maximally 1 year-1d from the creation date by the prescriber) to the status “expired” thereby making it impossible to anybody to get them after the ultimate validity date.

To enable the management (getting from the Recip-e server, delivering or undelivering) of Recip-e prescriptions without paper-based token (RID on a “proof of prescription” or on any medium), the following scenario is required:

1. the deliverer of the service identifies the patient via his/her e-ID, by the SSIN number.

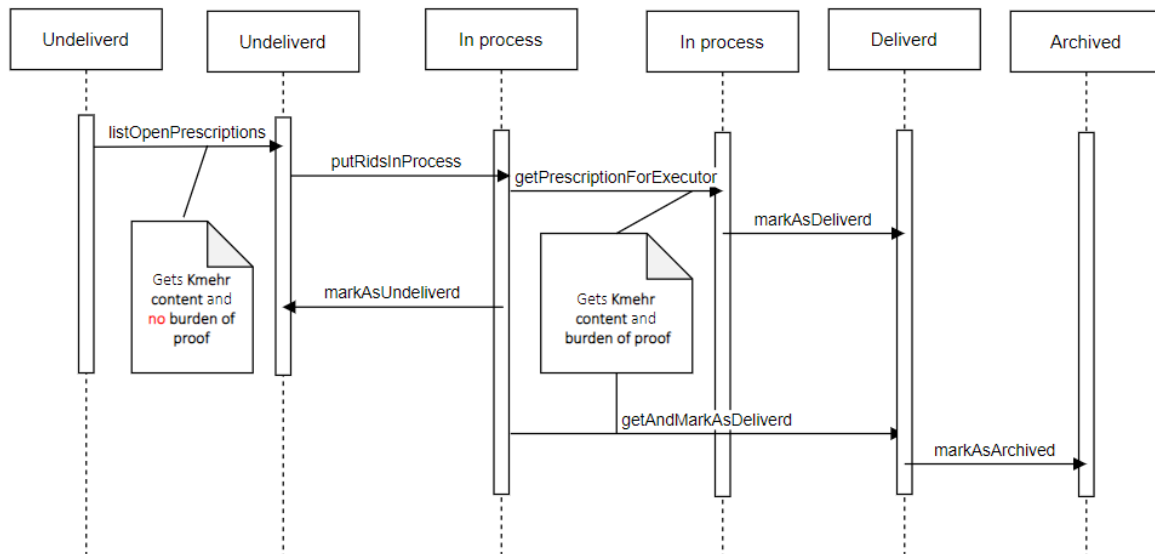
2. the web-service call **ListOpenPrescriptions** will produce a list of all prescriptions that are in status “not delivered” accessible by the requesting executor for the given patient and those who gave mandate to the given person and moreover their contents; for each prescription, encrypted contents are obtained, after fetching the encryption key the contents can be shown in clear text;

This call requires a therapeutic relation (TR) between pharmacy and patient, only at the public pharmacy (the hospital pharmacy works through COT; circle of trust).

3. based on this list and the contents of its items, the patient decides which prescriptions he wants to take and the pharmacist hands over these items to the patient
4. and just before closing the sale; the pharmacy package announces to Recip-e which medication items were effectively taken by the patient by invoking the connector call: **PUTRIDSINPROCESS** with as parameter arguments, the RID list of the prescriptions that were “delivered” to the patient. As the sale is concluded, the software invokes the connector call **GETANDMARKASDELIVERED** which is then “translated into a succession of individual “getPrescription” and “markAsDelivered” web-service calls, resulting in transfers of the complete prescription info, including SAML token non-repudiation purposes and transition to the “delivered” status on the Recip-e server of the prescriptions that were marked in the parameter list.
5. A prescription that already has reached the status ‘Delivered’ can be retrieved again (for cases where there was a technical problem with the archiving and the prescription got lost somehow). To avoid that this functionality is used mistakenly, it should be indicated that the retrieval of an already delivered prescription is done intentionally (attribute already-delivered set to true, where the default is false). This can only be done by the pharmacy that marked the prescription as delivered and will not change its status.

In view of the management of electronic prescriptions in the pharmacy, it will be mandatory that the pharmacy packages provide all necessary functions that enable the pharmacist to have comfortable control of the flow of prescriptions and deliveries in his pharmacy, completed with searching options, overviews per time period, per patient, per product, ... etc. making life easier than when everything was on paper!

Overview of the flow



5.2. Header modifications

The GetPrescriptionForExecutor request now also contains the ProgramIdentification and Mguid

```

<getPrescriptionForExecutor>
  <GetPrescriptionForExecutorParamSealed>MIAGCSqG...A=</GetPrescriptionForExecutorParamSealed>
  <DisablePatientInsurabilityCheckParam>false</DisablePatientInsurabilityCheckParam>
  <ProgramIdentification><vendor-program_name_version></ProgramIdentification>
  <Mguid>eafa1397-f42d-494d-b34e-784bc5aa14a3</Mguid>
</getPrescriptionForExecutor>

```

The GetPrescriptionForExecutorResultSealed contains:

```

<getPrescriptionForExecutorResultSealed>
  <creationDate>2019-01-24T15:30:38.938+01:00</creationDate>
  <encryptionKeyId>BGkKKiULceKmzYgsHbmw2A==</encryptionKeyId>
  <feedbackAllowed>true</feedbackAllowed>
  <patientId>80011904703-PATIENT.INSS </patientId>
  <prescriberId>10050881001-DOCTOR.NIHII </prescriberId>
  <prescription>PD94bWwgdMvyc2lvcj...ZT4NCg==</prescription>
  <prescriptionType>P0</prescriptionType>
  <rid>BEP0JNT89220320</rid>
  <expirationdate>2019-01-23</expirationdate>
</getPrescriptionForExecutorResultSealed>

```

The validity period in the KMEHR must be shown to the pharmacist, the one from the header is used by Recip-e to expire the prescription. Both should be identical in any circumstances.

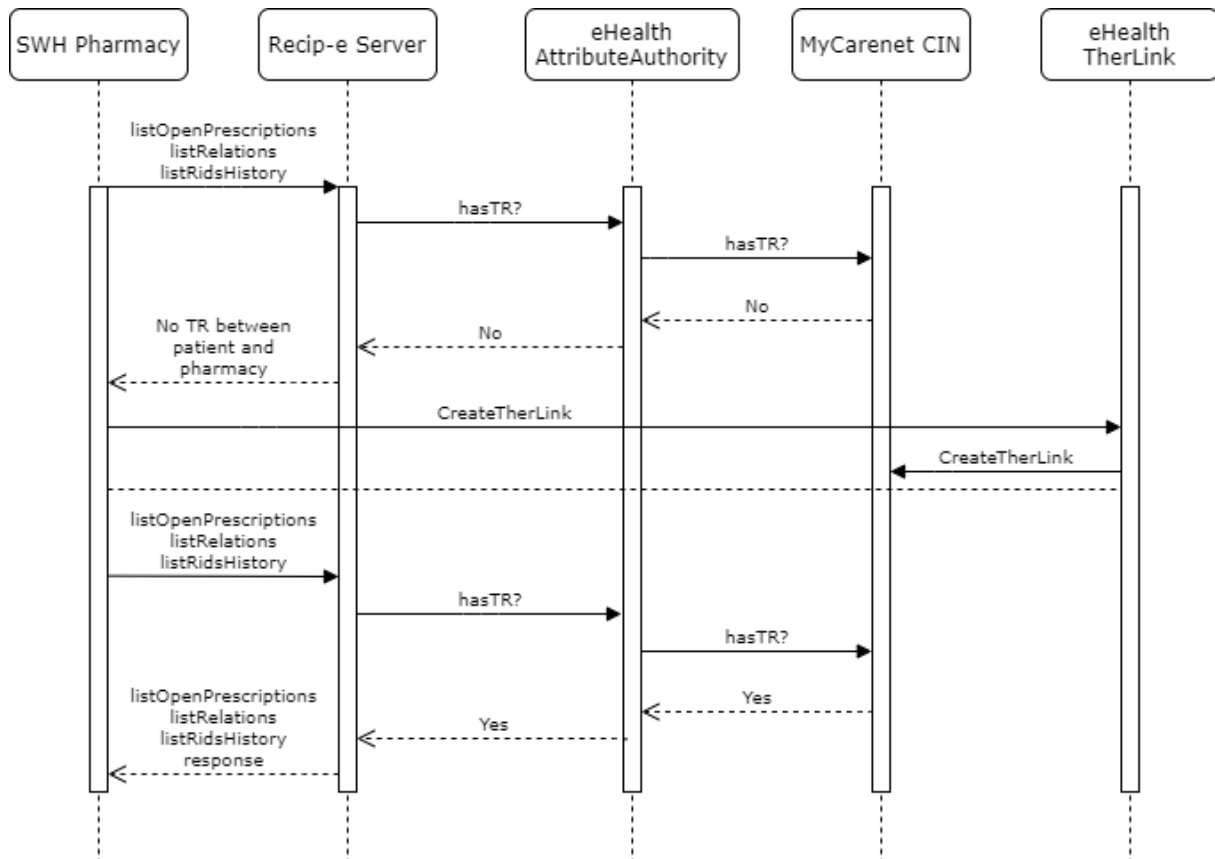
5.3. Therapeutical Relation

For a number of functions a therapeutical relation (TR) between the pharmacy and the patient is required. This TR must be created at CIN using the eHealth services.

The TR created for medical prescriptions has a validity period of 15 months starting from the date of creation. There is no renewal of the TR in between the validity period of 15 months allowed, in order to limit the load on the system of Recip-e.

Only when there is no TR available, a new TR must be made, it's not acceptable that each time a new TR is created when the eID is read.

The following diagram shows the complete flows where a therapeutic relation is needed.



Annex 7.4 explains about the caching of the therapeutical relation at eHealth that may help to avoid the use of the “Break the Glass” procedure, explained below.

More detail can be found on the eHealth website and the cookbook that can be found on this location.

<https://www.ehealth.fgov.be/ehealthplatform/nl/service-ehealth-therapeutic-links>

<https://www.ehealth.fgov.be/ehealthplatform/file/view/AWdem6oKkOz9DrMX5-eO?filename=Nota%20therapeutische%20relatie%20en%20zorgrelatie.pdf>

The therapeutic relation between the patient and the pharmacy is required for 2 functions:

ListOpenPrescription, ListRidsHistory. See next section for more details on the functions.

BREAK THE GLASS PROCEDURE

When the executor indicates that he/she wants to use the “Break the Glass” procedure to retrieve the list of open prescriptions, the list of RIDs history or the list of relations, the software system must display a disclaimer (about the responsibility of the executor).

Disclaimer in Dutch:

“

- [Toepassing van de Break the Glass uitzonderingsprocedure]: In uitzonderlijke gevallen kan u als zorgverlener (gebruiker van de Recip-e applicatie) toegang krijgen tot de gegevens binnen Recip-e, zonder dat de therapeutische relatie of zorgrelatie tussen zorgverlener en patiënt gevalideerd moet worden. Het gebruik van deze uitzonderingsprocedure vindt alleen plaats in **noodgevallen** en onder de verantwoordelijkheid van de zorgverlener die deze gebruikt.
- Onder ‘noodgevallen’ vallen limitatief de volgende situaties:
 - 1) Er kan technisch niet worden nagegaan of een therapeutische relatie bestaat of niet;
 - 2) Er kan technisch geen therapeutische relatie worden gecreëerd;
 - 3) Een andere reden die ingegeven dient te worden
- Bij het gebruik van deze uitzonderingsprocedure dient u als zorgverlener aan te duiden in welke van de voorgemelde noodgevallen u zich bevindt, en dient u verplicht de therapeutische relatie achteraf handmatig in te geven wanneer het noodgeval niet langer van toepassing is.

”

Disclaimer in French:

“

- [Application de la procédure d’exception « break the glass »] Dans certains cas exceptionnels, vous pouvez, en tant que prestataire de soins (et utilisateur de l’application Recip-e) avoir accès à des données internes de Recip-e, sans que la relation thérapeutique ou la relation de soins entre le prestataire de soins et le patient doive être validée. L’utilisation de cette procédure d’exception n’est autorisée que dans des **cas d’urgence** et sous la responsabilité du prestataire de soins qui en fait usage.
- Par « cas d’urgence », on entend exclusivement les situations suivantes :
 - 1) Il n’est techniquement pas possible de vérifier l’existence ou non d’une relation thérapeutique ;
 - 2) Il n’est techniquement pas possible de créer une relation thérapeutique ;
 - 3) Une autre raison à mentionner.
- En cas d’utilisation de cette procédure d’exception, vous devez, en tant que prestataire de soins, indiquer dans laquelle des situations d’urgence précitées vous vous trouvez, et impérativement introduire manuellement la relation thérapeutique dès que la situation d’urgence s’est rétablie.

“

Furthermore, the executor must be forced to select one of the reasons mentioned in the disclaimer, as Recip-e will validate the reason. If that selection is “Een andere reden die ingegeven dient te worden”/“Une autre raison à mentionner”, the executor must be forced to input a reason as free text. This reason must have a length of minimum 5 characters and maximum 200 characters.

The reason must be passed in the request of the ListOpenPrescriptions, the ListRidsHistory or the ListRelations operation as specified in the updated technical documentation:

- If the validation passes, the regular happy flow of the request proceeds.
- If the validation does not pass, the request is rejected and a corresponding error message is returned. (See error message documentation).

The absence of reason indicates non-usage of the Break the Glass procedure. So as soon as the reason field is present in the request, the validation will proceed with the Break the Glass rules.

Important note about the creation of the therapeutic relation: If the therapeutic relation is created after the “Break the Glass procedure” was applied, the Proof type ‘eidencoding_techproblem’ must be used (instead of ‘eidreading’).

5.4. Executor functions since dematerialization

5.4.1. Overview

LISTRESERVATIONS

This function retrieves the reserved RIDs, their reservation dates and the contact information of the patient (phone number and/or email address and the preferred contact channel). The request contains a start date which is used to limit the timeframe: only reservations after the start date are returned. The statuses of the prescriptions are not modified by calling this operation and may not be changed by the executor software before the patient is in front of the pharmacist.

The SDK maintains a list of previous returned reservations (RID + reservation date) in the config\archive\reservations folder.

The request contains a pagination parameter, see [annex 3](#) for more details.

LISTRIDSINPROCESS

This function retrieves a list of RIDs which have the status “in process” for the executor. The request contains a pagination parameter, see [annex 3](#) for more details.

GETPRESCRIPTIONSTATUS

This function retrieves the status of a prescription, as it is currently present on the Recip-e server. Normally the package at the client side should maintain this status, by registering which successive actions were taken, but in case of doubt (after a system crash of the pharmacy software for example) this call allows to re-synchronize. It should be invoked in case of doubt only, not after each operation!

LISTRIDSHISTORY

This function returns a list of RIDs and their statuses for a given patientId.
This function can be executed in “Break the Glass” modus. See above (Therapeutical Relation > Break the Glass procedure).
The request contains a pagination parameter and partion flag, see [annex 3](#) for more details.

LISTOPENPRESCRIPTIONS

This function retrieves a list of prescriptions including their respective encryption keys without the burden of proof.
For performance reasons, this operation does not automatically decrypt the prescriptions. For the decryption, the operation DecryptGetOpenPrescriptionForExecutor can be executed.
If prescriptions needs to be retrieved with a mandate, the SSIN number of the mandateholder and the SSIN number of the patient must be provided.
This function can be executed in “Break the Glass” modus. See above (Therapeutical Relation > Break the Glass procedure).

The request contains a pagination parameter, see [annex 3](#) for more details.

DECRYPTGETOPENPRESCRIPTIONFOREXECUTOR

The list of prescriptions, returned by the operation ListOpenPrescriptions, can be decrypted by calling this operation for each of the prescriptions in the list. Note: this is not a webservice operation. This operation is available as part of the SDK.

LISTRELATIONS

Lists the patients (SSIN/firstname/lastname) of a mandateholder.
This function can be executed in “Break the Glass” modus. See above (Therapeutical Relation > Break the Glass procedure).

PUTRIDSINPROCESS

This function sets a list of prescriptions in status “in process”. This operation returns the new status or error per RID. E.g. if the update is successful, the new PrescriptionStatus is returned and if the update is not successful, an error is returned to the client. The request is limited to process 30 Rids in one request. The response gives the caller a correct overview of which RIDs processed correctly and which caused an exception.

GETANDMARKASDELIVERED

This is not a new webservice function. This function combines the already existing operations getPrescription and markAsDelivered: it returns the requested prescriptions and marks them as delivered. The folder where the prescriptions are saved (RID.xml) is specified in connector-client.properties.

DECRYPTLISTOPENPRESCRIPTIONSRESULT

This operation decrypts a ListOpenPrescriptionsResult-object (with encrypted prescription bytes) into a ListOpenPrescriptionsResult-object (with clear-text prescription bytes). These clear-text prescription bytes can be marshalled to a kmehr-prescription. This operation should be called in collaboration with getData(ListOpenPrescriptionsParam) which returns an encrypted ListOpenPrescriptionsResult. Once this object is fetched from the server, it can be decrypted by executing this operation. Note: this operation is part of the SDK and not part of the eHealth webservice. The decryption is completely done on the client side. This operations decrypts each GetOpenPrescriptionForExecutor in a separate thread to optimize the performance.

DECRYPTLISTRESERVATIONSRESULT

This operation decrypts a ListReservationsResult -object (with encrypted prescription bytes) into a ListReservationsResult -object (with clear-text prescription bytes). These clear-text prescription bytes can be marshalled to a kmehr-prescription. This operation should be called in collaboration with getData(ListReservationsParam) which returns an encrypted ListReservationsResult. Once this object

is fetched from the server, it can be decrypted by executing this operation. Note: this operation is part of the SDK and not part of the eHealth webservice. The decryption is completely done on the client side. This operations decrypts each ListReservationsResultItem in a separate thread to optimize the performance.

Technical details of the different functions can be found in files:

- Executor_Documentation_eHealth_API.docx
- Executor_Documentation_SDK_API.docx
- Executor_Documentation_Server_API.docx_
- ExecutorServices-v4.wsdl
- ExecutorServices-v4.xsd

In the Recip-e_tech_docs_API en tech specs zip from the documentation package

5.4.2. Reservations

An executor has more flexibility with the new reservations' functionality through the following operations:

1. **List Reservations:** Allows executors to list their own reservations. Note that as a consequence of reservations, executors cannot list prescriptions which are reserved for other executors.
2. **Accept Reservation Request:** An executor can accept a reservation for a specific Recip-e identifier. Note that accepting a reservation request previously was not possible. Legacy reservations will have the "requested without commitment" status. For these reservations, the accept functionality is not available.
3. **Reject Reservation Request:** A reservation for a prescription can be rejected by the executor along with a reason for rejection.
4. **Accept Cancellation Request:** An executor can accept a cancellation request for a prescription. Note that once a reservation has been accepted by an executor the patient can no longer cancel it. This is to protect the executor as they may have already started preparing the prescription which may involve expensive components.
5. **Fulfil Reservation:** The executor can fulfil the reservation and provide a message to the patient along with it. When a reservation has been fulfilled it means the prescription is ready to be collected. The prescription itself would at this point probably be in the "in process" status. The prescription will only transition to "delivered" upon collection.
6. **Get Executor Profile:** An executor has a profile that determines the conditions for allowing reservations (the e-mail address or phone number of the patient being mandatory or not for example).
7. **Update Executor Profile:** An executor can update its profile whenever the conditions for allowing a reservation need to be changed.

6. Patient software

6.1. Patients options in collecting prescribed medication

When a patient has medication prescribed, he/she has multiple options for collecting them. High level, the options can be distinguished as follows:

- 1) Not bringing a proof of electronic prescription to the pharmacist (be it a paper- or digital version)
- 2) Bringing a proof of electronic prescription

6.1.1. Not bringing a (paper-/digital) paper proof of prescription

By having a Therapeutic Relation with the patient, the pharmacist can retrieve the patient's prescriptions without any proof of electronic prescription. For creating a TR, the card number and SSIN of the patient are initially used. Afterwards, and for as long as the TR is valid, the patient can go to the pharmacist and the pharmacist can consult that prior TR (and thus also the patient's prescriptions) by only using the SSIN of the patient. More on this can be found in the [executor specifications](#).

Even if no digital (smartphone) or paper proof of electronic prescription is shown to the pharmacist in this case, the patient platform still has an active role in this flow. Managing the prescriptions can be done through a patient platform such as adjusting the visibility of individual prescriptions for the Therapeutic Relation, making reservations and revoking prescriptions.

6.1.2. Bringing a (paper-/digital) paper proof of prescription

This scenario allows the patient to still present a proof of prescription to the pharmacist for scanning. It can either be a paper proof of electronic prescription, or the patient can show that prescription on his/her smartphone (through patient platform).

Paper proof of electronic prescription

Just like before dematerialization, the patient can still obtain a classic paper proof of electronic prescription at the doctor's. In case of loss of that prescription (or as a fallback), the patient can use his/her identification card (eID, ISI+, e+, KidsID) at the pharmacist's, but the patient should also be able to print the prescription info through the patient platform. This way, the patient is always guaranteed to collect the medication in any way he/she prefers. Please consult the [printing chapter](#) for more details.

Digital proof of electronic prescription

Dematerialization allows that prescriptions are always at the patient's disposal and can be managed digitally. This also means that a prescription can be opened on a mobile device and presented to the pharmacist for scanning, without any need for printing (see '[opening a prescription](#)' further).

Next to the above cases, a patient can also only bring the RID alphanumeric code to the pharmacist, which he received from the doctor (mail/SMS). This is meant as an exceptional/temporary case, as this arose pre-dematerialization due to the COVID-19-crisis.

6.2. Introduction

The purpose of patient software is to link with the authentic source of electronic prescriptions at Recip-e so that the patient can manage himself/ herself the prescriptions.

Patients can consult their open prescriptions [listOpenRids]; these are the prescriptions which are not delivered/archived, not in process, not expired and not revoked. Even when the VISI-vlag for the pharmacist is set to 'closed' or a reservation has been made, these prescriptions will always be visible to the patient in this overview. The patient can also consult the content of each individual 'open' prescription by opening them from the overview list [getPrescription] (doing this on a smartphone at the pharmacy, allows the pharmacist to scan the RID barcode). Patients must also be able to revoke prescriptions [revokePrescription] they no longer want to appear (GDPR requirement) (this also ensures that no other actors can see/deliver the prescription).

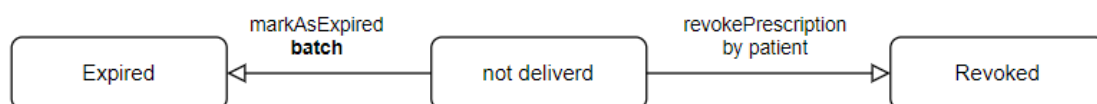
Patients must be able to manage the VISI-flags [putVisionForPatient] of individual prescriptions. This is needed for the dematerialized delivery by the pharmacy (GDPR requirement).

Patient can also make/cancel reservations [createReservation]. This helps to faster have the product delivered at the pharmacy.

The prescriptions that are no longer 'open' can still be retrieved by the patient by consulting the history of prescriptions through the function [ListRidsHistory]. However, only the RID and the status will be given. When more details are requested, a message will be given that the current prescription status does not allow to retrieve the content of the prescription.

6.3. Patient state flows

In the context of a patient platform, the following state transitions are possible.



The only transition done by a patient is towards the **revoked** state by the operation [revokePrescription]

The transition towards the expired state is done by the Recip-e batch processing based on the expiration date.

Within the status of <not delivered>, a reservation and VISI-flag can be handled (see further)

6.4. Consulting the overview of open prescriptions [listOpenRids] or [listOpenPrescriptions]

When consulting the overview of open prescriptions [listOpenRIDs], only the open prescriptions are returned by Recip-e (those prescriptions which are not delivered/archived, not in process, not expired and not revoked). Of those prescriptions, the relevant info from the [listOpenRids]-call can be shown to the patient in the overview:

- 1) RID (alphanumeric code),
- 2) the creation date,
- 3) expiration date,
- 4) prescriber ID (NIHII),
- 5) (*status VISI-flag*)
- 6) (*Reservation status*)

Prescriptions can also have a 'Startdatum van de behandeling'(NL)/'Date de début de traitement'(FR), this occurs when the KMEHR beginmoment is by the prescriber set to a later date than the creation date. Prescriptions with a later beginmoment are also shown in the overview, even when today < beginmoment.

[ListOpenRids] can only be triggered by the user (upon logging in or when refreshing the overview page). Automatic polling during a log-in session is not allowed.

[ListOpenPrescriptions] retrieves a list of prescriptions (same data as for [ListOpenRids], including their respective encryption keys and the encrypted content.

How pagination of the list of open prescriptions [listOpenRids] can be handled is described in the annex of this document.

6.5. Opening a prescription [getPrescription]

Once a prescription is opened by the patient, the following KMEHR-info can be shown:

- 1) RID (barcode + alphanumeric code)
- 2) Name of the prescribed item
- 3) Posology or regimen (whichever of the two elements is present in the KMEHR) next to the item
- 4) InstructionForPatient (if filled in by the prescriber) next to the item
- 5) InstructionForReimbursement (if filled in by the prescriber) next to the item
- 6) Creation date (at the bottom)
- 7) Expiration date (at the bottom)
- 8) Startdatum van de behandeling/Date de début de traitement if present
- 9) Prescriber identification (first name, last name + NIHII)
- 10) Patient identification (first name, last name + SSIN)

The KMEHR-dates should be shown when opening the prescription as only the content of the electronic prescription in the KMEHR is legally valid.

6.5.1. Barcode + RID alphanumeric code

The 128A format (interleaved 2 of 5) is used for the barcode. The barcode symbology is specified in ISO/IEC 15417:2007, so it is easily readable by all different types of pharmacist's scanners. The barcode-format should always be 100% respected. In other words, it may never be scaled (printed or on a screen). RID alphanumeric code is also always shown below the barcode.



An example:

6.5.2. Name of the prescribed item

On further specific details of the types of products below, please consult the KMEHR documentation which is also in the package on the Recip-e homepage. High-level we can distinguish 3 types of products that can be on a prescription:

- Brand name product (e.g. Dafalgan, Paracetamol EG)

- o KMEHR-field <medicinalproduct> is used on the prescription

```
<medicinalproduct>
  <intendedcd S="CD-DRUG-CNK" SV="LOCALDB">1482223</intendedcd>
  <intendedname>Dafalgan Codeine 500 mg - 30 mg filmomh. tabl. 30</intendedname>
</medicinalproduct>
```

- Substance prescription (also known as 'VOS-/DCI-prescription - e.g. 'paracetamol' or 'influenzavaccin')

- o KMEHR-field <substanceproduct> is used on the prescription

```
<substanceproduct>
  <intendedcd SV="LOCALDB" S="CD-VMPGROUP">0024745</intendedcd>
  <intendedname>paracetamol 1 g bruistablet (or.)</intendedname>
</substanceproduct>
```

- Magistral preparations (3 subdivisions) - *In case of a magistral preparation, please insert or add the text 'magistrale bereiding (NL)/ préparation magistrale (FR) on the opened prescription*

- o Free text magistral preparation

- KMEHR-field KMEHR-veld <compoundprescription> together with <magistraltext> is used:

```
<compoundprescription>
  <magistraltext L="nl">
    R/ Ranitidine.HCL 1.675g
    Mononatriumfosfaat dihydraat 0.3g
    Dinatriumfosfaat dihydraat 1.3g
    Water 30g
    Sterke oranjeschiltinctuur qs
    Geconserveerde enkelvoudige siroop ad 100ml

    dt 300 ml
  </magistraltext>
```

- o Magistral preparation with pre-structured total formula, selected from the SAM database

- Each formula has a CNK-code and product ID
 - KMEHR-field <compoundprescription> together with <formularyreference> is used:

```
<compoundprescription>
  <formularyreference>
    <cd S="CD-FORMULARYREFERENCE" SV="1.0" L="fr" DN="ERYTHROMYCINE SOL. HYDRO-ALC. 4% FTM2">0589028</cd>
  </formularyreference>
```


- Magistral preparation with pre-structured compounds, each compound individually is selected from the SAM-database. All individual compounds together make 1 total formula for a magistral preparation.
 - Each component has a CNK-code and product ID
 - KMEHR-field <compoundprescription> is used, together with <compounds> for each compound

```

<compoundprescription>
  <compound>
    <id SV="1.0" S="ID-KMEHR">1</id>
    <substance>
      <cd S="CD-SUBSTANCE-CNK" SV="1.0" L="n1"
        DN="RANITIDINEHYDROCHLORIDE">0586982</cd>
    </substance>
    <quantity>
      <decimal>1.675</decimal>
      <unit>
        <cd S="CD-UNIT" SV="1.7">gm</cd>
      </unit>
    </quantity>
  </compound>
  <compound>
    <id SV="1.0" S="ID-KMEHR">2</id>
    <substance>
      <cd S="CD-SUBSTANCE-CNK" SV="1.0" L="n1"
        DN="SODIUM (MONO) PHOSPHATE DIHYDRATE">0535559</cd>
    </substance>
  </compound>

```

6.5.3. Posology / Regimen

The KMEHR fields 'posology' and 'regimen' both indicate an instruction on intake frequency. While KMEHR Posology is the free text variant entered by the prescriber, KMEHR Regimen allows a doctor to enter the intake frequency in a structured way (preferred for the medication scheme).

When Regimen is used, the prescriber software will automatically copy this KMEHR Regimen in to a KMEHR posology too. For now, this is a fallback for patient-/executor software that is not yet able to interpret and display a Regimen to their users.

For now, a posology will thus always be present in the KMEHR of a prescription, a regimen is optional. This implies that if only posology is present in the KMEHR --> show posology to the patient. If both posology & regimen are present in the KMEHR, this means that the prescriber explicitly entered a regimen --> show regimen to the patient.

More info on KMEHR posology & Regimen can be found in the KMEHR documentation which is also in the downloadable package on the Recip-e homepage.

6.5.4. instructionForPatient

This field can be used by the prescriber software to give detailed patient instructions regarding correct usage of the prescribed product. If present in the KMEHR, it must appear with the item on the prescription.

```

      <cd SV="2.0" S="CD-DRUG-ROUTE">00060</cd>
    </route>
    <instructionforpatient L="n1">Inslikken en doorspoelen met een glas water</instructionforpatient>
  </item>

```

6.5.5. instructionForReimbursement

The instruction is used for every product that necessitates a prescriber's annotation in order to be reimbursed. Possible elements can be found in the KMEHR documentation. If present in the KMEHR, it must appear with the item on the prescription.

```
<unit>
  <cd S="CD-ADMINISTRATIONUNIT" SV="1.3">00005</cd>
</unit>
</quantity>
</regimen>
<instructionforreimbursement L="fr">Trajet de soins insuffisance rénale chronique</instructionforreimbursement>
</item>
```

6.5.6. Creation date (at the bottom)

The creation date that is displayed to the user when opening the prescription should always be the one in the KMEHR of the prescription (only the content of the electronic prescription in the KMEHR is legally valid).

- KMEHR: <date>yyyy-mm-dd</date>

6.5.7. Expiration date (at the bottom)

The expiration date that is displayed to the user when opening the prescription should always be the one in the KMEHR of the prescription (only the content of the electronic prescription in the KMEHR is legally valid).

- KMEHR: <expirationdate> yyyy-mm-dd </expirationdate>

The expiration date can be minimally the same day as the creation date (1-day validity) and maximum creation date + 1 year – 1 day. Any value in between is possible (e.g. validity of 5 months is perfectly possible). By default, prescriber software sets the expiration date to creation date + 3 months – 1 day.

6.5.8. Startdatum van de behandeling/Date de début de traitement – therapeutic instruction (if present)

A startdatum van de behandeling(NL)/date de début de traitement(FR) is a therapeutic instruction indication, more specifically the instructed moment when the patient should start taking the medication (different from the creation date of the prescription). This date is entered by the prescriber software in the KMEHR-field 'beginmoment'. This means that when the KMEHR beginmoment lies after the creation date (and only then), that the «beginmoment» date is then shown on the prescription with the text "Startdatum van de behandeling"/"Date de début de traitement:". Important note: this date is placed at the level of the item (product) on the prescription, NOT on the bottom of the prescription.

An example of a prescription with a Startdatum van de behandeling/Date de début de traitement can be found in the prescriber specifications.

Logically, if beginmoment date equals creation date (this is the default by prescriber software), then 'startdatum van de behandeling' / 'date de début de traitement' should NOT be shown on the prescription.

6.5.9. Prescriber identification

The Recip-e KMEHR contains the prescriber first- and last name & NIHI. When opening the prescription, both can be shown.

6.5.10. Patient identification

The patient identification can be displayed on the opened prescription; the KMEHR contains both SSIN and first- and last name of the patient. This can serve as an extra verification for the pharmacist who scans the patient's smartphone screen/self-printed prescription.

6.6. Caching open prescriptions

The patient platform is allowed (with patient's consent in the platform) to cache patients open prescriptions for a maximum of 3 days. Being able to access the prescriptions offline is not only user friendly for the patient, but also beneficial for the BCP. While caching is allowed, it is important that prescriptions no longer having the status <not delivered> do not appear as so in the list of cached prescriptions.

2 possible options to check if a cached prescription is still <not delivered> when the patient uses the patient platform and is online:

- For the cached open prescriptions, call [getPrescriptionStatus] upon logging in
 - o Please DO NOT call [getPrescription] for retrieving the status of cached prescriptions
 - o Please DO NOT continue calling [getPrescriptionStatus] once a RID has reached the status <delivered>, <archived>, <revoked>, <expired>
- Compare the list of open prescriptions [listOpenRids] with the list of cached prescriptions; if a cached prescription does not longer appear in the response of [listOpenRids], this indicates that the cached prescription is no longer <not delivered>

6.7. getPrescriptionStatus

This function retrieves the status of a prescription and must be used to check the status instead of the getPrescription that will return the status in the errorcode in case the status is different than <not delivered>.

6.8. Revoking a prescription [revokePrescription]

[revokePrescription] can be used by the patient platform to revoke prescriptions. It is advised to display a warning-message to the patient first, so unintentional revokes have no chance of occurring. Once a prescription reaches the status 'revoked', it cannot be reversed.

Important note: when the prescription that was revoked was also cached within the patient platform, the cached prescriptions must also immediately disappear. In any case, it is strictly forbidden to still show content of revoked prescriptions (by the patient, by the pharmacist or by the doctor) to the patient.

6.9. Allowing the patient to print a prescription

When the software allows a patient to (re)print a prescription, it is important that the printed barcode is conform the specs 128A (interleaved 2 of 5) - symbology ISO/IEC 15417:2007. This way, there will be no difficulties for any type of pharmacist's scanners when scanning the prescription. In addition, enabling the patient to print from the patient platform allows him/her to always have a backup (see introduction of patient specs).

Information that can be useful for the patient when printing the prescription:

- 1) RID (barcode + alphanumeric code)
- 2) Name of the prescribed item
- 3) Creation date (at the bottom)
- 4) Expiration date (at the bottom)
- 5) Posology or regimen (whichever of the two elements is present in the KMEHR) next to the item
- 6) InstructionForPatient (if filled in by the prescriber, with the item)
- 7) InstructionForReimbursement (if filled in by the prescriber, with the item)

6.10. History of prescriptions [listRidsHistory]

By consulting the history of prescriptions, the patient can see an overview of all prescriptions that are no longer classified as 'open'. Of each prescription, only the RID and its status will be shown. It is not possible to 'open' history prescriptions and to show the content.

When calling the [listRidsHistory] function, the patient platform can specify a partition flag in the request. Depending on the partition that was called, the corresponding prescriptions will be returned:

- Active partition
 - o Calling this partition will return the RID alphanumeric code + status of the not delivered, in process and delivered prescriptions.
- History partition
 - o Calling this partition will return the RID alphanumeric code + status of the archived, revoked and expired prescriptions

When no partition was indicated in the [listRidsHistory] request: the patient software receives contents of the active partition for that patient.

The patient platform must enable the patient to switch between both partitions. By default, the active partition must be shown to the patient when he/she clicks on the history of prescriptions-section in the patient platform (which also the default when calling the function). It must be clear that the patient now sees the prescriptions (RID alphanumeric + status) of the prescriptions that are still being processed by the pharmacist (in process/delivered but not yet archived) and even of the open prescriptions

Switching can then be done by clicking 'show extensive history of prescriptions', which will show the RID alphanumeric + status of the prescriptions that are archived, expired and revoked.

The function also has a pagination parameter, as described in the annex of this document.

6.11. VISI flag [putVisionForPatient]

Using the VISI-flag on a prescription, a patient can control whether or not a prescription is shown to all/none/1 specific executor(s) the list of open prescriptions for that patient is consulted (through the therapeutic relation).

Setting a Visi-flag to LOCKED or NIHII specific does not require already having a TR with that executor.

6.11.1. Management of prescriptions through patient channels/ other:

The patients are able to control the VISI-flag in two ways:

1. requesting **the prescriber** to “LOCK” the VISI-flag at the moment the prescription is made or asking to change it after the creation when the patient changes his mind or did not mention this upfront.
2. via the **patient portal webservice functions** (eg, currently offered by “mijngezondheid”/ “masanté”) any time they want to, the patients can “LOCK”, “OPEN” or set to a specific “PHARMACY” the VISI flags of any of their prescriptions that have the status “not delivered”. Other patient platforms (Apps) should also deliver this “privacy” function.

The patient portal(s) should enable the patient to set/unset (LOCKED/ NIHII) or to un-set (“OPEN”) the VISI-flags of each of their prescriptions that have the status “not delivered” on the Recip-e server via the [PUTVISIONFORPATIENT] web-service call. The buttons/toggles for managing the VISI-flag per prescriptions are visible in the overview of open prescriptions [listOpenRids].

The possible values for the VISI flag are:

- null: open, visible for all pharmacies
- LOCKED: invisible for all pharmacies
- PHARMACY NIHII: Only visible for specific pharmacy
 - Value with structure: Id-Quality. Type: visibility for the given prescription:
 - Id: NIHII value of the executor
 - Quality: value is PHARMACY
 - For example: 62599147-PHARMACY. NIHII

Also: when visi flag is altered when a reservation [createReservation] has been made earlier (or the other way around), the annexed decision tree (Visi flag and Reservation as annexed) should be respected on whether or not this action is allowed.

Amongst other info, the VISI-flag value is returned in the response of [listOpenRids]. Additionally, [getVision] returns the status of the Visi-flag, associated with a specific Recip-e prescription. See previous function for possible return values.

Setting the VISI-flag is only allowed for prescriptions which are NotDelivered.

6.11.2. Go to the pharmacist without paper/ digital prescription

The visi flag's status is executed when a patient goes to the pharmacist without a paper or digital prescription that can be scanned. The patient shows his/ her e-ID card or NISS number so that the pharmacist can look up the patient's prescriptions and deliver dematerialized. Only prescriptions where the status of the VISI-flag allows that pharmacist to view the prescriptions will be returned.

By default the VISI flag will be "OPEN" at the creation of a prescription. All pharmacies can deliver the prescription dematerialized in this case.

The VISI-flag in the status "LOCKED" enables the patient to hide a specific prescription from all pharmacists, who query the Recip-e database to obtain the prescriptions that are linked to his/ her identity through dematerialized delivery and in status "not delivered" with the status "LOCKED".

6.11.3. Go to the pharmacist with paper/ digital prescription

In this case, the **Visi flag is overruled in all its statuses**, and the pharmacist can consult and deliver the medication. Indeed, this prescription is a mandate to open the content. We fall back on the current situation.

6.12. Reservation at a specific pharmacy [createReservation]

6.12.1. Reservation at NIHII

From the overview list of open prescriptions [listOpenRids] or [listOpenPrescriptions], a patient must be able click buttons/toggles next to the prescription to reserve the respective prescription at a specific pharmacy. Clicking on a 'make reservation'-button reveals a dropdown menu of possible pharmacies to make reservations at (e.g. patient can filter on name/postal code)

Technically, the patient platform will set the parameter *reservedAtNihii* to a specific pharmacy NIHII (front end this can be displayed as name + address of the pharmacy using COBRHA) by using [createReservation]. At the pharmacy, the RID-alphanumeric code (and encrypted KMEHR) of that prescription will then be returned through the executor [listReservations]-call (no Therapeutic Relation with the patient necessary).

Also: when a patient tries to make a reservation [createReservation] when the VISI-flag has been set earlier [putVisionForPatient] (or the other way around), the annexed decision tree (Visi flag and Reservation – annexed) should be respected on whether or not this action is allowed.

A patient is always allowed to cancel/update the reservation by overwriting the prior reservation: to unreserve the prescription, the overwrite with "null"-value, to update, overwrite with new "NIHII" value must be used.

Reservation of prescription is only allowed for prescriptions which are NotDelivered

The possible values for the reservation *reservedAtNihii* are:

- null -> not reserved at a pharmacy
- PHARMACY NIHII -> reserved at a specific pharmacy

[listOpenRids] and [listOpenPrescriptions] return, for each reserved prescription, the NIHII of the executor a prescription is reserved at.

6.12.2. Contact details

The patient can fill in **contact details** to each reservation (*emailAddress* and/or *telephoneNumber*) so the pharmacist can use these to inform the patient on the reservation status. The 2 extra parameters can be added to the [createReservation]-call. In case the patient entered 2 contact details, he/she can also indicate which one is preferred to be used by the pharmacist (3rd parameter - *contactPreference*). Contact details are entered by the patient for each prescription/reservation. Contact details which were earlier entered (for a prior reservation) can still be modified/supplemented/deleted afterwards. For a modification/supplement, overwrite the existing contact details with the updated/additional ones, for deleting contact details, overwrite with 'null'-value.

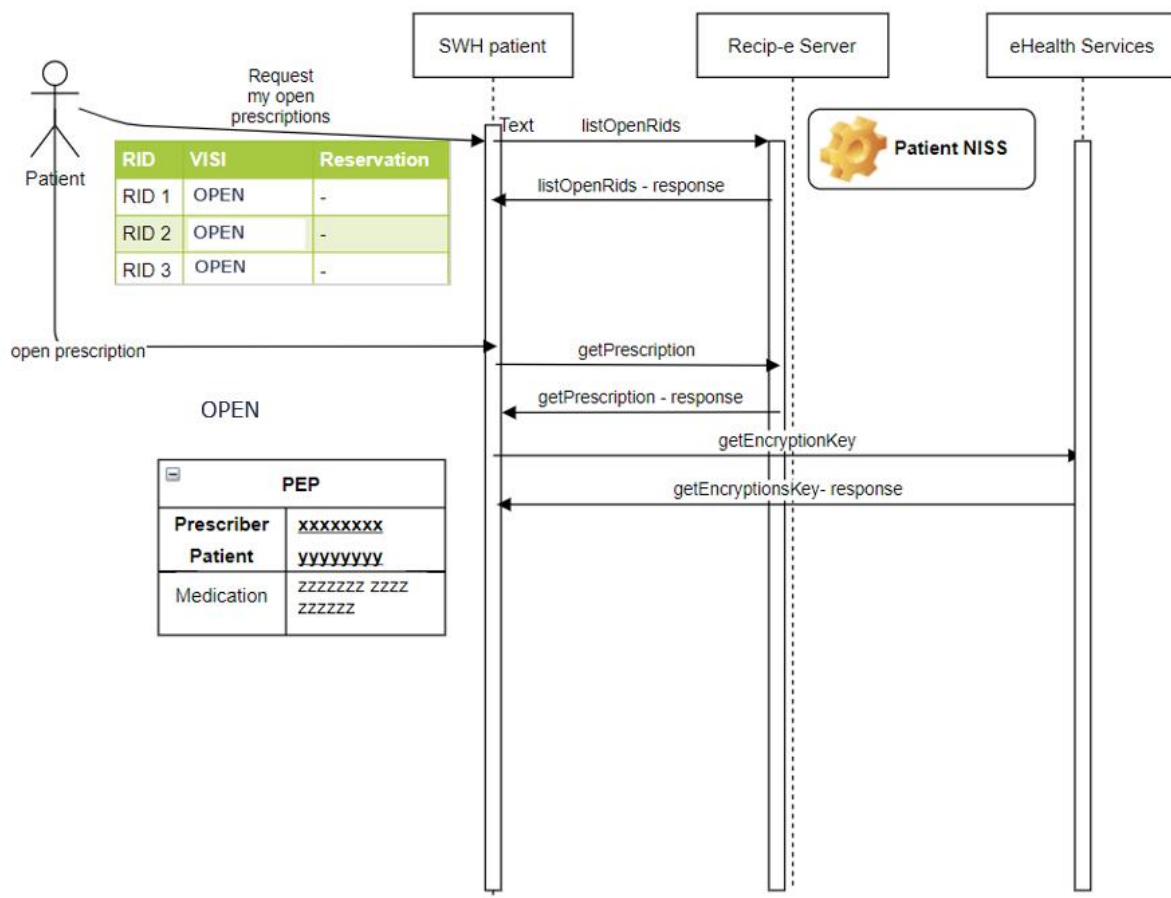
For allowing user convenience, the earlier entered contact details of reservations can always be shown:

- ➔ [listOpenRids/listOpenPrescriptions] returns the information about the reservation for each reserved prescription

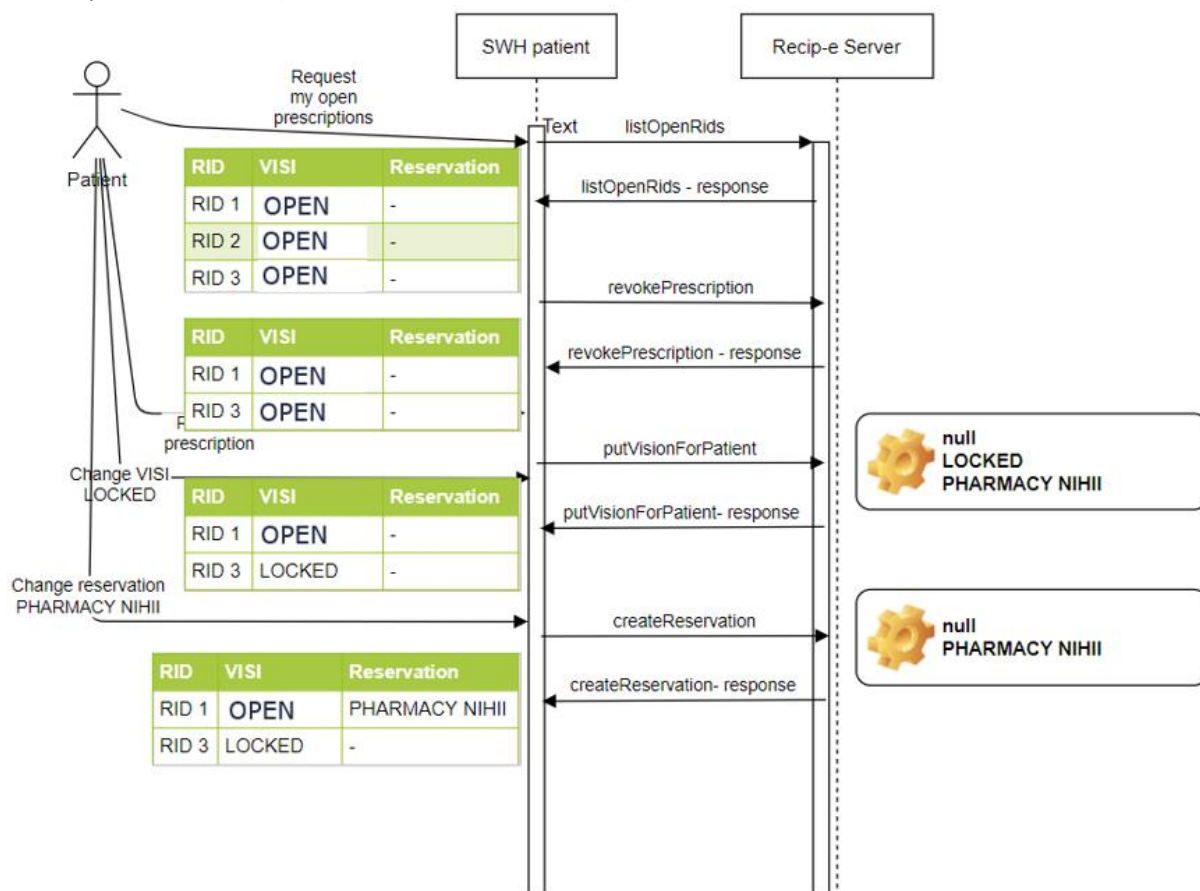
Note that no validation of the e-mailaddress or telephonenumber is done by Recip-e. The patient software is responsible to check if the patient entered valid contact details.

6.13. Different flows for patient platforms

6.13.1. Patient retrieves his prescriptions and detail



Prescription functions (revoke, VISI and Reservation)



6.14. Other references

Technical details of the different functions can be found in files:

- Patient_Documentation_eHealth_API.docx
- Patient_Documentation_Server_API.docx_
- PatientServices-v4.wsdl
- PatientServices-v4.xsd

In the Recip-e_tech_docs_API en tech specs zip from the documentation package

7. Annex

7.1. : Decision tree on privacy and reservation flag

A vision has the following allowed values: null/nihii/locked.

- **null** is meant to be “open” for the patient, so there is no privacy on the prescription.
- **Locked** means there is full privacy of the prescription (locked) and the patient decides which pharmacist will deliver his products.
- **Nihii** the prescription is only visible for the pharmacist with the given nihii (1 pharmacy).

A reservation has the following allowed values: null/nihii

- **null** is meant that the patient did not do a reservation.
- **Nihii** means that the patient has chosen 1 pharmacy to have his products reserved.

The combination of both values (visi and reservation) results in the following 2 matrices:

The suggested error/warning messages can also be displayed to the patient

| If the VISION is set first. | Reservation | Result |
|-----------------------------|-------------|---|
| NULL | NULL | Allowed |
| NULL | NIHII | Allowed |
| NIHII | NULL | Allowed |
| NIHII1 | NIHII1 | Allowed |
| NIHII1 | NIHII2 | ERROR: ERR100051; “The prescription was set earlier to ‘only visible for one pharmacy’. Afterwards making a reservation afterwards at another pharmacy is not possible. You can first make the prescription 'visible for all pharmacies' again, or only make it visible for the pharmacy where you want to make the reservation" |
| Locked | NULL | Allowed |
| Locked | NIHII | Allowed but message needed to patient to inform him: “Please note that the prescription was previously made invisible to all pharmacies. If you proceed with the reservation, the reservation pharmacy will see your prescription” |

•

| If the RESERVATION is set first. | Vision | Result |
|----------------------------------|--------|--|
| NULL | NULL | Allowed |
| NIHII | NULL | Allowed |
| NULL | NIHII | Allowed |
| NIHII1 | NIHII1 | Allowed |
| NIHII2 | NIHII1 | ERROR: ERR100052; "The prescription is already reserved at a pharmacy. Afterwards, it is not possible to make a prescription only visible for another pharmacy than the pharmacy the prescription was reserved at. You can cancel the reservation first and then adjust the visibility of the prescription" |
| NULL | Locked | Allowed |
| NIHII1 | Locked | Allowed but message needed to patient to inform him: "This prescription is already reserved at a pharmacy, if you make the prescription invisible to all pharmacies but leave the reservation, that reservation pharmacy will still see your prescription" |

Remark: A reservation can only be made or altered for reservations which are NotDelivered.

7.2. : Rules for SSIN BIS number

The following controls must be implemented.

- Month validation
Month digits allowed: 1 - 12 (SSIN number) and 21 - 32 (BIS number) and 41 - 52 (BIS number)
- Day validation
Day digits allowed: 1 – 31. (SSIN and BIS number)
- In case the day digits are "00" then the month digits should also be "00"
- Checksum validation; modulo 97

More info can be found in following documentation – please make sure to implement the last valid version

<https://www.ksz-bcss.fgov.be/nl/diensten-en-support/diensten/rijksregisterksz-registers>
<https://www.ksz-bcss.fgov.be/fr/services-et-support/services/registre-national-registres-bcss>

7.3. : List functions paging and active partition

Paging

The new list functions have paging implemented when requesting data from the Recip-e services to split the data transferred from server to client.

Those requests contains a pagination parameter, which indicates the result of which page to return. Recip-e is sending results per group of 50 prescriptions. When the pagination parameter in the request is “page 0” then the 50 first results are sent in the response; when “page 1” is indicated then 51 -100 results are returned, and so on.

The response contains a boolean indicating whether there are additional results or not.

It’s not allowed to run automatically over all the pages as this will increase the load unnecessarily on the server for no reason. Function is designed to be initiated manually.

Paging is 0 based

(active) partition

In some functions a flag allows to specify where to search for the rids: active partition or history partition.

The search for rids history in active partition is faster since it contains only “not delivered” and “in process” prescriptions . The active partition flag must be set by default to true, when the end-user wants to search for older prescriptions then the flag must be unselected.

7.4. Caching of the therapeutical relation

To avoid the need of the Break the Glass procedure as much as possible, a caching of the therapeutical relation has been put in place at eHealth.

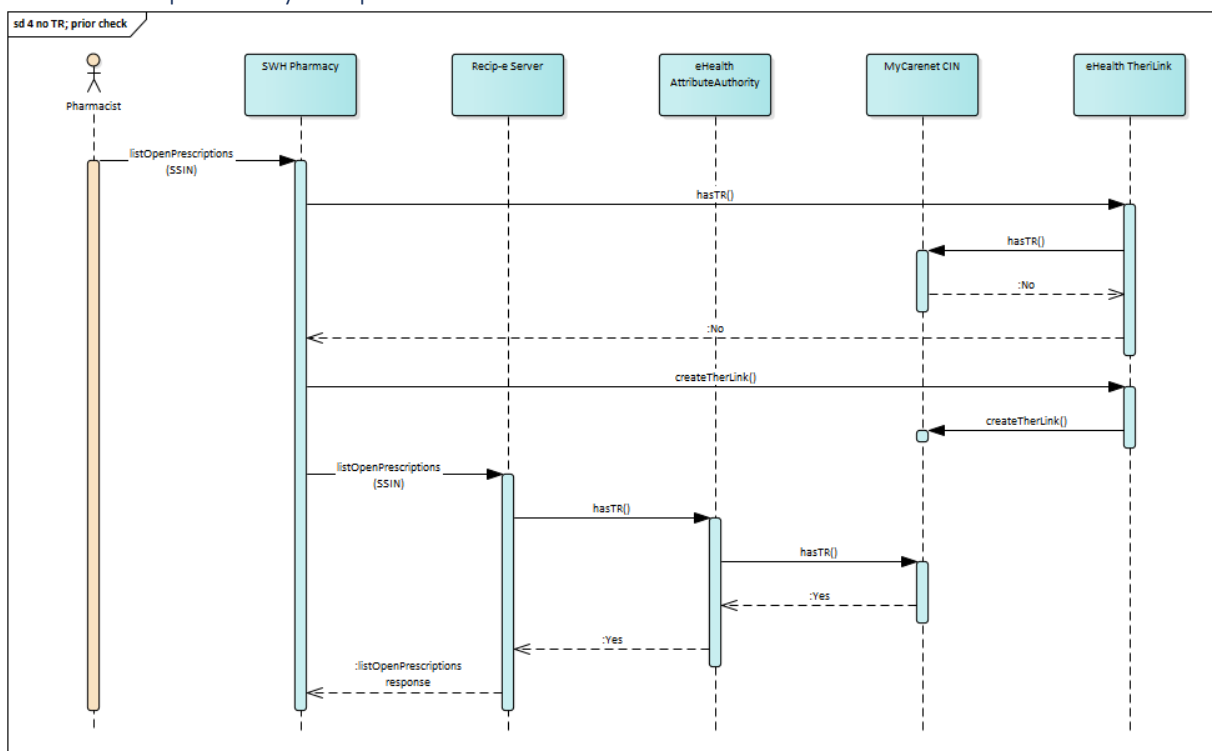
This means that if MyCarenet (NIC in the diagram) is not able to respond due to a technical error, eHealth will respond anyway. Important about this is that the operation “hasTR” makes use of the caching of the therapeutical relations and “getTR” does not. This means that the use of the operation “getTR” should be avoided. Otherwise, the pharmacist will use the Break the Glass procedure when it is not necessary. **Avoiding the use of “getTR” (and using “hasTR” instead) is the responsibility of the software houses.**

Below is explained why.

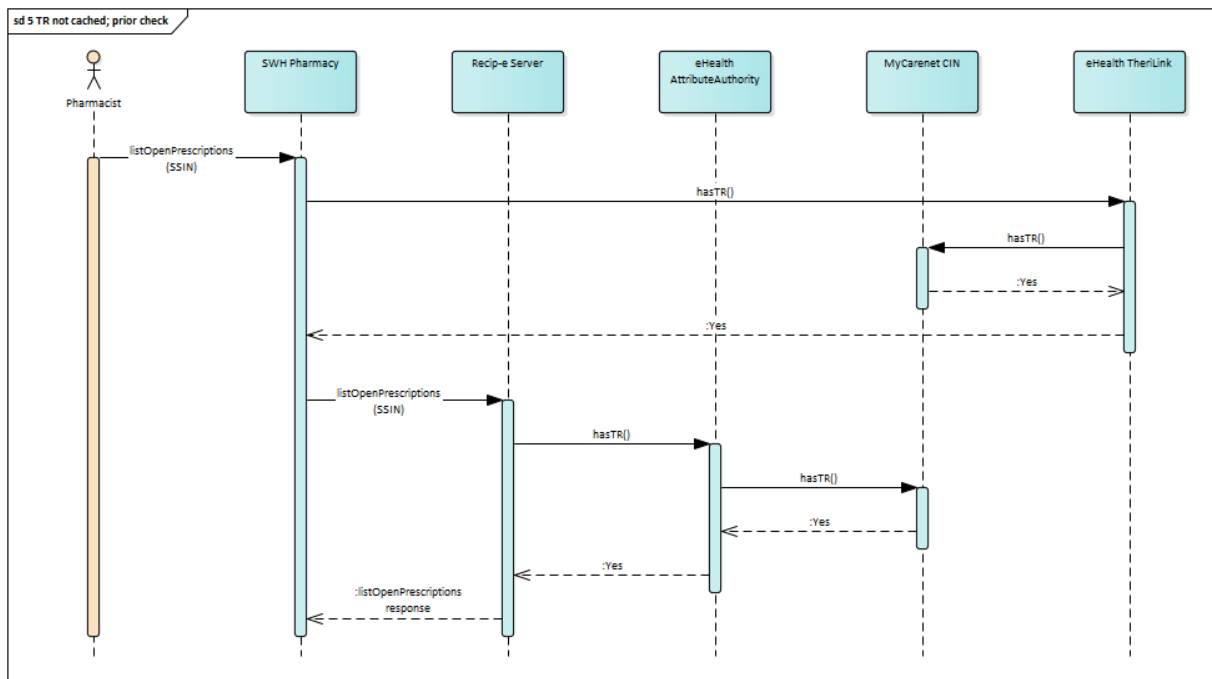
There are three possibilities when retrieving the list of open prescriptions (or the list of relations or the list of rids history):

- There is **no TR** between pharmacy and patient
- There is a **TR** between pharmacy and patient, but it is **not cached** yet

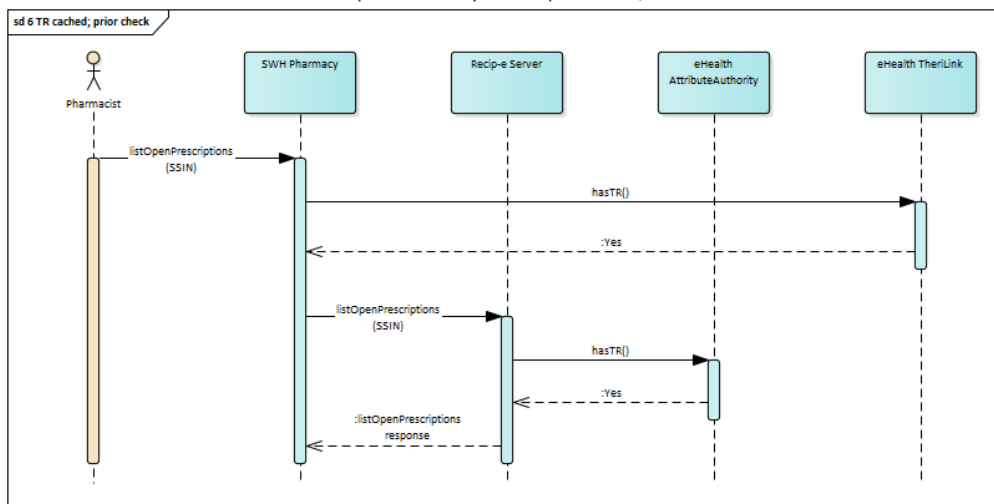
7.4.1. There is a TR between pharmacy and patient and it is **cached**



7.4.2. TR between pharmacy and patient, but not cached at eHealth (yet)



7.4.3. TR between pharmacy and patient, cached at eHealth

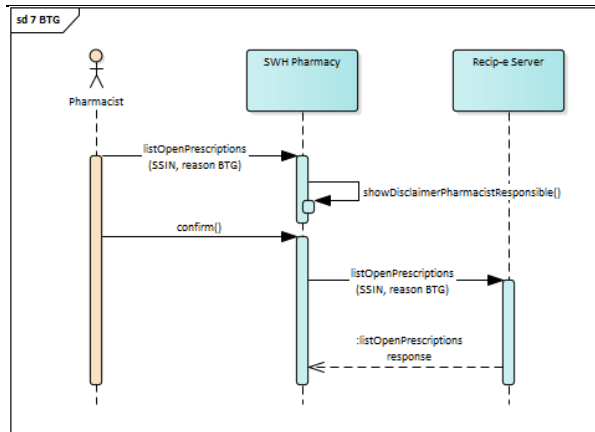


7.4.4. Need for the Break the Glass procedure

The need for the Break the Glass procedure is possible in **two situations**, given that eHealth services are reachable:

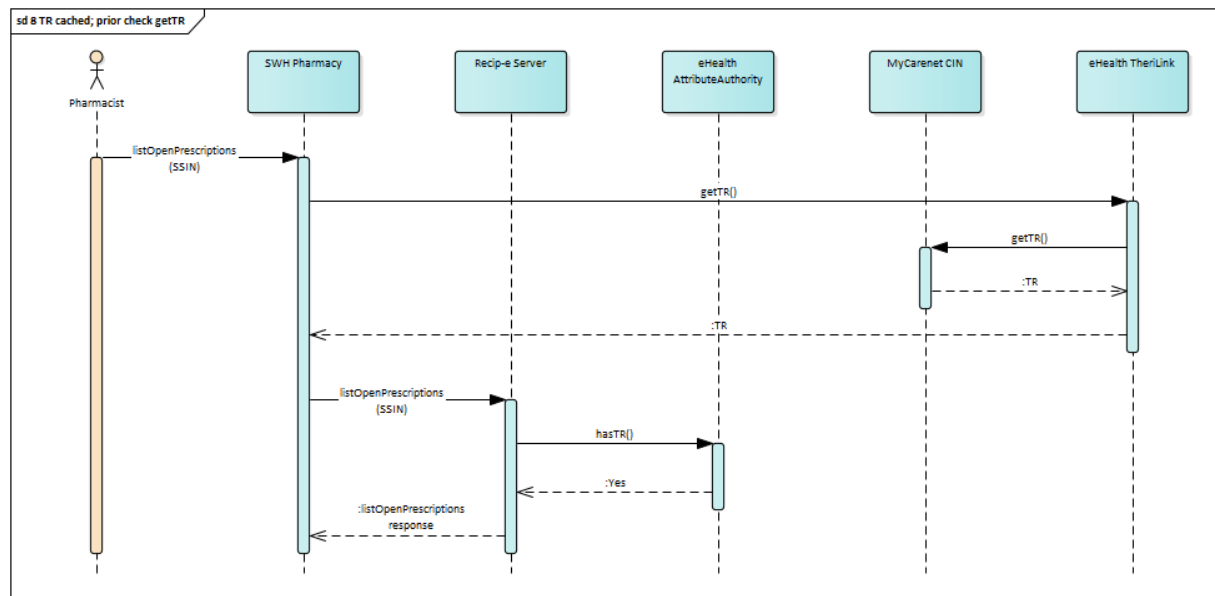
- There is **no TR** yet, hence it should be created, but **creation fails** due to some technical error
- The TR is **not cached** yet, but **MyCarenet CIN cannot be reached** to check the existence of the TR

The Break the Glass flow is depicted below:



7.4.5. TherLink.getTR() to be avoided

If the getTR-operation is used to do the prior TR check to retrieve list of open prescriptions, a call to MyCaretet CIN will be done anyway, even if the therapeutic relation is already cached at eHealth.



Conclusion: if the getTR-operation is used to do the prior TR check to retrieve the list of open prescriptions, the pharmacist might use the Break the Glass procedure if MyCaretet CIN is not reachable, which can be avoided if the hasTR-operation is used to do the prior TR check.

Notes about synchronisation of the cached Therapeutic relations:

- Initial load (foreseen mid-February)
- Updates of TRs and New TRs: once a day
- Revokes and expirations of TRs: twice a day

Other side note: exclusions are stored at eHealth, not in the same DB of therapeutic relations at MyCaretet CIN.

| | | | | | |
|-----------|------------|--|--------|--|--|
| V20220421 | 21/04/2022 | Section 5.1 (Delivery scenario in the pharmacy) → added point 5 about retrieval of prescription in delivered state | Walter | | |
|-----------|------------|--|--------|--|--|

| | | | | | |
|-----------|------------|---|--------|--|--|
| | | Section 6.12.2 (Reservation Contact details) → added section about responsibility of patient software to validate the input | | | |
| V20220511 | 11/05/2022 | GetAndMarkAsDelivered can now be called for a set of prescriptions (section 5.5) | Walter | | |