

VIDIS - Medication folder view WebApp

Versions

Author	Version	Date	Comment
INAMI – Frédéric D’Hondt	0.1	12/09/2018	draft
INAMI	1.0	24/09/2018	reviewed
INAMI – Yoeriska Antonissen	1.1	28/09/2018	Final version
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INAMI – Jeroen De Wilde	2.2	15/8/2019	Final version for publication after input SMALS/APB

INAMI – Jeroen De Wilde	2.3	20/8/2019	Final version after input Etienne Maeriën
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Abbreviations

Abbreviation	Description
DPP-GFD	Dossier Pharmaceutique Partagé/ Gedeeld Farmaceutisch Dossier
MFV	Medication folder View
PHV	Personal Health Viewer
UC	Use Case
VIDIS	Virtual Integrated Drug Information System

1 Introduction

1.1 Context

The main goal of the VIDIS project is to allow all the actors involved in the medicinal treatment of the patient to access and manage a common set of information in order to ensure healthcare continuity, regardless of the environment (ambulatory, hospital or residential care) and especially in case of changes like for example a change in attending physician, hospitalization, ... The patient is seen as one of the main actors in his/her medicinal treatment.

In the VIDIS project approach, a phasing has been defined to concretize the VIDIS vision step by step. The first phase aims to define the (future) starting point for the processes regarding medicines according to this vision : the medication folder view.

In order to enhance the quality of the data exchange in the context of the continuity of health, the government(s) continuously ask the healthcare software providers to integrate data exchange systems to allow their customers (a.k.a. healthcare professionals) to share the relevant health data about the patient. The healthcare software providers are regularly put under pressure in order to implement and continuously improve their functionalities using that kind of systems, but the necessary developments often require investments that are difficult to support given the velocity of the changes.

In order to facilitate and minimize the cost of the implementation of a medication folder view by each healthcare software provider, the federal government wants to provide for a stand-alone and free of charge web application that presents the response from a series of existing web services in a frame and that can be directly consulted and integrated in an existing (and 'valid') healthcare software using a frontend-switch mechanism including relevant context-values (user, patient, language, ...). In this way, future extensions of the medication folder web application according to the planning of the VIDIS project, will be automatically reflected in the medication folder frame without requiring a new release of the healthcare software.

Next to above approach, also a detailed “do it yourself guide” will be written for healthcare software providers (or other partners) who want to build in the VIDIS-functionalities as described in this document, directly in their proprietary software.

This document describes all phase 1 specifications for the medication folder view web application. It also specifies which of these specifications will be implemented in which release version of the web application. A minimum of four release versions are foreseen for phase 1 (see chapter 1.4.).

In anticipation of the possibility of prescribing directly from the VIDIS WebApp (foreseen in phase 2), it will be possible to connect directly to the application PARIS (which is useful to prescribers who don't possess their own prescription software).

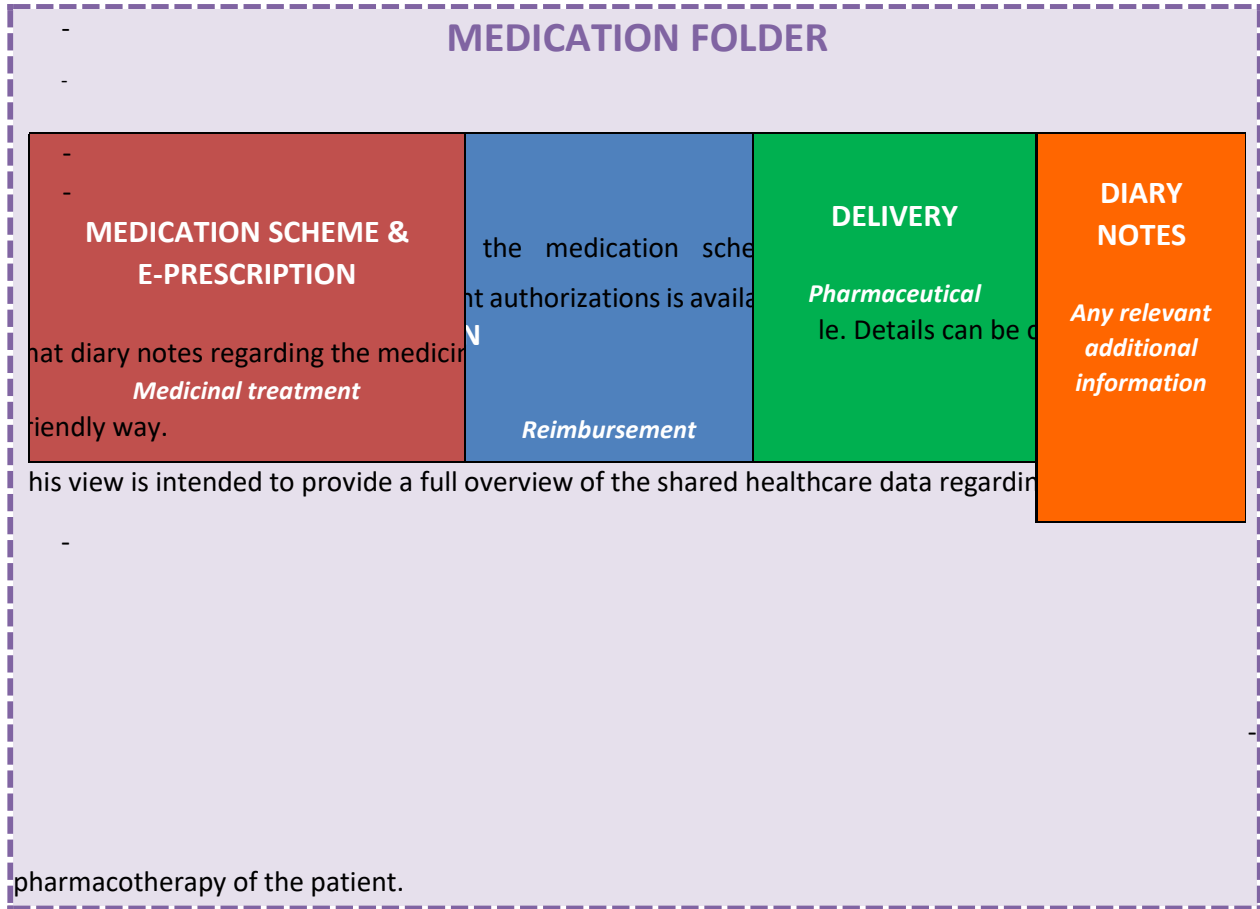
1.2 Definition of the ‘Medication folder’ view

The medication folder is a consolidated **overview** (see representation below) that presents the medication data available in the systems for healthcare data sharing, namely:

- The **medication scheme** (regional vaults) containing the medication lines (*) that represent the current ongoing medicinal treatments of the patient,
- The **electronic medicinal prescriptions** (RECIP-e) related to the current ongoing medicinal treatments of the patient: this implies all valid¹ prescriptions for the current ongoing and ended medicinal treatments,
- The **deliveries** of medicines (DPP-GFD): the list of ALL deliveries for a given patient, both deliveries on prescription, as deliveries of over-the-counter products and other relevant health products
- The “chapter IV” **reimbursement authorizations** (MyCareNet) linked to the current ongoing medicinal treatments of a patient,
- The **diary notes** (regional vaults), with a tag “medication”² and specific to the episode of care of the current ongoing medicinal treatments.

¹ A prescription is “valid” as long as the expiry date has not been expired and as long as it hasn't been delivered by a pharmacist. We use the term “valid” compared to “open” to avoid confusion with the status “open” of the VISI-flag meaning that it is accessible without RID for the pharmacist indicated by the patient.

² It is possible that in the future other tags can be included as well. One could imagine in the future e.g. a tag “medication review” which enables to see the communication between HCW's in the view for the HCW (but made invisible in the patient view)



(*) Note that for what concerns the medication scheme, the link is made with the authentic source SAM v2 in order to identify and present correctly the medication in the medication lines.

Apart from the visualisation function, the web application also foresees some buttons from where the user can link through to other useful functionalities, such as:

- for the prescriber who doesn't have this in his software or does not use a practice software at all: making a prescription (link to PARIS)

The patient will be able to add a VISI flag³ to an electronic prescription or make a reservation at a chosen pharmacy

³ VISI flag is a functionality that is not yet existing but foreseen to be present in PHV by June 2020. With a VISI flag a patient can indicate that he does not want his valid prescriptions to be seen by any pharmacist. Additionally, by identifying a preferred pharmacist, despite the VISI Flag, the preferred pharmacist will be able to see the valid prescriptions. When using the term "VISI Flag" in this document, we refer to both functionalities described in this footnote.

1.3 Phase 1 Scope of the 'Medication folder' view (MFV) web application

The scope for the phase 1 of the medication folder view web application consists of the consolidation⁴ of the **medication scheme** (red part), the **diary notes** (specific to the episode of care of the medicinal treatment – orange part), the **electronic prescriptions**⁵ (red part), as well as the **delivered medicines**⁶ (shared therapeutic file – green part) in one single view. The scope includes also setting a VISI Flag or reservation and adding a link to functionalities external to VIDIS : prescribing (**PARIS**).

Out of scope for phase 1: functionalities of temporarily suspending, renewing, postponing, altering existing medicinal treatments or prescribing new medicinal treatments. This will be foreseen in phase 2 of the VIDIS project.

Likewise out of scope for phase 1: reimbursement authorizations⁶. Access to this additional information through the medication folder view will be foreseen in phase 3 of the VIDIS project, as soon as negotiations are finalised and underlying data sharing systems are more compatible and interoperable.

As far as the web application is concerned, the interoperability of the data that are shared with the (existing) web services, will be guaranteed. The “do-it-yourself guide” will include the obligatory testing of interoperability for allowing data to be shared in an integrated view.

This document focuses on **the totality of the requirements of phase 1**: the development of a stand-alone web application for the medication folder view that presents the responses from the following web services (some of which already exist) in a frame:

- Medication scheme : Vitalink / RSW/ Abrumet (with a link to the SAM v2 database)
- Diary notes (journal) : Vitalink / RSW / Abrumet
- Electronic prescriptions with possibility of setting a VISI flag and making a reservation: Recip-e
- Delivered medicines : DPP-GFD
- PARIS (prescription functionality)

⁴ “Consolidation” is defined as the merging of the data from the different data sources, obtained by means of the existing webservices, in a single view.

⁵ Electronic prescriptions are already accessible to the patient through the PHV. ⁶ Access to the DPP-GFD for the patient is planned for and in negotiation phase.

⁶ Access to the reimbursement authorizations for the patient is not yet planned.

1.4 Release planning for phase 1

A minimum of four release versions are foreseen for phase 1. While only the contents for release 1.0 are confirmed, a tentative release calendar and release details are presented here for the subsequent release versions of VIDIS phase 1 medication folder view web application :

Release version	(tentative) Release date	Release details
VIDIS 1.0	15.12.2019	<ul style="list-style-type: none"> <input type="checkbox"/> Medication scheme with Vitalink <ul style="list-style-type: none"> ○ screen for the patient ○ interoperability tests successfully passed ○ link with SAM v2 <input type="checkbox"/> PARIS link (button “Go to PARIS”) <input type="checkbox"/> Recip-e functionalities of adding a VISI flag to a prescription or making reservation <input type="checkbox"/> Buttons “refresh data”, “change language (NL/FR)”, “log out” <input type="checkbox"/> DPP-GFD
VIDIS 1.1	30.06.2020	<ul style="list-style-type: none"> <input type="checkbox"/> Link with SAM v2 <input type="checkbox"/> Medication scheme with Vitalink <ul style="list-style-type: none"> ○ screen for the prescriber (dentist, midwife, doctor, specialist) ○ screen for the pharmacist ○ screen for the WZC – caretaker ○ screen for the nurse <input type="checkbox"/> Buttons “print PDF”, “switch to another view”, “switch to another role” <input type="checkbox"/> Diary notes with Vitalink
VIDIS 1.2	30.09.2020	<ul style="list-style-type: none"> <input type="checkbox"/> Medication scheme with Vitalink <ul style="list-style-type: none"> ○ other useful screens <input type="checkbox"/> Visualise and open electronic prescriptions
VIDIS 1.3	15.12.2020	<ul style="list-style-type: none"> <input type="checkbox"/> Medication scheme with RSW and Abrumet⁷ <ul style="list-style-type: none"> ○ screen for the patient ○ screen for the prescriber ○ screen for the pharmacist ○ screen for the nurse ○ screen for the WZC – caretaker ○ other useful screens ○ interoperability tests successfully passed

⁷ Access to RSW and Abrumet is under negotiation

		<input type="checkbox"/> Diary notes with RSW and Abrumet <input type="checkbox"/> Access for legal representative/mandated person <input type="checkbox"/> Implementation of language GE
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2 Business requirements

All-in-one standard presentation of the response from the existing web services in a frame:

- a. Current scope: consolidation of medication scheme, diary notes, valid electronic prescriptions, and delivered medicines, in a single view (read only) + functionalities as foreseen in Recip-e such as setting a VISI Flag and reservation + linking to functionalities such as prescribing (via PARIS, only for prescribers).
- b. Allow scope extensions in function of the scope extension and evolutions

The web application should have a high availability.

2.1 Call by a trusted system

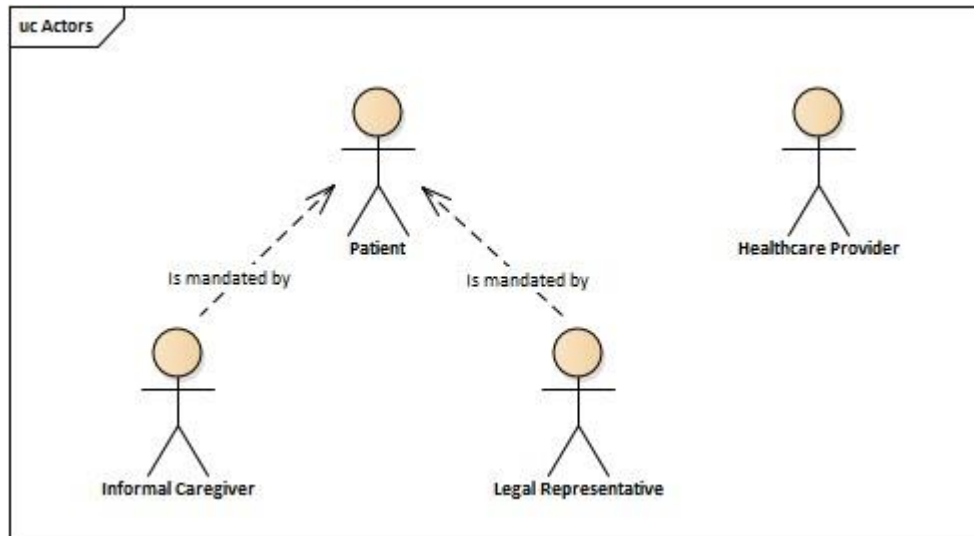
The condition to be allowed to call the VIDIS web app is based on the fact that the calling system can be "trusted". This means that the management of 'trustworthy systems' is necessary by means of a certificate (UAM can be used for this) or another secure mechanism.

In addition, the opening of the VIDIS web app can only take place if the calling system includes an "access token" in the calling url (for example: `https://server/vidis-webapp.aspx?Token=guidvan64characters`).

A calling system may only use such a token if it has been received in advance by calling a web service / Rest-api (made available by the VIDIS web app) with input parameters such as the trusted party identifier; a unique identifier of the patient, user's language indication, user's user id, user's role, etc. The VIDIS web app handles these parameters (check and temporary storage) and may or may not return a token. The calling system is now expected to make the url call with the token included within 1 second (this is exclusive the response from the web services that VIDIS includes). If the waiting time is longer, the VIDIS web app will refuse access. Thanks to the token, the context variables can now be retrieved and with this the VIDIS web app can immediately perform certain things (behind the scenes): language selection of the screens, screen view (based on role), patient - details have already been retrieved, all other web service calls (Metahub, vault data, GFD data) and component calls, ... resulting in the fact that the VIDIS web app screen at once is filled with all relevant data and the correct action buttons

3 Use cases definition

3.1 General view of the actors/users



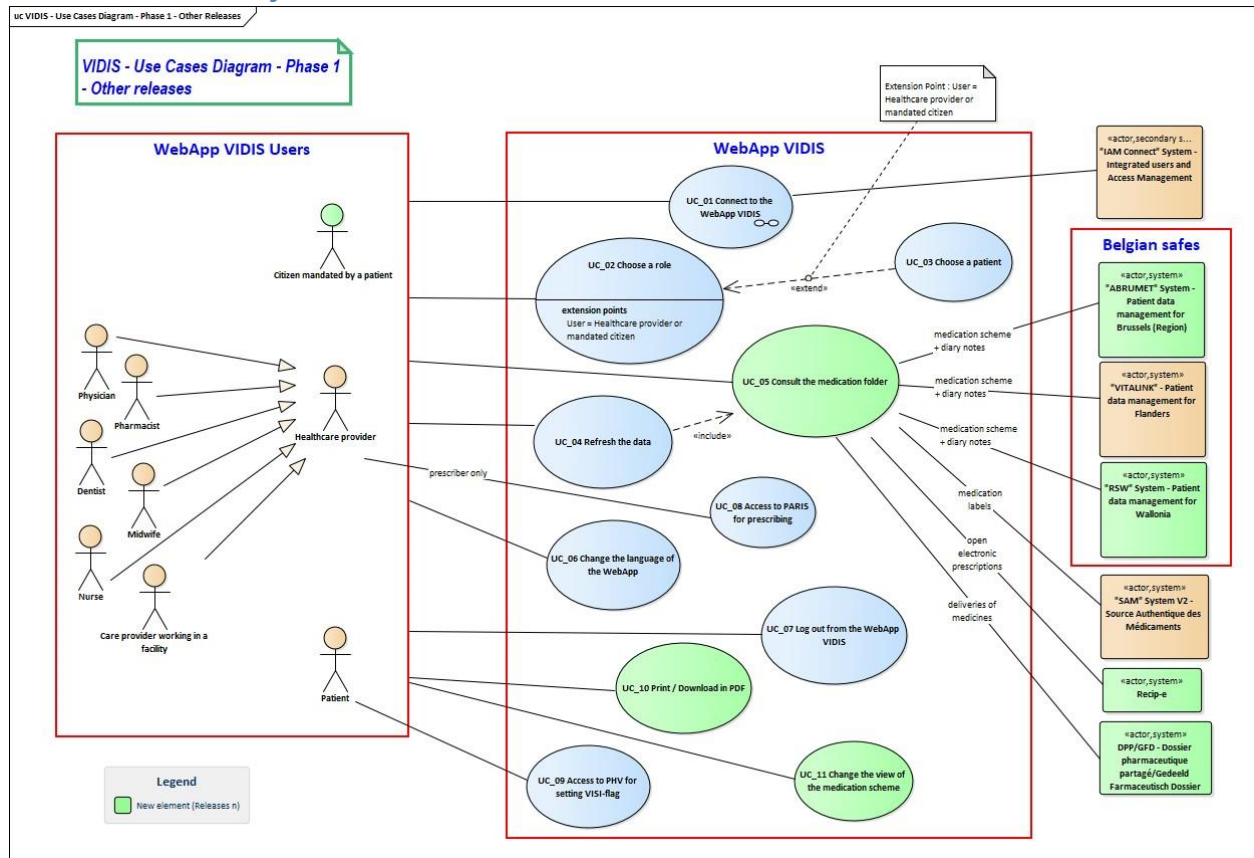
The actors described here below (and in the picture above) are the following:

- A patient registered in the national register (having an identification number for social security) for the consultation of his/her own healthcare data;
- A citizen (having an identification number for social security), mandated as a legal representative or designated as an informal caregiver by a patient, for the consultation of the healthcare data of the patient;
- Any Royal Decree 78 healthcare provider (having a NIHDI identification number and a eHealth certificate and having access to the medication scheme according to the access matrix defined by eHealth) that has a therapeutic relationship with the patient whose medication folder view is consulted, given that the patient has given his/her informed consent: either directly through first opening the screen of the patient and then clicking on the “prescribe medication with PARIS” button or through a front-end switch provided in the software of health care provider.

How these actors should be able to access:

- **Preconditions**
The user is registered in the UAM (User & Access Management) system from the eHealth platform with one of the described roles.
- **Description**
The user authenticates using the standard eHealth interface.
- **Result**
The user accesses the medication folder wireframe.

3.2 Functionality for users: an overview of Use cases



Colour code:

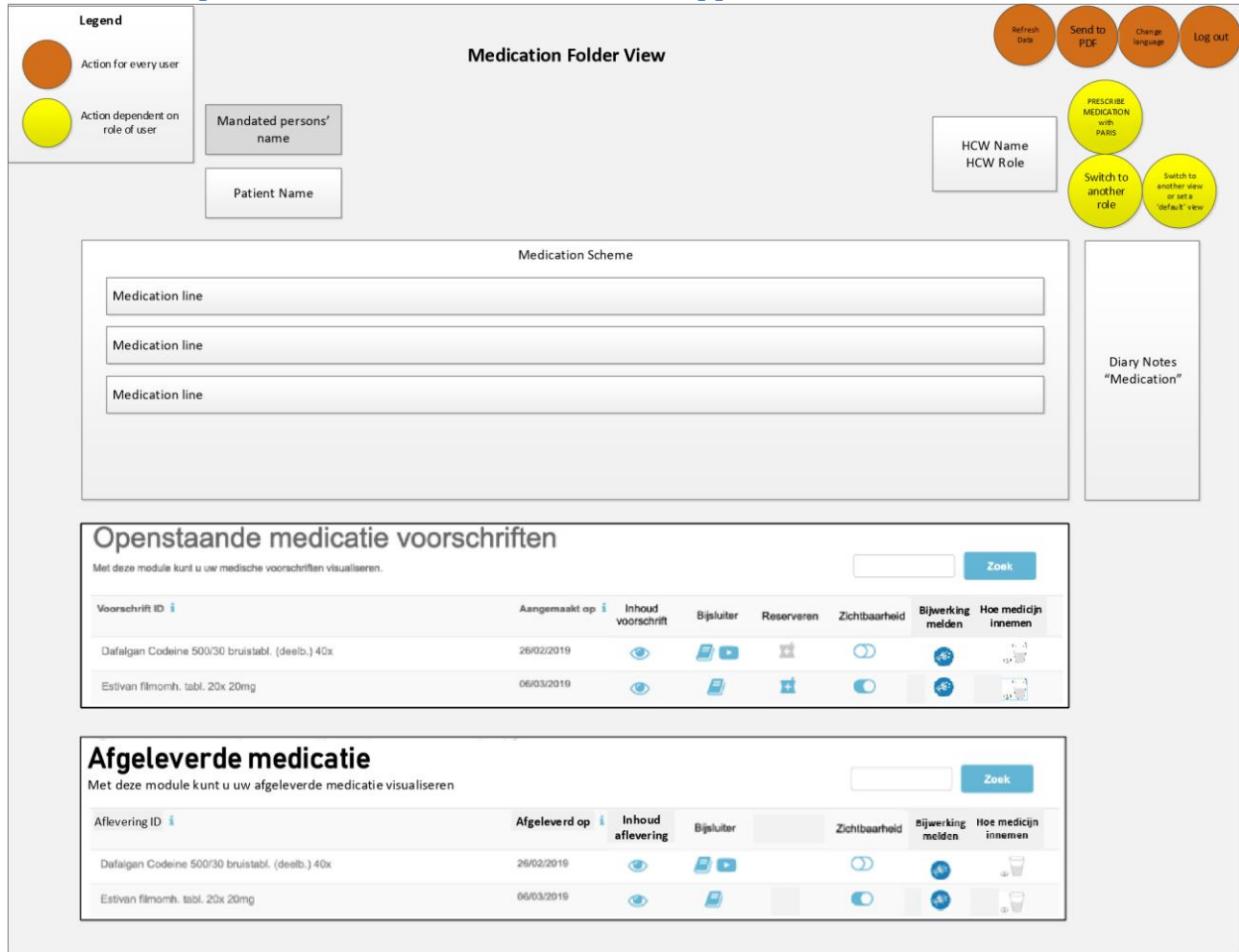
- brown coloured users and boxes and blue coloured use cases (circles) : in release 1
- green coloured users, use cases (circles) and boxes : in subsequent releases

A detailed description of each use case is presented in annex 2.

4 Specification for the MFV web application

4.1 Functional Requirements

4.1.1 Mock-up of the medication folder view web application



Legend

- Orange circle: Action for every user
- Yellow circle: Action dependent on role of user

Medication Folder View

Mandated persons' name

Patient Name

HCW Name
HCW Role

Refresh Data | Send to PDF | Change language | Log out

PRESCRIBE MEDICATION with PARIS

Switch to another role | Switch to another view or set a 'default' view

Medication Scheme

Medication line

Medication line

Medication line

Diary Notes "Medication"

Openstaande medicatie voorschriften

Met deze module kunt u uw medische voorschriften visualiseren.

Voorschrift ID	Aangemaakt op	Inhoud voorschrift	Bijzaker	Reservaren	Zichtbaarheid	Bijwerking melden	Hoe medicijn innemen
Dafalgan Codeïne 500/30 bruistabl. (deelb.) 40x	26/02/2019						
Estivan filmomh. tabl. 20x 20mg	06/03/2019						

Afgeleverde medicatie

Met deze module kunt u uw afgeleverde medicatie visualiseren

Aflevering ID	Afgeleverd op	Inhoud aflevering	Bijzaker	Zichtbaarheid	Bijwerking melden	Hoe medicijn innemen
Dafalgan Codeïne 500/30 bruistabl. (deelb.) 40x	26/02/2019					
Estivan filmomh. tabl. 20x 20mg	06/03/2019					

4.1.2 Specifications:

General

VIDIS (through the ehealth platform) authenticates the user in a role of either (i) a patient, (ii) a mandated person; (iii) or an occasional prescriber (who does not possess a prescription software package).

General functionalities for every user are:

- 1) The user has the ability to log out;
- 2) The user is automatically logged out after time-out is reached;

- 3) The user can switch language: NL-FR-GE
- 4) The user can send the screen presentation of the medication folder view to PDF for purposes of printing, emailing or downloading;
- 5) The user can refresh the data;

Mandated persons' details

- 6) The name of the mandated person is clearly visible;
- 7) The status of the mandate (valid or not) is clearly visible;
- 8) Based on the role of the mandated person, he/she will be shown immediately the "patient view"⁸;
- 9) The user can add a VISI Flag and/or reserve a medication at a specific pharmacy
- 10) Functionalities that he/she is not entitled to, are not presented as actionable buttons;

Patient details

- 11) The name of the patient is clearly visible;
- 12) Based on the role of the patient, he/she will be shown immediately the "patient view"⁹;
- 13) The user can add a VISI Flag and/or reserve a medication at a specific pharmacy
- 14) Functionalities that he/she is not entitled to, are not presented as actionable buttons;
- 15) In the background available:
 - a. The INSS number of the patient;
 - b. The date on which the search of all shared healthcare data related to the MFV is required (by default: the current date);
 - c. The information available on the patient in different vaults (via hub/metahub)

Details of the occasional HCW who does not possess a prescription software package

- 16) The button "prescribe medication with PARIS" is visible. When clicking on this button, a front-end switch is realised and the context details of the HCW and the patient or taken along in the context details for going to PARIS.

Details for all HCW's:

⁸ Until further agreement with Farmaflux, it is only the "patient view" that will present the delivered medicines.

- 17) Based on the role of the health care worker, the functionalities that he/she is entitled to and view/screen that is most useful, will be visualised; 18) In the background available:
- The INSS number of the HCW,
 - The date on which the search of all shared healthcare data related to the MFV is required (by default: the current date),
 - the telephone number or contact details⁹, if available in CoBrha as unique source
 - The name and the role of the health care worker;

Medication scheme

- 19) The web application retrieves the medication scheme from the regional vaults (Vitalink / RSW / Abrumet)¹⁰. Note that:
- Only one medication scheme (last version) can be accessed across the three vaults;
 - The vault to be accessed depends on where the hub/metahub locates the information;
 - It can be requested to the related vault only on basis of the INSS number.
- 20) Several views are possible depending on the role of the user. The view corresponding to the role¹¹ is presented automatically (matching role and preferred view in the back of the application):
- the patient view which will be in line with the UX requirements (style, presentation, screens, options) as defined and available [here](#) and operationalised under PHV
 - the prescriber view
 - the pharmacists view
 - the view for nurses
 - the view for caretakers (e.g. in living/caring houses)
 - ...
- 21) By clicking the button 'switch to another view'¹², a list of possible available views is presented to the user. By then clicking on one of the possible views, that view (screen) is presented to the user. It is also possible for the HCW to set a 'default screen' of his preference.
- 22) If the response from the webservice indicates that there is no medication scheme, shared in the vaults, a message "There's no shared medication scheme available in the vault." is shown;
- 23) If the webservice is down or if the response from the VIDIS webservice contains no medication scheme because the vault from which it had to be retrieved is down, a message "The shared medication

⁹ E.g. address of the pharmacy or the GP practice, fixed telephone number, URL, e-mail.

¹⁰ Important note: This is the concerted harmonized medication scheme as defined by the 3 regional vaults, not an extract from the Sumehr.

¹¹ This view will be defined with the involved users (prescribers, pharmacists, nurses, caretakers, ...)

¹² Normally a view is linked to a role. However, to allow more flexibility to the HCW and depending on his/her rights with respect to the access matrix, it is possible that a specific user prefers to make use of another view. It should at that moment also be possible for that HCW to change his 'default' view.

scheme is temporarily not available, please retry later or contact <mail address to be defined>.” is shown; a refresh button is foreseen.

Diary Notes

- 24) The web application retrieves the diary notes from the regional vaults (Vitalink / RSW / Abrumet), which are tagged as ‘medication’¹³, directly from the vaults. Note that:
 - a. Only notes of type ‘medication’ for the INSS number of the concerned patient are required.
 - b. Notes can be registered in all of the three vaults.
- 25) If the response from the vaults contains one or more diary notes, a tooltip that allows to consult the list of diary notes is presented at the level of the medication scheme line. Behind every line presented in the list of linked diary notes, an “eye” is visualised (a visualisation in the same style as the list of valid prescriptions – see further – should be presented)
- 26) Once clicked on the “eye”, the visualisation of the diary note is done based on the existing information fields¹⁵.
- 27) If the response from the vaults indicates that there are no diary notes, shared in the vaults, a message “There are no shared diary notes.” is shown;
- 28) If a vault is down or if the response from the vaults contains no diary notes because the vault from which it had to be retrieved is down, a message “The shared diary notes are temporarily not available, please retry later or contact <mail address to be defined>.” is shown; a refresh button is foreseen.

PARIS (prescription module)

- 29) The web application shows, based on the identification of the user as having the role of “occasional prescriber”, the button ‘go to PARIS’.
- 30) When the user presses the button ‘go to PARIS’, there is a SSO connection to the web application PARIS, which is opened in a separate tab. When already a patient is selected in the VIDIS webapp, this patient (via INSS) should be included in the context when front-end-switching, so that the user does not have to select the patient again.

¹³ Meaning that the diary note can be identified as belonging to a specific medication line, without – as yet – being linked to it automatically via a unique identifier (‘kapstok’ - this is planned for as indicated in the concept paper “definitie van een medicamenteuze behandeling”) ¹⁵ As of today (July 2019), the standards of the diary notes are not sufficiently standardized to enable a structured view (e.g. table template) with fields (columns) such as “author”, “role”, “date” and “note”. Furthermore, it seems important to have a field “contact details” in case one would want to contact the author of a note. As of today, it is not sure if this information is available in the vaults. As soon as the specifications of the standardisation of diary notes are published, this part can be programmed.

Valid prescriptions (Recip-e module)

This section re-uses the existing PHV software to:

- a. Present the defined screens for the concerned user
- b. Adding a VISI flag
- c. Making a reservation to a prescription

And re-uses the mock-ups to present the symbols and functionalities as foreseen in the PHV software, e.g.

- 31) Based on the identification of the user as having the role “pharmacist” or “prescriber”, prescriptions with a VISI Flag are not visualised, except to (i) the preferred pharmacist when the patient has indicated so, and to (ii) the pharmacist where the medication was delivered (if different than (i) or the prescriber who prescribed the medication).
- 32) By clicking on the “eye” symbol next to the valid prescription, the prescription is visualised in the same style as currently shown in the PHV.
- 33) By clicking on the “book” symbol, the prescription opens the “bijsluiter”
- 34) By clicking on the “+” symbol, the user can reserve the medication at a specific pharmacy
- 35) By clicking on the on/off symbol, the user can set a VISI flag

Not yet foreseen in PHV software but to be included:

- 36) By clicking on the “loudspeaker” symbol, the user can notify adverse effects of the medicine (software to be re-used when it already exists)
- 37) By clicking on the “glass” symbol, the user can get instruction on how to use/take the medicine (software to be re-used when it already exists)

Delivered medicines (DPP-GFD module)

- 38) Based on the identification of the user with a role enabling to see the delivered medicines, there is a connection to the SOAP API of the DPP-GFD server resulting in the presentation of the list¹⁴ of delivered medication (both prescribed and over the counter). The information is shown in the same style¹⁷ as the existing style (look & feel) in the PHV (cfr 31-37 above for Recip-e).

¹⁴ View / mock-up still to be determined. It is considered to present a line view whereby all deliveries from a specific medicine (VMP + dose) are presented as one line with the date of the last (or first) delivery, with a “+” at the end of the line to allow visualization of the specific deliveries.

¹⁷ The mock-ups will be available by 15/9/2019 latest.

4.2 Non-functional Requirements

- In case of evolutions of data sharing systems, or in case of need of new screens/views, new **consolidation rules should be easily implemented**, allowing to extend the content of the medication folder view according to these evolutions.
- The interface is a **real-time interface** that can be integrated using the common technical standard used in Belgium for the secured healthcare data exchange (a.k.a Kmehr, FHIR).
- The input and output **messages** of the service **are encrypted** according to the standards from the eHealth platform.
- **Single Sign-On**: in case of integration in another software (web application or healthcare software), the authentication has to be executed only one time by the user;
- **In case of integration in the software package of a HCW**: the software provider should in this case follow the “do-it-yourself guide” (DIY guide) and the functional requirements as presented in this document, and a further to be added annex defining the DIY guide in detail including how the VIDIS WebApp (with transfer of context details) can be called from the HCW software
- **Stand-alone** web application: the solution can be accessed directly using any computer, tablet or smartphone with an Internet connection and a web browser (without any or with minimal loss of functionalities or performance when used in tablet or smartphone) - **Embeddable** web application:
 - o Can be accessed through a patient viewer (by a patient, an informal caregiver or a legal representative),
 - o Can be accessed through a healthcare software (by a healthcare professional authenticated on the eHealth platform); this access is a frontend switch with transfer of contexts (user details, role of the HCW, patient details, language preferences, ...); when in the frontend application of the HCW software another patient is selected, a “refresh data” is required to remove all previous data from the server and from the cache, and update the new context detail (especially the patient details)
- **Accessible** through the healthcare softwares: the implementation technology should allow any “valid” healthcare software to present the web application content to the user as a user-friendly complementary tool;
- The web application **doesn't store any data**. It only allows to open a session with some user data in which the consultation of the health data described above (in 4.1.2). Once the session is closed, all these data (user data and health data) are erased in the web application and from the cache history of the server of the user.
- **UAM**: the web application can only be accessed by a user who is registered as a healthcare provider in the eHealth platform UAM system or as a citizen registered in the national register and authenticated with CSAM, the authentication service of Belgian e-government. When the VIDIS Web app is called from another software, it is a requirement that the other software is a ‘trusted’ system and hence it must fulfil the UAM conditions.

- **Security logging:** any access to the web application is logged in the related security logging base service from the eHealth platform;
- The web application has to be up and running with a **Service Level Agreement (SLA) of 99%**¹⁵ availability, 7/7d and 24/24h.
- The **response time should not exceed 2 seconds**¹⁹ as long as the integrated services (eHealth, vaults, DPP/GFD, ...) allow that. A monitoring of the service has to be ensured in order to determine the needed KPIs;
- A **Business Continuity Plan** is put in place in agreement with the responsible sponsor.

¹⁵ Higher levels of availability will be required when going to phase 2 and phase 3 of VIDIS and goes together with the implementation of a business continuity plan. At this moment there is no BCP for DPP/GFD while for Recip-e it is being established. The SLA includes helpdesk function. To be discussed with the software houses who is taking responsibility on the helpdesk when integrating the VIDIS Web App in the softwares of the users.

¹⁹ Note that a response time of 2 seconds is not realistic in a scenario whereby no backend is used. That is why, depending on the architecture used (with or without backend), the number of seconds response time will have to be redefined.

4.3 Requirements specific to the Global Unique Identifier

For the context, please read the business analysis and the the comments in the Q&A document. Both documents are inextricably bound up to each other.

REQ 1) Uniqueness.

The GUID must be unique per Medication line across all participating systems.

REQ 2) Changes and versions of a medication line.

Each GUID comes with a version. Each change on a medication line is processed on the same GUID but with an increment by version number.

REQ 3) International standard.

The GUID is defined according to an international standard: GUID or UUID v4

REQ 4) The GUID is an attribute.

The GUID is used in the form of an attribute, not as a "Key" in a relational database.

REQ 5) Medication treatment.

One must be able to build up a medication treatment based on attributes in the latest versions of different medication lines.

REQ 6) Medication scheme.

One must be able to build up a medication scheme based on the version of different medication lines that are currently active.

REQ 7) Linked data.

Via the GUID, the following data can be linked and retrieved in different sources and systems:

- Sources
 - Medication line in the Vault
 - Medication scheme in the Vault (based on a medication line)
 - Journal notes in the Safe
 - Prescription at Recip-e
 - Registration of the delivery at Farmaflux
 - Reimbursement data in MyCareNet
- EHR prescriber
 - Registration of prescriptions and medication lines in the software of the doctor
- Software of the pharmacy
 - Registration of the delivery in the pharmacy's software

REQ 8) Life cycle of the GUID.

The GUID is an attribute in each of the participating systems and must therefore be able to be created, consulted, updated or removed in each of these participating systems. Updating and deleting should be reserved to solve problems in the database that cannot be solved in any other way.

REQ 9) Check on uniqueness.

The GUID is only created when a new medication line is created. It checks whether the proposed GUID is unique in the vaults or alternatively, the GUID is assigned and registered by a central system.

REQ 10) Encryption

Even if data from a medication line is encrypted, a medication line based on the GUID must be able to be searched quickly and efficiently.

REQ 11) Creation of the GUID

The GUID is typically created in the digital application of the doctor, dentist or midwife. The GUID must also be able to be created in the digital application of the pharmacist in following cases:

- The patient comes to the pharmacist with a prescription on paper,
- The pharmacist sells a non-prescription product that he / she thinks should be included in the medication schedule.

REQ 12) Adding an existing medication line to a medication schedule

If a prescriber continues to work on a medication line that does not yet have a GUID, a GUID must be added at the time the medication line is updated in the Vault.

REQ 13) Existing prescriptions without a GUID

If an existing prescription does not have a GUID and a medication line to which it relates is updated with a GUID, the existing prescription should also be given a GUID.

REQ 14) An existing medication line without a GUID that is being updated An existing medication line that does not yet have a GUID should be given a GUID when it is updated and written in the Vault.

REQ 15) A Journal note must be given the same GUID as the medication line to which it relates

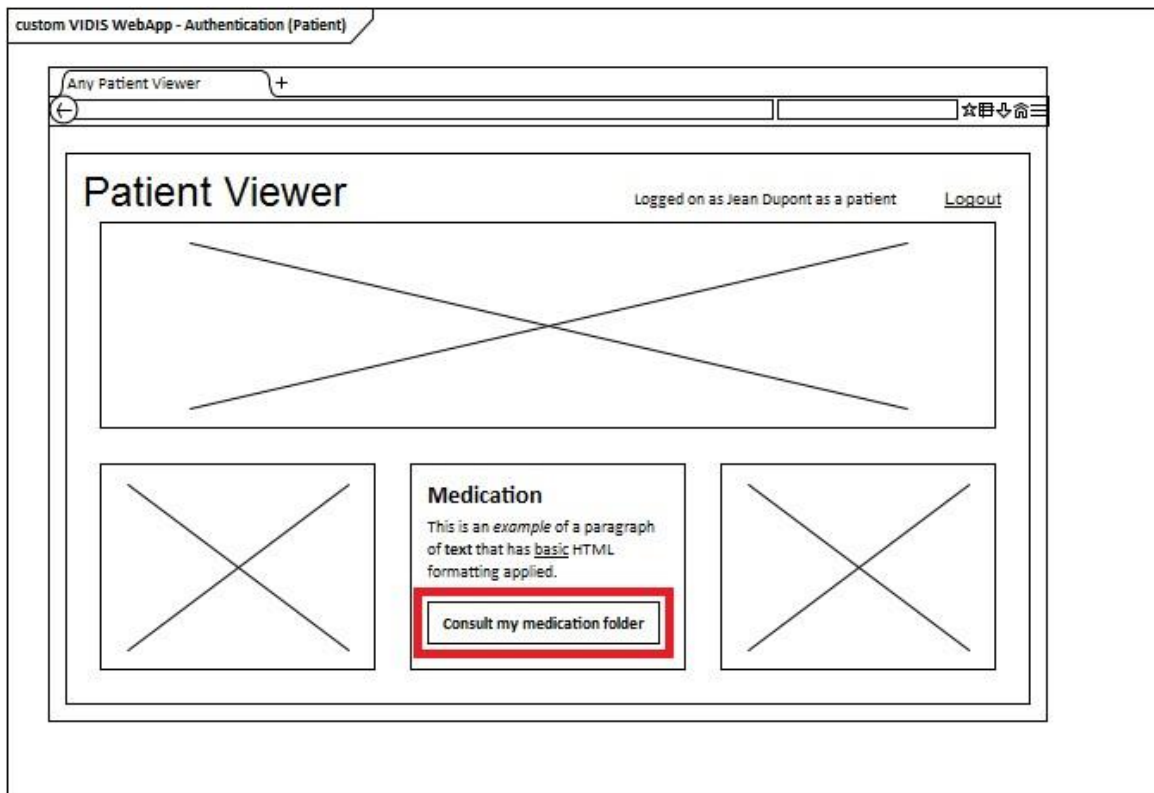
REQ 16) A Journal note with a GUID must be able to be linked to a medication line with the same GUID

REQ 17) GUID + Version

The version number together with the GUID allow a medication line to be unambiguously determined at any moment in time.

Annex 1

Example of wireframe for the access to the medication folder view with a button in a patient viewer interface:



Annex 2

List of use cases with their description (and with particular focus on release 1)

Use case	Description
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<p>UC_01 Connect to the WebApp VIDIS¹⁶</p>	<p><u>Preconditions</u> The user accesses the VIDIS WebApp URL and possesses a way to be identified</p> <p><u>Description</u> The user gives its connection information to enter into the VIDIS WebApp (via eld, Itsme, etc.) The user authenticates himself using the standard eHealth interface</p> <p><u>Result</u> As the user is connected, he can visualize the VIDIS homepage, where he's asked to choose a role to endorse (UC_02).</p>
<p>UC_02 Choose a role (phase 1)²¹</p>	<p><u>Preconditions</u> UC_01 The user is connected to the WebApp VIDIS and a choice of one or several roles is offered</p> <p><u>Description</u> The user chooses one of the options : - citizen - mandated citizen (displayed only if the user has a mandate) - healthcare provider (displayed only if the user is a healthcare provider)</p> <p><u>Result</u> - If mandated citizen or healthcare provider is chosen --> the user will be asked to choose a patient (UC_03) - If citizen --> his medication folder is displayed</p>
<p>UC_02 Choose a role (phase 1 release 1)²¹</p>	<p><u>Preconditions</u> UC_01 The user is connected to the WebApp VIDIS and a choice of one or several roles is offered</p> <p><u>Description</u> The user chooses one of the options : - citizen - healthcare provider (displayed only if the user is a healthcare provider)</p>

Use case	Description
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¹⁶ Not applicable when the VIDIS webapp was launched from the HCW software package. Then this information will be passed on through a transfer of context details

	<p>Result</p> <ul style="list-style-type: none"> - If healthcare provider is chosen --> the user will be asked to choose a patient (UC_03) - If citizen --> his medication folder is displayed
UC_03 Choose a patient ¹⁷	<p>Preconditions</p> <p>UC_02 + chosen option = mandated citizen or healthcare provider (mandated citizen not in release 1)</p> <p>Description</p> <p>The user chooses the patient²¹ for which he wants to consult the medication folder</p> <p>Results</p> <ul style="list-style-type: none"> - If the user is mandated for this patient (not in release 1) or has a therapeutic link with this patient (and that the patient has given his consent), the medication folder is displayed - If the user is not mandated for this patient (not in release 1) or has no therapeutic link with this patient, a message is displayed to inform that the user has no access to the asked data.¹⁸
UC_04 Refresh the data	<p>Preconditions</p> <p>UC_05</p> <p>Description</p> <p>The user can ask to refresh the data (if there is a problem in the first place). The underlying use case is UC_05</p> <p>Result</p> <p>The medication scheme and the diary notes (not in release 1) are displayed on the screen</p>
UC_05 Consult the medication scheme	<p>Preconditions</p> <p>The patient lives in Flanders</p> <p>Description</p> <p>VIDIS fetches from Vitalink (through the API Gateway APIGEE) the medication scheme of the patient</p>

¹⁷ Yet to be discussed how to implement this: on the basis of NISS or to pick from a list of therapeutic relations, or ...

¹⁸ Not needed if only the visualised mandates are shown, and/or if only a choice can be made from the existing therapeutic relations

Use case	Description
	<p>A preparation/treatment of the data is needed in order to display the data to the user in a user-friendly way.</p> <p>The received KMEHR messages can't be showed/displayed/used without a data treatment.</p> <p>As well, some parsed data has to be transformed.</p> <p>For example, the dosage must be displayed as fraction (0,5 pill --> 1/2 pill)</p> <p>The KMEHR messages (sort of XML) are parsed to fetch the information to display.</p> <p>The VIDIS system calls the WS SAM (Source Authentique des Médicaments) to fetch the business name (wording) of the drugs to display (instead of a technical code).</p> <p>The data are displayed (in release 1 it is only the patient view that are displayed) in a user-friendly way.</p> <p>Visualization guidelines of the medication scheme exist and must be followed.</p> <p>Result</p> <p>The medication scheme is displayed on the screen</p>

<p>UC_05 Consult the medication folder</p>	<p><u>Preconditions</u></p> <p>The user is connected to the WebApp VIDIS (UC_01 + UC_02 (+ UC_03))</p> <p><u>Description</u></p> <p>VIDIS fetches from Vitalink the medication scheme and the diary notes of the patient from the good safe (Vitalink, RSW or Abrugmet), according to the information on the patient located by hub/metahub system.</p> <p>A preparation/treatment of the data is needed in order to display the data to the user in a user-friendly way.</p> <p>The received KMEHR messages can't be showed/displayed/used without a data treatment.</p> <p>As well, some parsed data has to be transformed.</p> <p>For example, the dosage must be displayed as fraction (0,5 pill --> 1/2 pill)</p> <p>The KMEHR messages (sort of XML) are parsed to fetch the information to display.</p>
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Use case	Description
	<p>The VIDIS system calls the WS SAM (Source Authentique des Médicaments) to fetch the business name (wording) of the drugs to display (instead of a technical code).</p> <p>The VIDIS system calls Recip-e to fetch the valid electronic prescriptions of the patient.</p> <p>The VIDIS system calls the DPP/GFD to fetch the delivered drugs to the patient.</p> <p>The data are displayed in a user-friendly way, according the role of the user (specifically for the medication scheme).</p> <p>Visualization guidelines of the medication scheme exist and must be followed.</p> <p><u>Result</u></p> <p>The medication folder is displayed on the screen</p>

<p>UC_06 Change the language of the WebApp</p>	<p><u>Preconditions</u> The user is on the VIDIS web app (even if not connected) Based on the known context variables the default language is set (when the VIDIS web app is called from another HCW software package, than language is one of the elements transferred in the context pass-on)</p> <p><u>Description</u> The user can choose/change the language of the WebApp</p> <p><u>Result</u> The WebApp is displayed in the language chosen by the user</p>
<p>UC_07 Log out from the WebApp VIDIS</p>	<p><u>Preconditions</u> UC_02 ou UC_03</p> <p><u>Description</u> The user can log out If the VIDIS Webapp is called from another system, then the button “log out” should mention “close”. The web app can also be closed by clicking on the “x” at the right upper corner of the screen tab. All data are erased from the server of the user, as well as on the cache.</p> <p><u>Result</u> The user is logged out All data are erased from the server of the user, as well as on the cache.</p>
<p>Use case</p>	<p>Description</p>
<p>UC_08 Access to PARIS for prescribing</p>	<p><u>Preconditions</u> The user is connected to the WebApp VIDIS (UC_01 + UC_02 + UC_03) The user is a prescriber</p> <p><u>Description</u> The user gets access, via a button on the screen, to PARIS, a web application allowing prescriber without access to the Share Medical Folder to prescribe.</p> <p><u>Result</u> A new tab opens the web application PARIS Thanks to the SSO, the user is already connected to PARIS The context of the patient is transferred to PARIS</p>

<p>UC_10 Send to PDF</p>	<p><u>Preconditions</u> UC_05</p> <p><u>Description</u> The user can generate a printable PDF with its data (medication scheme and diary notes). The data are adapted to be printed</p> <p><u>Result</u> Generation of a PDF The data can be printed, sent by email or downloaded</p>
<p>UC_11 Change the view of the medication scheme</p>	<p><u>Preconditions</u> The user is connected to the WebApp VIDIS (UC_01 + UC_02 (+ UC_03))</p> <p><u>Description</u> The user can change the view of the medication scheme according to his role (the proposed options are proposed only if the role of the user allows to view it)</p> <p><u>Result</u> The view changes according to the choice of the user</p>