

Integrating the Healthcare Enterprise



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**IHE Pharmacy  
Technical Framework Supplement**

10

**Community Medication Prescription and  
Dispense  
(CMPD)**

15

**Rev. 1.7 – Trial Implementation**

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## Foreword

30 This is a supplement to the forthcoming IHE Pharmacy Technical Framework. Each supplement undergoes a process of public comment and trial implementation before being incorporated into the volumes of the Technical Frameworks.

This supplement is published on October 11, 2017 for trial implementation and may be available for testing at subsequent IHE Connectathons. The supplement may be amended based on the results of testing. Following successful testing it will be incorporated into the forthcoming  
35 Pharmacy Technical Framework. Comments are invited and may be submitted at [http://www.ihe.net/Pharmacy\\_Public\\_Comments](http://www.ihe.net/Pharmacy_Public_Comments).

This supplement describes changes to the existing technical framework documents.

“Boxed” instructions like the sample below indicate to the Volume Editor how to integrate the relevant section(s) into the relevant Technical Framework volume.

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<i>Amend Section X.X by the following:</i>
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Where the amendment adds text, make the added text **bold underline**. Where the amendment removes text, make the removed text **~~bold strikethrough~~**. When entire new sections are added, introduce with editor’s instructions to “add new text” or similar, which for readability are not bolded or underlined.

45

General information about IHE can be found at <http://www.ihe.net>.

Information about the IHE Pharmacy domain can be found at [http://ihe.net/IHE\\_Domains](http://ihe.net/IHE_Domains).

Information about the organization of IHE Technical Frameworks and Supplements and the process used to create them can be found at [http://ihe.net/IHE\\_Process](http://ihe.net/IHE_Process) and <http://ihe.net/Profiles>.

50 The current version of the IHE Pharmacy Technical Framework can be found at [http://ihe.net/Technical\\_Frameworks](http://ihe.net/Technical_Frameworks).

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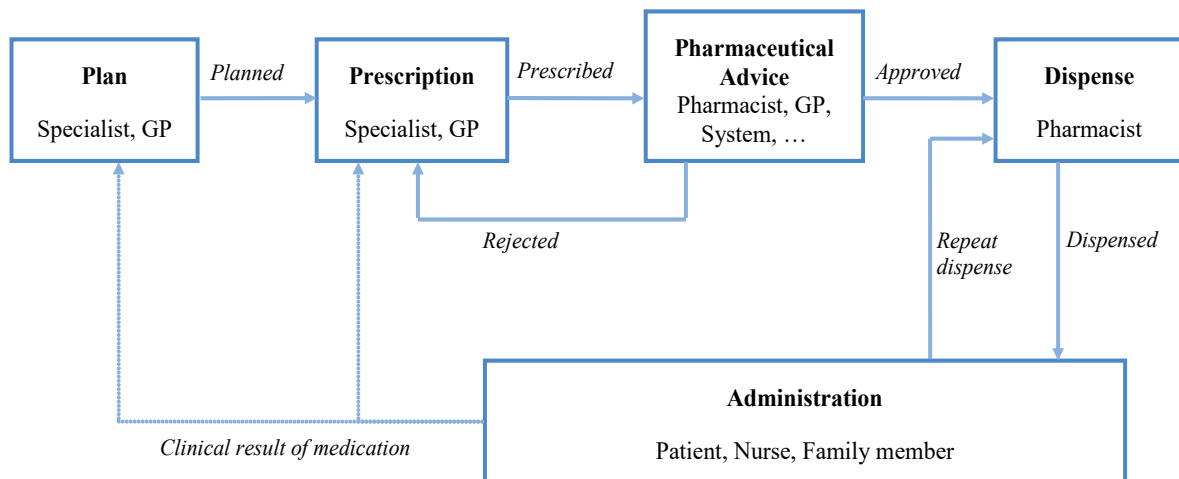
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## Introduction

155 The Community Medication Prescription and Dispense Integration Profile (CMPD) describes the process of prescription, validation, dispense and administration of medication in the community domain. This document is a detailed description of the generic implementation structure defined in the Common Parts document<sup>1</sup>.

In general, the medication business process consists of five distinct processes, which have to be connected through interactions that transfer information and/or guide the workflow. The following figure shows this flow:

160



In the Community Pharmacy domain, the processes of “Planning”, “Prescription”, “Pharmaceutical Advice”, “Dispense” and “Administration” are covered by the Community Medication Prescription and Dispense Profile.

165 The CMPD Profile is intended to be used in the context of the Pharmacy Content Profiles<sup>2</sup>:

- Community Medication Treatment Plan (MTP)
- Community Prescription Supplement (PRE)

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<sup>1</sup> This document is part of the IHE Pharmacy domain and can be obtained from the IHE web site.

<sup>2</sup> These supplements are part of the IHE Pharmacy domain and can be obtained from the IHE web site.

- Community Pharmaceutical Advice Supplement (PADV)
- Community Dispense Supplement (DIS)
- 170 • Community Medication Administration (CMA)
- Community Medication List (PML)

These Content Profiles are based on the Patient Care Coordination (PCC) Technical Framework and define the semantic of the payload transported by the CMPD Profile.

- 175 This supplement also references other documents<sup>3</sup>. The reader should have already read and understood these documents:

1. [PHARM Common parts document](#)
2. [IT Infrastructure Technical Framework Volume 1](#)
3. [IT Infrastructure Technical Framework Volume 2](#)
4. [IT Infrastructure Technical Framework Volume 3](#)
- 180 5. HL7<sup>®4</sup> and other standards documents referenced in this document

## Open Issues and Questions

- Grouping of XDW with the Community Pharmacy Manager: What, if the client-side actors (Prescription Placer, Pharmaceutical Adviser, Medication Dispenser) are not allowed to manage the workflow and this should be done by the CPM.

## 185 Closed Issues

- Question: Should be medication processes message or document-based? Decision at F2F meeting in Bordeaux (15./16.04.2010): Community domain is document based with XDS as persistence layer, Hospital domain will be message-based.
- 190 • Clarification to whitepaper: In community domain, the term “repository” in the whitepaper is intended to be interpreted as a technical system for persisting documents implementing XDS transactions as interface. XDS registry/repository systems as well as database or other persisting systems are likely to be used for this purpose.
- 195 • Changes to whitepaper: “Consumer” actors will be removed, because they are just relaying transactions (don’t implement any own transactions). Sequence diagrams have been adapted.

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<sup>3</sup> The first four documents can be located on the IHE Website at [http://ihe.net/Technical\\_Frameworks/](http://ihe.net/Technical_Frameworks/). The remaining documents can be obtained from their respective publishers.

<sup>4</sup> HL7 is the registered trademark of Health Level Seven International.

- The transient aspects of “Ordering” are excluded in the profile. This should be generally discussed together with ITI in conjunction with all other “Ordering/Workflow” topics (e.g., Lab, Referral, etc.). (see CP-PHARM-018\_v5)
- The profile does not yet include the process step of getting the “current medication”, which is needed for checking interactions (ICAs) to the prescribed item.

200

This issue is closed since the introduction of PML.



# Volume 1 – Integration Profiles

## 1.n Copyright Permission

205

*Add the following to Sections 1.n:*

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## 2.5 Dependencies among Integration Profiles

210

*Add the following to Table 2-1*

Community Medication Prescription and Dispense CMPD	XDS	CMPD actors are based on XDS Document Source, Document Consumer, Registry and Repository Actors and use XDS transactions.	Required to manage query, submission and retrieve of documents.
Community Medication Prescription and Dispense CMPD	On-Demand Documents	CMPD Community Pharmacy Manager acts as an On-Demand Document Source	Required to manage request of the Medication List
Community Medication Prescription and Dispense CMPD	ATNA	Each CMPD actor shall be grouped with Secure Node or Secure Application Actor	Required due to XDS grouping.
Community Medication Prescription and Dispense CMPD	CT	Each CMPD actor shall be grouped with the Time Client	Required due to ATNA grouping.
Community Medication Prescription and Dispense CMPD	XDW	Some CMPD actors can be optionally grouped with XDW Workflow Management	Optional due to XDW grouping

*Add the following section to Section 2.7*

215

## 2.7 History of Annual Changes

In the 2016-2017 cycle of the IHE Pharmacy initiative, the following major changes were introduced to this supplement (please see the list of this year’s change proposals for the complete set of changes at [ftp://ftp.ihe.net/Pharmacy/Technical\\_Framework/CP%20Overview](ftp://ftp.ihe.net/Pharmacy/Technical_Framework/CP%20Overview)):

220

- “Medication Administration” has been added to the CMPD process. See new Community Medication Administration (CMA) Profile for the Content definition.

- All references regarding a “filtering/relaying capability” of the Community Pharmacy Manager have been removed. No such capability is defined at the CPM actor anymore and have also been removed from CMPD implementation scenarios.
- 225 • The description of the Query Pharmacy Documents (PHARM-1) transaction has been extensively overworked for more precise definition of the expected return of the different queries and better readability. Ambiguities have been clarified.
- Workflow definitions chapter 4 has been extensively overworked for better readability and alignment to the current version of the XDW profile.

230

*Add Section 4*

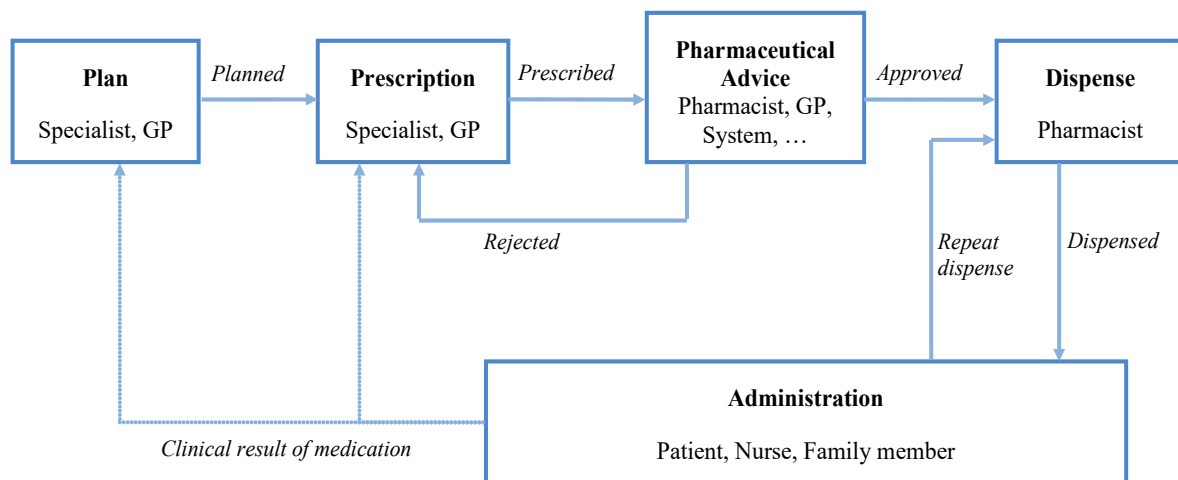
## 4 Community Medication Prescription and Dispense Integration Profile

### Profile

235 The Community Medication Prescription and Dispense Integration Profile (CMPD) describes the process of planning, prescription, validation, dispense and administration of medication in the community domain.

In general, the medication business process consists of five distinct processes, which have to be connected through interactions that transfer information and/or guide the workflow. The following figure shows this flow:

240



**Figure 4-1: Medication Planning, Prescription, Dispense and Administration Process**

The CMPD Profile is intended to be used in the context of the Pharmacy Content Profiles<sup>6</sup>:

- Community Medication Treatment Plan (MTP)
  - Community Prescription Supplement (PRE)
  - Community Pharmaceutical Advice Supplement (PADV)
  - Community Dispense Supplement (DIS)
  - Community Medication Administration (CMA)
- 245

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<sup>6</sup> These supplements are part of the IHE Pharmacy domain and can be obtained from the IHE web site.

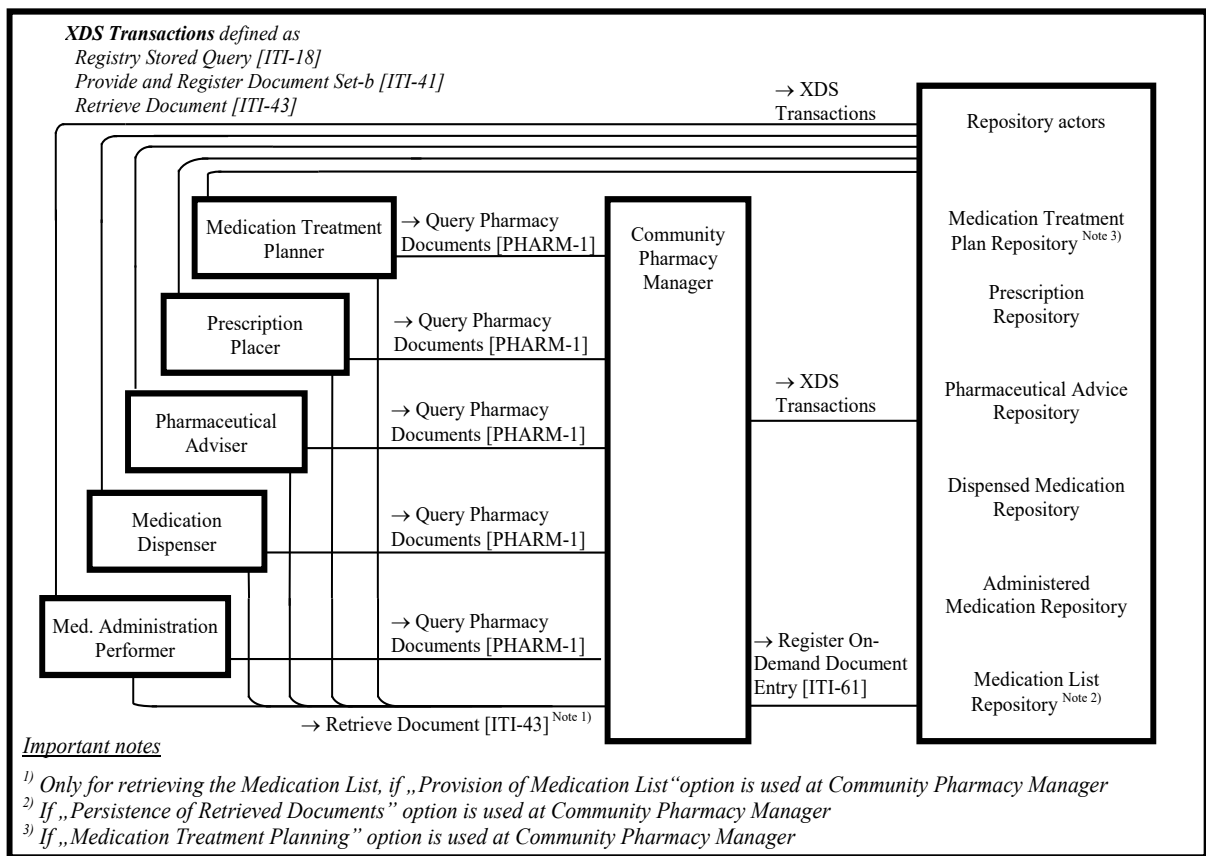
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- Community Medication List (PML)

250 These Content Profiles are based on the Patient Care Coordination (PCC) Technical Framework and define the semantic of the payload transported by the CMPD Profile.

### 4.1 Actors/ Transactions

255 Figure 4.1-1 shows the actors directly involved in the Community Medication Prescription and Dispense Integration Profile and the relevant transactions between them. Other actors that may be indirectly involved due to their participation in the XDS integration profiles, etc., are not necessarily shown.



**Figure 4.1-1: Community Medication Prescription and Dispense Actor Diagram**

260 Table 4.1-1 lists the transactions for each actor directly involved in the Community Medication Prescription and Dispense Profile. In order to claim support of this Integration Profile, an implementation must perform the required transactions (labeled “R”). Transactions labeled “O” are optional. A complete list of options defined by this Integration Profile and that implementations may choose to support is listed in Volume 1, Section 4.2.

**Table 4.1-1: Community Medication Prescription and Dispense Integration Profile - Actors and Transactions**

Actors	Transactions	Optionality	Section in Vol. 2
Community Pharmacy Manager	Registry Stored Query [ITI-18] (acting as a Document Consumer)	R	ITI TF-2a: 3.18
	Retrieve Document Set [ITI-43] (acting as a Document Consumer)	R	ITI TF-2b: 3.43
	Register On-Demand Document Entry [ITI-61] (acting as an On-Demand Document Source)	O <sup>7</sup>	ITI TF-2b: 3.61
	Query Pharmacy Documents [PHARM-1]	R	PHARM TF-2: 3.1
Medication Treatment Planner	Registry Stored Query [ITI-18]	O <sup>8</sup>	ITI TF-2a: 3.18
	Provide and Register Document Set-b [ITI-41]	R	ITI TF-2b: 3.41
	Retrieve Document Set [ITI-43]	R	ITI TF-2b: 3.43
	Query Pharmacy Documents [PHARM-1]	R <sup>9</sup>	PHARM TF-2: 3.1
Prescription Placer	Registry Stored Query [ITI-18]	O <sup>10</sup>	ITI TF-2a: 3.18
	Provide and Register Document Set-b [ITI-41]	R	ITI TF-2b: 3.41
	Retrieve Document Set [ITI-43]	R	ITI TF-2b: 3.43
	Query Pharmacy Documents [PHARM-1]	R <sup>11</sup>	PHARM TF-2: 3.1
Pharmaceutical Adviser	Registry Stored Query [ITI-18]	O <sup>12</sup>	ITI TF-2a: 3.18
	Provide and Register Document Set-b [ITI-41]	R	ITI TF-2b: 3.41
	Retrieve Document Set [ITI-43]	R	ITI TF-2b: 3.43
	Query Pharmacy Documents [PHARM-1]	R <sup>13</sup>	PHARM TF-2: 3.1
Medication Dispenser	Registry Stored Query [ITI-18]	O <sup>14</sup>	ITI TF-2a: 3.18

<sup>7</sup> R if „Provision of Medication List“ Option is used

<sup>8</sup> R if „Workflow Management“ Option is used

<sup>9</sup> O if „Workflow Management“ Option is used

<sup>10</sup> R if „Workflow Management“ Option is used

<sup>11</sup> O if „Workflow Management“ Option is used

<sup>12</sup> R if „Workflow Management“ Option is used

<sup>13</sup> O if „Workflow Management“ Option is used

<sup>14</sup> R if „Workflow Management“ Option is used

Actors	Transactions	Optionality	Section in Vol. 2
	Provide and Register Document Set-b [ITI-41]	R	ITI TF-2b: 3.41
	Retrieve Document Set [ITI-43]	R	ITI TF-2b: 3.43
	Query Pharmacy Documents [PHARM-1]	R <sup>15</sup>	PHARM TF-2: 3.1
Medication Administration Performer	Registry Stored Query [ITI-18]	O <sup>16</sup>	ITI TF-2a: 3.18
	Provide and Register Document Set-b [ITI-41]	R	ITI TF-2b: 3.41
	Retrieve Document Set [ITI-43]	R	ITI TF-2b: 3.43
	Query Pharmacy Documents [PHARM-1]	R <sup>17</sup>	PHARM TF-2: 3.1
Repository actors  Medication Treatment Plan <sup>18</sup> Prescription Pharmaceutical Advice Dispensed Medication Administered Medication Medication List <sup>19</sup>	Registry Stored Query [ITI-18]	R	ITI TF-2a: 3.18
	Provide and Register Document Set-b [ITI-41]	R	ITI TF-2b: 3.41
	Retrieve Document Set [ITI-43]	R	ITI TF-2b: 3.43

## 4.1.1 Actors

### 4.1.1.1 Community Pharmacy Manager

270 The role of this actor consists in providing the business logic for status management and other purposes. It may also serve as provider of the business logic for creating the Medication List if “Provision of Medication List” Option is supported.

275 It provides special query-transactions which consuming actors (Medication Treatment Planner, Prescription Placer, Pharmaceutical Adviser, Medication Dispenser or Medication Administration Performer) use for reducing the amount of data flowing to them. They return just “relevant” information for specific purposes (e.g., returning just all “active” prescriptions ready for being validated or dispensed together with all related documents).

<sup>15</sup> O if „Workflow Management“ Option is used

<sup>16</sup> R if „Workflow Management“ Option is used

<sup>17</sup> O if „Workflow Management“ Option is used

<sup>18</sup> If „Medication Treatment Planning Option“ is used

<sup>19</sup> If „Persistence of Retrieved Documents“ Option is used at Community Pharmacy Manager

280 Furthermore it may provide special query-transactions which consuming actors (Medication  
Treatment Planner, Prescription Placer, Pharmaceutical Adviser, Medication Dispenser or  
Medication Administration Performer) use to request a Medication List to a patient. Fulfilling the  
request the actor gathers and assembles Medication Treatment Plan-, Prescription-, Dispense and  
Medication Administration Items to a Community Medication List document according to the  
“Community Medication List” (PML) Profile. Subsequently this resulting document is returned  
285 to the requesting actor. For this functionality this actor acts as an ITI On-Demand Document  
Source as described in the “On-Demand documents” supplement.

This actor is usually a system actor without human participation.

#### **4.1.1.2 Medication Treatment Planner**

290 The main role of this actor consists in adding a new Medication Treatment Plan Item. It sends the  
cancelation of the planned item or its discontinuation, as well. In order to fulfill this task, the  
Medication Treatment Planner retrieves the current set of planned medications of the patient.

#### **4.1.1.3 Prescription Placer**

295 The main role of this actor consists in placing the prescription (initial or modified in case of a  
substitution of invalidation, for example). It sends the cancelation of the prescription or its  
discontinuation, as well. In order to fulfill this task, the Prescription Placer retrieves the current  
treatment of the patient and medication already dispensed recently.

#### **4.1.1.4 Pharmaceutical Adviser**

300 This actor is responsible for the validation of prescriptions from a pharmacist’s perspective.  
Therefore, it receives the initial prescription, validates it and sends it back (accepted, cancelled,  
modified, substitution of pharmaceutical product); therefore it provides the pharmaceutical  
advice. To perform this task it checks the current treatment.

Pharmaceutical Advisers (e.g., automated ICA check modules) may also provide “draft” advices  
which don’t affect the status of a prescription but serve as a foundation for the advice performed  
by another Pharmaceutical Adviser.

305 Pharmaceutical Advisers may also review or manage medication treatment plan, prescription or  
dispenses – e.g., adding comments related to the medication, modifying the dosage or stopping a  
medication.

#### **4.1.1.5 Medication Dispenser**

310 This actor is responsible for the process of dispensing medication to the patient, e.g., fulfilling  
the prescription and/or a treatment plan. Therefore it produces the information on the medication  
dispensed to the patient. In order to achieve this, it may receive prescriptions already validated  
and underlying treatment plans, if available. It also confirms drug availability for administration  
and it may receive the administration plan and/or administration reports. This actor may be  
implemented as the point of sale software of a community pharmacy or the hospital pharmacy

315 module of a hospital information system. The human actor behind this system actor is usually a pharmacist or a pharmacist assistant.

#### **4.1.1.6 Medication Administration Performer**

320 This actor is responsible for the process of administering medication to the patient, e.g., fulfilling the prescription and/or a treatment plan. Therefore it produces the information on the medication administered to the patient. In order to achieve this, it may receive dispense records of the medication to administer and underlying prescriptions and a treatment plans, if available. It also confirms drug availability for administration and it may receive the administration plan and/or previous administration reports. This actor may be implemented as the point of sale software of a community pharmacy or the hospital pharmacy module of a hospital information system. The human actor behind this system actor is usually a physician or nurse.

#### **4.1.1.7 Repository actors**

325 Formally the Community Pharmacy process defines different “repositories” for Medication Treatment Plans, Prescriptions, Pharmaceutical Advices, Dispenses and Medication Administrations, but they shall be seen as abstract repository-roles for persisting the appropriate document types the documents, not as XDS repositories defined in the “Cross Document Sharing” (XDS) Integration Profile of the ITI Technical Framework.

330 This profile rather makes use of the XDS Profile for defining abstract XDS registry and repository actors for modeling the abstract repository-roles for real implementations.

Description of the abstract repository-roles:

- Medication Treatment Plan Repository  
335 This repository contains the medication added to the patient’s plan from the Medication Treatment Planner and may receive updates to the current planning (cancelations, changes, etc.). It provides information about the planned medication to other actors such as the Community Pharmacy Manager.
- Prescription Repository  
340 This repository contains the medication prescribed to the patient from the Prescription Placer and may receive updates to the current treatment (cancelations, changes, etc.). It provides information about the prescribed medication to other actors such as the Community Pharmacy Manager.
- Pharmaceutical Advice Repository  
345 This repository contains the pharmaceutical advice issued by the Pharmaceutical Adviser (typically but not always a pharmacist). It provides this information to other actors such as the Community Pharmacy Manager.



- Dispensed Medication Repository

350 This repository contains the medication actually dispensed to the patient; this information is received from the Medication Dispenser. It provides the dispensed medication of the patient to other actors such as the Community Pharmacy Manager.

- Administered Medication Repository

355 This repository contains the medication actually administered to the patient; this information is received from the Medication Administration Performer. The Administered Medication Repository provides the administered medication of the patient to other actors such as the Community Pharmacy Manager.

Conforming to the ITI XDS Technical Framework, registry actors are used for storing metadata of the submitted documents, the repository actors store the actual documents.

360 Implementation scenarios in real-world projects will most likely differ from the topology of having exactly three repositories. They may vary from single XDS affinity domain scenarios with just one registry/repository system for storing all document-types to most complex scenarios including many different XDS affinity domains for covering the organizational and strategic need of separation of the participating parties (e.g., Prescribers and Pharmacists).

365 All mechanisms defined in the XDS Integration Profile for accessing XDS Registry/Repository systems apply and may be used for communicating, e.g., “Cross Community Access” (XCA).

## 4.1.2 Transactions

### 4.1.2.1 Query Pharmacy Documents

370 This transaction defines how a querying actor has to query the Community Pharmacy Manager for Community Medication Treatment Plans (MTP), Community Prescriptions (PRE), Community Dispenses (DIS) and administrations (CMA) and their related documents. Related documents may be Community Prescription (PRE)-, Community Dispense (DIS)-, Community Medication Administration (CMA)- and Community Pharmaceutical Advice (PADV) documents.

Querying actors may be:

- 375
- Medication Treatment Planner
  - Prescription Placer
  - Pharmaceutical Adviser
  - Medication Dispenser
  - Medication Administration Performer

380 This transaction provides a set of specialized queries:

(1) Specialized queries allow the finding of certain kind of documents and their related documents for specific purposes (e.g., for validation, for dispense, etc.).

These are:

- 385       • **FindMedicationTreatmentPlans (if “Medication Treatment Planning” Option is supported)**  
          Find planned medication documents and their related documents
- **FindPrescriptions**  
          Find prescription documents and their related documents
- **FindDispenses**  
390       Find dispense documents and their related documents
- **FindMedicationAdministrations**  
          Find administered medication documents and their related documents
- **FindPrescriptionsForValidation**  
          Find prescriptions and their related documents containing Prescription Items ready to  
395       be validated
- **FindPrescriptionsForDispense**  
          Find prescriptions and their related documents containing Prescription Items ready to  
          be dispensed

The last two queries can be parameterized to ...

- 400       1. ... either check the status of a given prescription (e.g., if the patient shows the printed  
          prescription to the operator and the prescription ID can be read off it).  
          In this case the ID of the given prescription is set in the query parameters - if the  
          prescription is in the requested status (e.g., “ready for dispense”) it shows up in the  
405       query result (together with its related documents); otherwise the query result is empty  
          which indicates that the given prescription is not in the requested status.
- 2. ... or to search for prescriptions which are in a specific status (e.g., if the patient has no  
          printed prescription and the implementation allows searching for prescriptions).  
          In this case the query returns all prescriptions which are in the requested status (e.g.,  
          “ready for dispense”). The operator can choose and pick the right one.

410       (2) A query for requesting the Medication List, if “Provision of Medication List” Option is supported.

This is:

- **FindMedicationList**  
          Find the Medication List to a patient.

415 **4.1.2.2 Registry Stored Query**

This transaction is used by a Medication Treatment Planner, Prescription Placer, Pharmaceutical Adviser, Medication Dispenser or Medication Administration Performer Actor to a registry actor (Medication Treatment Plan/Prescription/Pharmaceutical Advice/Dispensed Medication/Administered Medication registry) in order to query for Community Medication Treatment Plan-, Community Prescription-, Community Pharmaceutical Advice-, Community Dispense- or Community Medication Administration documents based on the querying actor's query parameters.

See the XDS Integration Profile of the ITI Technical Framework for a detailed description of this transaction (ITI TF2a: 3.18).

425 **4.1.2.3 Provide and Register Document Set-b**

This transaction is sent by a Medication Treatment Planner, Prescription Placer, Pharmaceutical Adviser, Medication Dispenser or Medication Administration Performer Actor to a repository actor (Medication Treatment Plan/Prescription/Pharmaceutical Advice/Dispensed Medication/Administered Medication Repository) in order to submitting one or more Community Medication Treatment Plan-, Community Prescription-, Community Pharmaceutical Advice-, Community Dispense- or Community Medication Administration documents. See the XDS Integration Profile of the ITI Technical Framework for a detailed description of this transaction (ITI TF2b: 3.41).

**4.1.2.4 Retrieve Document Set**

435 This transaction is sent by a Medication Treatment Planner, Prescription Placer, Pharmaceutical Adviser, Medication Dispenser or Medication Administration Performer Actor to a repository actor (Medication Treatment Plan/Prescription/Pharmaceutical Advice/Dispensed Medication/Administered Medication Repository) or the Community Pharmacy Manager Actor in order to retrieve one or more Community Medication Treatment Plan-, Community Prescription-, Community Pharmaceutical Advice-, Community Dispense- or Community Medication Administration documents.

See the XDS Integration Profile of the ITI Technical Framework for a detailed description of this transaction (ITI TF2b: 3.43).

**4.2 CMPD Integration Profile Options**

445 Options that may be selected for this Integration Profile are listed in the Table 4.2-1 along with the actors to which they apply. Dependencies between options when applicable are specified in notes.

**Table 4.2-1: Community Medication Prescription and Dispense - Actors and Options**

<b>Actor</b>	<b>Options</b>	<b>Vol. &amp; Section</b>
Community Pharmacy Manager	<i>Provision of Medication List</i>	PHARM TF-1: 4.2.1
	<i>Persistence of Retrieved Documents<sup>20</sup></i>	PHARM TF-1: 4.2.2
	<i>Medication Treatment Planning</i>	PHARM TF-1: 4.2.3
Medication Treatment Planner	<i>Workflow Management</i>	PHARM TF-1: 4.2.4
	<i>Provision of Medication List</i>	PHARM TF-1: 4.2.1
Prescription Placer	<i>Workflow Management</i>	PHARM TF-1: 4.2.4
	<i>Provision of Medication List</i>	PHARM TF-1: 4.2.1
	<i>Medication Treatment Planning</i>	PHARM TF-1: 4.2.3
Pharmaceutical Adviser	<i>Workflow Management</i>	PHARM TF-1: 4.2.4
	<i>Provision of Medication List</i>	PHARM TF-1: 4.2.1
	<i>Medication Treatment Planning</i>	PHARM TF-1: 4.2.3
Medication Dispenser	<i>Workflow Management</i>	PHARM TF-1: 4.2.4
	<i>Provision of Medication List</i>	PHARM TF-1: 4.2.1
	<i>Medication Treatment Planning</i>	PHARM TF-1: 4.2.3
Medication Administration Performer	<i>Workflow Management</i>	PHARM TF-1: 4.2.4
	<i>Provision of Medication List</i>	PHARM TF-1: 4.2.1
	<i>Medication Treatment Planning</i>	PHARM TF-1: 4.2.3
Repository Actor	<i>No options defined</i>	- -
Medication Treatment Plan Prescription Pharmaceutical Advice Dispensed Medication Administered Medication Medication List		

450

### 4.2.1 Provision of Medication List Option

455 A Community Pharmacy Manager implementing this option offers the ability to query for a Medication List and return an on-demand created version of the Medication List document. A Medication Treatment Planner-, Prescription Placer-, Pharmaceutical Adviser-, Medication Dispenser, Medication Administration Performer Actor implementing this option offers the ability to query for a Community Medication List and interpret its content according to the PML Profile. See use case described in Volume 1, Section 4.4.3.

<sup>20</sup> Only applicable, if option “Provision of Medication List” is supported.

**4.2.2 Persistence of Retrieved Documents Option**

460 A Community Pharmacy Manager implementing this option offers the ability to persist the returned on-demand created version of the Community Medication List document when querying for a Medication List. This option requires the “Provision of Medication List” Option to be implemented. See use case described in Volume 1, Section 4.4.3 and ITI TF-1: 10.2.7.

**4.2.3 Medication Treatment Planning Option**

465 A Community Pharmacy Manager implementing this option offers the ability to query for Medication Treatment Plans and to return the query result. A Medication Treatment Plan Placer-, Prescription Placer-, Pharmaceutical Adviser-, Medication Dispenser- or Medication Administration Performer implementing this option offers the ability to query for Medication Treatment Plans and interpret their content according to the MTP Profile. See use case described in Volume 1, Section 4.4.2.

470 **4.2.4 Workflow Management Option**

An actor implementing this option offers the ability to manage workflow according to the Workflow Definitions described in Volume 2, Section 4.

**4.3 CMPD Actor Groupings and Profile Interactions**

**Table 4.3-1 CMPD Actor Groupings**

<b>Actor</b>	<b>Groups with</b>	<b>Note</b>
Medication Treatment Planner	Content Creator: MTP Content Consumer: MTP, PRE, PADV, DIS, CMA, PML	The Medication Treatment Planner shall create Community Medication Treatment Plan documents according to the MTP Content Profile.
Prescription Placer	Content Creator: PRE Content Consumer: MTP, PRE, PADV, DIS, CMA, PML	The Prescription Placer shall create Community Prescription documents according to the PRE Content Profile.
Pharmaceutical Adviser	Content Creator: PADV Content Consumer: MTP, PRE, PADV, DIS, CMA, PML	The Pharmaceutical Adviser shall create Community Pharmaceutical Advice documents according to the PADV Content Profile.
Medication Dispenser	Content Creator: DIS Content Consumer: MTP, PRE, PADV, DIS, CMA, PML	The Medication Dispenser shall create Community Dispense documents according to the DIS Content Profile.
Medication Administration Performer	Content Creator: CMA Content Consumer: MTP, PRE, PADV, DIS, CMA, PML	The Medication Administration Performer shall create Community Medication Administration documents according to the CMA Content Profile.

475 Note: All five actors shall also be able to consume Community Medication Treatment Plan, Community Prescription, Community Pharmaceutical Advice, Community Dispense, and Community Medication Administration documents in order to determine the status of Prescription Items.

## 4.4 CMPD Process Flow

480 Current implementations of the community pharmacy process (plan, prescribe, dispense and administer medication) may be categorized in two different alternatives.

The first alternative is the so-called publish & pull. In this model, generally speaking, information is generated by a placer type actor (Medication Treatment Planner, Prescription Placer, Pharmaceutical Adviser, Medication Dispenser or Medication Administration Performer) and stored by means of a repository type actor. Other actors retrieve data by pulling it from repositories. This approach may apply to health systems where information is accessed on a centralized basis and, therefore, is made available to a collective of potential users (such as prescriptions available for dispense in any community pharmacy).

485  
490 The alternative approach is the direct push model where information is sent directly to the actor intended to use it (e.g., prescriptions sent directly to the pharmacy named by the patient) and therefore no information is stored on a centralized basis. This model focuses on direct communication instead of availability to (more) potential users.

The current revision of the Integration Profile covers use cases relying on the publish & pull model only.

495

### Workflow scenarios

The CMPD Process Flow can be principally differentiated in two basic workflow scenarios, one including a validation step by a Pharmaceutical Adviser and another excluding it:

- **Scenario 1: Including a validation step by a Pharmaceutical Adviser**
- **Scenario 2: Not including a validation step by a Pharmaceutical Adviser**

500

A domain using CMPD has to define in which workflow scenario it operates. Workflow scenarios cannot be used compounded.

Any software implementations of the CMPD Profile have to be able to operate in both workflow scenarios.

### 505 **4.4.1 Use Case community pharmacy-active substance, publish & pull (Scenario 1: “Including validation step, but not including planning and administration”)**

The purpose of this use case is to illustrate the prescription-dispense process in community pharmacy when the prescriber orders an active-substance (generic) medicine in the publish & pull model.

510 The process of this use case includes the validation step performed by a Pharmaceutical Adviser.

<p><u>Note:</u> The optional initial planning and the documentation of the administration of the medication would be eligible to be included in this scenario steps, but are not represented here in order to limit complexity. Inclusion of those two steps can be seen in the second scenario.</p>
--

The following diagram shows the workflow of this use case and illustrates the overall context of

515

- ... (workflow) tasks  
Ordering, Validation, Dispensation
- ... which actor performs the task  
Prescription Placer, Pharmaceutical Adviser, Medication Dispenser
- ... the conditions leading to the next task

520

In some cases depending on the outcome of the pharmaceutical validation documented in a Community Pharmaceutical Advice document (see PADV Profile)

- ... on which task-transition each query of transaction PHARM-1 is used and which business rule it has to follow

FindPrescriptionsForValidation (by the Pharmaceutical Adviser)

525

FindPrescriptionsForDispense (by the Medication Dispenser)

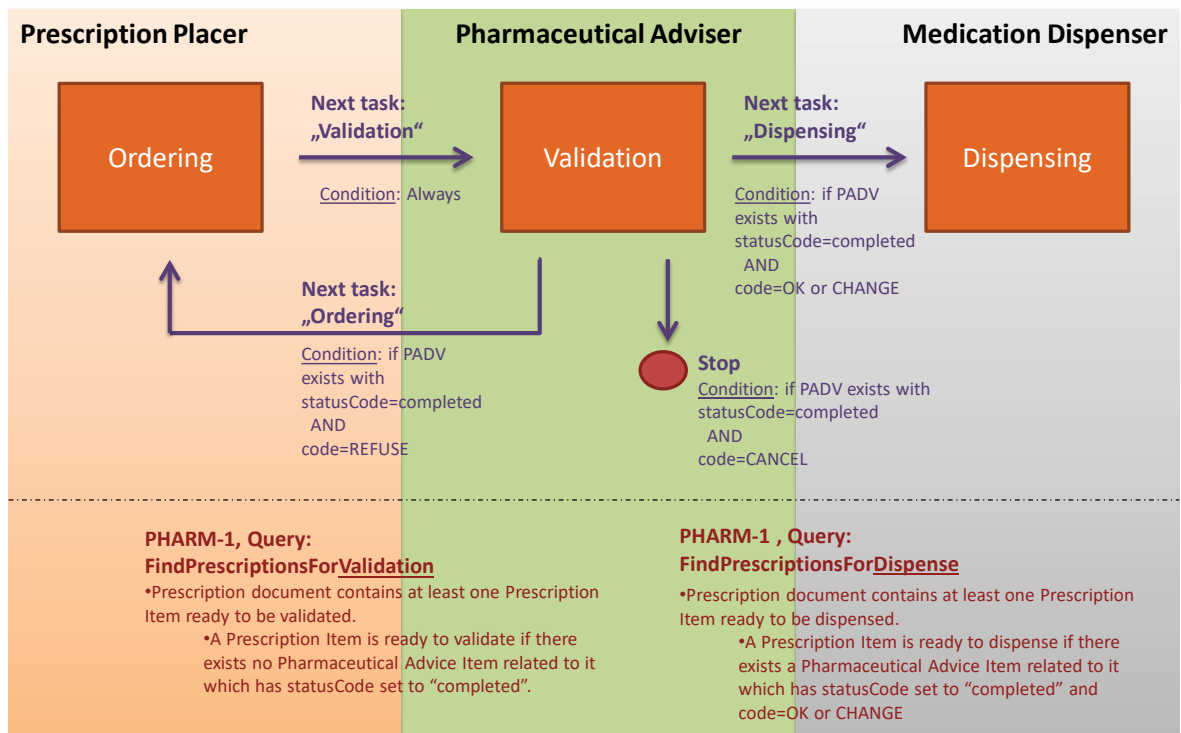


Figure 4.4.1-1: Scenario 1: Overall context of the workflow

530

This workflow is implicitly specified by the narrative descriptions in both this profile as well as in the Community Pharmaceutical Advice Profile.

Note that software implementations shall be able to perform it in any case, whether or not actors are grouped with option “Workflow Management” (grouping with that option does not change the actual workflow, it just allows “technical” workflow management).

Please refer to:

- 535       • Community Medication Prescription and Dispense (CMPD) Profile
  - Volume 2, Section 3.1.4.1.2.1.1.5 FindPrescriptionsForValidation
  - Volume 2, Section 3.1.4.1.2.1.1.6 FindPrescriptionsForDispense
  - In case of grouping with XDW: Volume 2, Section 4 Workflow Definitions
- 540       • Community Pharmaceutical Advice (PADV) Profile
  - Vol. 2, Section 6.3.4.3.3.6 Status Code
  - Vol. 2, Section 6.3.4.3.3.4 Observation Code

#### 4.4.1.1 Story Board

545       John Doe attends a consultation to his general practitioner, GP, because he is experiencing some breathing difficulty. The practitioner examines John and prescribes the active substance “Fenoterol” in his “Prescription Placer” software. The prescription is electronically sent to the “Prescription Repository”.

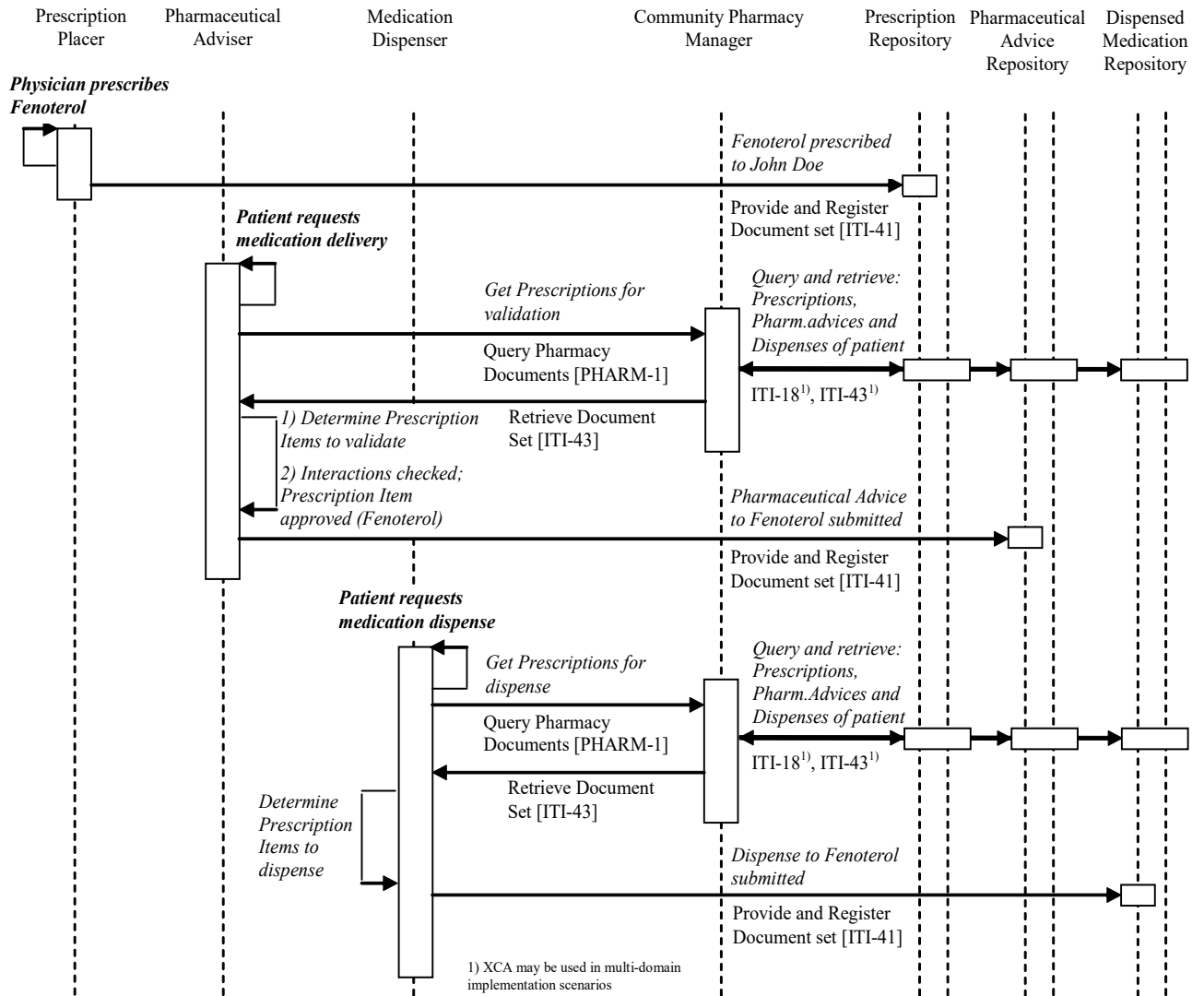
550       Since prescriptions are available to a wide range of pharmacies, John picks the pharmacy closest to his office. The pharmacist asks for John’s health card in order to retrieve the patient’s active prescriptions. Since John also suffers from arthritis he has been prescribed Ibuprofen. The pharmacist checks for interactions and finds nothing outstanding. The information on the pharmaceutical advice is electronically sent to the “Pharmaceutical Advice Repository”.

555       He consults his inventory and picks Berotec® which is in the range of prices approved by the health system. He gives out this medicine to the patient and records the transaction in the “Medication Dispenser”. The information on the medication dispensed is electronically sent to the “Dispensed Medication Repository”.

#### 4.4.1.2 Sequence Diagram

The following diagram represents the sequence of data exchanged between “system actors” involved in this use case.





560

**Figure 4.4.1.2-1: Use Case community pharmacy-active substance, publish & pull - Process Flow (Scenario 1)**

565 This diagram illustrates the complete workflow of the prescription of a medication, the successful validation of the Prescription Item and the dispense of the medication (Scenario 1).

**4.4.2 Use Case community pharmacy-active substance, publish & pull (Scenario 2: “Including planning and administration, but not including validation step”)**

570 The purpose of this use case is to illustrate the planning-prescription-dispense-administration process in community pharmacy when the prescriber first plans an active substance (generic) medicine and then orders it in the publish & pull model.

The process of this use case does not include the validation step performed by a Pharmaceutical Adviser.

The following diagram shows the workflow of this use case and illustrates the overall context of

- ... (workflow) tasks
 

575            Planning, Ordering, Dispense, Administration
- ... which actor performs the task
 

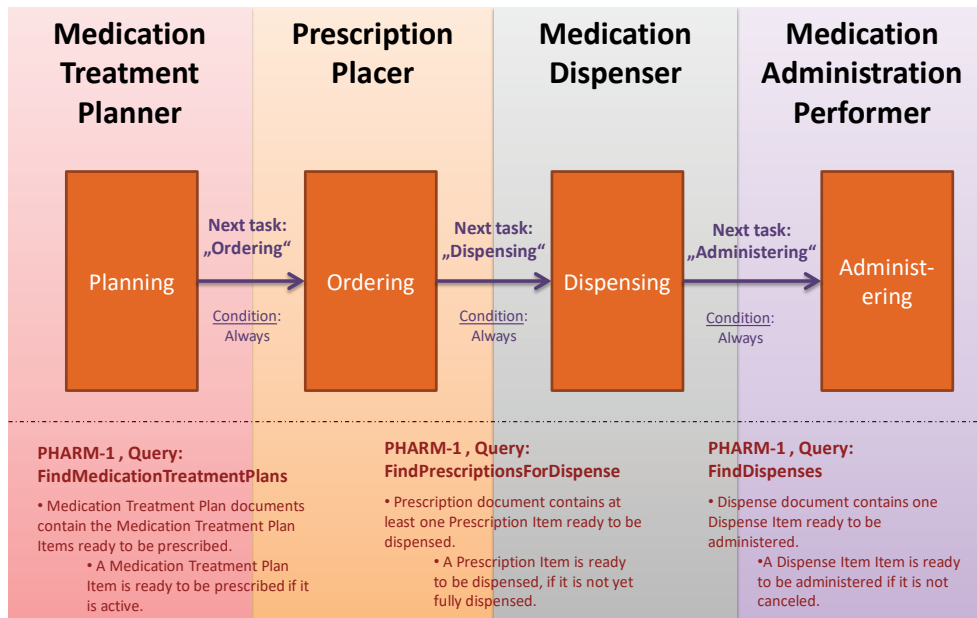
                 Medication Treatment Planner, Prescription Placer, Medication Dispenser, Medication Administration Performer
- ... the conditions leading to the next task
- 580 • ... on which task-transition each query of transaction PHARM-1 is used and which business rule it has to follow
 

                 FindMedicationTreatmentPlans (by the Prescription Placer)

                 FindPrescriptionsForDispense (by the Medication Dispenser)

                 FindDispenses (by the Medication Administration Performer)

585



**Figure 4.4.2-1: Scenario 2: Overall context of the workflow**

This workflow is implicitly specified by the narrative descriptions in this profile.

590 Note that software implementations shall be able to perform it in any case, whether or not actors are grouped with option “Workflow Management” (grouping with that option does not change the actual workflow, it just allows “technical” workflow management).

Please refer to:

- Community Medication Prescription and Dispense (CMPD) Profile  
Volume 2, Section 3.1.4.1.2.1.1.1 FindMedicationTreatmentPlans

595 Volume 2, Section 3.1.4.1.2.1.1.6 FindPrescriptionsForDispense

Volume 2, Section 3.1.4.1.2.1.1.3 FindDispenses

In case of grouping with XDW: Volume 2, Section 4 Workflow Definitions

#### 4.4.2.1 Story Board

600 John Doe attends a consultation to a physician, because he wants a treatment of his drug-addiction. The physician examines John and decides to add John to a drug-substitution programme on Methadone. He adds “Methadone” to the planned medications in his “Medication Treatment Plan Planner” software. The new planned medication “Methadone” is electronically sent to the “Medication Treatment Plan Repository”.

605 As a prescription is required for getting this medication from the pharmacy, the physician also prescribes “10mg Methadone” as repeatable prescription in his “Prescription Placer” software. The prescription is electronically sent to the “Prescription Repository”.

Regulations according to the drug-substitution therapy require the medication to be taken by the patient directly in the dispensing pharmacy so that the pharmacist witnesses the intake and is able to electronically document the administration.

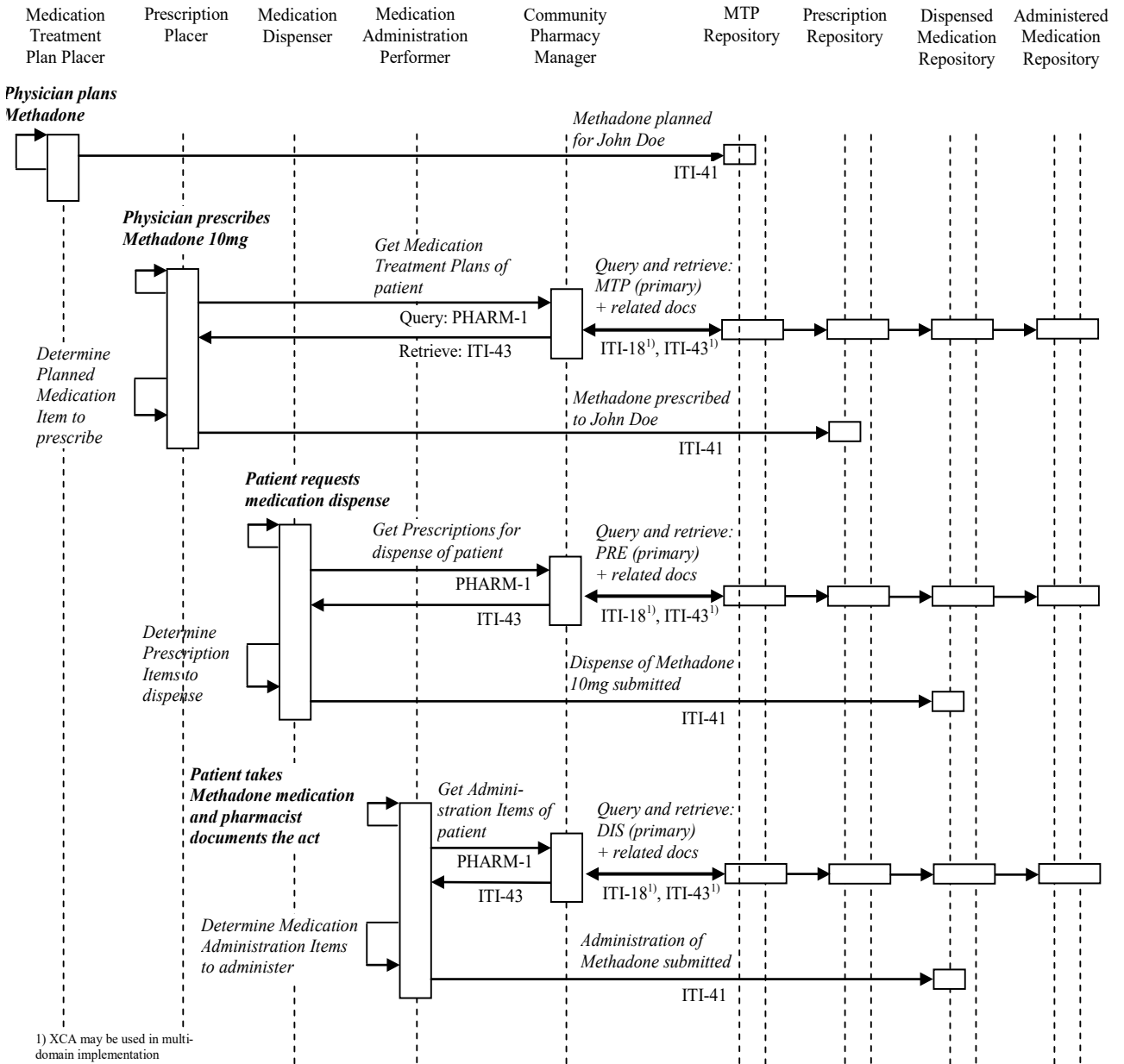
610 After the patient is entering the pharmacy and hands out the prescription to the pharmacist, the pharmacist dispenses the medication to the patient in a “ready-to-be-taken” form.

615 The patient drinks the Methadone solution in front of the pharmacist and the pharmacist documents the administration act in his “Medication Administration Performer” software. The documentation of the administration is electronically sent to the “Administered Medication Repository”.

#### 4.4.2.2 Sequence Diagram

The following diagram represents the sequence of data exchanged between “system actors” involved in this use case.

# IHE Pharmacy Technical Framework Supplement – Community Medication Prescription and Dispense (CMPD)



620

**Figure 4.4.2.2-1: Use Case community pharmacy-active substance, publish & pull - Process Flow (Scenario 2)**

This diagram illustrates the complete workflow of the planning, prescription, dispense and administration of the medication without validation (Scenario 2).

625 **4.4.3 Use Case: Physician requests Medication List**

The purpose of this use case is to illustrate the process of requesting the Medication List by a physician. This requires the support of the “Provision of Medication List” Option at the Community Pharmacy Manager.

**4.4.3.1 Story Board**

630 John Doe attends a consultation to his general practitioner, GP, because he is experiencing some breathing difficulty. The practitioner examines John and wants to prescribe the active substance “Fenoterol” in his “Prescription Placer” software.

To ensure that there are no conflicts between the new medication and the patient’s current medication status, the physician requests the Medication List.

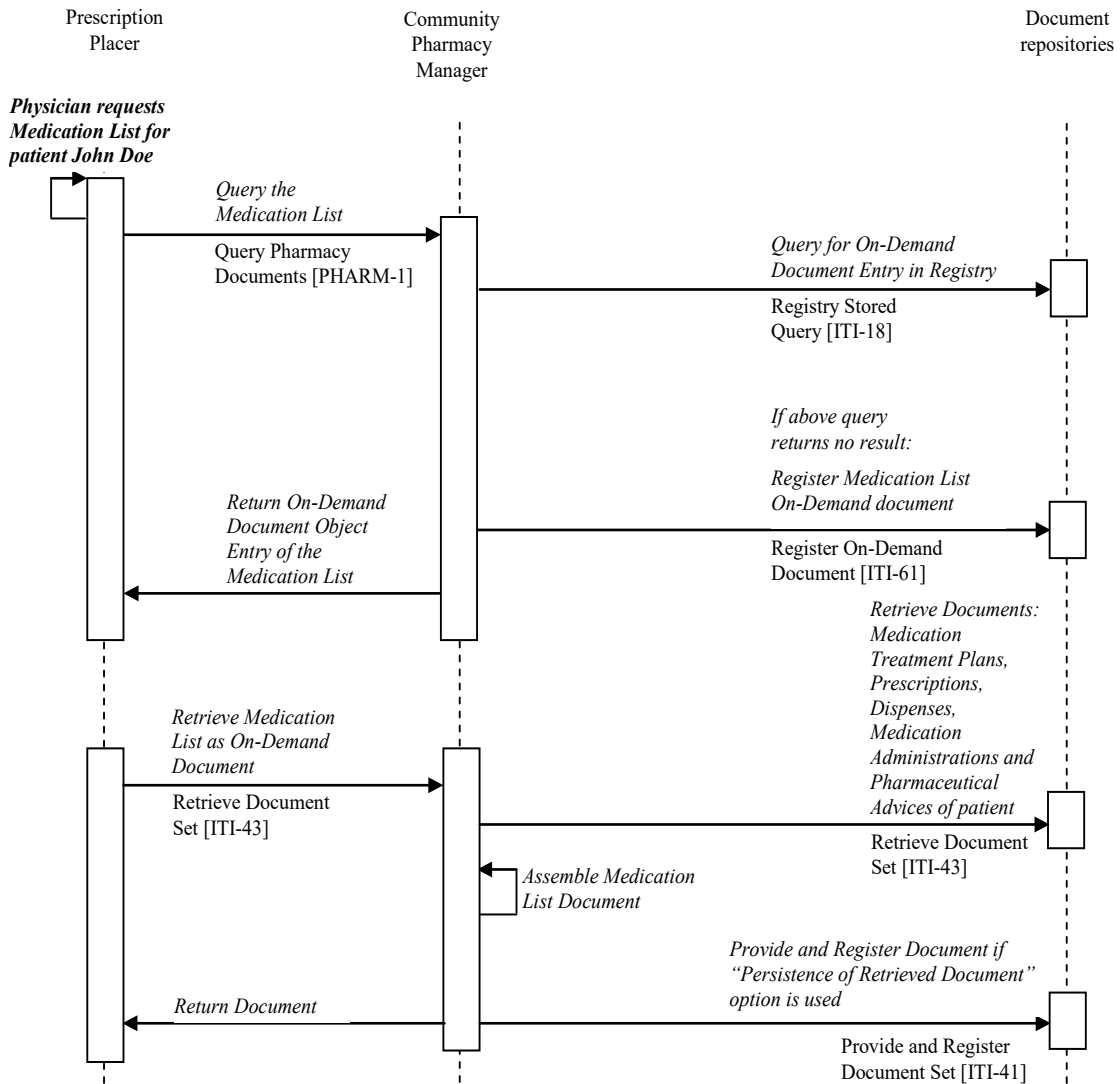
635 The Prescription Placer uses transaction “Query Pharmacy Document” [PHARM-1] with query “FindMedicationList” to query the Medication List at the Community Pharmacy Manager.

The Community Pharmacy Manager queries the registry for the on-demand document entry of the Medication List to this patient. In case this query does not return a valid result, the Community Pharmacy Manager uses transaction “Register On-Demand Document” [ITI-61] to register the Community Medication List On-Demand Document. Either the found or just created Document Entry will be returned to the calling Prescription Placer.

640 The Prescription Placer now uses transaction “Retrieve Document Set” [ITI-43] to retrieve the actual Community Medication List Document from the Community Pharmacy Manager. The Community Pharmacy Manager uses ITI XDS transactions to query and retrieve Community Medication Treatment Plan-, Community Prescription-, Community Pharmaceutical Advice-,  
645 Community Dispense- and Community Medication Administration Documents from the repositories in order to assemble the Community Medication List Document. Once the document is assembled it returns the document to the calling Prescription Placer. If the “Persistence of Retrieved Documents” Option is used the returned document is also provided and registered in  
650 the registry/repository backend.

**4.4.3.2 Sequence Diagram**

The following diagram represents the sequence of data exchanged between “system actors” involved in this use case.



655

**Figure 4.4.3-1: Use Case Physician requests Medication List - Process Flow**

This diagram illustrates the complete workflow of the process of requesting the Medication List.

#### 4.4.4 Use Case: Physician changes/cancels or suspends an unfilled prescription

660 The purpose of this use case is to illustrate the process of changing/canceling or suspending an unfilled prescription by a physician.

##### 4.4.4.1 Story Board

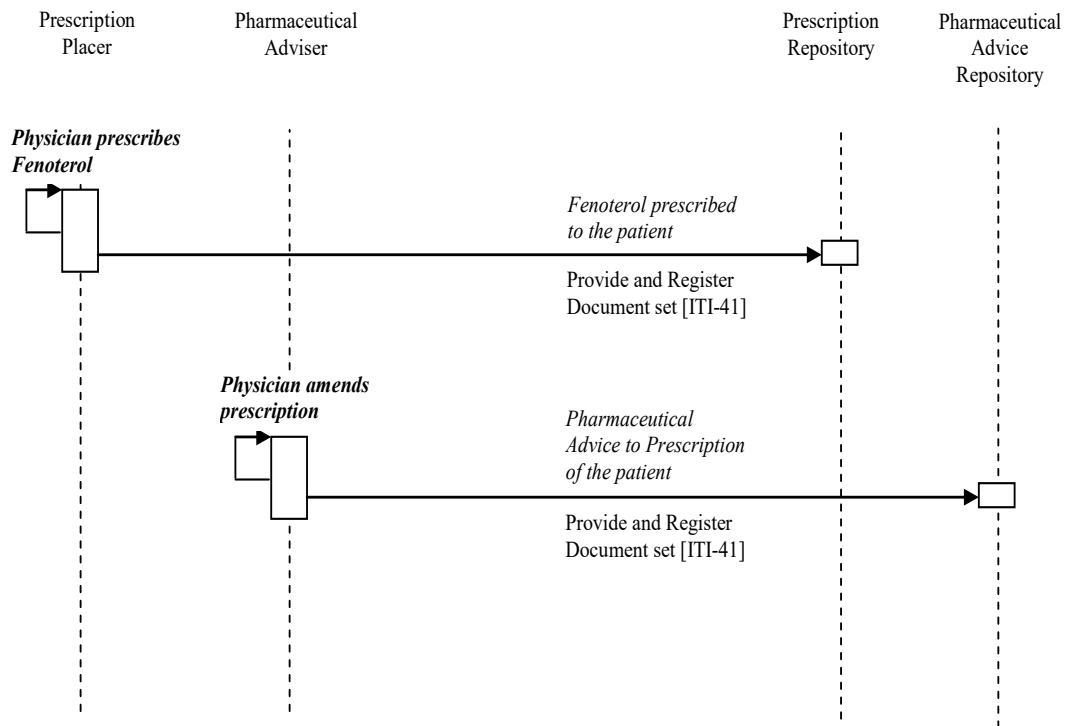
After getting Fenoterol prescribed by a physician, the patient John Doe, not having the medication dispensed by the pharmacy yet, re-visits the physician on the next day because the illness had improved. The patient has not yet received the prescribed medication at a pharmacy.

- 665 The physician performs another physical examination to confirm the improved health status and decides to amend the original prescription of Fenoterol by either *changing* it (e.g., to keep the medication, but with a lower dosage), *canceling* it (because it’s not needed anymore) or *suspend* it (to observe the further course of the illness with the intention to decide later if the medication shall be given or canceled).
- 670 The physician issues a Community Pharmaceutical Advice document to record the command and instructs the patient.

#### 4.4.4.2 Sequence Diagram

The following diagram represents the sequence of data exchanged between “system actors” involved in this use case.

675



**Figure 4.4.4-1: Use Case: Physician changes/cancels or suspends an unfilled prescription**

#### 4.4.5 Use Case: Physician changes/stops or suspends the treatment with an already dispensed medication

680

The purpose of this use case is to illustrate the process of changing/stopping or suspending the treatment with an already dispensed medication by a physician.

#### 4.4.5.1 Story Board

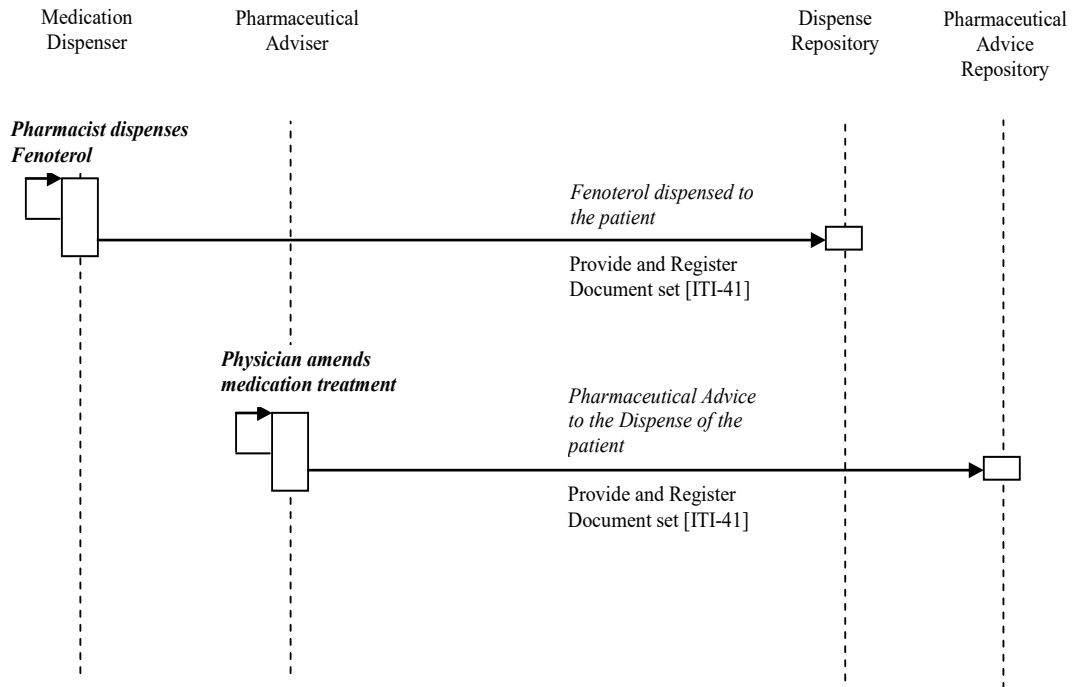
685 After getting a prescription for Fenoterol by a physician, the patient John Doe has the medication dispensed by the pharmacy. The patient takes the medication for seven days. He then re-visits the physician because the illness had improved.

The physician performs another physical examination to confirm the improved health status and decides to amend the treatment with Fenoterol by either *changing* it (e.g., with a lower dosage), *stopping* it (because it's not needed anymore) or *suspending* it (e.g., to observe the further course of the illness with the intention to decide later if the medication shall be continued or stopped).<sup>21</sup>

690 The physician issues a Community Pharmaceutical Advice document to record the command and instructs the patient.

#### 4.4.5.2 Sequence Diagram

695 The following diagram represents the sequence of data exchanged between “system actors” involved in this use case.



**Figure 4.4.5-1: Use Case: Physician changes/stops or suspends the treatment with an already dispensed medication**

<sup>21</sup> Setting a medication treatment to suspend might also be used at admission of the patient into a hospital, because the hospital takes full control over the medication of the patient during the hospital stay. The original medication might be resumed at discharge of the patient.



700 **4.4.6 Use Case: Physician documents a medication-related issue after a chemotherapy medication was administered**

The purpose of this use case is to illustrate the process of documenting a medication-related issue to an administered chemotherapy medication.

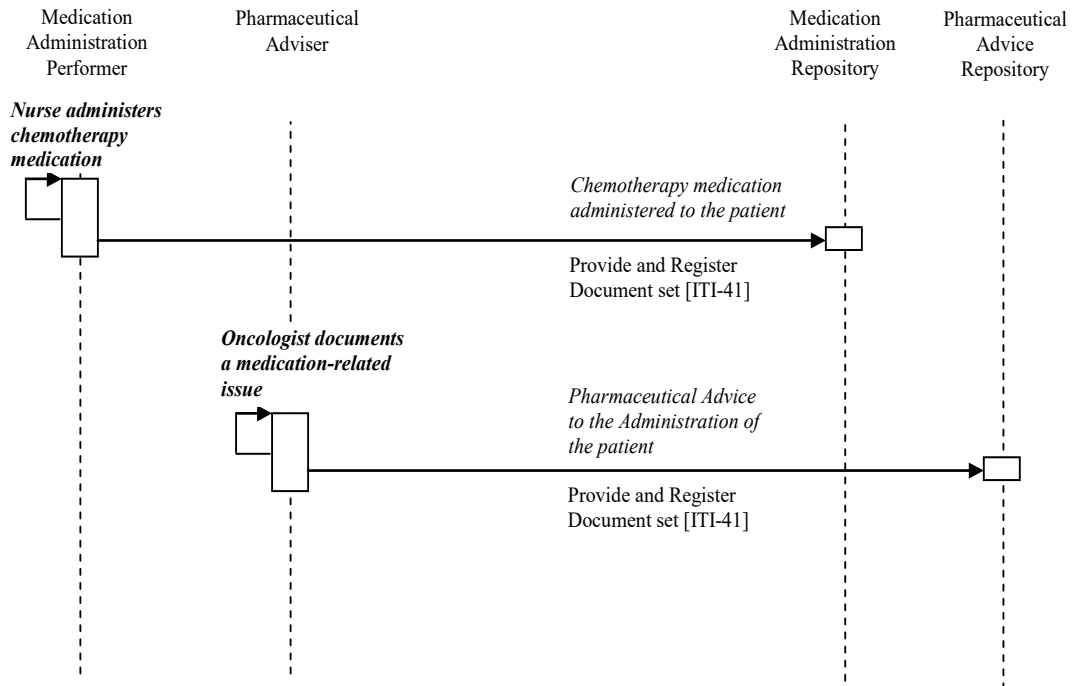
**4.4.6.1 Story Board**

705 The patient John Doe is subject to a chemotherapy treatment. After getting a chemotherapy medication administered by a nurse and the administration act was fully documented, the patient goes home, but since he felt very bad, she returns to the outpatient department of the hospital and faints while waiting for her oncologist.

710 After arrival, the oncologist performs a physical examination and recognizes a potential relation of this issue to the just administered chemotherapy medication. The oncologist issues a Community Pharmaceutical Advice document related to the documented administration to document this potential medication-related issue.

**4.4.6.2 Sequence Diagram**

715 The following diagram represents the sequence of data exchanged between “system actors” involved in this use case.



**Figure 4.4.6-1: Use Case: Physician documents a medication-related issue after a chemotherapy medication was administered**

## 720 4.5 CMPD Security Considerations

Relevant XDS Affinity Domain Security background is discussed in the XDS Security Considerations Section (see ITI TF-1: 10.7).

## 4.6 CMPD Implementation Scenarios

725 The following section describes several implementation scenarios for the Community Medication Prescription and Dispense Integration Profile.

730 The planning, prescription and dispense process of real-world projects involves several parties acting in the different abstract roles (Medication Treatment Planner, Prescription Placer, Pharmaceutical Adviser, Medication Dispenser, Medication Administration Performer). The Medication Treatment Planner and Prescription Placer roles are usually taken by physicians; the Pharmaceutical Adviser and Medication Dispenser role is usually taken by pharmacists; the Medication Administration Performer role may be taken by physicians or nurses, which all are usually organized in different organizations.

735 This results in a wide variety of implementation requirements together with the need of not only organizational but also technical separation of systems. Physicians may want to store plans, prescriptions and administrations in another repository other than where pharmacists store dispenses or nurses store administrations. In a strict separation even the use of separate IHE affinity domains is required to arrange a throughout distinct scenario. CMPD was designed to be used in either single-domain or multi-domain scenarios to fit to these requirement.

740 Any political intended separation has to be technically bridged at one point otherwise a common planning, prescription and dispense process cannot be established. To minimize the possible points of contact between the domains the Community Pharmacy Manager was introduced.

Explanation to the diagrams used in the following implementation scenario sections:

- Dotted lines mean separation of concerns
- Different background colors mean different XDS affinity domains

### 745 4.6.1 Usage of CMPD in a “single-domain” scenario

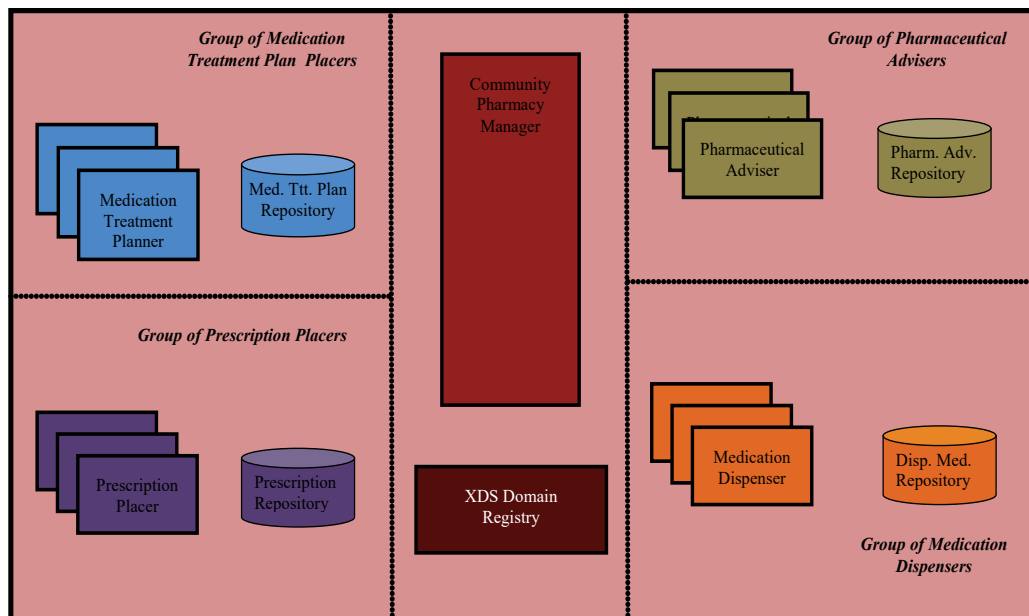
The descriptions of CMPD in the previous sections are aligned to the usage of the profile in a scenario where all actors are hosted in a *single XDS Affinity domain*.

750 Operating within a single XDS Affinity domain is the most simple implementation scenario and has several benefits, like e.g., that just one registry holds any document metadata, which eases query, retrieving and publishing of documents, etc.

On the other hand a simple scenario like this may not be applicable to scenarios in reality, where organizational, strategical or political reasons require more separation between the participating parties (physicians, pharmacists).

755 The following diagram shows a simple example of a single-domain implementation scenario to demonstrate the capabilities of CMPD.

Note: The “Administration” level (Medication Administration Performer) aligns with the principle as shown and is not included in this scenario in the interest of simplicity.



760

#### Description of the example scenario

765 The group of Medication Treatment Planners, Prescription Placers, Pharmaceutical Advisers and Medication Dispensers are altogether located in one XDS affinity domain. Each group stores its documents in its own dedicated repository, but all use the same document registry of the affinity domain.<sup>22</sup>

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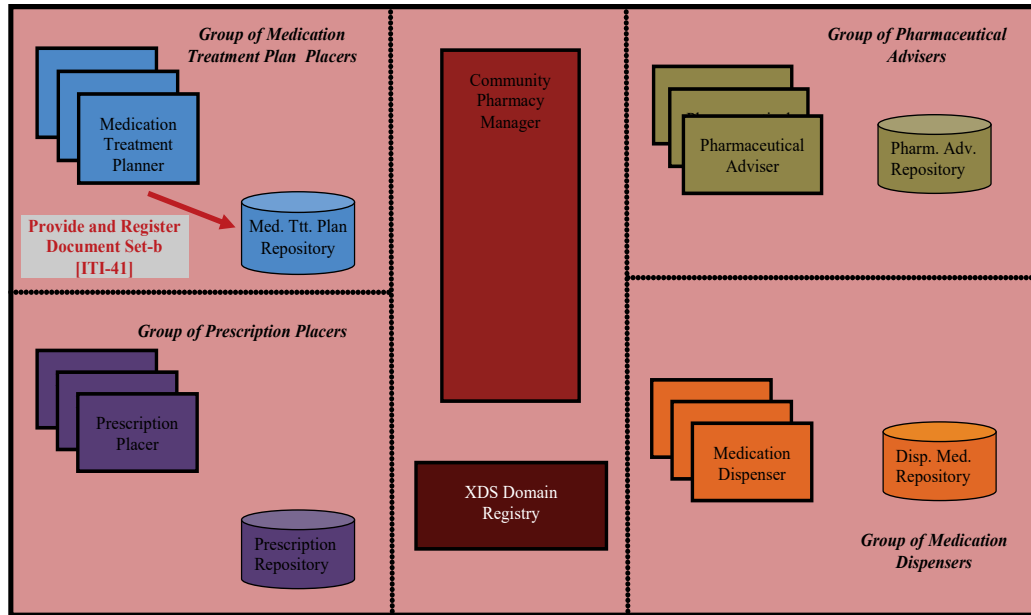
<sup>22</sup> In an even more simplified scenario the different document repositories could be merged into one single document repository, but this would not change the principles of the example.

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#### 4.6.1.1 Demonstration of use case 1 in example scenario (simple)

Step 1: Medication Treatment Planner creates a plan

770 The Medication Treatment Plan is submitted to the appropriate Medication Treatment Plan repository.



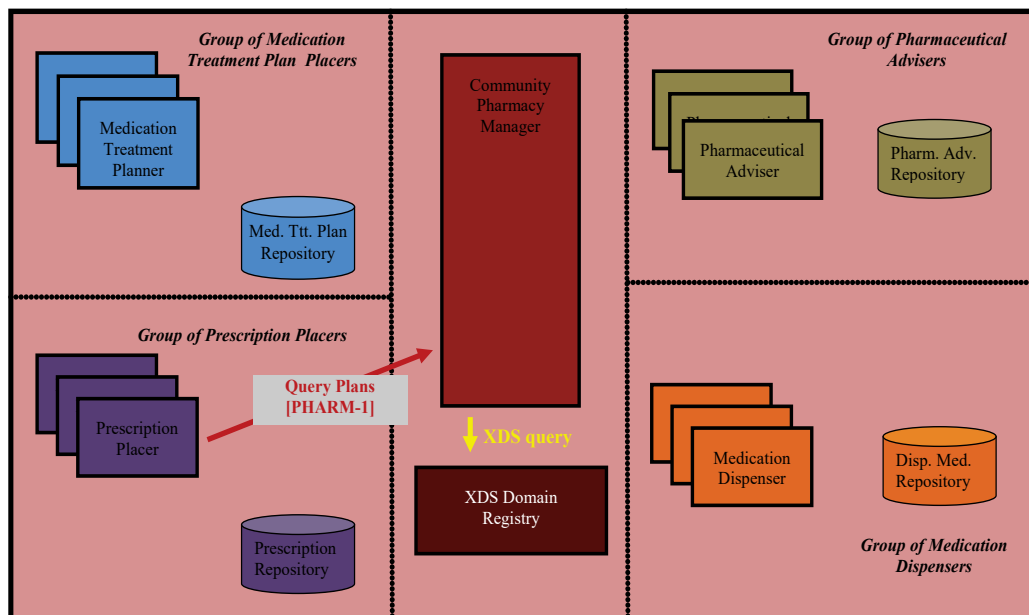
775

Step 2: Prescription Placer queries the plan

The Prescription Placer queries the plan by using transaction PHARM-1, query “**FindMedicationList**” in order to retrieve active Medication Treatment Plan Items.

780 The CPM queries the common XDS domain registry for Community Medication Treatment Plan- and Community Pharmaceutical Advice documents. Then it retrieves all these documents from the appropriate document repositories.

785 After retrieving it does linking of the documents by their document IDs and determines the status of each medication treatment plan. It applies appropriate filtering according to the semantic question “Ready for prescription” (i.e., “Active”) and returns just “relevant” document UUIDs to the Prescription Placer, which proceeds with step 3.



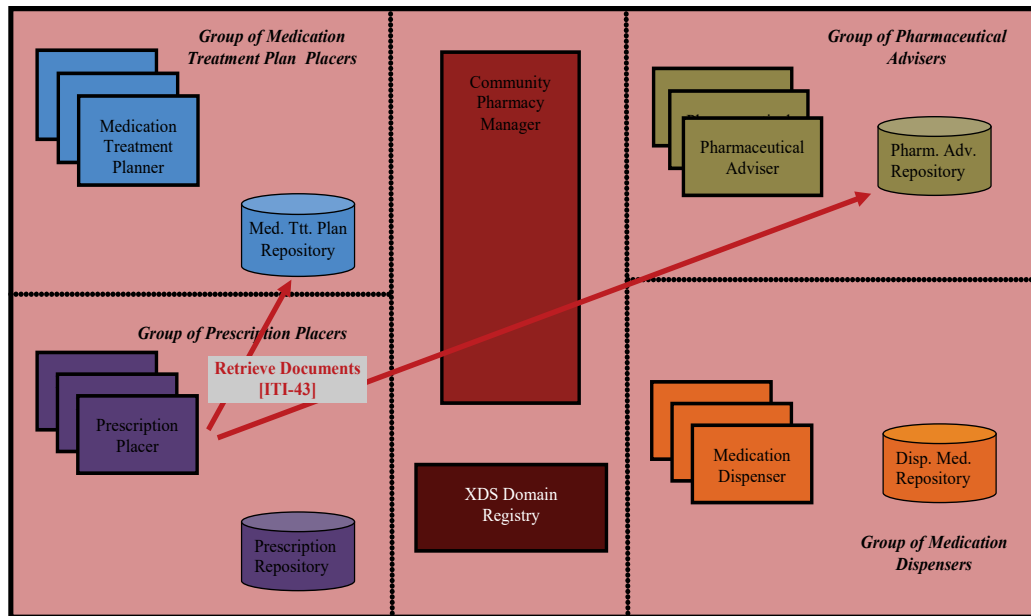
Step 3: Prescription Placer retrieves the documents of the query result

790 The Prescription Placer asks the CPM to retrieve all documents identified by the returned document UUIDs from the according document repositories.

The Prescription Placer (as a machine) parses and relinks the returned documents by their document IDs. Then the system or the human operator performs the selection of medication treatment plans to prescribe and proceeds with step 4.

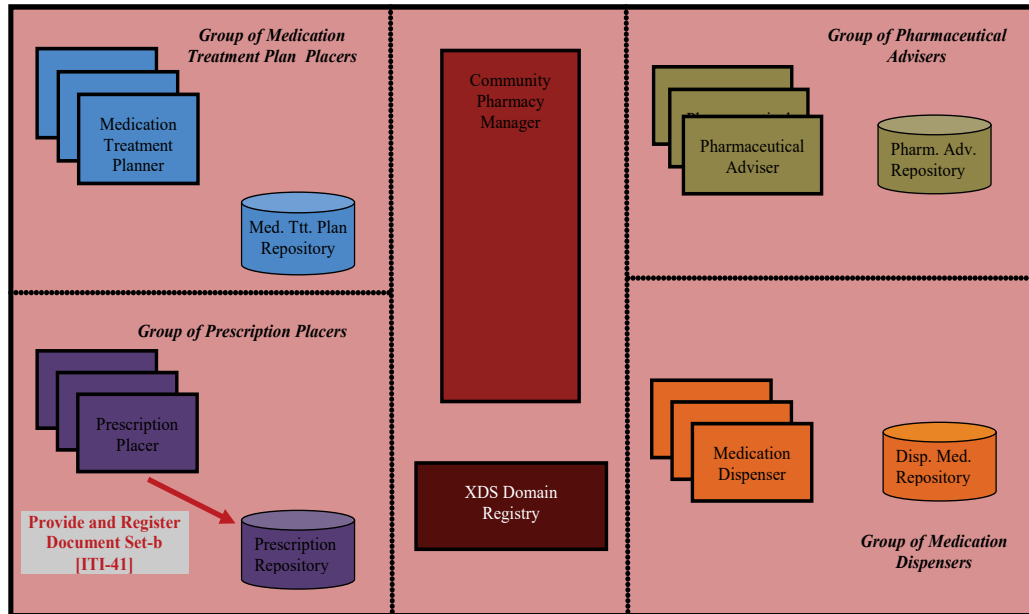
795

# IHE Pharmacy Technical Framework Supplement – Community Medication Prescription and Dispense (CMPD)



Step 4: Prescription Placer creates a prescription

800 The Community Prescription document is submitted to the appropriate Prescription Repository.



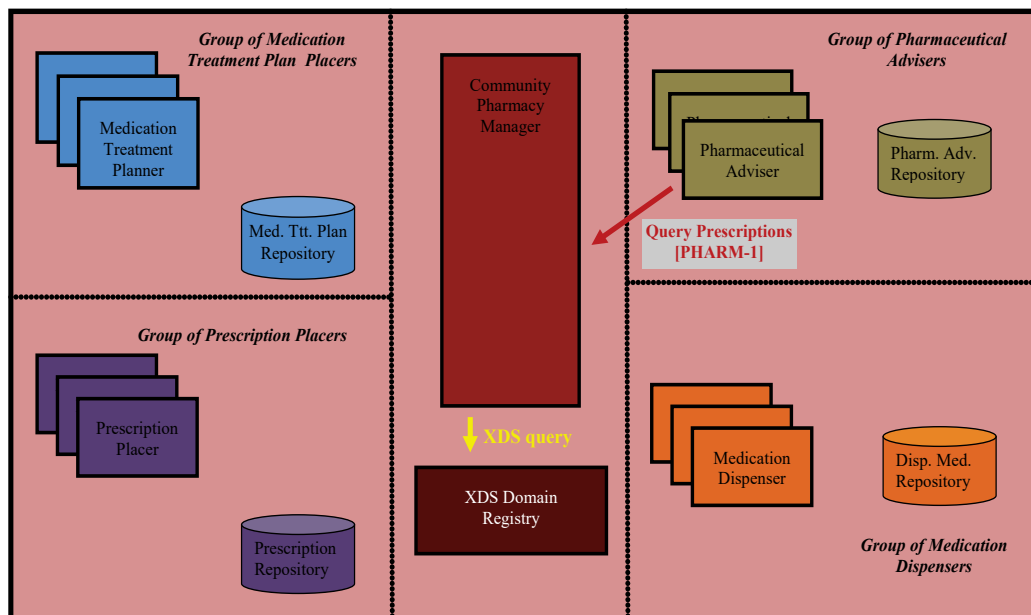
805 Step 5: Pharmaceutical Adviser queries the prescription

The Pharmaceutical Adviser queries the prescription by using transaction PHARM-1, query “**FindPrescriptionsForValidation**”.

810 The CPM queries the common XDS domain registry for prescription, pharmaceutical advice and dispense documents. Then it retrieves all these documents from the appropriate document repositories.

After retrieving it does linking of the documents by their document IDs and determines the status of each prescription. It applies appropriate filtering according to the semantic question “for Validation” and returns just “relevant” document UUIDs to the Pharmaceutical Adviser, which proceeds with step 6.

815

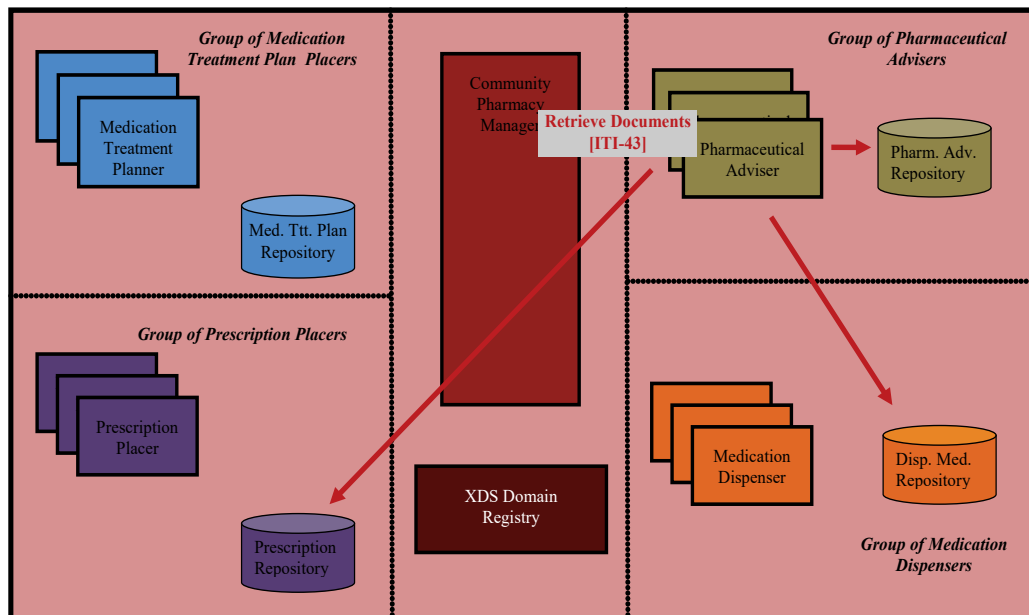




Step 6: Pharmaceutical Adviser retrieves the documents of the query result

820 The Pharmaceutical Adviser asks the CPM to retrieve all documents identified by the returned document UUIDs from the according document repositories.

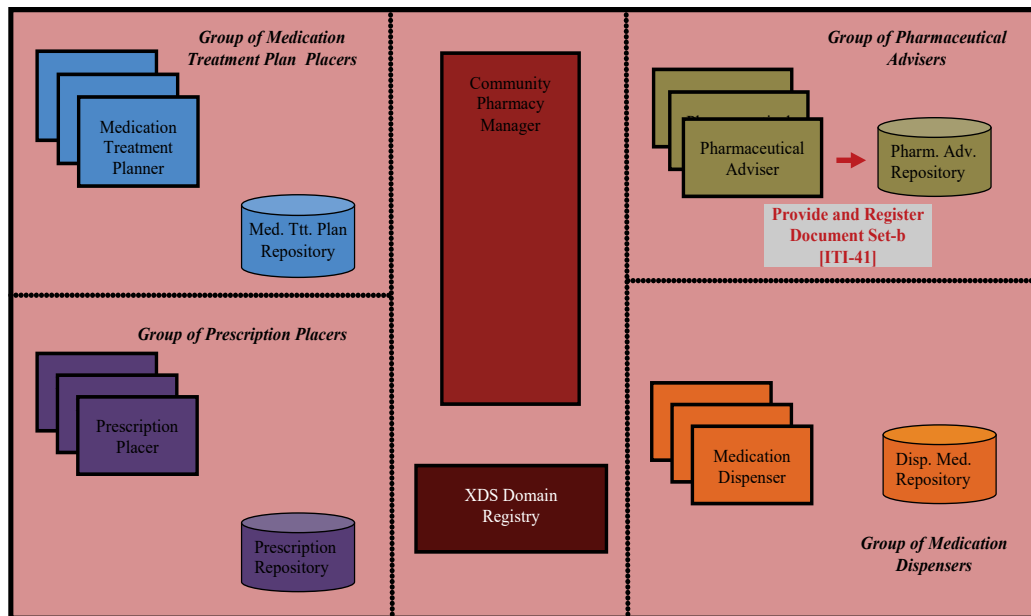
The Pharmaceutical Adviser (as a machine) parses and relinks the returned documents by their document IDs. Then the system or the human operator performs validation and proceeds with step 7.



825

Step 7: Pharmaceutical Adviser submits a pharmaceutical advice

830 After the validation step the outcome of the validation is documented in a Community Pharmaceutical Advice document. This document is submitted to the appropriate Pharmaceutical Advice Repository.



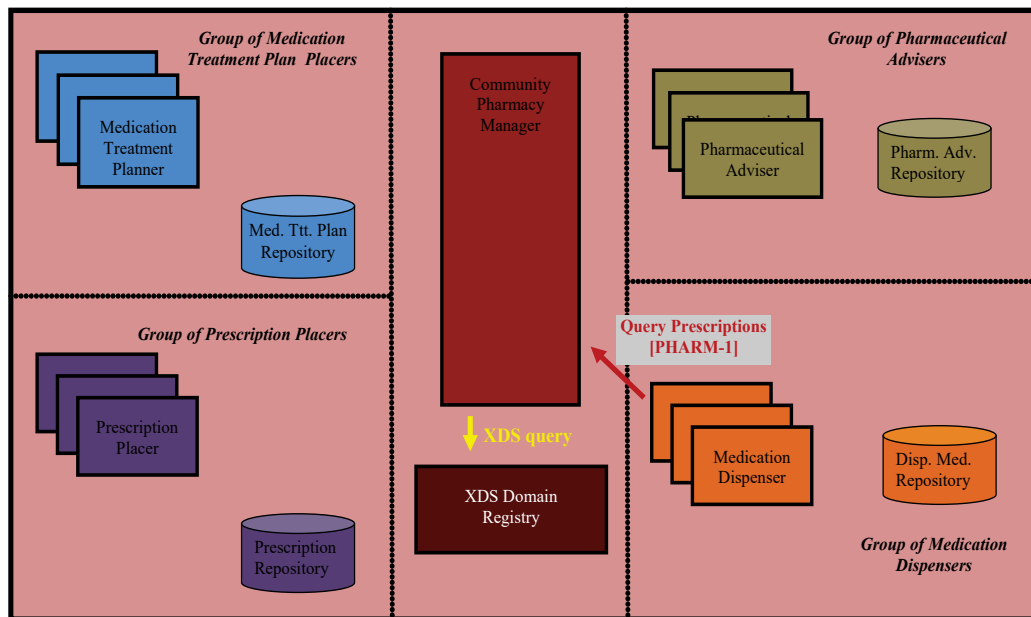
835 Step 8: Medication Dispenser queries the prescription

The Medication Dispenser queries the prescription by using transaction PHARM-1, query “**FindPrescriptionsForDispense**”.

840 Analog to step 5, the CPM queries the XDS domain registry for prescription, pharmaceutical advice and dispense documents. Then it retrieves all these documents from the appropriate document repositories.

After retrieving it performs linking of the documents by their document IDs and determines the status. It applies appropriate filtering according to the semantic question “for Dispense”, and returns just “relevant” document UUIDs to the Medication Dispenser, which proceeds with step 9.

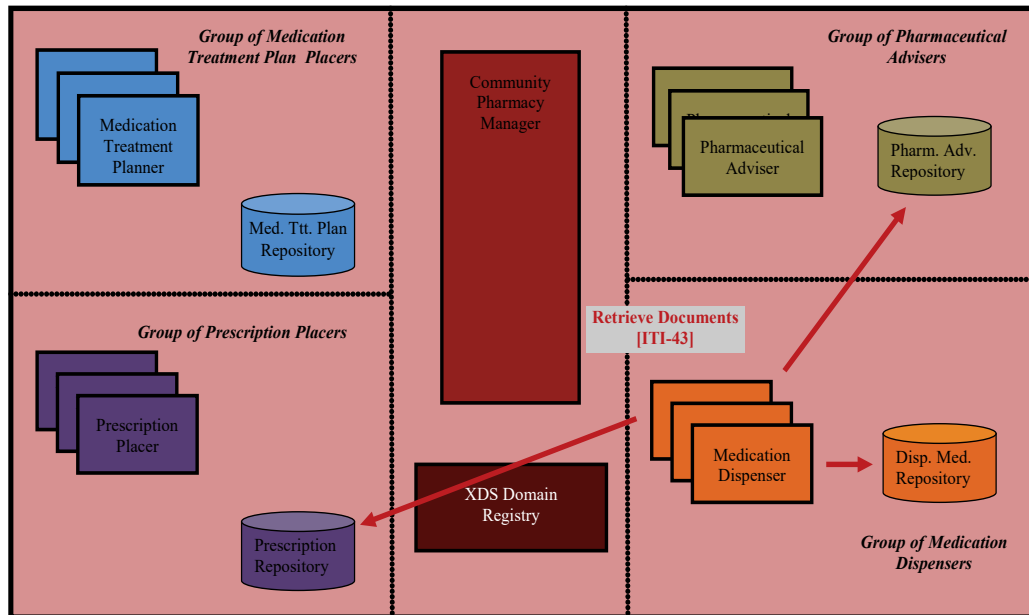
845



Step 9: Medication Dispenser retrieves the documents of the query result

850 The Medication Dispenser asks the CPM to retrieve all documents identified by the returned document UUIDs from the according document repositories.

The Medication Dispenser (as a machine) parses and relinks the returned documents by their document IDs. Then the human operator performs the dispense and proceeds with step 10.

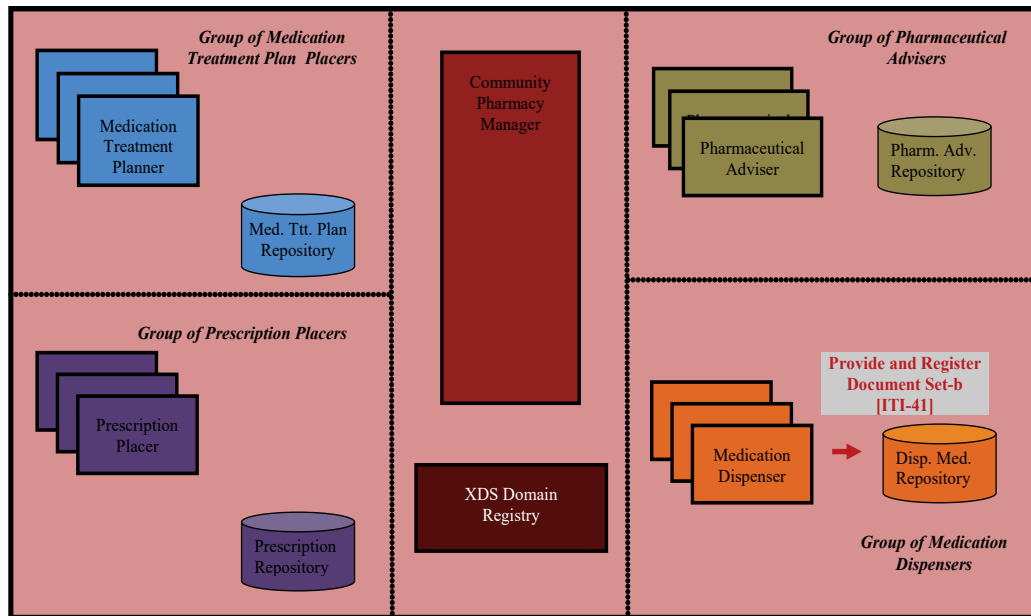


855

Step 10: Medication Dispenser submits a dispense

After the dispense has taken place it is documented in a Community Dispense document. This document is submitted to the appropriate Dispensed Medication Repository.

860



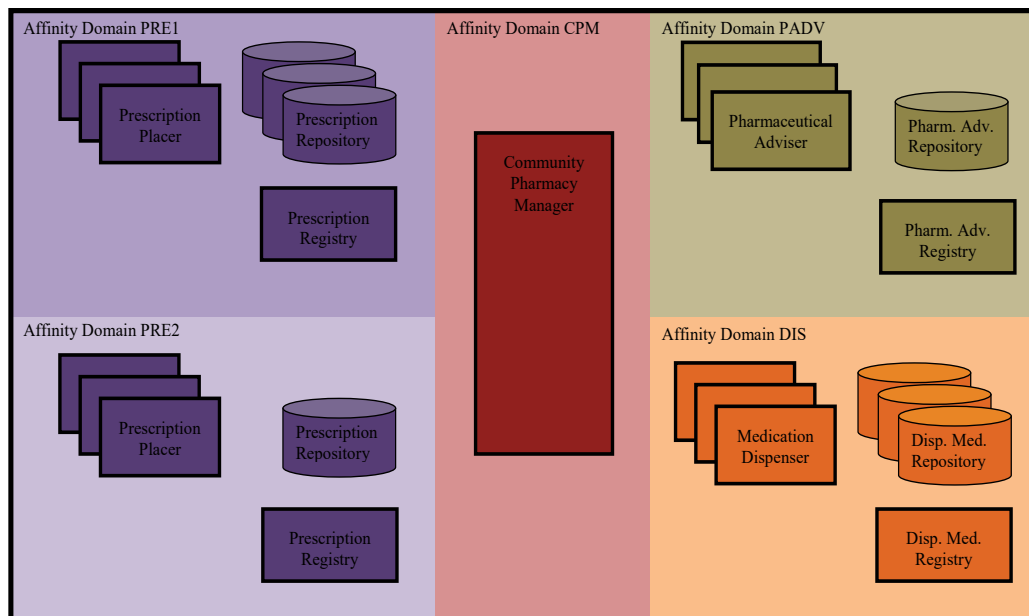
#### 4.6.2 Usage of CMPD in a “multi-domain” scenario

865 The descriptions of CMPD in the previous sections are aligned to the usage of the profile in a scenario where all actors are hosted in a single XDS Affinity domain. Nevertheless the profile can also be used in *multi XDS Affinity domain* scenarios.

Operating within a scenario consisting of multiple XDS Affinity domains is a complex but rather realistic implementation scenario. Its main benefit is that a minimum of technical contact is required between the participating parties of such a system (physicians, pharmacists) for achieving technical interoperability. Such utmost separation might be an organizational, 870 strategic or political requirement.

The following diagram shows an example of a possible multi-domain implementation scenario to demonstrate the capabilities of CMPD.

875 Note: The optional “Plan” level (Medication Treatment Planner) and the “Administration” level (Medication Administration Performer) align with the principle as shown and are not included in this scenario in the interest of simplicity.



#### 880 Description of the example scenario

The group of Prescription Placers divides into 2 separate domains, the first (PRE1) showing a federated architecture with multiple repositories, the second (PRE2) with all clients connected to one.

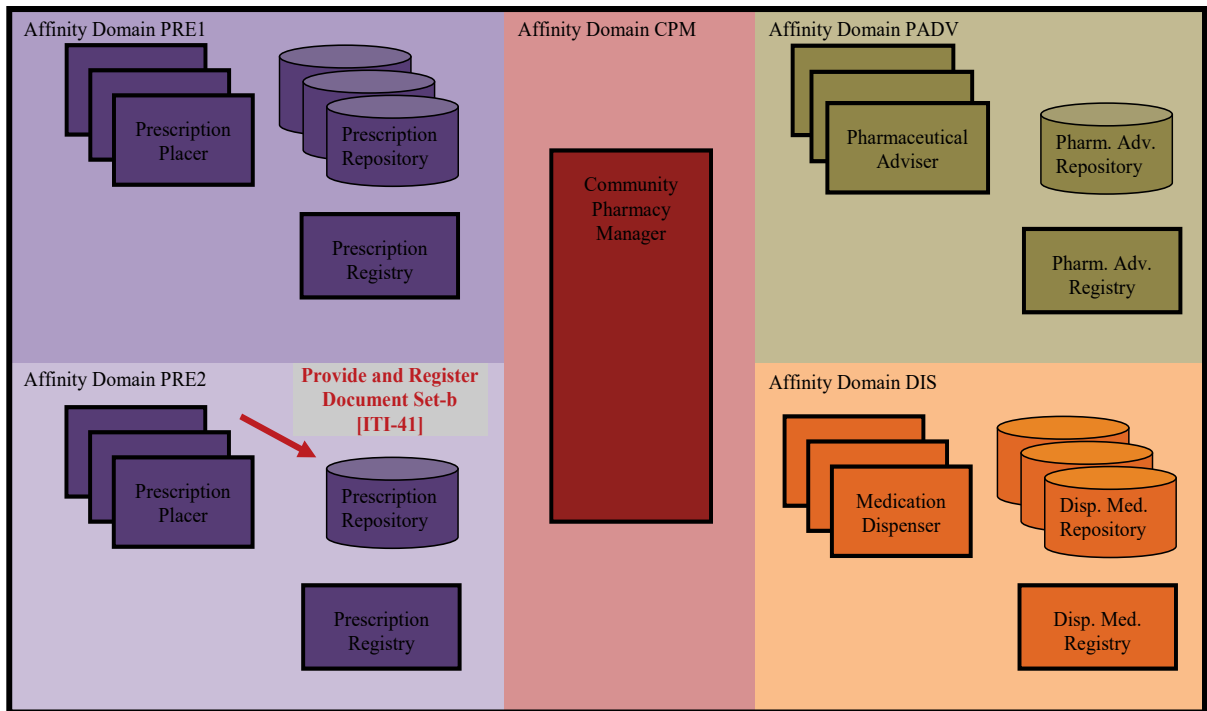
885 The group of Pharmaceutical Advisers is organized in an own affinity domain (PADV), all storing in one repository.

The group of Medication Dispensers are all organized in a common affinity domain (DIS), but everyone stores its dispenses in their own application (also acting as repository).

890 **4.6.2.1 Demonstration of use case 1 in example scenario (complex)**

Step 1: Prescription Placer creates a prescription

The Community Prescription document is submitted to the appropriate Prescription Repository.



895

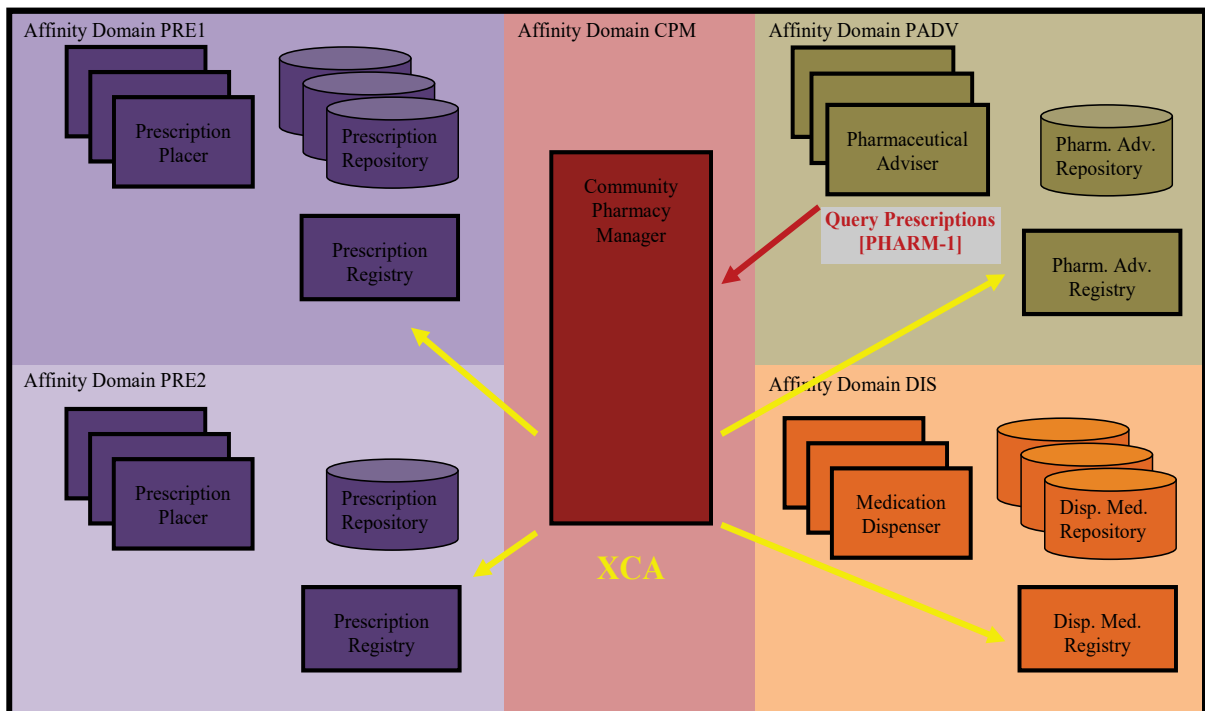


Step 2: Pharmaceutical Adviser queries the prescription

The Pharmaceutical Adviser queries the prescription by using transaction PHARM-1, query “**FindPrescriptionsForValidation**”.

900 In this complex scenario the CPM has to use XCA mechanisms to query all other domains for prescription, pharmaceutical advice and dispense documents. Then it retrieves all these documents from the appropriate document repositories.

905 After retrieving it does linking of the documents by their document IDs and determines the status of each prescription. It applies appropriate filtering according to the semantic question “for Validation” and returns just “relevant” document UUIDs to the Pharmaceutical Adviser, which proceeds with step 3.

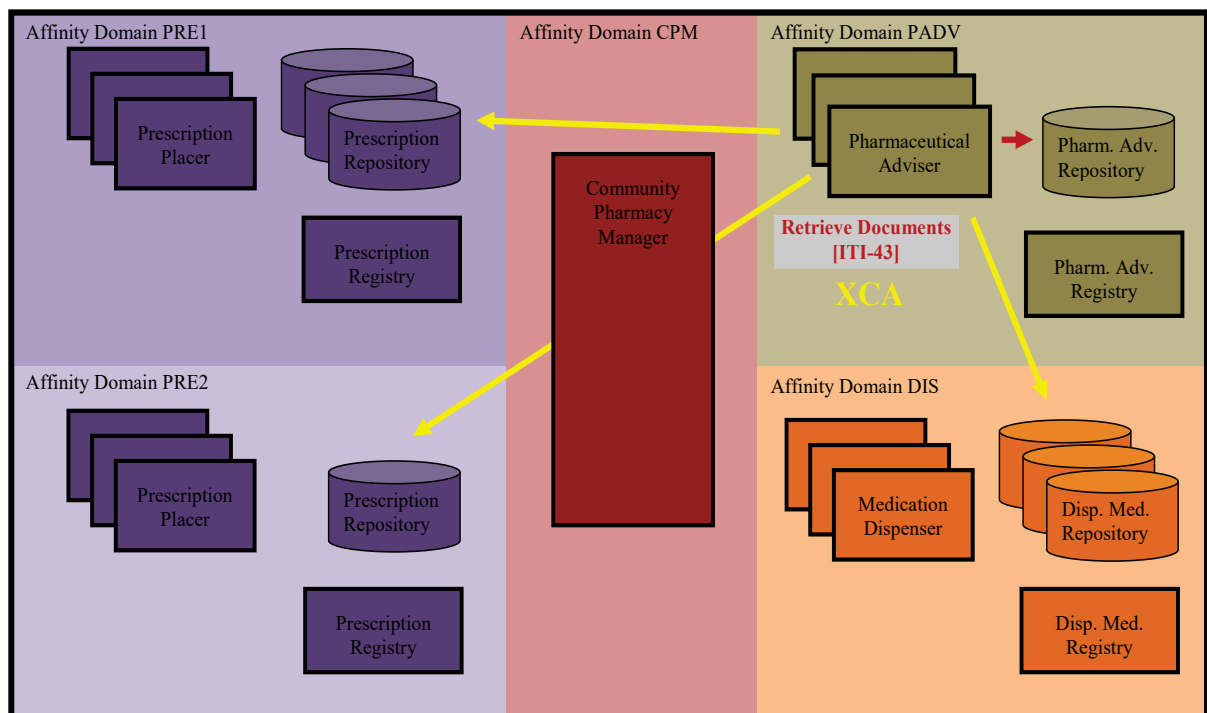


910 Step 3: Pharmaceutical Adviser retrieves the documents of the query result

The Pharmaceutical Adviser retrieves all documents identified by the returned document UUIDs by XCA.

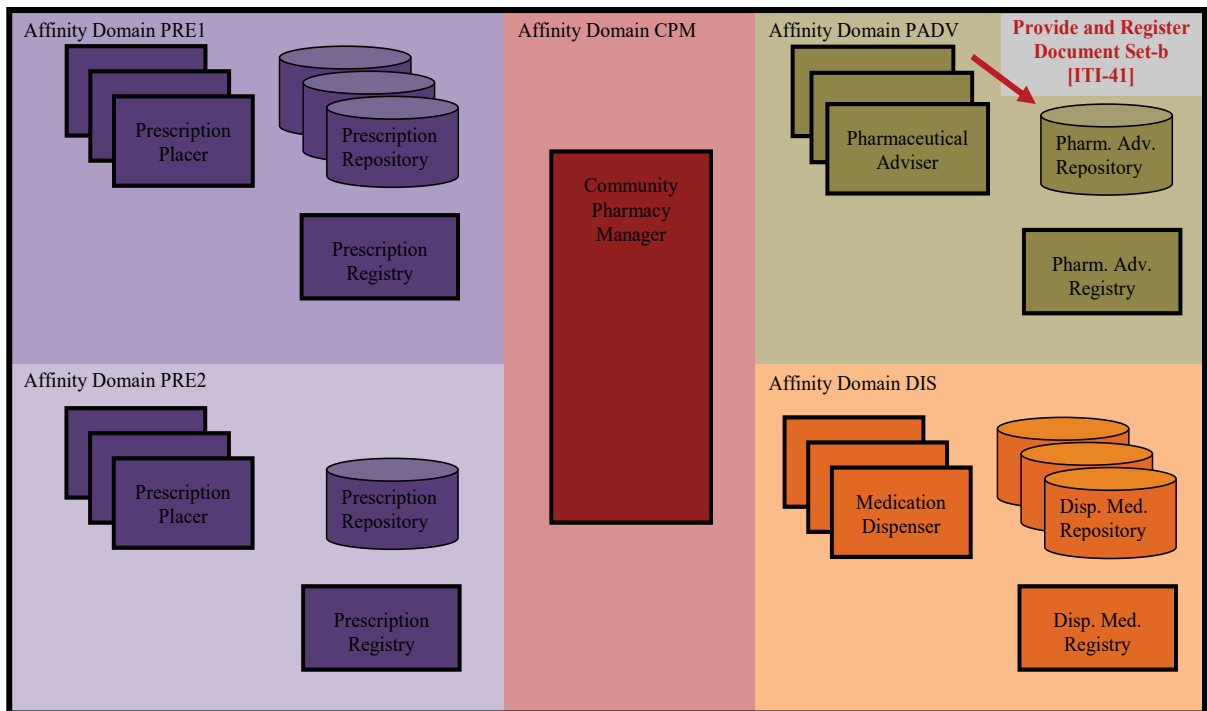
The Pharmaceutical Adviser (as a machine) parses and relinks the returned documents by their document IDs. Then the system or the human operator performs validation and proceeds with

915 step 4.



920 Step 4: Pharmaceutical Adviser submits a pharmaceutical advice

After the validation step the outcome of the validation is documented in a Community Pharmaceutical Advice document. This document is submitted to the appropriate Pharmaceutical Advice Repository.



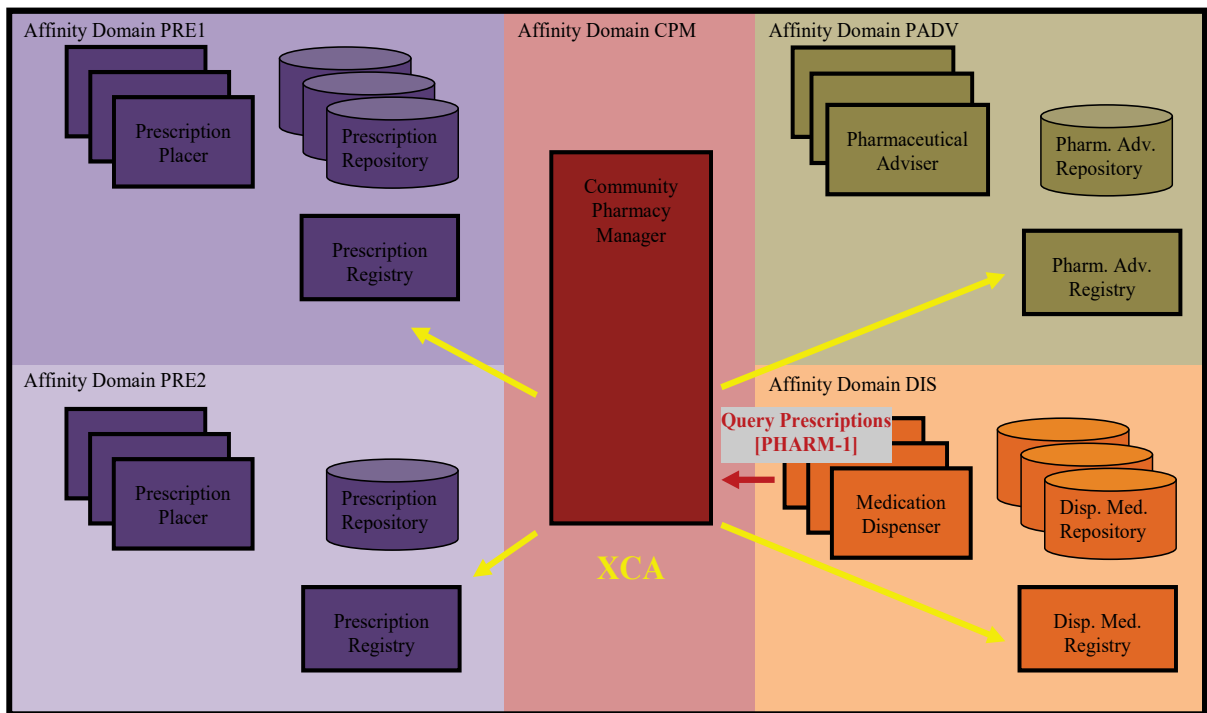
925

Step 5: Medication Dispenser queries the prescription

930 The Medication Dispenser queries the prescription by using transaction PHARM-1, query “**FindPrescriptionsForDispense**”.

Analog to step 2, the CPM uses XCA mechanisms to query all other domains for prescription, pharmaceutical advice and dispense documents. Then it retrieves all these documents from the appropriate document repositories.

935 After retrieving it performs linking of the documents by their document IDs and determines the status. It applies appropriate filtering according to the semantic question “for Dispense”, and returns just “relevant” document UUIDs to the Medication Dispenser, which proceeds with step 6.

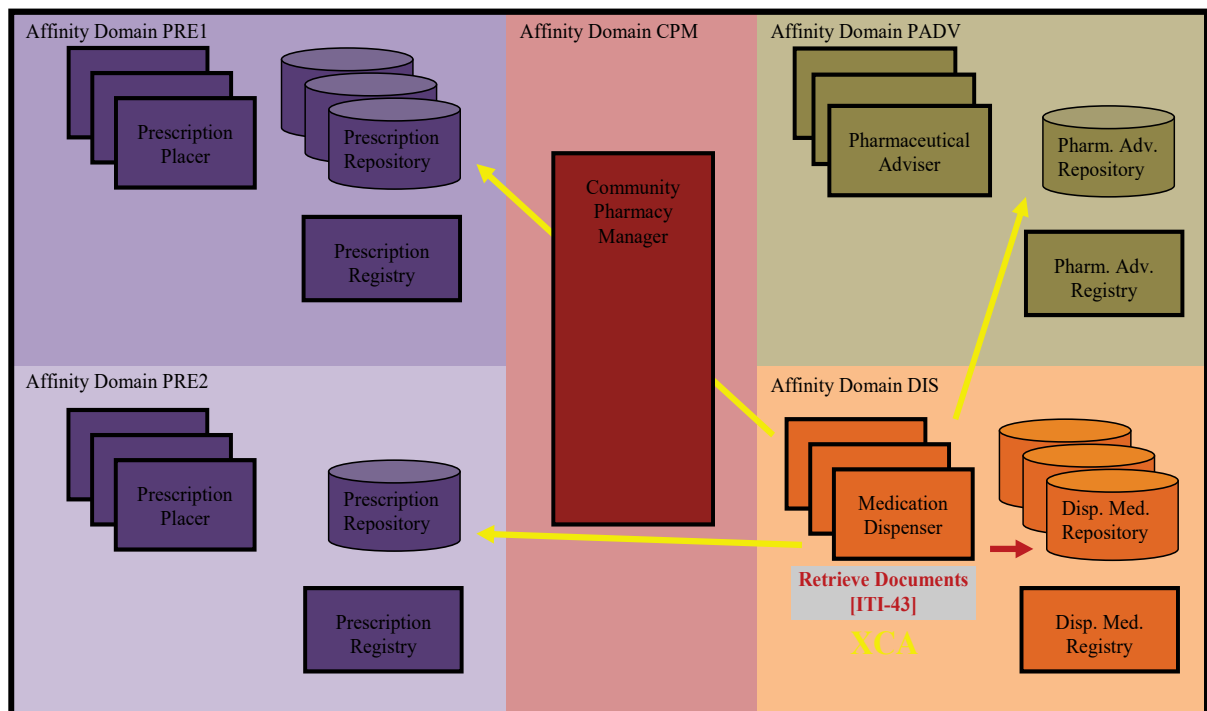


940

Step 6: Medication Dispenser retrieves the documents of the query result

The Medication Dispenser retrieves all documents identified by the returned document UUIDs by XCA.

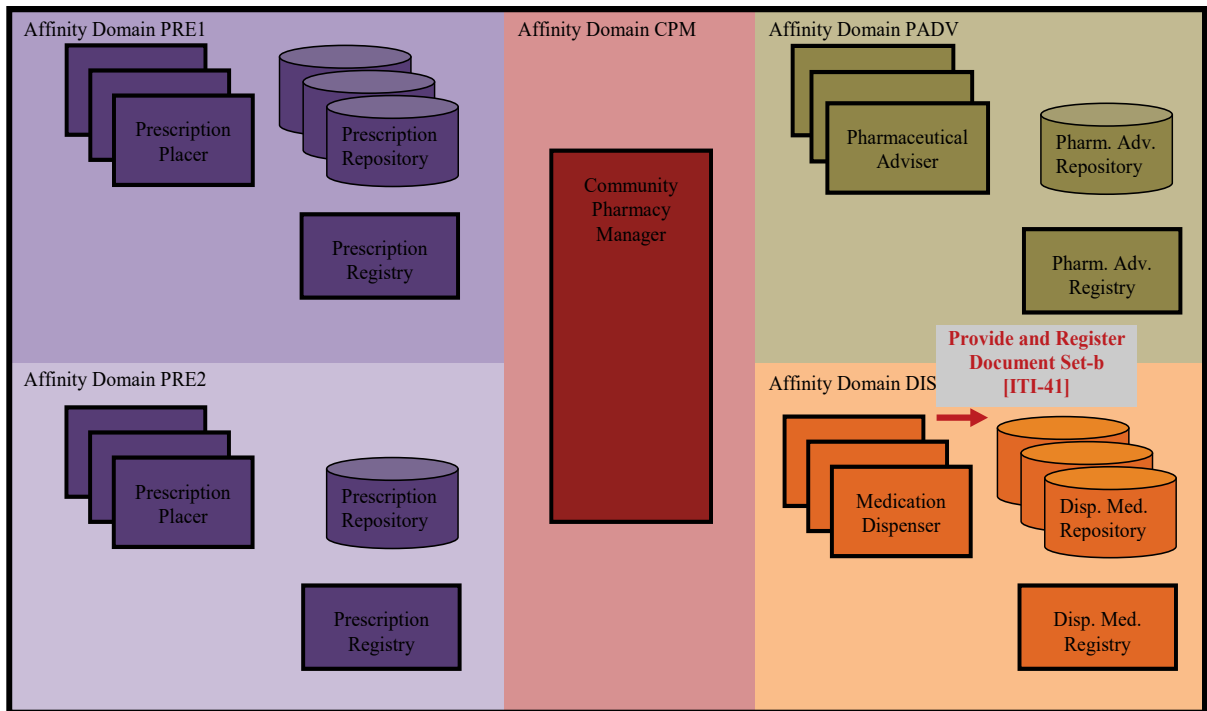
- 945 The Medication Dispenser (as a machine) parses and relinks the returned documents by their document IDs. Then the human operator performs the dispense and proceeds with step 7.



950

Step 7: Medication Dispenser submits a dispense

After the dispense has taken place it is documented in a Community Dispense document. This document is submitted to the appropriate Dispensed Medication Repository.



955

## Appendix A Actor Summary Definitions

- 960 **Community Pharmacy Manager** - Actor providing the business logic for status management and other purposes.
- Medication Treatment Planner** - Actor for planning a new medication (introducing a new medication into the patient’s treatment plan). It provides Community Medication Treatment Plan documents each containing one Medication Treatment Plan Item representing the planned medication.
- 965 **Prescription Placer** - Actor for placing prescriptions (initial or modified in case of a substitution of invalidation, for example). It provides Community Prescription documents containing one or more Prescription Items representing the prescribed medication.
- Pharmaceutical Adviser** - Actor responsible for the validation or review of Medication Treatment Plan-, Prescription-, Dispense- or Medication Administration Items. It provides the  
970 Community Pharmaceutical Advice document as the result of the validation or review. Pharmaceutical Advisers (e.g., pharmacists, physicians, automated ICA check modules, etc.) may also provide “draft” advices which don’t affect the status of a prescription but serve as a foundation for the advice performed by another Pharmaceutical Adviser. Pharmaceutical Adviser may also manage, review or comment a Medication Treatment Plan, Prescription, Dispense or  
975 Medication Administration.
- Medication Dispenser** - Actor responsible for the process of dispensing medication to the patient, possibly fulfilling an underlying prescription and/or treatment plan. It may receive treatment plans or prescriptions already validated and provides a Community Dispense document as result of the act of delivering the medication to the patient.
- 980 **Medication Administration Performer** - Actor responsible for the process of administering medication to the patient, possibly fulfilling an underlying prescription and/or treatment plan. It may receive treatment plans or prescriptions already dispensed and provides an administration document as result of the act of administering the medication to the patient.
- Registry/Repository actors** - Formally the Community Pharmacy process defines four different  
985 “repositories” for Prescriptions, Pharmaceutical Advices, Dispenses and Medication Administrations. They shall be seen as abstract repository-roles for persisting the appropriate document types the documents. This profile makes use of the XDS Profile for defining abstract XDS registry and repository actors for modeling the abstract repository-roles for real implementations.

## 990 Appendix B Transaction Summary Definitions

**Query Pharmacy Documents** - This transaction defines how a querying actor has to query the Community Pharmacy Manager for Community Medication Treatment Plans (MTP) and Community Prescriptions (PRE) and their related documents. Related documents are Community Pharmaceutical Advice (PADV) and Community Dispense (DIS) documents. It defines

995 specialized queries to allow the finding of plans or prescriptions and their related documents for specific purposes (e.g., “for validation” or “for dispense”).

**Registry Stored Query** - See the XDS Integration Profile of the ITI Technical Framework for a detailed description of this transaction (ITI TF2a: 3.18)

1000 **Provide and Register Document Set-b** - See the XDS Integration Profile of the ITI Technical Framework for a detailed description of this transaction (ITI TF2a: 3.41)

**Retrieve Document Set** - See the XDS Integration Profile of the ITI Technical Framework for a detailed description of this transaction (ITI TF2a: 3.43)



## Volume 2 – Transactions

### 3.0 IHE Transactions

1005 

<i>Add Section 3.1</i>
------------------------

#### 3.1 Query Pharmacy Documents [PHARM-1]

1010 This transaction defines how a querying actor has to query the Community Pharmacy Manager for Community Medication Treatment Plans (MTP), Community Prescriptions (PRE), Community Dispenses (DIS) and Administrations (CMA) and their related documents. Related documents are mainly Community Pharmaceutical Advice (PADV) documents and possibly also Community Medication Treatment Plan (MTP), Community Dispense (DIS) and/or Administration (CMA) documents.

Specialized queries allow the finding of prescriptions (and their related documents) for specific purposes (e.g., FindPrescriptionsForDispense).

1015 Querying actors may be:

- Medication Treatment Planner
- Prescription Placer
- Pharmaceutical Adviser
- Medication Dispenser
- Medication Administration Performer

1020 This transaction is very similar to the concept of the Registry Stored Query [ITI-18] transaction in the XDS Integration Profile of the ITI Technical Framework, except that the query itself targets not a single registry (like described in the XDS Integration Profile) but shall be able to sub-query one to many registry/repository systems (by using XCA in case of multi-domain scenarios) to get the requested query result.

1025 The querying actor faces the same interface as if querying a XDS Document registry actor, although the query result may contain references to documents of many different domains.

##### 3.1.1 Scope

The Query Pharmacy Documents transaction supports the following queries:

- 1030
- **FindMedicationTreatmentPlans (if „Medication Treatment Planning“ Option is supported)**

Find planned medication documents and their related documents

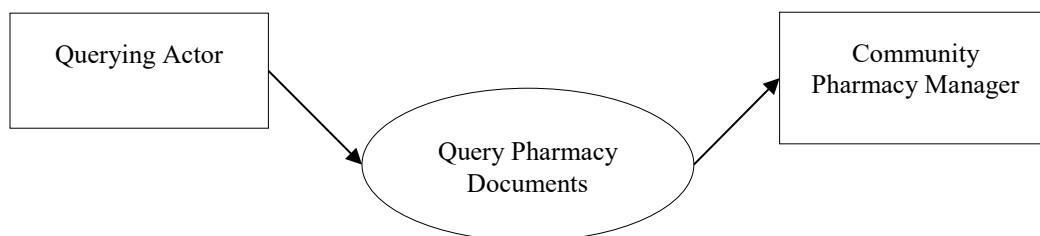
- **FindPrescriptions**  
Find prescriptions and their related documents
- 1035 • **FindDispenses**  
Find dispense documents and their related documents
- **FindMedicationAdministrations**  
Find administered medication documents and their related documents
- **FindPrescriptionsForValidation**  
1040 Find prescriptions and their related documents containing Prescription Items ready to be validated
- **FindPrescriptionsForDispense**  
Find prescriptions and their related documents containing Prescription Items ready to be dispensed
- 1045 • **FindMedicationList (if „Provision of Medication List“ Option is supported)**  
Find the medication list to the patient

All queries return:

- Metadata for one or more registry objects, or
- Object references for one or more registry objects (registry UUIDs).

1050

### 3.1.2 Use Case Roles



**Actors:** Querying actor

- 1055 **Role:** Requests a query by identifier (UUID), and passes parameters to the query. A parameter controlling the format of the returned data is passed; it selects either object references or full objects.

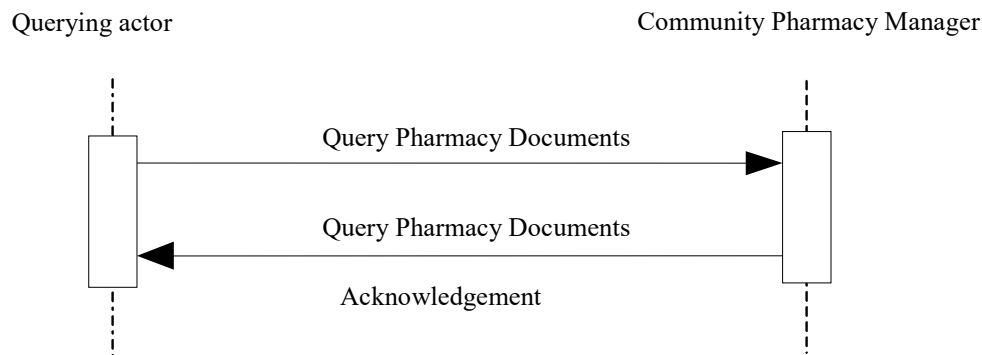
**Actor:** Community Pharmacy Manager

**Role:** Services the query using its stored definitions of the queries defined for CMPD.

### 3.1.3 Referenced Standard

1060 ITI-18: Registry Stored Query and all its related standards.

### 3.1.4 Interaction Diagram



#### 3.1.4.1 Query Pharmacy Documents

1065 This is a query request to the Community Pharmacy Manager from a Querying actor. The query request contains:

- A reference to a pre-defined query stored on the Document Registry.
- Parameters to the query. The query parameters are matched up with the query variables defined in the query definition on the Document Registry.

#### 1070 3.1.4.1.1 Trigger Events

This message is initiated when the Querying actor wants to query/retrieve document metadata.

This may be the case, if:

1. A Medication Treatment Planner, Prescription Placer, Pharmaceutical Adviser, Medication Dispenser or Medication Administration Performer wants to find medication treatment plans, prescriptions, dispenses or administrations (and their related pharmaceutical advices and possibly Community Medication Treatment Plan-, Community Prescription-, Community Dispense- and/or administration documents).
2. A Pharmaceutical Adviser wants to find active prescriptions (and their related pharmaceutical advices and possibly Community Medication Treatment Plan-,

- 1080 Community Dispense- and/or administration documents) ready to validate (Specialized query “FindPrescriptionsForValidation”).
3. A Medication Dispenser wants to find active prescriptions (and their related pharmaceutical advices and possibly Community Medication Treatment Plan-, Community Dispense- and/or administration documents) which are already validated or ready for dispense (Specialized query “FindPrescriptionsForDispense”)
- 1085 4. A Medication Treatment Planner, Prescription Placer, Pharmaceutical Adviser or Medication Dispenser wants to find the Medication List to the patient (query “FindMedicationList”)

### 3.1.4.1.2 Message Semantics

1090 The message semantics of this message are based on the definitions of the [ITI-18] transaction, but incorporate some important changes defined in the sections below.

References to: ITI TF-2a: [ITI-18]

#### 3.1.4.1.2.1 Required Queries

1095 The Registry Stored Query (ITI-18) transaction defines several kinds of Stored Queries (FindDocuments, FindSubmissionSets, etc.).

The PHARM-1 transaction is alike to this concept but provides a different set of Stored Queries.

The provided Stored Queries are:

- **FindMedicationTreatmentPlans (if “Medication Treatment Planning” Option is supported)**

1100 Find planned medication documents and their related documents
- **FindPrescriptions**

Find prescriptions and their related documents
- **FindDispenses**

Find dispense documents and their related documents
- **FindMedicationAdministrations**

1105 Find administered medication documents and their related documents
- **FindPrescriptionsForValidation**

Find prescriptions and their related documents containing Prescription Items ready to be validated

- 1110
- **FindPrescriptionsForDispense**  
Find prescriptions and their related documents containing Prescription Items ready to be dispensed
  - **FindMedicationList (if „Provision of Medication List“ Option is supported)**  
Find the medication list to the patient

1115 **3.1.4.1.2.1.1 Parameters for Required Queries**

This section defines the parameters and business rules for the Required Queries.

The principle of the following queries is that the result of the query can be divided into a primary and secondary result.

Primary result of the query

- 1120 The primary result of the query are the returning documents according to the type queried (e.g., MTP documents, PRE documents, etc.) where the query parameters are applied.

Secondary result of the query

- 1125 The secondary results of the query are all other documents which are dependent on the primary result. Every returned document has a direct or indirect relation to at least one of the primary result items (included in the documents found as primary result).

These may be ...

- a) ... Community Pharmaceutical Advice documents reflecting validation results, changes, comments directly related to primary result items.
  - b) ... documents of other types containing items which are directly<sup>23</sup> or indirectly<sup>24</sup> related to primary result items (MTP, PRE, DIS, CMA documents)
  - c) ... Community Pharmaceutical Advice documents reflecting validation results, changes, comments, directly related to items found in rule (b).
- 1130

1135

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<sup>23</sup> Direct referencing: The document is directly referencing the primary result item by the corresponding reference element

<sup>24</sup> Indirect referencing: The document is not directly referencing the primary result item, but is part of a chain of referencing documents, where at least one document of the chain is directly referencing the primary result item

Note: Some business rules include matching rules to FormatCodes (e.g., “FormatCode matches urn:ihe:pharm:pre:2010”).

1140

Projects leveraging IHE Pharmacy profiles may specify additional constraints on the profiles resulting in project-specific templates. This may include the definition of project-specific FormatCodes for the documents. The business rules may be adjusted to match to such project-specific FormatCodes.

1145

Example: If a project uses own FormatCodes, e.g., “urn:project:prescription:2014” instead of “urn:ihe:pharm:pre:2010” for prescriptions, it may use those in replacement to the ones defined in the profile.

### 1150 **3.1.4.1.2.1.1.1 FindMedicationTreatmentPlans**

Find Community Medication Treatment Plan documents and their related documents (XDSDocumentEntry objects) containing Medication Treatment Plan Items for a given patientID and other matching attributes. The other parameters can be used to restrict the set of XDSDocumentEntry objects returned.

1155 **Returns:** XDSDocumentEntry objects according to the following business rules.

Business rule 1: Returns *Community Medication Treatment Plan* documents matching the query parameters:

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- XDSDocumentEntry matches all other optional query parameters
- FormatCode matches **urn:ihe:pharm:mtp:2015**

1160

Business rule 2: Returns related *Community Pharmaceutical Advice* documents to the Medication Treatment Plans found by business rule 1

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:padv:2010**
- Community Pharmaceutical Advice document contains a Pharmaceutical Advice Item directly related to a Medication Treatment Plan Item of the found Community Medication Treatment Plan documents

1170

Business rule 3: Returns related *Community Prescription* documents to the Medication Treatment Plans found by business rule 1

- XSDDocumentEntry matches all required query parameters (PatientID, Status)
  - FormatCode matches **urn:ihe:pharm:pre:2010**
- 1175 • Community Prescription document contains a Prescription Entry Item directly or indirectly<sup>25</sup> related to a Medication Treatment Plan Item of the found Community Medication Treatment Plan documents
- 1180 Business rule 4: Returns related *Community Dispense* documents to the Medication Treatment Plans found by business rule 1
- XSDDocumentEntry matches all required query parameters (PatientID, Status)
  - FormatCode matches **urn:ihe:pharm:dis:2010**
  - Community Dispense document contains a Dispense Entry Item directly or indirectly<sup>26</sup> related to a Medication Treatment Plan Item of the found Community Medication Treatment Plan documents
- 1185
- Business rule 5: Returns related *Community Medication Administration* documents to the Medication Treatment Plans found by business rule 1
- XSDDocumentEntry matches all required query parameters (PatientID, Status)
  - FormatCode matches **urn:ihe:pharm:cma:2017**
  - Community Medication Administration document contains a Medication Administration Item directly or indirectly<sup>27</sup> related to a Medication Treatment Plan Item of the found Community Medication Treatment Plan documents
- 1190
- 1195 Business rule 6: Returns related *Community Pharmaceutical Advice* documents related to any related document found by business rules 3 to 5
- XSDDocumentEntry matches all required query parameters (PatientID, Status)
  - FormatCode matches **urn:ihe:pharm:padv:2010**

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<sup>25</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

<sup>26</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

<sup>27</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

- 1200
- Community Pharmaceutical Advice document contains a Pharmaceutical Advice Item directly related to an item contained by documents found by business rules 3 to 5

**Explanation**

Primary result of the query

1205 Returning Community Medication Treatment Plan documents according to business rule 1 is the primary result of the query. It returns Community Medication Treatment Plan documents according to the query parameters.

Secondary result of the query

1210 All other documents being returned shall be seen as secondary result of the query and are dependent on the primary result (found Medication Treatment Plans). Every returned document has a direct or indirect relation to at least one of the Medication Treatment Plan Items of one of the Community Medication Treatment Plan documents found as primary result.

- a) Returning Community Pharmaceutical Advice documents according to business rule 2 reflect validation results, changes, comments, etc. related to Medication Treatment Plan Items of the Community Medication Treatment Plan documents found.
- 1215 b) Returning Community Prescription-, Community Dispense- and Community Medication Administration documents according to business rules 3 to 5 reflect documentation of acts performed at earlier or later stages of the process, which are related to Medication Treatment Plan Items of the Community Medication Treatment Plan documents found.
- 1220 c) Returning Community Pharmaceutical Advice documents according to business rules 6 reflect changes, comments, etc. related to returned documents described in (b).

**Query parameters:**

Parameter Name	Attribute	Opt	Mult
\$XDSDocumentEntryPatientId	XSDDocumentEntry. patientId	R	--
\$XDSDocumentEntryEntryUUID	XSDDocumentEntry. entryUUID	O <sup>1</sup>	M
\$XDSDocumentEntryUniqueId	XSDDocumentEntry. uniqueId	O <sup>1</sup>	M
\$XDSDocumentEntryPracticeSettingCode <sup>3</sup>	XSDDocumentEntry. practiceSettingCode	O	M
\$XDSDocumentEntryCreationTimeFrom	Lower value of XSDDocumentEntry. creationTime	O	--
\$XDSDocumentEntryCreationTimeTo	Upper value of XSDDocumentEntry. creationTime	O	--
\$XDSDocumentEntryServiceStartTimeFrom	Lower value of XSDDocumentEntry. serviceStartTime	O	--



Parameter Name	Attribute	Opt	Mult
\$XDSDocumentEntryServiceStartTimeTo	Upper value of XDSDocumentEntry.serviceStartTime	O	--
\$XDSDocumentEntryServiceStopTimeFrom	Lower value of XDSDocumentEntry.serviceStopTime	O	--
\$XDSDocumentEntryServiceStopTimeTo	Upper value of XDSDocumentEntry.serviceStopTime	O	--
\$XDSDocumentEntryHealthcareFacilityTypeCode <sup>3</sup>	XDSDocumentEntry.healthcareFacilityTypeCode	O	M
\$XDSDocumentEntryEventCodeList <sup>3</sup>	XDSDocumentEntry.eventCodeList <sup>3</sup>	O	M
\$XDSDocumentEntryConfidentialityCode <sup>3</sup>	XDSDocumentEntry.confidentialityCode <sup>3</sup>	O	M
\$XDSDocumentEntryAuthorPerson <sup>4</sup>	XDSDocumentEntry.Author	O	M
\$XDSDocumentEntryStatus	XDSDocumentEntry.Status	R	M

<sup>1</sup>Either \$XDSDocumentEntryEntryUUID or \$XDSDocumentEntryUniqueId shall be specified. This transaction shall return an error if both parameters are specified.

1225 <sup>3</sup>Shall be coded according to specification in ITI TF-2a: 3.18.4.1.2.3.4 Coding of Code/Code-Scheme.

1230 <sup>4</sup>The value for this parameter is a pattern compatible with the SQL keyword LIKE which allows the use of the following wildcard characters: % to match any (or no) characters and \_ to match a single character. The match shall be applied to the text contained in the Value elements of the authorPerson Slot on the author Classification (value strings of the authorPerson sub-attribute)

### 3.1.4.1.2.1.1.2 FindPrescriptions

Find Community Prescription documents and their related documents (XDSDocumentEntry objects) containing Prescription Items for a given patientID and other matching attributes. The other parameters can be used to restrict the set of XDSDocumentEntry objects returned.

1235 **Returns:** XDSDocumentEntry objects according to the following business rules.

Business rule 1: Returns *Community Prescription* documents matching the query parameters:

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
  - XDSDocumentEntry matches all other optional query parameters
  - FormatCode matches **urn:ihe:pharm:pre:2010**
- 1240

Business rule 2: Returns related *Community Pharmaceutical Advice* documents to the Prescriptions found by business rule 1

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:padv:2010**
- Community Pharmaceutical Advice document contains a Pharmaceutical Advice Item directly related to a Prescription Item of the found Community Prescription documents

Business rule 3: If Medication Treatment Planning Option is used: Returns related *Community Medication Treatment Plan* documents to the Prescriptions found by business rule 1

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:mtp:2015**
- Community Medication Treatment Plan document contains a Medication Treatment Plan Entry Item directly or indirectly<sup>28</sup> related to a Prescription Item of the found Community Prescription documents

Business rule 4: Returns related *Community Dispense* documents to the Prescriptions found by business rule 1

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:dis:2010**
- Community Dispense document contains a Dispense Entry Item directly or indirectly<sup>29</sup> related to a Prescription Item of the found Community Prescription documents

Business rule 5: Returns related *Community Medication Administration* documents to the Prescriptions found by business rule 1

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:cma:2017**
- Community Medication Administration document contains a Medication Administration Item directly or indirectly<sup>30</sup> related to a Prescription Item of the found Community Prescription documents

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<sup>28</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

<sup>29</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

Business rule 6: Returns related *Community Pharmaceutical Advice* documents directly related to any related document found by business rules 3 to 5

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
  - FormatCode matches **urn:ihe:pharm:padv:2010**
- 1275      • Community Pharmaceutical Advice document contains a Pharmaceutical Advice Item directly related to an item contained by documents found by business rules 3 to 5

**Explanation**

Primary result of the query

1280      Returning Community Prescription documents according to business rule 1 is the primary result of the query. It returns Community Prescription documents according to the query parameters.

Secondary result of the query

1285      All other documents being returned shall be seen as a secondary result of the query and are dependent on the primary result (found Prescriptions). Every returned document has a direct or indirect relation to at least one of the Prescription Items of one of the Prescriptions found as primary result.

- a) Returning Community Pharmaceutical Advice documents according to business rule 2 reflect validation results, changes, comments, etc. related to Prescription Items of the Dispenses found.
- 1290      b) Returning Community Medication Treatment Plan-, Dispense and Community Medication Administration documents according to business rules 3 to 5 reflect documentation of acts performed at earlier or later stages of the process, which are related to Prescription Items of the Prescription found.
- 1295      c) Returning Community Pharmaceutical Advice documents according to business rules 6 reflect changes, comments, etc. related to returned documents described in (b).

**Query parameters:**

Parameter Name	Attribute	Opt	Mult
\$XDSDocumentEntryPatientId	XDSDocumentEntry. patientId	R	--
\$XDSDocumentEntryEntryUUID	XDSDocumentEntry. entryUUID	O <sup>1</sup>	M
\$XDSDocumentEntryUniqueId	XDSDocumentEntry. uniqueId	O <sup>1</sup>	M

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<sup>30</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

Parameter Name	Attribute	Opt	Mult
\$XDSDocumentEntryPracticeSettingCode <sup>3</sup>	XSDocumentEntry.practiceSettingCode	O	M
\$XDSDocumentEntryCreationTimeFrom	Lower value of XSDocumentEntry.creationTime	O	--
\$XDSDocumentEntryCreationTimeTo	Upper value of XSDocumentEntry.creationTime	O	--
\$XDSDocumentEntryServiceStartTimeFrom	Lower value of XSDocumentEntry.serviceStartTime	O	--
\$XDSDocumentEntryServiceStartTimeTo	Upper value of XSDocumentEntry.serviceStartTime	O	--
\$XDSDocumentEntryServiceStopTimeFrom	Lower value of XSDocumentEntry.serviceStopTime	O	--
\$XDSDocumentEntryServiceStopTimeTo	Upper value of XSDocumentEntry.serviceStopTime	O	--
\$XDSDocumentEntryHealthcareFacilityTypeCode <sup>3</sup>	XSDocumentEntry.healthcareFacilityTypeCode	O	M
\$XDSDocumentEntryEventCodeList <sup>3</sup>	XSDocumentEntry.eventCodeList <sup>3</sup>	O	M
\$XDSDocumentEntryConfidentialityCode <sup>3</sup>	XSDocumentEntry.confidentialityCode <sup>3</sup>	O	M
\$XDSDocumentEntryAuthorPerson <sup>4</sup>	XSDocumentEntry.Author	O	M
\$XDSDocumentEntryStatus	XSDocumentEntry.Status	R	M

1300 <sup>1</sup>Either \$XDSDocumentEntryEntryUUID or \$XDSDocumentEntryUniqueId shall be specified. This transaction shall return an error if both parameters are specified.

<sup>3</sup>Shall be coded according to specification in ITI TF-2a: 3.18.4.1.2.3.4 Coding of Code/Code-Scheme.

1305 <sup>4</sup>The value for this parameter is a pattern compatible with the SQL keyword LIKE which allows the use of the following wildcard characters: % to match any (or no) characters and \_ to match a single character. The match shall be applied to the text contained in the Value elements of the authorPerson Slot on the author Classification (value strings of the authorPerson sub-attribute)

### 3.1.4.1.2.1.1.3 FindDispenses

1310 Find Community Dispense documents and their related documents (XDSDocumentEntry objects) containing Dispense Items for a given patientID and other matching attributes. The other parameters can be used to restrict the set of XDSDocumentEntry objects returned.

**Returns:** XDSDocumentEntry objects according to the following business rules.

Business rule 1: Returns *Community Dispense* documents matching the query parameters:

- 1315
- XDSDocumentEntry matches all required query parameters (PatientID, Status)
  - XDSDocumentEntry matches all other optional query parameters
  - FormatCode matches **urn:ihe:pharm:dis:2010**

1320 Business rule 2: Returns related *Community Pharmaceutical Advice* documents to the Dispenses found by business rule 1

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:padv:2010**
- Community Pharmaceutical Advice document contains a Pharmaceutical Advice Item directly related to a Dispense Item of the found Community Dispense documents

1325

Business rule 3: If Medication Treatment Planning Option is used: Returns related *Community Medication Treatment Plan* documents to the Dispenses found by business rule 1

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:mtp:2015**
- Community Medication Treatment Plan document contains a Medication Treatment Plan Entry Item directly or indirectly<sup>31</sup> related to a Dispense Item of the found Community Dispense documents

1330

1335 Business rule 4: Returns related *Community Prescription* documents to the Dispenses found by business rule 1

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:pre:2010**
- Community Prescription document contains a Prescription Entry Item directly or indirectly<sup>32</sup> related to a Dispense Item of the found Community Dispense documents

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<sup>31</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

<sup>32</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

- 1340 Business rule 5: Returns related *Community Medication Administration* documents to the Dispenses found by business rule 1
- XDSDocumentEntry matches all required query parameters (PatientID, Status)
  - FormatCode matches **urn:ihe:pharm:cma:2017**
  - Community Medication Administration document contains a Medication Administration Item directly or indirectly<sup>33</sup> related to a Dispense Item of the found Community Dispense documents
- 1345

Business rule 6: Returns related *Community Pharmaceutical Advice* documents related to any related document found by business rules 3 to 5

- 1350
- XDSDocumentEntry matches all required query parameters (PatientID, Status)
  - FormatCode matches **urn:ihe:pharm:padv:2010**
  - Community Pharmaceutical Advice document contains a Pharmaceutical Advice Item directly related to an item contained by documents found by business rules 3 to 5

1355 **Explanation**

Primary result of the query

Returning Community Dispense documents according to business rule 1 is the primary result of the query. It returns Community Dispense documents according to the query parameters.

Secondary result of the query

1360 All other documents being returned shall be seen as secondary result of the query and are dependent on the primary result (found Dispenses). Every returned document has a direct or indirect relation to at least one of the Dispense Items of one of the Dispenses found as primary result.

- 1365
- a) Returning Community Pharmaceutical Advice documents according to business rule 2 reflect validation results, changes, comments, etc. related to Dispense Items of the Dispenses found.
  - b) Returning Community Medication Treatment Plan-, Community Prescription and Community Medication Administration documents according to business rules 3 to 5 reflect documentation of acts performed at earlier or later stages of the process, which are related to Dispense Items of the Dispenses found.
- 1370

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<sup>33</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

- c) Returning Community Pharmaceutical Advice documents according to business rules 6 reflect changes, comments, etc. related to returned documents described in (b).

**Query parameters:**

1375

Parameter Name	Attribute	Opt	Mult
\$XDSDocumentEntryPatientId	XSDocumentEntry. patientId	R	--
\$XDSDocumentEntryEntryUUID	XSDocumentEntry. entryUUID	O <sup>1</sup>	M
\$XDSDocumentEntryUniqueId	XSDocumentEntry. uniqueId	O <sup>1</sup>	M
\$XDSDocumentEntryPracticeSettingCode <sup>3</sup>	XSDocumentEntry. practiceSettingCode	O	M
\$XDSDocumentEntryCreationTimeFrom	Lower value of XSDocumentEntry. creationTime	O	--
\$XDSDocumentEntryCreationTimeTo	Upper value of XSDocumentEntry. creationTime	O	--
\$XDSDocumentEntryServiceStartTimeFrom	Lower value of XSDocumentEntry. serviceStartTime	O	--
\$XDSDocumentEntryServiceStartTimeTo	Upper value of XSDocumentEntry. serviceStartTime	O	--
\$XDSDocumentEntryServiceStopTimeFrom	Lower value of XSDocumentEntry. serviceStopTime	O	--
\$XDSDocumentEntryServiceStopTimeTo	Upper value of XSDocumentEntry. serviceStopTime	O	--
\$XDSDocumentEntryHealthcareFacilityTypeCode <sup>3</sup>	XSDocumentEntry. healthcareFacilityTypeCode	O	M
\$XDSDocumentEntryEventCodeList <sup>3</sup>	XSDocumentEntry. eventCodeList <sup>3</sup>	O	M
\$XDSDocumentEntryConfidentialityCode <sup>3</sup>	XSDocumentEntry. confidentialityCode <sup>3</sup>	O	M
\$XDSDocumentEntryAuthorPerson <sup>4</sup>	XSDocumentEntry. Author	O	M
\$XDSDocumentEntryStatus	XSDocumentEntry. Status	R	M

<sup>1</sup>Either \$XDSDocumentEntryEntryUUID or \$XDSDocumentEntryUniqueId shall be specified. This transaction shall return an error if both parameters are specified.

<sup>3</sup>Shall be coded according to specification in ITI TF-2a: 3.18.4.1.2.3.4 Coding of Code/Code-Scheme.

1380 <sup>4</sup>The value for this parameter is a pattern compatible with the SQL keyword LIKE which allows the use of the following wildcard characters: % to match any (or no) characters and \_ to match a

single character. The match shall be applied to the text contained in the Value elements of the authorPerson Slot on the author Classification (value strings of the authorPerson sub-attribute)

1385 **3.1.4.1.2.1.1.4 FindMedicationAdministrations**

Find Community Medication Administration documents and their related documents (XDSDocumentEntry objects) containing Medication Administration Items for a given patientID and other matching attributes. The other parameters can be used to restrict the set of XDSDocumentEntry objects returned.

1390 **Returns:** XDSDocumentEntry objects according to the following business rules.

Business rule 1: Returns *Community Medication Administration* documents matching the query parameters:

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- 1395 • XDSDocumentEntry matches all other optional query parameters
- FormatCode matches **urn:ihe:pharm:cma:2017**

Business rule 2: Returns related *Community Pharmaceutical Advice* documents to the Medication Administrations found by business rule 1

- 1400 • XDSDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:padv:2010**
- Community Pharmaceutical Advice document contains a Pharmaceutical Advice Item directly related to a Medication Administration Item of the found Community Medication Administration documents

1405

Business rule 3: If Medication Treatment Planning Option is used: Returns related *Community Medication Treatment Plan* documents to the Medication Administrations found by business rule 1

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- 1410 • FormatCode matches **urn:ihe:pharm:mtp:2015**



- Community Medication Treatment Plan document contains a Medication Treatment Plan Entry Item directly or indirectly<sup>34</sup> related to a Medication Administration Item of the found Community Medication Administration documents

1415 Business rule 4: Returns related *Community Prescription* documents to the Medication Administrations found by business rule 1

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:pre:2010**

1420 Community Prescription document contains a Prescription Entry Item directly or indirectly<sup>35</sup> related to a Medication Administration Item of the found Community Medication Administration documents

Business rule 5: Returns related *Community Dispense* documents to the Medication Administrations found by business rule 1

1425

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:dis:2010**
- Community Dispense document contains a Dispense Item directly or indirectly<sup>36</sup> related to a Medication Administration Item of the found Community Medication Administration documents

1430

Business rule 6: Returns related *Community Pharmaceutical Advice* documents related to any related document found by business rules 3 to 5

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:padv:2010**

1435 Community Pharmaceutical Advice document contains a Pharmaceutical Advice Item directly related to an item contained by documents found by business rules 3 to 5

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<sup>34</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

<sup>35</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

<sup>36</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

**Explanation**

Primary result of the query

1440 Returning Community Medication Administration documents according to business rule 1 is the primary result of the query. It returns Community Medication Administration documents according to the query parameters.

Secondary result of the query

1445 All other documents being returned shall be seen as secondary result of the query and are dependent on the primary result (found Medication Administrations). Every returned document has a direct or indirect relation to at least one of the Medication Administration Items of one of the Medication Administration found as primary result.

- 1450 a) Returning Community Pharmaceutical Advice documents according to business rule 2 reflect validation results, changes, comments, etc. related to Medication Administration Items of the Medication Administrations found.
- b) Returning Community Medication Treatment Plan-, Community Prescription and Community Dispense documents according to business rules 3 to 5 reflect documentation of acts performed at earlier or later stages of the process, which are related to Medication Administration Items of the Medication Administrations found.
- 1455 c) Returning Community Pharmaceutical Advice documents according to business rules 6 reflect changes, comments, etc. related to returned documents described in (b).

**Query parameters:**

Parameter Name	Attribute	Opt	Mult
\$XDSDocumentEntryPatientId	XSDSDocumentEntry. patientId	R	--
\$XDSDocumentEntryEntryUUID	XSDSDocumentEntry. entryUUID	O <sup>1</sup>	M
\$XDSDocumentEntryUniqueId	XSDSDocumentEntry. uniqueId	O <sup>1</sup>	M
\$XDSDocumentEntryPracticeSettingCode <sup>3</sup>	XSDSDocumentEntry. practiceSettingCode	O	M
\$XDSDocumentEntryCreationTimeFrom	Lower value of XSDSDocumentEntry. creationTime	O	--
\$XDSDocumentEntryCreationTimeTo	Upper value of XSDSDocumentEntry. creationTime	O	--
\$XDSDocumentEntryServiceStartTimeFrom	Lower value of XSDSDocumentEntry. serviceStartTime	O	--
\$XDSDocumentEntryServiceStartTimeTo	Upper value of XSDSDocumentEntry. serviceStartTime	O	--

Parameter Name	Attribute	Opt	Mult
\$XDSDocumentEntryServiceStopTimeFrom	Lower value of XDSDocumentEntry.serviceStopTime	O	--
\$XDSDocumentEntryServiceStopTimeTo	Upper value of XDSDocumentEntry.serviceStopTime	O	--
\$XDSDocumentEntryHealthcareFacilityTypeCode <sup>3</sup>	XDSDocumentEntry.healthcareFacilityTypeCode	O	M
\$XDSDocumentEntryEventCodeList <sup>3</sup>	XDSDocumentEntry.eventCodeList <sup>3</sup>	O	M
\$XDSDocumentEntryConfidentialityCode <sup>3</sup>	XDSDocumentEntry.confidentialityCode <sup>3</sup>	O	M
\$XDSDocumentEntryAuthorPerson <sup>4</sup>	XDSDocumentEntry.Author	O	M
\$XDSDocumentEntryStatus	XDSDocumentEntry.Status	R	M

1460 <sup>1</sup>Either \$XDSDocumentEntryEntryUUID or \$XDSDocumentEntryUniqueID shall be specified. This transaction shall return an error if both parameters are specified.

<sup>3</sup>Shall be coded according to specification in ITI TF-2a: 3.18.4.1.2.3.4 Coding of Code/Code-Scheme.

1465 <sup>4</sup>The value for this parameter is a pattern compatible with the SQL keyword LIKE which allows the use of the following wildcard characters: % to match any (or no) characters and \_ to match a single character. The match shall be applied to the text contained in the Value elements of the authorPerson Slot on the author Classification (value strings of the authorPerson sub-attribute)

### 3.1.4.1.2.1.1.5 FindPrescriptionsForValidation

1470 Find prescriptions and their related documents (XDSDocumentEntry objects) containing Prescription Items *ready to be validated* for a given patientID and other matching attributes. The other parameters can be used to restrict the set of XDSDocumentEntry objects returned.

**Returns:** XDSDocumentEntry objects according to the following business rules.

1475 **Note:** The business rules are depending on the workflow scenario used (see Vol. 1, Section 4.4 CMPD Process Flow).

This query is only used in scenario 1 “Including validation step”. It is not used in scenario 2 “Not including validation step”, because this scenario does not include a validation step.

1480 Business rule 1: Returns *Community Prescription* documents matching the query parameters:

- XDSDocumentEntry matches all required query parameters (PatientID, Status)

- XSDDocumentEntry matches all other optional query parameters
  - FormatCode matches **urn:ihe:pharm:pre:2010**
  - Community Prescription document contains at least one Prescription Item ready to validate
- 1485
- A Prescription Item is ready to validate if there exists no Pharmaceutical Advice Item related to it which has statusCode set to “completed”<sup>37</sup>.

1490 Business rule 2: Returns related *Community Pharmaceutical Advice* documents to the Prescriptions found by business rule 1

- XSDDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:padv:2010**
- Community Pharmaceutical Advice document contains a Pharmaceutical Advice Item directly related to a Prescription Item of the found Community Prescription documents

1495

Business rule 3: If Medication Treatment Planning Option is used: Returns related *Community Medication Treatment Plan* documents to the Prescriptions found by business rule 1

- XSDDocumentEntry matches all required query parameters (PatientID, Status)
  - FormatCode matches **urn:ihe:pharm:mtp:2015**
  - Community Medication Treatment Plan document contains a Medication Treatment Plan Entry Item directly or indirectly<sup>38</sup> related to a Prescription Item of the found Community Prescription documents
- 1500

1505 Business rule 4: Returns related *Community Dispense* documents to the Prescriptions found by business rule 1

- XSDDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:dis:2010**
- Community Dispense document contains a Dispense Entry Item directly or indirectly<sup>39</sup> related to a Prescription Item of the found Community Prescription documents

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<sup>37</sup> See the Pharmacy Pharmaceutical Advice Content Profile (PADV) for details about the statusCode element (section “Status Code”)

<sup>38</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

1510 Business rule 5: Returns related *Community Medication Administration* documents to the Prescriptions found by business rule 1

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:cma:2017**
- Community Medication Administration document contains a Medication

1515 Administration Item directly or indirectly<sup>40</sup> related to a Prescription Item of the found Community Prescription documents

Business rule 6: Returns related *Community Pharmaceutical Advice* documents related to any related document found by business rules 3 to 5

1520 • XDSDocumentEntry matches all required query parameters (PatientID, Status)

- FormatCode matches **urn:ihe:pharm:padv:2010**

- Community Pharmaceutical Advice document contains a Pharmaceutical Advice Item directly related to an item contained by documents found by business rules 3 to 5

## 1525 **Explanation**

### Primary result of the query

Returning Community Prescription documents according to business rule 1 is the primary result of the query. It returns Community Prescription documents according to the query parameters.

### Secondary result of the query

1530 All other documents being returned shall be seen as secondary result of the query and are dependent on the primary result (found Prescriptions). Every returned document has a direct or indirect relation to at least one of the Prescription Items of one of the Prescriptions found as primary result.

- 1535
- a) Returning Community Pharmaceutical Advice documents according to business rule 2 reflect validation results, changes, comments, etc. related to Prescription Items of the Prescriptions found.
  - b) Returning Community Medication Treatment Plan-, Community Dispense- and Community Medication Administration documents according to business rules 3 to 5

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<sup>39</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

<sup>40</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

1540 reflect documentation of acts performed at earlier or later stages of the process, which are related to Prescription Items of the Prescriptions found.

- c) Returning Community Pharmaceutical Advice documents according to business rules 6 reflect changes, comments, etc. related to returned documents described in (b).

**Query parameters:**

1545

Parameter Name	Attribute	Opt	Mult
\$XDSDocumentEntryPatientId	XSDSDocumentEntry. patientId	R	--
\$XDSDocumentEntryEntryUUID	XSDSDocumentEntry. entryUUID	O <sup>1</sup>	M
\$XDSDocumentEntryUniqueId	XSDSDocumentEntry. uniqueId	O <sup>1</sup>	M
\$XDSDocumentEntryPracticeSettingCode <sup>3</sup>	XSDSDocumentEntry. practiceSettingCode	O	M
\$XDSDocumentEntryCreationTimeFrom	Lower value of XSDSDocumentEntry. creationTime	O	--
\$XDSDocumentEntryCreationTimeTo	Upper value of XSDSDocumentEntry. creationTime	O	--
\$XDSDocumentEntryServiceStartTimeFrom	Lower value of XSDSDocumentEntry. serviceStartTime	O	--
\$XDSDocumentEntryServiceStartTimeTo	Upper value of XSDSDocumentEntry. serviceStartTime	O	--
\$XDSDocumentEntryServiceStopTimeFrom	Lower value of XSDSDocumentEntry. serviceStopTime	O	--
\$XDSDocumentEntryServiceStopTimeTo	Upper value of XSDSDocumentEntry. serviceStopTime	O	--
\$XDSDocumentEntryHealthcareFacilityTypeCode <sup>3</sup>	XSDSDocumentEntry. healthcareFacilityTypeCode	O	M
\$XDSDocumentEntryEventCodeList <sup>3</sup>	XSDSDocumentEntry. eventCodeList <sup>3</sup>	O	M
\$XDSDocumentEntryConfidentialityCode <sup>3</sup>	XSDSDocumentEntry. confidentialityCode <sup>3</sup>	O	M
\$XDSDocumentEntryAuthorPerson <sup>4</sup>	XSDSDocumentEntry. Author	O	M
\$XDSDocumentEntryStatus	XSDSDocumentEntry. Status	R	M

<sup>1</sup>Either \$XDSDocumentEntryEntryUUID or \$XDSDocumentEntryUniqueId shall be specified. This transaction shall return an error if both parameters are specified.

<sup>3</sup>Shall be coded according to specification in ITI TF-2a: 3.18.4.1.2.3.4 Coding of Code/Code-Scheme.

1550 <sup>4</sup>The value for this parameter is a pattern compatible with the SQL keyword LIKE which allows the use of the following wildcard characters: % to match any (or no) characters and \_ to match a single character. The match shall be applied to the text contained in the Value elements of the authorPerson Slot on the author Classification (value strings of the authorPerson sub-attribute)

1555 **3.1.4.1.2.1.1.6 FindPrescriptionsForDispense**

Find prescriptions and their related documents (XDSDocumentEntry objects) containing Prescription Items *ready to be dispensed* for a given patientID and other matching attributes. The other parameters can be used to restrict the set of XDSDocumentEntry objects returned.

**Returns:** XDSDocumentEntry objects according to the following business rules:

1560

Business rule 1: Returns *Community Prescription* documents matching the query parameters:

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- XDSDocumentEntry matches all other optional query parameters
- FormatCode matches **urn:ihe:pharm:pre:2010**
- Community Prescription document contains at least one Prescription Item ready to dispense
  - Scenario 1 “Including validation step”: A Prescription Item is ready to dispense if the last Pharmaceutical Advice Item related to it has statusCode set to “completed” and Observation Code set to either OK or CHANGE. <sup>41</sup>
  - Scenario 2 “Not including validation step”: A Prescription Item is ready to be dispensed, if either no Pharmaceutical Advice Item related to it exists or the last Pharmaceutical Advice Item related to it has statusCode set to “completed” and Observation Code set to either OK or CHANGE. <sup>42</sup>

1565

1570

1575 Business rule 2: Returns related *Community Pharmaceutical Advice* documents to the Prescriptions found by business rule 1

- XDSDocumentEntry matches all required query parameters (PatientID, Status)
- FormatCode matches **urn:ihe:pharm:padv:2010**

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<sup>41</sup> See the Pharmacy Pharmaceutical Advice Content Profile (PADV) for details about the statusCode and Observation code elements

<sup>42</sup> See the Pharmacy Pharmaceutical Advice Content Profile (PADV) for details about the statusCode and Observation code elements

- 1580
- Community Pharmaceutical Advice document contains a Pharmaceutical Advice Item directly related to a Prescription Item of the found Community Prescription documents

Business rule 3: If Medication Treatment Planning Option is used: Returns related *Community Medication Treatment Plan* documents to the Prescriptions found by business rule 1

- 1585
- XDSDocumentEntry matches all required query parameters (PatientID, Status)
  - FormatCode matches **urn:ihe:pharm:mtp:2015**
  - Community Medication Treatment Plan document contains a Medication Treatment Plan Entry Item directly or indirectly<sup>43</sup> related to a Prescription Item of the found Community Prescription documents

1590 Business rule 4: Returns related *Community Dispense* documents to the Prescriptions found by business rule 1

- 1595
- XDSDocumentEntry matches all required query parameters (PatientID, Status)
  - FormatCode matches **urn:ihe:pharm:dis:2010**
  - Community Dispense document contains a Dispense Entry Item directly or indirectly<sup>44</sup> related to a Prescription Item of the found Community Prescription documents

Business rule 5: Returns related *Community Medication Administration* documents to the Prescriptions found by business rule 1

- 1600
- XDSDocumentEntry matches all required query parameters (PatientID, Status)
  - FormatCode matches **urn:ihe:pharm:cma:2017**
  - Community Medication Administration document contains a Medication Administration Item directly or indirectly<sup>45</sup> related to a Prescription Item of the found Community Prescription documents

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<sup>43</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

<sup>44</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items

<sup>45</sup> See beginning of this section and section „Query result examples“ for further information on direct or indirect relationship of items



- 1605 Business rule 6: Returns related *Community Pharmaceutical Advice* documents related to any related document found by business rules 3 to 5
- XSDSDocumentEntry matches all required query parameters (PatientID, Status)
  - FormatCode matches **urn:ihe:pharm:padv:2010**
  - Community Pharmaceutical Advice document contains a Pharmaceutical Advice Item directly related to an item contained by documents found by business rules 3 to 5
- 1610

**Explanation**

Primary result of the query

- 1615 Returning Community Prescription documents according to business rule 1 is the primary result of the query. It returns Community Prescription documents according to the query parameters.

Secondary result of the query

- 1620 All other documents being returned shall be seen as secondary result of the query and are dependent on the primary result (found Prescriptions). Every returned document has a direct or indirect relation to at least one of the Prescription Items of one of the Prescriptions found as primary result.

- a) Returning Community Pharmaceutical Advice documents according to business rule 2 reflect validation results, changes, comments, etc. related to Prescription Items of the Prescriptions found.
  - 1625 b) Returning Community Medication Treatment Plan-, Community Dispense- and Community Medication Administration documents according to business rules 3 to 5 reflect documentation of acts performed at earlier or later stages of the process, which are related to Prescription Items of the Prescriptions found.
  - c) Returning Community Pharmaceutical Advice documents according to business rules 6 reflect changes, comments, etc. related to returned documents described in (b).
- 1630

**Query parameters:**

Parameter Name	Attribute	Opt	Mult
\$XSDSDocumentEntryPatientId	XSDSDocumentEntry. patientId	R	--
\$XSDSDocumentEntryEntryUUID	XSDSDocumentEntry. entryUUID	O <sup>1</sup>	M
\$XSDSDocumentEntryUniqueId	XSDSDocumentEntry. uniqueId	O <sup>1</sup>	M
\$XSDSDocumentEntryPracticeSettingCode <sup>3</sup>	XSDSDocumentEntry. practiceSettingCode	O	M

Parameter Name	Attribute	Opt	Mult
\$XDSDocumentEntryCreationTimeFrom	Lower value of XDSDocumentEntry.creationTime	O	--
\$XDSDocumentEntryCreationTimeTo	Upper value of XDSDocumentEntry.creationTime	O	--
\$XDSDocumentEntryServiceStartTimeFrom	Lower value of XDSDocumentEntry.serviceStartTime	O	--
\$XDSDocumentEntryServiceStartTimeTo	Upper value of XDSDocumentEntry.serviceStartTime	O	--
\$XDSDocumentEntryServiceStopTimeFrom	Lower value of XDSDocumentEntry.serviceStopTime	O	--
\$XDSDocumentEntryServiceStopTimeTo	Upper value of XDSDocumentEntry.serviceStopTime	O	--
\$XDSDocumentEntryHealthcareFacilityTypeCode <sup>3</sup>	XDSDocumentEntry.healthcareFacilityTypeCode	O	M
\$XDSDocumentEntryEventCodeList <sup>3</sup>	XDSDocumentEntry.eventCodeList <sup>3</sup>	O	M
\$XDSDocumentEntryConfidentialityCode <sup>3</sup>	XDSDocumentEntry.confidentialityCode <sup>3</sup>	O	M
\$XDSDocumentEntryAuthorPerson <sup>4</sup>	XDSDocumentEntry.Author	O	M
\$XDSDocumentEntryStatus	XDSDocumentEntry.Status	R	M

<sup>1</sup>Either \$XDSDocumentEntryEntryUUID or \$XDSDocumentEntryUniqueId shall be specified. This transaction shall return an error if both parameters are specified.

1635 <sup>3</sup>Shall be coded according to specification in ITI TF-2a: 3.18.4.1.2.3.4 Coding of Code/Code-Scheme.

1640 <sup>4</sup>The value for this parameter is a pattern compatible with the SQL keyword LIKE which allows the use of the following wildcard characters: % to match any (or no) characters and \_ to match a single character. The match shall be applied to the text contained in the Value elements of the authorPerson Slot on the author Classification (value strings of the authorPerson sub-attribute)

### 3.1.4.1.2.1.1.7 FindMedicationList

1645 Find the Community Medication List On-Demand Document (XDSDocumentEntry object) according to the Community Medication List (PML) Profile containing Medication Treatment Plan-, Prescription-, Dispense- and Medication Administration Items for a given patientID and other matching attributes.

**Returns:** XDSDocumentEntry object according to the following business rules.

Business rule 1: Returns *Community Medication List* documents

1650 This is the basic and ready to implement mechanism to retrieve a medication list. In this case, the Community Pharmacy Manager contains, or has access to, business rules to retrieve an existing list, or to create the patient’s medication list generated from the Community Medication Treatment Plan-, Community Prescription-, Community Dispense- and Community Medication Administration documents of the patient.

A set of parameters is provided in the query to obtain such list:

- 1655
- XSDSDocumentEntry matches all the required query parameters below (PatientID, ...)
  - FormatCode of the returned document match **urn:ihe:pharm:pml:2013** (implicit business rule, parameter shall not be given in parameter list)

**Query parameters:**

1660

Parameter Name	Attribute	Opt	Mult
\$XSDSDocumentEntryPatientId	XSDSDocumentEntry.patientId	R	--
The following yellow parameters are parameters to parameterize the business logic for assembling of the resulting Community Medication List document:			
\$XSDSDocumentEntryServiceStartFrom	For the meaning of these parameters see explanation below.	O	--
\$XSDSDocumentEntryServiceStartTo		O	--
\$XSDSDocumentEntryServiceEndFrom		O	--
\$XSDSDocumentEntryServiceEndTo		O	--
\$XSDSDocumentEntryFormatCode		O <sup>46</sup>	M
\$XSDSDocumentEntryType		O <sup>47</sup>	M
\$XSDSDocumentEntryStatus	XSDSDocumentEntry.Status	R	M
\$XSDSDocumentEntryType <sup>48</sup>	XSDSDocumentEntry.objectType	R	M

**Explanation of yellow parameters**

1) *\$XSDSDocumentEntryServiceStartFrom, \$XSDSDocumentEntryServiceStartTo*

---

<sup>46</sup> Note: Omitting this parameter means that no filtering according to format code takes place, so “all” available data types will be returned.

<sup>47</sup> Note: Omitting this parameter means that “all” available types of Medication List documents (on-demand created or previously persisted snapshots) are returned.

<sup>48</sup> See ITI TF-2a: 3.18.4.1.2.3.6.2

1665 This query parameter is used to find all medication treatments that were started during the interval specified by the requester. The exact definition of the starting point of a medication treatment is not in the scope of this profile.

For example:

- (1) find and return all medication treatments that were started between Nov 2012 and June 2013
- (2) find and return all medication treatments that were started in the last 3 months

1670

2) *\$XDSDocumentEntryServiceEndFrom, \$XDSDocumentEntryServiceEndTo,*

This query parameter is used to find all medication treatments that were finished / completed in the interval specified by the requester. The exact definition of the point where a medication treatment is finished/completed is not in the scope of this profile.

1675 For example:

- (1) find and return all medication treatments that were completed between Nov 2012 and June 2013
- (2) find and return all medication treatments that were completed in the last 3 months or are not yet completed

1680

3) *\$XDSDocumentEntryFormatCode*

If this parameter is given just the given type of information shall be returned in the Medication List.

Parameter	Meaning
urn:ihe:pharm:mtp:2015	Medication Treatment Plan Items shall be returned (and optional the related Community Pharmaceutical Advice documents related to them).
urn:ihe:pharm:pre:2010	Prescription Items shall be returned (and optional the related Community Pharmaceutical Advice documents related to them).
urn:ihe:pharm:dis:2010	Dispense Items shall be returned (and optional the related Community Pharmaceutical Advice documents related to them).
urn:ihe:pharm:cma:2017	Medication Administration Items shall be returned (and optional the related Community Pharmaceutical Advice documents related to them).

1685

4) *\$XDSDocumentEntryType*

If this parameter is given documents of just the provided document entry type (on-demand or stable) shall be returned.

Parameter	Meaning
urn:uuid:34268e47-fdf5-41a6-ba33-82133c465248	On-Demand document entry types are returned. This is the on-demand created Community Medication List document.
urn:uuid:7edca82f-054d-47f2-a032-9b2a5b5186c1 See note <sup>49</sup>	Stable document entry types are returned. Previously persisted snapshots of on-demand created Community Medication List document.

1690

**3.1.4.1.2.1.2 Query result examples**

This section provides example query results to demonstrate how the queries of this transaction shall function.

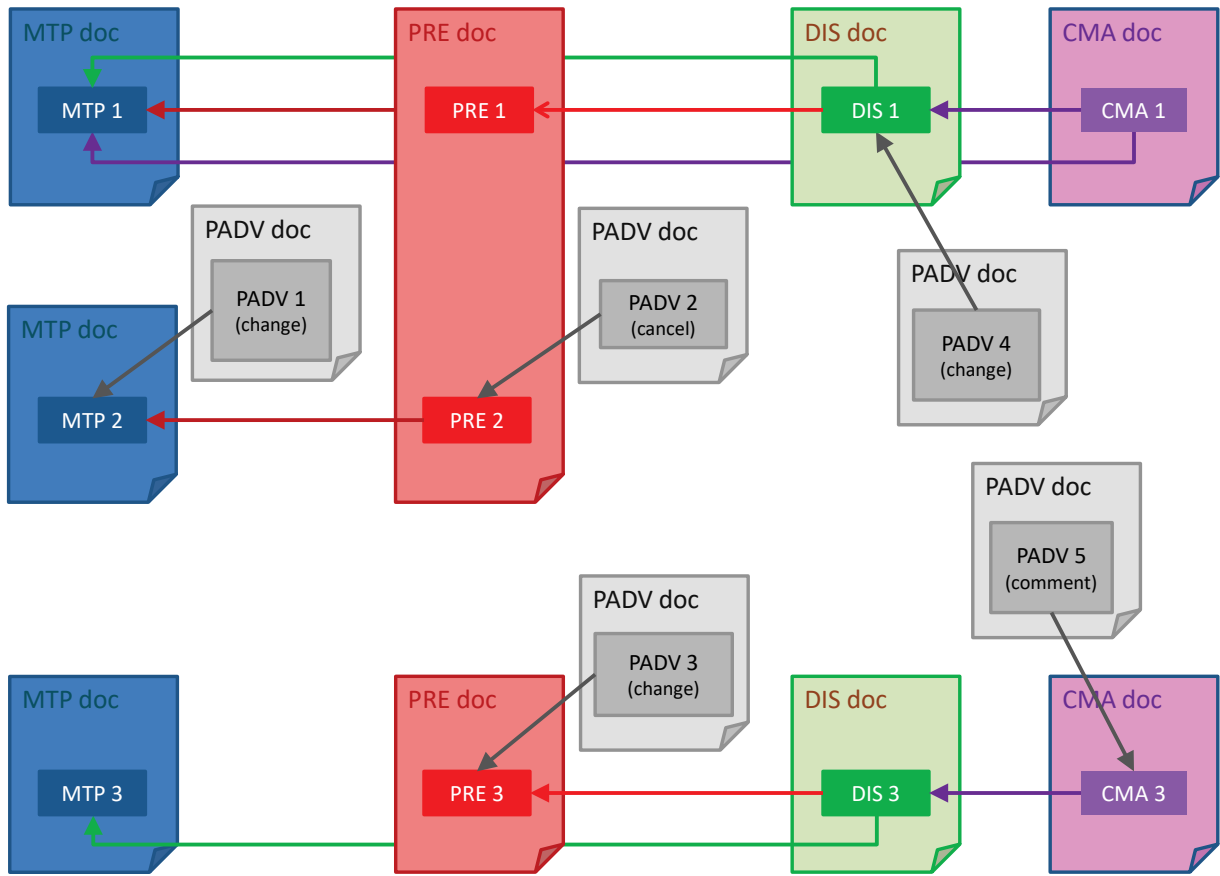
**3.1.4.1.2.1.2.1 Examples for standard queries**

1695 For the examples for the standard queries, assume the following situation of persisted documents in the Prescription-, Pharmaceutical Advice-, Dispensed Medication and Administered Medication repositories:

---

<sup>49</sup> Note: This parameter is applicable only if the “Persistence of Retrieved Documents” Option is supported.

---



**Figure 3.1.4.1.2.1.2.1-1: Example of documents persisted in repositories (for standard queries)**

1700

**Note 1:** The example is designed in a scenario “without validation step” and therefore in this example setting the PADV are all related to MTP-, PRE-, DIS- or CMA items representing changes, cancellations, etc.

1705

**Note 2:** Medication Treatment Plan Items (documents) are optional and may not be present. They are included in the examples for describing the situation where a Medication Treatment Planner is being used.

**3.1.4.1.2.1.2.1.1 Examples for FindMedicationTreatmentPlans**

Used Query Parameters:

1710

- Patient ID
- Document Status

This is what should be returned by the query:

Returned XSDDocumentEntries		Notes
MTP (Business rule 1)	Related documents	
MTP 1	Business rule 2: - Business rule 3: PRE 1 Business rule 4: DIS 1 Business rule 5: CMA 1 Business rule 6: PADV 4	
MTP 2	Business rule 2: PADV 1 Business rule 3: PRE 2 Business rule 4: - Business rule 5: - Business rule 6: PADV 2	
MTP 3	Business rule 2: - Business rule 3: PRE 3 Business rule 4: DIS 3 Business rule 5: CMA 3 Business rule 6: PADV 3, PADV 5	Although PRE 3 is not directly referencing MTP 3, PRE 3 and its related document PADV 3 are returned, because there is an <u>indirect</u> relationship to MTP 3 via DIS 3 item, which is directly referencing MTP 3.

1715 **3.1.4.1.2.1.2.1.2 Examples for FindPrescriptions**

Used Query Parameters:

- Patient ID
- Document Status

1720 This is what should be returned by the query:

Returned XSDDocumentEntries		Notes
PRE (Business rule 1)	Related documents	
PRE 1	Business rule 2: - Business rule 3: MTP 1 Business rule 4: DIS 1 Business rule 5: CMA 1 Business rule 6: PADV 4	

Returned XSDocumentEntries		Notes
PRE (Business rule 1)	Related documents	
PRE 2	Business rule 2: PADV 2 Business rule 3: MTP 2 Business rule 4: - Business rule 5: - Business rule 6: PADV 1	
PRE 3	Business rule 2: PADV 3 Business rule 3: MTP 3 Business rule 4: DIS 3 Business rule 5: CMA 3 Business rule 6: PADV 3, PADV 5	

### 3.1.4.1.2.1.3 Examples for FindDispenses

Used Query Parameters:

1725

- Patient ID
- Document Status

This is what should be returned by the query:

Returned XSDocumentEntries		Notes
DIS (Business rule 1)	Related documents	
DIS 1	Business rule 2: PADV 4 Business rule 3: MTP 1 Business rule 4: PRE 1 Business rule 5: CMA 1 Business rule 6: -	
DIS 3	Business rule 2: - Business rule 3: MTP 3 Business rule 4: PRE 3 Business rule 5: CMA 3 Business rule 6: PADV 3, PADV 5	

1730

### 3.1.4.1.2.1.4 Examples for FindMedicationAdministrations

Used Query Parameters:



- Patient ID
- Document Status

1735

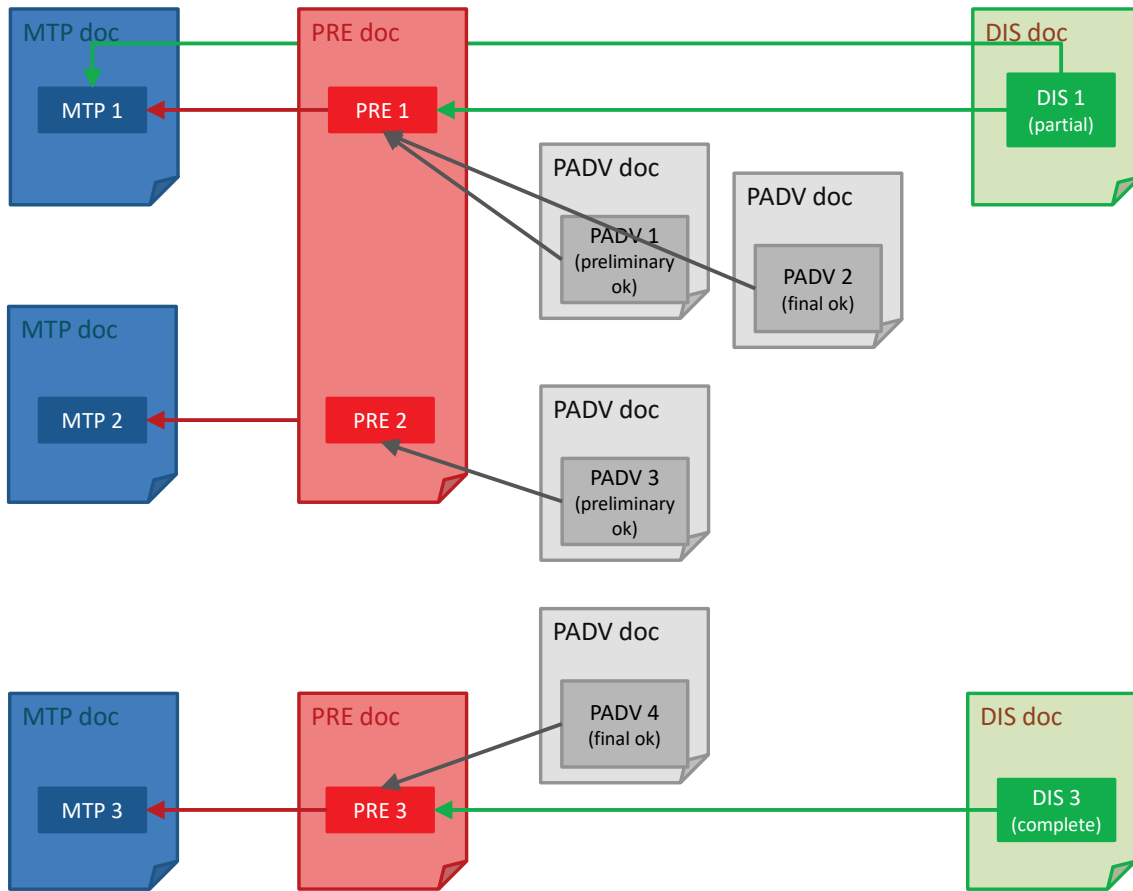
This is what should be returned by the query:

Returned XDSDocumentEntries		Notes
CMA (Business rule 1)	Related documents	
CMA 1	Business rule 2: - Business rule 3: MTP 1 Business rule 4: PRE 1 Business rule 5: DIS 1 Business rule 6: PADV 4	
CMA 3	Business rule 2: PADV 5 Business rule 3: MTP 3 Business rule 4: PRE 3 Business rule 5: DIS 3 Business rule 6: PADV 3	

### 3.1.4.1.2.1.2.2 Examples for specialized queries

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For the examples for the specialized queries, assume the following situation of persisted documents in the Prescription-, Pharmaceutical Advice-, Dispensed Medication and Administered Medication repositories:



1745 **Figure 3.1.4.1.2.1.2.2-1: Example of documents persisted in repositories (for specialized queries)**

Note 1: The example is designed in a scenario “with validation step” and therefore in this example setting all PADV’s representing changes, cancellations, etc. are left away in the interest of simplicity.

1750 Note 2: Medication Treatment Plan Items (documents) are optional and may not be present. They are included in the examples for describing the situation where a Medication Treatment Plan Planner is being used.

### 3.1.4.1.2.1.2.2.1 Examples for FindPrescriptionsForValidation

Used Query Parameters:

- Patient ID
- Document Status

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This is what should be returned by the query:

Returned XSDDocumentEntries		Notes
PRE (Business rule 1)	Related documents	
PRE 2	Business rule 2: PADV 3 Business rule 3: MTP 2 Business rule 4: - Business rule 5: - Business rule 6: -	PRE 2 is returned, because PADV is “preliminary” only (same as if no PADV was present). Only PRE 2 is returned, since all other PREs are already validated.

### 3.1.4.1.2.1.2.2.2 Examples for FindPrescriptionsForDispense

1760 Used Query Parameters:

- Patient ID
- Document Status

This is what should be returned by the query:

1765

Returned XSDDocumentEntries		Notes
PRE (Business rule 1)	Related documents	
PRE 1	Business rule 2: PADV 1, PADV 2 Business rule 3: MTP 1 Business rule 4: DIS 1 Business rule 5: - Business rule 6: -	Only PRE 1 is returned, since all other PREs are either not validated yet (PRE 2) or already fully dispensed (PRE 3).

### 3.1.4.1.2.2 Stored Query IDs

The Registry Stored Query [ITI-18] transaction defines several kinds of Stored Queries (FindDocuments, FindSubmissionSets, etc.).

1770 The PHARM-1 transaction has to provide a different set of Stored Queries. They are assigned the following Query IDs. These IDs are used in the AdhocQueryRequest to reference queries stored on the Community Pharmacy Manager. Query IDs are in UUID format (RFC4122). An error shall be returned when an unsupported stored query ID is received.

Query Name	Query ID
FindMedicationTreatmentPlans	urn:uuid:c85f5ade-81c1-44b6-8f7c-48b9cd6b9489
FindPrescriptions	urn:uuid:0e6095c5-dc3d-47d9-a219-047064086d92
FindDispenses	urn:uuid:ac79c7c7-f21b-4c88-ab81-57e4889e8758
FindMedicationAdministrations	urn:uuid:fdbe8fb8-7b5c-4470-9383-8abc7135f462
FindPrescriptionsForValidation	urn:uuid:c1a43b20-0254-102e-8469-a6af440562e8
FindPrescriptionsForDispense	urn:uuid:c875eb9c-0254-102e-8469-a6af440562e8
FindMedicationList	urn:uuid:80ebbd83-53c1-4453-9860-349585962af6

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### 3.1.4.1.2.3 Web Services Transport

The Registry Stored Query [ITI-18] transaction defines the transmission using Web Services. This section describes the differences of the PHARM-1 transaction to the ITI-18.

1780 **IHE-WSP201) The attribute /wsdl:definitions/@name shall be “CommunityPharmacyManager”.**

The following WSDL naming conventions shall apply:

1785

```

wsdl:definitions/@name="CommunityPharmacyManager":
query message    -> "QueryPharmacyDocuments_Message"
query response   -> "QueryPharmacyDocuments_Response_Message"
portType         -> "CommunityPharmacyManager_PortType"
operation        -> "QueryPharmacyDocuments"
SOAP 1.2 binding -> "CommunityPharmacyManager_Binding_Soap12"
SOAP 1.2 port    -> "CommunityPharmacyManager_Port_Soap12"
    
```

1790 **IHE-WSP202) The targetNamespace of the WSDL shall be “urn:ihe:iti:xds-b:2007”**

These are the requirements for the Registry Stored Query transaction presented in the order in which they would appear in the WSDL definition:

- The following types shall be imported (xsd:import) in the /definitions/types section: namespace="urn:oasis:names:tc:ebxml-regrep:xsd:query:3.0", schemaLocation="query.xsd"
  - The /definitions/message/part/@element attribute of the Find Prescriptions Request message shall be defined as “query:AdhocQueryRequest”
- 1795

- The /definitions/message/part/@element attribute of the Find Prescriptions Response message shall be defined as “query:AdhocQueryResponse”
- 1800 • The /definitions/portType/operation/input/@wsaw:Action attribute for the Find Prescriptions Request message shall be defined as “urn:ihe:pharm:cmpd:2010:QueryPharmacyDocuments”
- The /definitions/portType/operation/output/@wsaw:Action attribute for the Find Prescriptions Response message shall be defined as “urn:ihe:pharm:cmpd:2010:QueryPharmacyDocumentsResponse”
- 1805 • The /definitions/binding/operation/soap12:operation/@soapAction attribute should be defined as “urn:ihe:pharm:cmpd:2010:QueryPharmacyDocuments”

The following WSDL fragment shows an example of Query Pharmacy Documents transaction definition:

1810

```
<?xml version="1.0" encoding="utf-8"?>
<definitions ...>
  ...
  <types>
    <xsd:schema elementFormDefault="qualified" targetNamespace="urn:ihe:iti:xds-b:2007">
      <xsd:import
        namespace="urn:oasis:names:tc:ebxml-regrep:xsd:query:3.0"
        schemaLocation="schema\query.xsd"/>
      ...
    </xsd:schema>
  </types>
  <message name="QueryPharmacyDocuments_Message">
    <documentation>Query Pharmacy Documents</documentation>
    <part name="body" element="query:AdhocQueryRequest"/>
  </message>
  <message name="QueryPharmacyDocumentsResponse_Message">
    <documentation>Query Pharmacy Documents Response</documentation>
    <part name="body" element="query:AdhocQueryResponse"/>
  </message>
  ...
  <portType name="CommunityPharmacyManager_PortType">
    <operation name="CommunityPharmacyManager_QueryPharmacyDocuments">
      <input message="ihe:QueryPharmacyDocuments_Message"
        wsaw:Action="urn:ihe:pharm:cmpd:2010:QueryPharmacyDocuments"/>
      <output message="ihe:RegistryStoredQueryResponse_Message"
        wsaw:Action="urn:ihe:pharm:cmpd:2010:QueryPharmacyDocumentsResponse"/>
    </operation>
    ...
  </portType>
  ...
</definitions>
```

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### 3.1.4.1.2.3.1 Sample SOAP Messages

1845 The samples in the following two sections show a typical SOAP request and its relative SOAP response.

---

### 3.1.4.1.2.3.1.1 Sample Query Pharmacy Documents SOAP Request

```
1850 <s:Envelope xmlns:s=http://www.w3.org/2003/05/soap-envelope
      xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action s:mustUnderstand="1">urn:ihe:pharm:cmpd:2010:QueryPharmacyDocuments</a:Action>
    <a:MessageID>urn:uuid:def119ad-dc13-49c1-a3c7-e3742531f9b3</a:MessageID>
    <a:ReplyTo s:mustUnderstand="1">
      <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
    </a:ReplyTo>
1855 <a:To>http://localhost/service/CommunityPharmacyManager.svc</a:To>
  </s:Header>
  <s:Body>
    <query:AdhocQueryRequest>
      :
1860     see Sample Query Request below
      :
    </query:AdhocQueryRequest>
  </s:Body>
</s:Envelope>
```

1865

### 3.1.4.1.2.3.1.2 Sample Query Pharmacy Documents SOAP Response

```
1870 <s:Envelope xmlns:s=http://www.w3.org/2003/05/soap-envelope
      xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action
1875 s:mustUnderstand="1">urn:ihe:pharm:cmpd:2010:QueryPharmacyDocumentsResponse</a:Action>
    <a:RelatesTo>urn:uuid:def119ad-dc13-49c1-a3c7-e3742531f9b3</a:RelatesTo>
  </s:Header>
  <s:Body>
    <query:AdhocQueryResponse>
      :
1880     see Sample Query Response below
      :
    </query:AdhocQueryResponse>
  </s:Body>
</s:Envelope>
```

### 3.1.4.1.3 Expected Actions

1885 The Community Pharmacy Manager shall do the same actions as described for the Document Registry in the Registry Stored Query [ITI-18] transaction.

#### 3.1.4.1.3.1 Sample Query Request

This example query specifies:

- The FindPrescriptionsForValidation query (id attribute of AdhocQuery element)
- patientID st3498702^^^&1.3.6.1.4.1.21367.2005.3.7&ISO
- 1890 • Return Approved documents only
- Time range (creation time) 200412252300 to 200501010800

Note that ebRS 3.0 specifies the use of Slot to specify name/value(s) pairs as parameters to a Stored Query.

Note: query parameter names are highlighted for readability.

1895

```
<query:AdhocQueryRequest
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:query="urn:oasis:names:tc:ebxml-regrep:xsd:query:3.0"
  xmlns:rim="urn:oasis:names:tc:ebxml-regrep:xsd:rim:3.0"
  xmlns:rs="urn:oasis:names:tc:ebxml-regrep:xsd:rs:3.0">
  <query:ResponseOption returnComposedObjects="true" returnType="LeafClass"/>
  <rim:AdhocQuery id="urn:uuid:cla43b20-0254-102e-8469-a6af440562e8">
    <rim:Slot name="$XDSDocumentEntryPatientId">
      <rim:ValueList>
        <rim:Value>'st3498702^^^&amp;1.3.6.1.4.1.21367.2005.3.7&amp;ISO'</rim:Value>
      </rim:ValueList>
    </rim:Slot>
    <rim:Slot name="$XDSDocumentEntryStatus">
      <rim:ValueList>
        <rim:Value>('urn:oasis:names:tc:ebxml-regrep:StatusType:Approved')</rim:Value>
      </rim:ValueList>
    </rim:Slot>
    <rim:Slot name="$XDSDocumentEntryCreationTimeFrom">
      <rim:ValueList>
        <rim:Value>200412252300</rim:Value>
      </rim:ValueList>
    </rim:Slot>
    <rim:Slot name="$XDSDocumentEntryCreationTimeTo">
      <rim:ValueList>
        <rim:Value>200501010800</rim:Value>
      </rim:ValueList>
    </rim:Slot>
  </rim:AdhocQuery>
</query:AdhocQueryRequest>
```

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### 3.1.4.1.3.2 Sample Query Response

This sample query response corresponds to the above query. Note that the query response message is coded in version 3.0 ebRIM and ebRS. This sample response and the ebXML Registry version 3.0 schema files are available online. The Implementation Guide found at [http://wiki.ihe.net/index.php?title=ITI\\_Implementation\\_Guide](http://wiki.ihe.net/index.php?title=ITI_Implementation_Guide) contains such supplemental material.

1930

1935

1940

```
<?xml version="1.0" encoding="UTF-8"?>
<AdhocQueryResponse
  xmlns="urn:oasis:names:tc:ebxml-regrep:xsd:query:3.0"
  xmlns:rim="urn:oasis:names:tc:ebxml-regrep:xsd:rim:3.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="urn:oasis:names:tc:ebxml-regrep:xsd:query:3.0 file:/query.xsd"
  status="urn:oasis:names:tc:ebxml-regrep:ResponseStatusType:Success">
  <rim:RegistryObjectList>
    <rim:ExtrinsicObject
```

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1945

```
xmlns:q="urn:oasis:names:tc:ebxml-regrep:xsd:query:3.0"
xmlns:rim="urn:oasis:names:tc:ebxml-regrep:xsd:rim:3.0"
id="urn:uuid:08a15a6f-5b4a-42de-8f95-89474f83abdf"
isOpaque="false"
mimeType="text/xml"
objectType="urn:uuid:7edca82f-054d-47f2-a032-9b2a5b5186c1"
status="urn:oasis:names:tc:ebxml-regrep:StatusType:Approved">
```

1950

```
<rim:Slot name="URI">
  <rim:ValueList>
    <rim:Value>http://localhost:8080/XDS/Repository/08a15a6f-5b4a-42de-8f95-
89474f83abdf.xml</rim:Value>
  </rim:ValueList>
</rim:Slot>
```

1955

```
<rim:Slot name="authorInstitution">
  <rim:ValueList>
    <rim:Value>Some Hospital^^^^^^^^1.2.3.4.5.6.7.8.9.1789.45</rim:Value>
  </rim:ValueList>
</rim:Slot>
```

1960

```
<rim:Slot name="creationTime">
  <rim:ValueList>
    <rim:Value>200412261119</rim:Value>
  </rim:ValueList>
</rim:Slot>
```

1965

```
<rim:Slot name="hash">
  <rim:ValueList>
    <rim:Value>4cf4f82d78b5e2aac35c31bca8cb79fe6bd6a41e</rim:Value>
  </rim:ValueList>
</rim:Slot>
```

1970

```
<rim:Slot name="languageCode">
  <rim:ValueList>
    <rim:Value>en-us</rim:Value>
  </rim:ValueList>
</rim:Slot>
```

1975

```
<rim:Slot name="serviceStartTime">
  <rim:ValueList>
    <rim:Value>200412230800</rim:Value>
  </rim:ValueList>
</rim:Slot>
```

1980

```
<rim:Slot name="serviceStopTime">
  <rim:ValueList>
    <rim:Value>200412230801</rim:Value>
  </rim:ValueList>
</rim:Slot>
```

1985

```
<rim:Slot name="size">
  <rim:ValueList>
    <rim:Value>54449</rim:Value>
  </rim:ValueList>
</rim:Slot>
```

1990

```
<rim:Slot name="sourcePatientId">
  <rim:ValueList>
    <rim:Value>jd12323^^^wsh</rim:Value>
  </rim:ValueList>
</rim:Slot>
```

1995

```
<rim:Slot name="sourcePatientInfo">
  <rim:ValueList>
    <rim:Value>PID-3|pid1^^^domain</rim:Value>
    <rim:Value>PID-5|Doe^John^^^</rim:Value>
    <rim:Value>PID-7|19560527</rim:Value>
  </rim:ValueList>
</rim:Slot>
```



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2000	<pre>                 &lt;rim:Value&gt;PID-8 M&lt;/rim:Value&gt;                 &lt;rim:Value&gt;PID-11 100 Main St^^Metropolis^I1^44130^USA&lt;/rim:Value&gt;             &lt;/rim:ValueList&gt;         &lt;/rim:Slot&gt;         &lt;rim:Name&gt; 2005    &lt;rim:LocalizedString charset="UTF-8" value="Community Prescription" xml:lang="en-us"/&gt;         &lt;/rim:Name&gt;         &lt;rim:Description/&gt;         &lt;rim:Classification 2010 classificationScheme="urn:uuid:41a5887f-8865-4c09-adf7-e362475b143a" classifiedObject="urn:uuid:08a15a6f-5b4a-42de-8f95-89474f83abdf" id="urn:uuid:ac872fc0-1c6e-439f-84d1-f76770a0ccdf" nodeRepresentation="57833-6" objectType="Urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:Classification"&gt; 2015    &lt;rim:Slot name="codingScheme"&gt;         &lt;rim:ValueList&gt;             &lt;rim:Value&gt;Connect-a-thon classCodes&lt;/rim:Value&gt;         &lt;/rim:ValueList&gt;     &lt;/rim:Slot&gt; 2020    &lt;rim:Name&gt;         &lt;rim:LocalizedString charset="UTF-8" value="Prescriptions" xml:lang="en-us"/&gt;     &lt;/rim:Name&gt;         &lt;rim:Description/&gt;     &lt;/rim:Classification&gt; 2025    &lt;rim:Classification classificationScheme="urn:uuid:f4f85eac-e6cb-4883-b524-f2705394840f" classifiedObject="urn:uuid:08a15a6f-5b4a-42de-8f95-89474f83abdf" id="urn:uuid:fla8c8e4-3593-4777-b7e0-8b0773378705" nodeRepresentation="N" 2030 objectType="Urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:Classification"&gt;         &lt;rim:Slot name="codingScheme"&gt;             &lt;rim:ValueList&gt;                 &lt;rim:Value&gt;Connect-a-thon confidentialityCodes&lt;/rim:Value&gt;             &lt;/rim:ValueList&gt;         &lt;/rim:Slot&gt; 2035    &lt;rim:Name&gt;         &lt;rim:LocalizedString charset="UTF-8" value="Normal" xml:lang="en-us"/&gt;     &lt;/rim:Name&gt;         &lt;rim:Description/&gt;     &lt;/rim:Classification&gt; 2040    &lt;rim:Classification classificationScheme="urn:uuid:a09d5840-386c-46f2-b5ad-9c3699a4309d" classifiedObject="urn:uuid:08a15a6f-5b4a-42de-8f95-89474f83abdf" id="urn:uuid:b6e49c73-96c8-4058-8c95-914d83bd262a" 2045 nodeRepresentation="urn:ihe:pharm:pre:2010" objectType="Urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:Classification"&gt;         &lt;rim:Slot name="codingScheme"&gt;             &lt;rim:ValueList&gt;                 &lt;rim:Value&gt;Connect-a-thon formatCodes&lt;/rim:Value&gt;             &lt;/rim:ValueList&gt;         &lt;/rim:Slot&gt; 2050    &lt;rim:Name&gt;         &lt;rim:LocalizedString charset="UTF-8" value="Community Prescription" xml:lang="en-us"/&gt;     &lt;/rim:Name&gt;         &lt;rim:Description/&gt;     &lt;/rim:Classification&gt; 2055 </pre>
------	--

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```
2060 <rim:Classification
classificationScheme="urn:uuid:f33fb8ac-18af-42cc-ae0e-ed0b0bdb91e1"
classifiedObject="urn:uuid:08a15a6f-5b4a-42de-8f95-89474f83abdf"
id="urn:uuid:61e2b376-d74a-4984-ac21-dcd0b8890f9d"
nodeRepresentation="Emergency Department"
objectType="Urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:Classification">
2065 <rim:Slot name="codingScheme">
<rim:ValueList>
<rim:Value>Connect-a-thon healthcareFacilityTypeCodes</rim:Value>
</rim:ValueList>
</rim:Slot>
<rim:Name>
2070 <rim:LocalizedString charset="UTF-8" value="Emergency Department"
xml:lang="en-us"/>
</rim:Name>
<rim:Description/>
</rim:Classification>
2075 <rim:Classification
classificationScheme="urn:uuid:ccc5598-8b07-4b77-a05e-ae952c785ead"
classifiedObject="urn:uuid:08a15a6f-5b4a-42de-8f95-89474f83abdf"
id="urn:uuid:fb7677c5-c42f-485d-9010-dce0f3cd4ad5"
nodeRepresentation="Cardiology"
2080 objectType="Urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:Classification">
<rim:Slot name="codingScheme">
<rim:ValueList>
<rim:Value>Connect-a-thon practiceSettingCodes</rim:Value>
</rim:ValueList>
2085 </rim:Slot>
<rim:Name>
<rim:LocalizedString charset="UTF-8" value="Cardiology" xml:lang="en-us"/>
</rim:Name>
<rim:Description/>
2090 </rim:Classification>
<rim:Classification
classificationScheme="urn:uuid:f0306f51-975f-434e-a61c-c59651d33983"
classifiedObject="urn:uuid:08a15a6f-5b4a-42de-8f95-89474f83abdf"
2095 id="urn:uuid:0a8a8ed9-8be5-4a63-9b68-a511adee8ed5"
nodeRepresentation="57833-6"
objectType="Urn:oasis:names:tc:ebxml-regrep:ObjectType:RegistryObject:Classification">
<rim:Slot name="codingScheme">
<rim:ValueList>
<rim:Value>LOINC</rim:Value>
2100 </rim:ValueList>
</rim:Slot>
<rim:Name>
<rim:LocalizedString charset="UTF-8" value="Prescriptions" xml:lang="en-us"/>
</rim:Name>
2105 <rim:Description/>
</rim:Classification>
<rim:ExternalIdentifier
id="urn:uuid:db9f4438-ffff-435f-9d34-d76190728637"
registryObject="urn:uuid:08a15a6f-5b4a-42de-8f95-89474f83abdf"
2110 identificationScheme="urn:uuid:58a6f841-87b3-4a3e-92fd-a8ffeff98427"
objectType="ExternalIdentifier"
value="st3498702^^^&1.3.6.1.4.1.21367.2005.3.7&ISO">
<rim:Name>
2115 <rim:LocalizedString charset="UTF-8"
value="XDSDocumentEntry.patientId" xml:lang="en-us"/>
```

```

2120     </rim:Name>
         <rim:Description/>
         </rim:ExternalIdentifier>
         <rim:ExternalIdentifier
2125 id="urn:uuid:c3fcbf0e-9765-4f5b-abaa-b37ac8ff05a5"
         registryObject="urn:uuid:08a15a6f-5b4a-42de-8f95-89474f83abdf"
         identificationScheme="urn:uuid:2e82c1f6-a085-4c72-9da3-8640a32e42ab"
         objectType="ExternalIdentifier" value="1.3.6.1.4.1.21367.2005.3.99.1.1010">
         <rim:Name>
2125     <rim:LocalizedString charset="UTF-8"
         value="XSDDocumentEntry.uniqueId" xml:lang="en-us"/>
         </rim:Name>
         <rim:Description/>
2130     </rim:ExternalIdentifier>
         </rim:ExtrinsicObject>
         </rim:RegistryObjectList>
         </AdhocQueryResponse>

```

### 3.1.5 Security Considerations

2135 Relevant XDS Affinity Domain Security background is discussed in the XDS Security Considerations Section (see ITI TF-1: 10.7).

#### 3.1.5.1 Security Audit Considerations

The actors involved shall record audit events according to the following:

##### 3.1.5.1.1 Querying actor audit message:

	Field Name	Opt	Value Constraints
Event AuditMessage/ EventIdentific ation	EventID	M	EV(110112, DCM, "Query")
	EventActionCode	M	"E" (Execute)
	<i>EventDateTime</i>	<i>M</i>	<i>not specialized</i>
	<i>EventOutcomeIndicator</i>	<i>M</i>	<i>not specialized</i>
	EventTypeCode	M	EV("PHARM-1", "IHE Transactions", "Query Pharmacy Documents")
<b>Source (Document Consumer) (1)</b>			
<b>Human Requestor (0..n)</b>			
<b>Destination (Document Registry) (1)</b>			
<b>Audit Source (Document Consumer) (1)</b>			
<b>Patient (0..1)</b>			
<b>Query Parameters(1)</b>			

2140

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Where:

<b>Source</b> AuditMessage/ ActiveParticipant	UserID	M	The content of the <wsa:ReplyTo/> element.
	AlternativeUserID	M	the process ID as used within the local operating system in the local system logs.
	<i>UserName</i>	<i>U</i>	<i>not specialized</i>
	UserIsRequestor	M	“true”
	RoleIDCode	M	EV(110153, DCM, “Source”)
	NetworkAccessPointTypeCode	M	“1” for machine (DNS) name, “2” for IP address
	NetworkAccessPointID	M	The machine name or IP address, as specified in RFC3881.

<b>Human Requestor (if known)</b> AuditMessage/ ActiveParticipant	UserID	M	Identity of the human that initiated the transaction.
	<i>AlternativeUserID</i>	<i>U</i>	<i>not specialized</i>
	<i>UserName</i>	<i>U</i>	<i>not specialized</i>
	UserIsRequestor	M	“true”
	RoleIDCode	U	Access Control role(s) the user holds that allows this transaction.
	<i>NetworkAccessPointTypeCode</i>	<i>NA</i>	
	<i>NetworkAccessPointID</i>	<i>NA</i>	

2145

<b>Destination</b> AuditMessage/ ActiveParticipant	UserID	M	SOAP endpoint URI.
	<i>AlternativeUserID</i>	<i>U</i>	<i>not specialized</i>
	<i>UserName</i>	<i>U</i>	<i>not specialized</i>
	UserIsRequestor	M	“false”
	RoleIDCode	M	EV(110152, DCM, “Destination”)
	NetworkAccessPointTypeCode	M	“1” for machine (DNS) name, “2” for IP address
	NetworkAccessPointID	M	The machine name or IP address, as specified in RFC3881.

<b>Audit Source</b> AuditMessage/ AuditSourceIdentification	<i>AuditSourceID</i>	<i>U</i>	<i>not specialized</i>
	<i>AuditEnterpriseSiteID</i>	<i>U</i>	<i>not specialized</i>
	<i>AuditSourceTypeCode</i>	<i>U</i>	<i>not specialized</i>

<b>Patient</b> (AuditMessage/ ParticipantObjectIdentification)	ParticipantObjectTypeCode	M	“1” (Person)
	ParticipantObjectTypeCodeRole	M	“1” (Patient)
	<i>ParticipantObjectDataLifeCycle</i>	<i>U</i>	<i>not specialized</i>
	ParticipantObjectIDTypeCode	M	EV(2, RFC-3881, “Patient Number”)

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	<i>ParticipantObjectSensitivity</i>	U	<i>not specialized</i>
	ParticipantObjectID	M	The patient ID in HL7 CX format.
	<i>ParticipantObjectName</i>	U	<i>not specialized</i>
	<i>ParticipantObjectQuery</i>	U	<i>not specialized</i>
	<i>ParticipantObjectDetail</i>	U	<i>not specialized</i>

Query Parameters (AuditMessage/ ParticipantObjectIdentification)	ParticipantObjectTypeCode	M	“2” (system object)
	ParticipantObjectTypeCodeRole	M	“24” (query)
	<i>ParticipantObjectDataLifeCycle</i>	U	<i>not specialized</i>
	ParticipantObjectIDTypeCode	M	EV(“PHARM-1”, “IHE Transactions”, “ <b>Query Pharmacy Documents</b> ”)
	<i>ParticipantObjectSensitivity</i>	U	<i>not specialized</i>
	ParticipantObjectID	M	Stored Query ID (UUID)
	ParticipantObjectName	C	If known the value of <ihe:HomeCommunityId/>
	ParticipantObjectQuery	M	the AdhocQueryRequest, base64 encoded.
	ParticipantObjectDetail	C	The ParticipantObjectDetail element may occur more than once. In one element, set “QueryEncoding” as the value of the attribute type, Set the attribute value to the character encoding, such as “UTF-8”, used to encode the ParticipantObjectQuery before base64 encoding. In another element, set “urn:ihe:iti:xca:2010:homeCommunityId” as the value of the attribute type and the value of the homeCommunityID as the value of the attribute value, if known.

2150

### 3.1.5.1.2 Community Pharmacy Manager audit message:

	Field Name	Opt	Value Constraints
<b>Event</b> AuditMessage/ EventIdentification	EventID	M	EV(110112, DCM, “Query”)
	EventActionCode	M	“E” (Execute)
	<i>EventDateTime</i>	M	<i>not specialized</i>
	<i>EventOutcomeIndicator</i>	M	<i>not specialized</i>
	EventTypeCode	M	EV(“PHARM-1”, “IHE Transactions”, “ <b>Query Pharmacy Documents</b> ”)
<b>Source (Document Consumer) (1)</b>			
<b>Destination (Document Registry) (1)</b>			
<b>Audit Source (Document Registry) (1)</b>			
<b>Patient (0..1)</b>			
<b>Query Parameters(1)</b>			

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Where:

<b>Source</b> AuditMessage/ ActiveParticipant	UserID	M	The content of the <wsa:ReplyTo/> element.
	AlternativeUserID	U	<i>not specialized</i>
	<i>UserName</i>	U	<i>not specialized</i>
	UserIsRequestor	M	“true”
	RoleIDCode	M	EV(110153, DCM, “Source”)
	NetworkAccessPointTypeCode	M	“1” for machine (DNS) name, “2” for IP address
	NetworkAccessPointID	M	The machine name or IP address, as specified in RFC3881.

<b>Destination</b> AuditMessage/ ActiveParticipant	UserID	M	SOAP endpoint URI.
	<i>AlternativeUserID</i>	M	the process ID as used within the local operating system in the local system logs.
	<i>UserName</i>	U	<i>not specialized</i>
	UserIsRequestor	M	“false”
	RoleIDCode	M	EV(110152, DCM, “Destination”)
	NetworkAccessPointTypeCode	M	“1” for machine (DNS) name, “2” for IP address
	NetworkAccessPointID	M	The machine name or IP address, as specified in RFC3881.

<b>Audit Source</b> AuditMessage/ AuditSourceIdentification	<i>AuditSourceID</i>	U	<i>not specialized</i>
	<i>AuditEnterpriseSiteID</i>	U	<i>not specialized</i>
	<i>AuditSourceTypeCode</i>	U	<i>not specialized</i>

2155

<b>Patient</b> (AuditMessage/ ParticipantObjectIdentification)	ParticipantObjectTypeCode	M	“1” (Person)
	ParticipantObjectTypeCodeRole	M	“1” (Patient)
	<i>ParticipantObjectDataLifeCycle</i>	U	<i>not specialized</i>
	ParticipantObjectIDTypeCode	M	EV(2, RFC-3881, “Patient Number”)
	<i>ParticipantObjectSensitivity</i>	U	<i>not specialized</i>
	ParticipantObjectID	M	The patient ID in HL7 CX format.
	<i>ParticipantObjectName</i>	U	<i>not specialized</i>
	<i>ParticipantObjectQuery</i>	U	<i>not specialized</i>
<i>ParticipantObjectDetail</i>	U	<i>not specialized</i>	

<b>Query Parameters</b> (AuditMessage/	ParticipantObjectTypeCode	M	“2” (system object)
	ParticipantObjectTypeCodeRole	M	“24” (query)

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---

ParticipantObjectIdentification)	<i>ParticipantObjectDataLifeCycle</i>	<i>U</i>	<i>not specialized</i>
	ParticipantObjectIDTypeCode	M	EV(“PHARM-1”, “IHE Transactions”, “Query Pharmacy Documents”)
	<i>ParticipantObjectSensitivity</i>	<i>U</i>	<i>not specialized</i>
	ParticipantObjectID	M	Stored Query ID (UUID)
	ParticipantObjectName	C	If known the value of <ihe:HomeCommunityId/>
	ParticipantObjectQuery	M	the AdhocQueryRequest, base64 encoded.
	ParticipantObjectDetail	C	<p>The ParticipantObjectDetail element may occur more than once.</p> <p>In one element, set “QueryEncoding” as the value of the attribute type, Set the attribute value to the character encoding, such as “UTF-8”, used to encode the ParticipantObjectQuery before base64 encoding.</p> <p>In another element, set “urn:ihe:iti:xca:2010:homeCommunityId” as the value of the attribute type and the value of the homeCommunityID as the value of the attribute value, if known.</p>

### 3.1.5.1.(z) Actor Specific Security Considerations

No information available yet.

2160 **4 Workflow Definitions**

The management of the workflow related to clinical process has becoming a fundamental topic with the increasing of the use by different sectors of document sharing related IHE profiles with their different types of document and information.

2165 **4.1 Community Medication Prescription and Dispense Workflow Definition (CMPD-WD)**

2170 The management of the workflow related to the CMPD Profile is involved in much clinical and organizational process for its important role in the process of digitalization. The lack of a workflow management blocks the use of the Prescription in an extended way. The definition of a workflow with defined rules and tasks is needed in a scenario cross enterprise in which many actors are involved in the same process.

In this section a set of rules which defines the workflow of the CMPD process and the relationship with the actors involved are described. If real-world scenarios need a technical workflow management the actors involved in the process can use the “Workflow Management” Option which groups the CMPD actors with the XDW actors.

2175 The ITI XDW Profile is a core component of a common, workflow-independent interoperability infrastructure that provides a platform upon which a wide range of specific workflows can be defined by “content specialization” with minimal specification and implementation efforts by the different domains. For the definition of the CMPD workflow it is possible to use the ITI XDW Profile as an infrastructure layer to define a set logical or clinical tasks definitions and rules to apply. The rules in the workflow definition ensure that the different participants in a workflow operate jointly to advance within tasks and to move from one task to another in a consistent way.

2180 To integrate the CMPD Profile with ITI XDW Profile it is necessary to introduce the integrations described in the follow paragraphs.

**4.1.1 Actors and Grouping**

2185 If the “Workflow Management” Option is supported the following CMPD actors shall be grouped with XDW actors to allow access and manipulation of the XDW-WD (XDW Workflow document).

Actor	Groups with	Note
Medication Treatment Planner <sup>50</sup>	XDW: Content Creator XDW: Content Consumer XDW: Content Updater	The Medication Treatment Planner shall create the XDW-WD to start the process. It also consumes and maybe updates the XDW-WD document in case of modification to the Medication Treatment Plan.

---

<sup>50</sup> If “Medication Treatment Planning” Option is used.



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Actor	Groups with	Note
Prescription Placer	XDW: Content Creator XDW: Content Consumer XDW: Content Updater	The Prescription Placer shall create the XDW-WD to start the process if the process was not already started.  It also consumes and maybe updates the XDW-WD document in case of modification to the Prescription.
Pharmaceutical Adviser	XDW: Content Consumer XDW: Content Updater	The Pharmaceutical Adviser consumes and updates the XDW-WD after validation of a Prescription Item or modification of a Medication Treatment Plan Item.
Medication Dispenser	XDW: Content Creator XDW: Content Consumer XDW: Content Updater	The Medication Dispenser may create the XDW-WD to start the process if the process was not already started (e.g., in case of dispensing an OTC medication).  In case that the process was already started (e.g., in case of a prescribed medication) the Medication Dispenser consumes and updates the XDW-WD after dispensing a Prescription Item.
Medication Administration Performer	XDW: Content Creator XDW: Content Consumer XDW: Content Updater	The Medication Administration Performer may create the XDW-WD to start the process if the process was not already started (e.g., in case of administering a medication without prescription or dispense recorded).  In case that the process was already started (e.g., of a prescribed medication) the Medication Administration Performer consumes and updates the XDW-WD after dispensing a Prescription Item.

2190 **4.1.2 XDW Workflow Document – Common Attributes**

The CMPD Workflow Definition does not introduce new metadata and all the metadata elements used are the common XDS document metadata specified in ITI TF-3: 4.1.5 and in ITI TF-3: 5.4.6.

2195 In this section only the use of some specific metadata for the use of XDW in the CMPD context is specified.

XSDocumentEntry Attribute	Definition
typeCode	For the Workflow Document which tracks the CMPD process the code for the typeCode shall be: <b>Scenario 1: urn:ihe:pharm:cmpdwd1:2011</b> <b>Scenario 2: urn:ihe:pharm:cmpdwd2:2011</b> Note: see Section 4.1.3 for a description of the two workflow scenarios. This code is the same code that shall be used in the element

XSDDocumentEntry Attribute	Definition
	<b>workflowDefinitionReference</b> inside the Workflow Document
eventCodeList	<p>Rule 1: A CMPD workflow shall be created with code OPEN and shall remain in this status until it is set to CLOSE.</p> <p>Rule 2: A CMPD workflow should be set to CLOSE by any actor which discovers that the started workflow of</p> <ol style="list-style-type: none"> <li>a) each Medication Treatment Plan Item (for which a task “Plan” has been created) or</li> <li>b) each Prescription Item within (for which a task “Ordering” has been created) or</li> <li>c) each Dispense Item within (for which a task “Dispensing” has been created)</li> <li>d) each Medication Administration Item within (for which a task “Administration” has been created)</li> </ol> <p>has ended (e.g., by either a complete dispense of the item (if no electronic documentation of the medication administration is expected) or by a complete medication administration or any other way, such as cancelation, etc.).</p> <p>See ITI TF-3: 5.4.5.7 for a general description of this attribute.</p>
serviceStartTime	It is the time at which work began on the earliest task for this workflow.
serviceStopTime	<p>It is the time at which the status of the overall Workflow is changed from OPEN to CLOSE.</p> <p>It shall be empty when the workflow is still in OPEN state.</p>

### 4.1.3 Workflow Task Definition

2200 This section describes Workflow Tasks which are used in the XDW Workflow document to express a Community Pharmacy workflow.

The CMPD Process Flow can be principally differentiated in two basic workflow scenarios, one including a validation step by a Pharmaceutical Adviser and another excluding it:

- **Scenario 1: Including a validation step by a Pharmaceutical Adviser**
- **Scenario 2: Not including a validation step by a Pharmaceutical Adviser**

2205 A domain using CMPD has to define in which workflow scenario it operates. Workflow scenarios cannot be used compounded.

Please refer to Volume 1, Section 4.4 CMPD Process Flow for a detailed explanation of the Community Pharmacy workflow scenarios.

The following workflow tasks are defined and specified in detail in the following sections:

- 2210
- Planning

- Ordering
- Validation
- Dispensing
- Administering

2215

The CMPD Workflow Definition does not introduce new content specifications for workflow documents and the CMPD workflow documents shall generally follow the XDW content specifications declared in ITI TF-3: 5.4.3.

2220

In this section only the use of some specific content elements for the use of XDW in the CMPD context are specified.

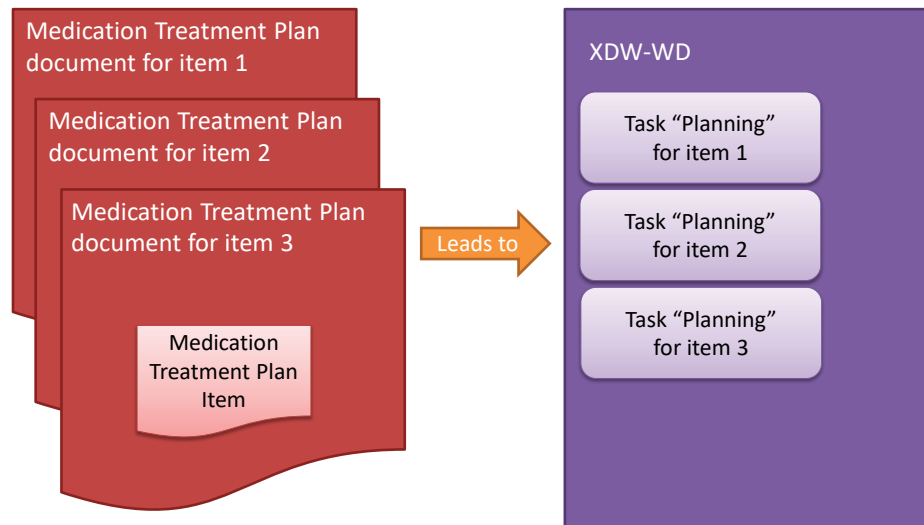
**Important Note:** When referencing input and output documents in tasks, both document uniqueId and homeCommunityId of the document shall be used.

#### 4.1.3.1 Task: Planning

2225

The task “Planning” is able to record the planning of a single Medication Treatment Plan Item (within a Community Medication Treatment Plan document) in a workflow document.

In case the Medication Treatment Planning Option is used, the task starts the Community Pharmacy workflow by creation of the Workflow document.



2230

**Figure 4.1.3.1-1: Community Medication Treatment Plan document containing a Medication Treatment Plan Item leading to workflow tasks “Planning”**



Example XML for this XDW task:

```
2235 :
<xdw:taskData>

  <ws-ht:taskDetails>
2240   <ws-ht:id>urn:oid:1.1.1.1.0</ws-ht:id>
   <ws-ht:taskType>Planning</ws-ht:taskType>
   <ws-ht:name>Planning_of_item</ws-ht:name>
   <ws-ht:status>COMPLETED</ws-ht:status>
   <ws-ht:actualOwner>Dr. Brum</ws-ht:actualOwner>
2245   <ws-ht:createdTime>2006-05-04T18:13:51.OZ</ws-ht:createdTime>
   <ws-ht:createdBy>Dr. Brum</ws-ht:createdBy>
   <ws-ht:lastModifiedTime>2006-05-04T18:13:51.OZ</ws-ht:lastModifiedTime>
   <ws-ht:renderingMethodExists>>false</ws-ht:renderingMethodExists>
  </ws-ht:taskDetails>

2250  <!--
   The description element shall contain the MedicationTreatmentPlanItemId, this
   task is referring to (substanceAdministration/id element of the Medication
   Treatment Plan Item)
  -->
2255  <ws-ht:description>4711^^^&amp;1.2.3.4.5.6.7.8.9&amp;ISO</ws-ht:description>

  <!-- input documents -->
  <ws-ht:input>
2260    <ws-ht:part name="some clinical document">
      <!-- Document useful to understand the reason of the planning -->
      <ws-ht:attachmentInfo>
2265        <ws-ht:identifier>1.2.3.4.4</ws-ht:identifier>
        <ws-ht:name>Some clinical document</ws-ht:name>
        <ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>
        <ws-ht:contentType>application/xml</ws-ht:contentType>
        <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
ht:contentCategory>
2270        <ws-ht:attachedTime>2011-04-01T03:15:20.OZ</ws-ht:attachedTime>
        <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
        <xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>
      </ws-ht:attachmentInfo>
    </ws-ht:part>
  </ws-ht:input>

2275  <!-- output documents -->
  <ws-ht:output>
    <ws-ht:part name="Medication_Treatment_Plan_Document">
      <!-- Community Medication Treatment Plan document -->
2280      <ws-ht:attachmentInfo>
        <ws-ht:identifier>1.2.3.4.4</ws-ht:identifier>
        <ws-ht:name>MTP document</ws-ht:name>
        <ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>
        <ws-ht:contentType>application/xml</ws-ht:contentType>
        <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
2285 ht:contentCategory>
        <ws-ht:attachedTime>2011-04-01T03:15:20.OZ</ws-ht:attachedTime>
        <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
      </ws-ht:attachmentInfo>
    </ws-ht:part>
  </ws-ht:output>

```

2290

```
<xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>
  </ws-ht:attachmentInfo>
  </ws-ht:part>
</ws-ht:output>

</xdw:taskData>
:
```

2295

#### 4.1.3.2 Task: Ordering

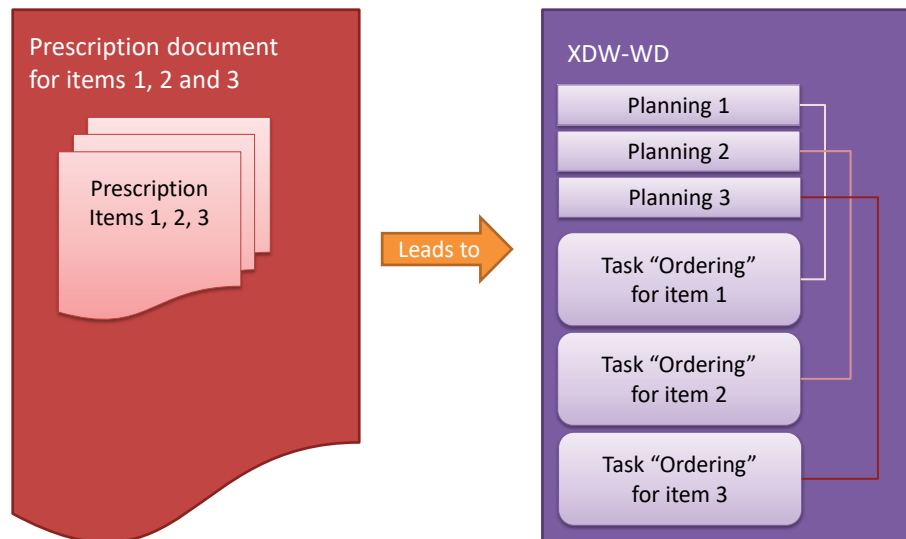
The task “Ordering” is able to record the prescription of a single Prescription Item (within a Community Prescription document) in a workflow document. Since a Community Prescription document may contain more than one Prescription Items, separate tasks have to be created for each Prescription Item of the Prescription.

2300

In case no “Planning” task has been performed before, the “Ordering” task starts the Community Pharmacy workflow by creation of the Workflow document.

In all other cases, the task continues the Community Pharmacy workflow by updating an existing Workflow document.

2305



**Figure 4.1.3.2-1: Community Prescription document containing Prescription Items leading to workflow tasks “Ordering”**



Task attributes	Rules for the task “Ordering”
output	<ul style="list-style-type: none"> <li>• Required                             <ul style="list-style-type: none"> <li>○ The Community Prescription document produced SHALL be referenced.</li> </ul> </li> </ul>
# of taskEvents	Only one creating the “completed” task

Example XML for this XDW task:

```

:
2315 <xdw:taskData>

      <ws-ht:taskDetails>
        <ws-ht:id>urn:oid:1.1.1.1.1</ws-ht:id>
        <ws-ht:taskType>Ordering</ws-ht:taskType>
2320 <ws-ht:name>Order_of_item</ws-ht:name>
        <ws-ht:status>COMPLETED</ws-ht:status>
        <ws-ht:actualOwner>Dr. Brum</ws-ht:actualOwner>
        <ws-ht:createdTime>2006-05-04T18:13:51.OZ</ws-ht:createdTime>
2325 <ws-ht:createdBy>Dr. Brum</ws-ht:createdBy>
        <ws-ht:lastModifiedTime>2006-05-04T18:13:51.OZ</ws-ht:lastModifiedTime>
        <ws-ht:renderingMethodExists>>false</ws-ht:renderingMethodExists>
      </ws-ht:taskDetails>

      <!--
2330 The description element shall contain the PrescriptionItemId, this task is
      referring to (substanceAdministration/id element of the Prescription Item)
      -->
      <ws-ht:description>4711^^^&amp;1.2.3.4.5.6.7.8.9&amp;ISO</ws-ht:description>

2335 <!-- input documents -->
      <ws-ht:input>
        <ws-ht:part name="Ancestor_task">
          <!-- Ancestor task -->
2340 <ws-ht:attachmentInfo>
            <ws-ht:identifier>1.1.1.1.1</ws-ht:identifier>
            <ws-ht:name>Ancestor task</ws-ht:name>
            <ws-ht:accessType>urn:ihe:iti:xdw:2013:workflowInstanceId</ws-ht:accessType>
            <ws-ht:contentType/>
            <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
2345 ht:contentCategory>
            <ws-ht:attachedTime>2011-04-01T03:15:20.OZ</ws-ht:attachedTime>
            <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
          </ws-ht:attachmentInfo>
        </ws-ht:part>
2350 <ws-ht:part name="Medication_Treatment_Plan_Document">
          <!-- Community Medication Treatment Plan document according to MTP Profile the
          Prescription relates to -->
          <ws-ht:attachmentInfo>
            <ws-ht:identifier>1.2.3.4.4.4</ws-ht:identifier>
2355 <ws-ht:name>MTP document</ws-ht:name>

```



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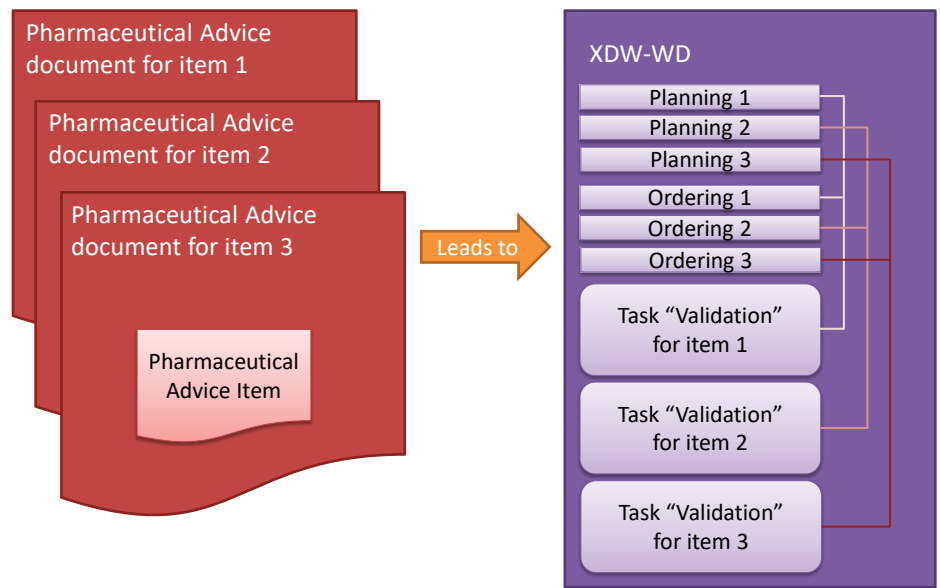
```
2360     <ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>
        <ws-ht:contentType>application/xml</ws-ht:contentType>
        <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
2365 ht:contentCategory>
        <ws-ht:attachedTime>2011-04-01T03:15:20.0Z</ws-ht:attachedTime>
        <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
        <xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>
        </ws-ht:attachmentInfo>
    </ws-ht:part>
2370 <ws-ht:part name="some clinical document">
    <!-- Document useful to understand the reason of the prescription -->
    <ws-ht:attachmentInfo>
        <ws-ht:identifier>1.2.3.4.4</ws-ht:identifier>
        <ws-ht:name>Some clinical document</ws-ht:name>
2375 <ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>
        <ws-ht:contentType>application/xml</ws-ht:contentType>
        <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
ht:contentCategory>
        <ws-ht:attachedTime>2011-04-01T03:15:20.0Z</ws-ht:attachedTime>
        <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
        <xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>
        </ws-ht:attachmentInfo>
    </ws-ht:part>
2380 </ws-ht:input>

    <!-- output documents -->
    <ws-ht:output>
        <ws-ht:part name="Prescription Document">
2385 <!-- Prescription document according to PRE Profile -->
        <ws-ht:attachmentInfo>
            <ws-ht:identifier>1.2.3.4.4</ws-ht:identifier>
            <ws-ht:name>PRE document</ws-ht:name>
            <ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>
2390 <ws-ht:contentType>application/xml</ws-ht:contentType>
            <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
ht:contentCategory>
            <ws-ht:attachedTime>2011-04-01T03:15:20.0Z</ws-ht:attachedTime>
            <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
            <xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>
2395 </ws-ht:attachmentInfo>
        </ws-ht:part>
    </ws-ht:output>
</xdw:taskData>
2400 :
```

**4.1.3.3 Task: Validation**

2405 The task “Validation” is able to record the validation of a single Prescription Item (within a Community Prescription document) in a workflow document. Since a Community Prescription document may contain more than one Prescription Items, separate tasks have to be created for each Prescription Item of the Prescription.

2410 The task continues the Community Pharmacy workflow by updating an existing Workflow document.



**Figure 4.1.3.3-1: Community Pharmaceutical Advice documents containing Pharmaceutical Advice Items leading to workflow tasks “Validation”**

2415

**Table 4.1.3.3-1: Validation Task Rules**

Task attributes	Rules for the task “Validation”
Task dependencies	<p><b>Workflow scenario 1</b>                      Ancestors: Ordering                      Successors: Dispensing, Administering, Ordering</p> <p><b>Workflow scenario 2</b>                      Not applicable</p>
taskDetails.id	Unique id of the instance of the task
taskDetails.taskType	<b>Validation or Management</b>

Task attributes	Rules for the task “Validation”
taskDetails.name	ValidationManagement_of_item
taskDetails.actualOwner	Same physician or organization that creates the Community Pharmaceutical Advice document
Owner changes allowed	No (task shall not be changed, only one taskEvent)
taskDetails.status	<b>COMPLETED</b> A Validation or Management task SHALL be always set to COMPLETED.
Status transaction rules	None (task shall not be changed, only one taskEvent)
description	The description element shall contain the PharmaceuticalAdviceItemId, this task is referring to (observation/id element of the Pharmaceutical Advice Item).  <u>Format compliant to the HL7 v2 CX datatype:</u>  <i>Variant 1: Only id/@root is given</i> \$desc = observation/id/@root  <i>Variant 2: id/@root and id/@extension is given</i> \$desc = concat( observation/id/@extension, "^^^&", observation/id/@root, "&ISO")
input	<ul style="list-style-type: none"> <li>• Required <ul style="list-style-type: none"> <li>○ The document containing the item (Prescription-, Dispense- or Medication Administration Item), the Pharmaceutical Advice Item of this task is referring to, SHALL be referenced.</li> <li>○ The ancestor task SHALL be referenced IF KNOWN.</li> </ul> </li> <li>• Optional <ul style="list-style-type: none"> <li>○ All additional documents useful to understand the reason for the outcome of the Pharmaceutical Advice MAY be referenced.</li> </ul> </li> </ul>
output	<ul style="list-style-type: none"> <li>• Required <ul style="list-style-type: none"> <li>○ The Community Pharmaceutical Advice document produced SHALL be referenced.</li> </ul> </li> </ul>
# of taskEvents	Only one creating the “completed” task

Example XML for this XDW task:

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```
2420 :
    <xdw:taskData>
      <ws-ht:taskDetails>
2425     <ws-ht:id>urn:oid:2.2.2.2</ws-ht:id>
     <ws-ht:taskType>Validation or Management</ws-ht:taskType>
     <ws-ht:name>ValidationManagement_of_item</ws-ht:name>
     <ws-ht:status>COMPLETED</ws-ht:status>
     <ws-ht:actualOwner>Dr. Brum</ws-ht:actualOwner>
2430     <ws-ht:createdTime>2006-05-04T18:13:51.OZ</ws-ht:createdTime>
     <ws-ht:createdBy>Dr. Brum</ws-ht:createdBy>
     <ws-ht:lastModifiedTime>2006-05-04T18:13:51.OZ</ws-ht:lastModifiedTime>
     <ws-ht:renderingMethodExists>>false</ws-ht:renderingMethodExists>
     </ws-ht:taskDetails>
2435 <!--
  The description element shall contain the PharmaceuticalAdviceItemId, this task is
  referring to (observation/id element of the Pharmaceutical Advice Item)
  -->
2440 <ws-ht:description>4711^^^&amp;1.2.3.4.5.6.7.8.9&amp;ISO</ws-ht:description>
  <!-- input documents -->
  <ws-ht:input>
    <ws-ht:part name="Ancestor_task">
2445     <!-- Ancestor task -->
     <ws-ht:attachmentInfo>
       <ws-ht:identifier>1.1.1.1</ws-ht:identifier>
       <ws-ht:name>Ancestor task</ws-ht:name>
       <ws-ht:accessType>urn:ihe:iti:xdw:2013:workflowInstanceId</ws-ht:accessType>
2450     <ws-ht:contentType/>
     <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
ht:contentCategory>
     <ws-ht:attachedTime>2011-04-01T03:15:20.OZ</ws-ht:attachedTime>
     <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
     </ws-ht:attachmentInfo>
2455   </ws-ht:part>
   <ws-ht:part name="Prescription_Document">
     <!-- Prescription document according to PRE Profile the Pharmaceutical Advice
       relates to -->
2460     <ws-ht:attachmentInfo>
       <ws-ht:identifier>1.2.3.4.4</ws-ht:identifier>
       <ws-ht:name>PRE document</ws-ht:name>
       <ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>
       <ws-ht:contentType>application/xml</ws-ht:contentType>
       <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
2465 ht:contentCategory>
       <ws-ht:attachedTime>2011-04-01T03:15:20.OZ</ws-ht:attachedTime>
       <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
       <xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>
     </ws-ht:attachmentInfo>
2470   </ws-ht:part>
  </ws-ht:input>
  <!-- output documents -->
  <ws-ht:output>
2475   <ws-ht:part name="Pharmaceutical_Advice_Document">
     <!-- Pharmaceutical Advice document according to PADV Profile -->
     <ws-ht:attachmentInfo>
```

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---

2480

```
<ws-ht:identifier>1.2.3.4.4</ws-ht:identifier>  
<ws-ht:name>PADV document</ws-ht:name>  
<ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>  
<ws-ht:contentType>application/xml</ws-ht:contentType>  
<ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
```

2485

```
ht:contentCategory>  
<ws-ht:attachedTime>2011-04-01T03:15:20.0Z</ws-ht:attachedTime>  
<ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>  
<xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>  
</ws-ht:attachmentInfo>
```

2490

```
</ws-ht:part>  
</ws-ht:output>  
</xdw:taskData>  
:
```

2495

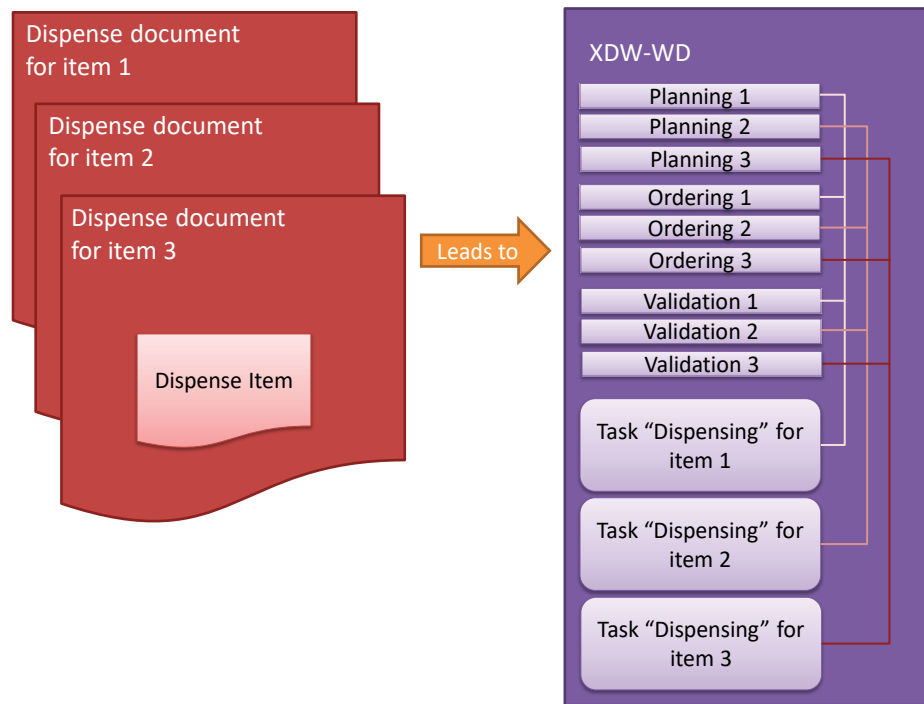
#### 4.1.3.4 Task: Dispensing

The task “Dispensing” is able to record the dispense of a single Dispense Item (within a Community Dispense document) in a workflow document.

2500 In case no “Planning” or “Ordering” task has been performed before, the “Dispensing” task starts the Community Pharmacy workflow by creation of the Workflow document (e.g., OTC medication).

In all other cases, the task continues the Community Pharmacy workflow by updating an existing Workflow document.

2505



**Figure 4.1.3.4-1: Community Dispense documents containing Dispense Items leading to workflow tasks “Dispensing”**

**Table 4.1.3.4-1: Dispensing Task Rules**

Task attributes	Rules for the task “Dispensing”
Task dependencies	<p><b>Workflow scenario 1</b>                      Ancestors: None, Validation                      Successors: Dispensing, Administration</p> <p><b>Workflow scenario 2</b></p>

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Task attributes	Rules for the task “Dispensing”
	Ancestors: None, Planning, Ordering Successors: Dispensing, Administration
taskDetails.id	Unique id of the instance of the task
taskDetails.taskType	<b>Dispensing</b>
taskDetails.name	Dispense_of_item
taskDetails.actualOwner	Same physician or organization that creates the Community Dispense document.
Owner changes allowed	No (task shall not be changed, only one taskEvent)
taskDetails.status	<b>COMPLETED</b> A Dispensing task SHALL be always set to COMPLETED.
Status transaction rules	None (task shall not be changed, only one taskEvent)
description	The description element shall contain the DispenseItemId, this task is referring to (supply/id element of the Dispense Item).  <u>Format compliant to the HL7 v2 CX datatype:</u>  <i>Variant 1: Only id/@root is given</i> Sdesc = supply/id/@root  <i>Variant 2: id/@root and id/@extension is given</i> Sdesc = concat( supply/id/@extension, "^^^&", supply/id/@root, "&ISO")
input	<ul style="list-style-type: none"> <li>• Required                             <ul style="list-style-type: none"> <li>○ The Community Medication Treatment Plan document containing the Medication Treatment Plan Item, the Dispense Item of this task is referring to, SHALL be referenced IF KNOWN.</li> <li>○ The Community Prescription document containing the Prescription Item, the Dispense Item of this task is referring to, SHALL be referenced IF KNOWN.</li> <li>○ The Community Pharmaceutical Advice document containing the Pharmaceutical Advice Item, the Dispense Item of this task is referring to, SHALL be referenced IF KNOWN.                                     <ul style="list-style-type: none"> <li>▪ E.g., the Pharmaceutical Advice on the underlying Prescription Item which approved the dispensing act (in case of scenario 1, “with validation step”)</li> </ul> </li> <li>○ The ancestor task SHALL be referenced IF KNOWN.</li> </ul> </li> </ul>
output	<ul style="list-style-type: none"> <li>• Required                             <ul style="list-style-type: none"> <li>○ The Community Dispense document produced SHALL be</li> </ul> </li> </ul>

Task attributes	Rules for the task “Dispensing”
	referenced.
# of taskEvents	Only one creating the “completed” task

2510

Example XML for this XDW task:

```

:
<xdw:taskData>
2515   <ws-ht:taskDetails>
      <ws-ht:id>urn:oid:3.3.3.3.3</ws-ht:id>
      <ws-ht:taskType>Dispensing</ws-ht:taskType>
2520   <ws-ht:name>Dispense_of_item</ws-ht:name>
      <ws-ht:status>COMPLETED</ws-ht:status>
      <ws-ht:actualOwner>Dr. Brum</ws-ht:actualOwner>
      <ws-ht:createdTime>2006-05-04T18:13:51.OZ</ws-ht:createdTime>
      <ws-ht:createdBy>Dr. Brum</ws-ht:createdBy>
2525   <ws-ht:lastModifiedTime>2006-05-04T18:13:51.OZ</ws-ht:lastModifiedTime>
      <ws-ht:renderingMethodExists>>false</ws-ht:renderingMethodExists>
    </ws-ht:taskDetails>

    <!--
2530     The description element shall contain the DispenseItemId, this task is
        referring to (supply/id element of the Dispense Item)
    -->
    <ws-ht:description>4711^^^&amp;1.2.3.4.5.6.7.8.9&amp;ISO</ws-ht:description>

2535   <!-- input documents -->
    <ws-ht:input>
      <ws-ht:part name="Ancestor_task">
        <!-- Ancestor task -->
2540     <ws-ht:attachmentInfo>
          <ws-ht:identifier>1.1.1.1.1</ws-ht:identifier>
          <ws-ht:name>Ancestor task</ws-ht:name>
          <ws-ht:accessType>urn:ihe:iti:xdw:2013:workflowInstanceId</ws-ht:accessType>
          <ws-ht:contentType/>
          <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
2545   ht:contentCategory>
          <ws-ht:attachedTime>2011-04-01T03:15:20.OZ</ws-ht:attachedTime>
          <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
        </ws-ht:attachmentInfo>
      </ws-ht:part>
      <ws-ht:part name="Medication_Treatment_Plan_Document">
2550     <!-- Community Medication Treatment Plan document according to MTP Profile the
          Dispense relates to -->
        <ws-ht:attachmentInfo>
          <ws-ht:identifier>1.2.3.4.4.4</ws-ht:identifier>
2555     <ws-ht:name>MTP document</ws-ht:name>
          <ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>
          <ws-ht:contentType>application/xml</ws-ht:contentType>
          <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
          ht:contentCategory>

```



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```
2560     <ws-ht:attachedTime>2011-04-01T03:15:20.0Z</ws-ht:attachedTime>
      <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
      <xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>
    </ws-ht:attachmentInfo>
  </ws-ht:part>
2565  <ws-ht:part name="Prescription_Document">
    <!-- Prescription document according to PRE Profile the
      Dispense relates to -->
    <ws-ht:attachmentInfo>
      <ws-ht:identifier>1.2.3.4.4</ws-ht:identifier>
      <ws-ht:name>PRE document</ws-ht:name>
2570     <ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>
      <ws-ht:contentType>application/xml</ws-ht:contentType>
      <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
ht:contentCategory>
    <ws-ht:attachedTime>2011-04-01T03:15:20.0Z</ws-ht:attachedTime>
    <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
    <xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>
    </ws-ht:attachmentInfo>
  </ws-ht:part>
2580  <ws-ht:part name="Pharmaceutical_Advice_Document">
    <!-- Pharmaceutical Advice document according to PADV Profile the
      Dispense relates to -->
    <ws-ht:attachmentInfo>
      <ws-ht:identifier>1.2.3.4.4</ws-ht:identifier>
      <ws-ht:name>PADV document</ws-ht:name>
2585     <ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>
      <ws-ht:contentType>application/xml</ws-ht:contentType>
      <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
ht:contentCategory>
    <ws-ht:attachedTime>2011-04-01T03:15:20.0Z</ws-ht:attachedTime>
    <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
    <xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>
    </ws-ht:attachmentInfo>
  </ws-ht:part>
2590  </ws-ht:input>
2595  <!-- output documents -->
  <ws-ht:output>
    <ws-ht:part name="Dispense_Document">
      <!-- Dispense document according to DIS Profile -->
2600     <ws-ht:attachmentInfo>
      <ws-ht:identifier>1.2.3.4.4</ws-ht:identifier>
      <ws-ht:name>DIS document</ws-ht:name>
      <ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>
      <ws-ht:contentType>application/xml</ws-ht:contentType>
2605     <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
ht:contentCategory>
    <ws-ht:attachedTime>2011-04-01T03:15:20.0Z</ws-ht:attachedTime>
    <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
    <xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>
    </ws-ht:attachmentInfo>
  </ws-ht:part>
2610  </ws-ht:output>
</xdw:taskData>
2615  :
```

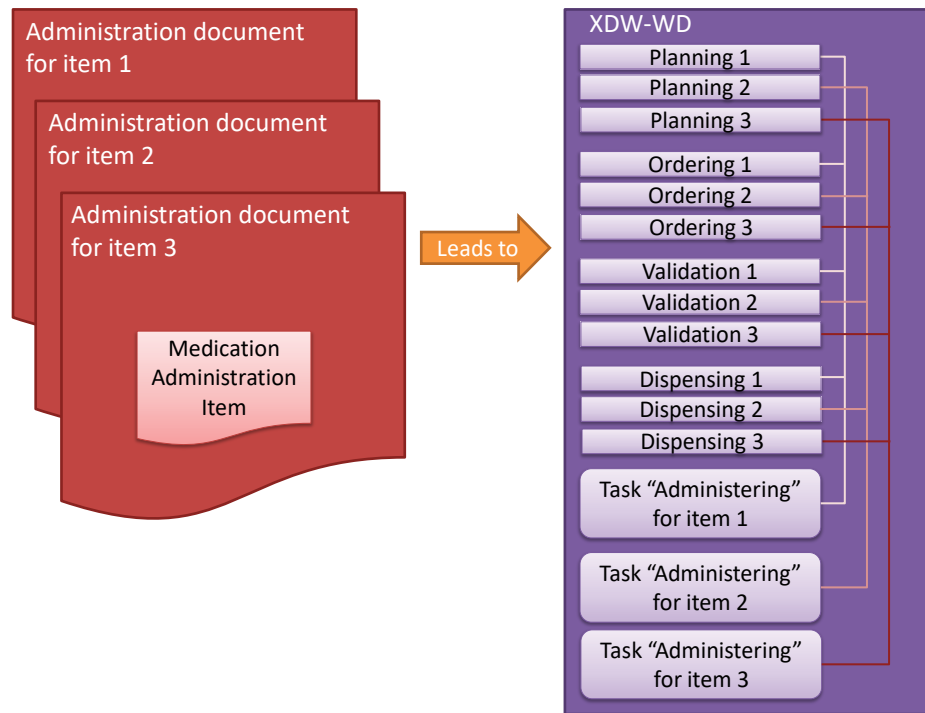
#### 4.1.3.5 Task: Administering

The task “Administering” is able to record the administration of a single Medication Administration Item (within a Community Medication Administration document) in a workflow document.

2620 In case no “Planning”, “Ordering” or “Dispensing” task has been performed before, the “Administering” task starts the Community Pharmacy workflow by creation of the Workflow document (e.g., ad-hoc administration of medication).

In all other cases, the task continues the Community Pharmacy workflow by updating an existing Workflow document.

2625



**Figure 4.1.3.4-1: Community Medication Administration documents containing Medication Administration Items leading to workflow tasks “Administering”**

**Table 4.1.3.4-1: Administering Task Rules**

Task attributes	Rules for the task “Administering”
Task dependencies	<p><b>Workflow scenario 1</b>                      Ancestors: None, Validation, Dispensing                      Successors: Administration</p> <p><b>Workflow scenario 2</b></p>



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Task attributes	Rules for the task “Administering”
	<p>dosage instructions have changed since the last administration of the dispensed medication</p> <ul style="list-style-type: none"> <li>○ The ancestor task SHALL be referenced IF KNOWN.</li> </ul>
output	<ul style="list-style-type: none"> <li>• Required <ul style="list-style-type: none"> <li>○ The Community Medication Administration document produced SHALL be referenced.</li> </ul> </li> </ul>
# of taskEvents	Only one creating the “completed” task

2630

Example XML for this XDW task:

2635

```

:
<xdw:taskData>
  <ws-ht:taskDetails>
    <ws-ht:id>urn:oid:3.3.3.3.3</ws-ht:id>
    <ws-ht:taskType>Dispensing</ws-ht:taskType>
    <ws-ht:name>Administration_of_item</ws-ht:name>
    <ws-ht:status>COMPLETED</ws-ht:status>
    <ws-ht:actualOwner>Dr. Brum</ws-ht:actualOwner>
    <ws-ht:createdTime>2006-05-04T18:13:51.OZ</ws-ht:createdTime>
    <ws-ht:createdBy>Dr. Brum</ws-ht:createdBy>
    <ws-ht:lastModifiedTime>2006-05-04T18:13:51.OZ</ws-ht:lastModifiedTime>
    <ws-ht:renderingMethodExists>>false</ws-ht:renderingMethodExists>
  </ws-ht:taskDetails>

  <!--
  The description element shall contain the PrescriptionItemId, this task is
  referring to (substanceAdministration/id element of the Prescription Item)
  -->
  <ws-ht:description>4711^^^&amp;1.2.3.4.5.6.7.8.9&amp;ISO</ws-ht:description>

  <!-- input documents -->
  <ws-ht:input>
    <ws-ht:part name="Ancestor_task">
      <!-- Ancestor task -->
      <ws-ht:attachmentInfo>
        <ws-ht:identifier>1.1.1.1.1</ws-ht:identifier>
        <ws-ht:name>Ancestor task</ws-ht:name>
        <ws-ht:accessType>urn:ihe:iti:xdw:2013:workflowInstanceId</ws-ht:accessType>
        <ws-ht:contentType/>
        <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-ht:contentCategory>
        <ws-ht:attachedTime>2011-04-01T03:15:20.OZ</ws-ht:attachedTime>
        <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
      </ws-ht:attachmentInfo>
    </ws-ht:part>
    <ws-ht:part name="Medication_Treatment_Plan_Document">
      <!-- Community Medication Treatment Plan document according to MTP Profile the
      Medication Administration relates to -->
      <ws-ht:attachmentInfo>

```

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2670

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```
2675     <ws-ht:identifier>1.2.3.4.4</ws-ht:identifier>
        <ws-ht:name>MTP document</ws-ht:name>
        <ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>
        <ws-ht:contentType>application/xml</ws-ht:contentType>
        <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
2680 ht:contentCategory>
        <ws-ht:attachedTime>2011-04-01T03:15:20.0Z</ws-ht:attachedTime>
        <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
        <xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>
        </ws-ht:attachmentInfo>
    </ws-ht:part>
    <ws-ht:part name="Prescription_Document">
2685     <!-- Prescription document according to PRE Profile the
            Medication Administration relates to -->
        <ws-ht:attachmentInfo>
        <ws-ht:identifier>1.2.3.4.4</ws-ht:identifier>
2690     <ws-ht:name>PRE document</ws-ht:name>
        <ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>
        <ws-ht:contentType>application/xml</ws-ht:contentType>
        <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
ht:contentCategory>
        <ws-ht:attachedTime>2011-04-01T03:15:20.0Z</ws-ht:attachedTime>
2695     <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
        <xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>
        </ws-ht:attachmentInfo>
    </ws-ht:part>
    <ws-ht:part name="Dispense_Document">
2700     <!-- Dispense document according to DIS Profile the
            Medication Administration relates to -->
        <ws-ht:attachmentInfo>
        <ws-ht:identifier>1.2.3.4.4</ws-ht:identifier>
2705     <ws-ht:name>DIS document</ws-ht:name>
        <ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>
        <ws-ht:contentType>application/xml</ws-ht:contentType>
        <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
ht:contentCategory>
        <ws-ht:attachedTime>2011-04-01T03:15:20.0Z</ws-ht:attachedTime>
2710     <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
        <xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>
        </ws-ht:attachmentInfo>
    </ws-ht:part>
    <ws-ht:part name="Pharmaceutical_Advice_Document">
2715     <!-- Pharmaceutical Advice document according to PADV Profile the
            Medication Administration relates to -->
        <ws-ht:attachmentInfo>
        <ws-ht:identifier>1.2.3.4.4</ws-ht:identifier>
2720     <ws-ht:name>PADV document</ws-ht:name>
        <ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>
        <ws-ht:contentType>application/xml</ws-ht:contentType>
        <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
ht:contentCategory>
        <ws-ht:attachedTime>2011-04-01T03:15:20.0Z</ws-ht:attachedTime>
2725     <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
        <xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>
        </ws-ht:attachmentInfo>
    </ws-ht:part>
2730 </ws-ht:input>
```

## IHE Pharmacy Technical Framework Supplement – Community Medication Prescription and Dispense (CMPD)

---

```
2735 <!-- output documents -->
      <ws-ht:output>
        <ws-ht:part name="Medication_Administration_Document">
          <!-- Medication Administration document according to CMA Profile -->
          <ws-ht:attachmentInfo>
            <ws-ht:identifier>1.2.3.4.4</ws-ht:identifier>
            <ws-ht:name>CMA document</ws-ht:name>
            <ws-ht:accessType>urn:ihe:iti:xdw:2011:XDSregistered</ws-ht:accessType>
2740 <ws-ht:contentType>application/xml</ws-ht:contentType>
            <ws-ht:contentCategory>http://www.iana.org/assignments/media-types</ws-
ht:contentCategory>
            <ws-ht:attachedTime>2011-04-01T03:15:20.0Z</ws-ht:attachedTime>
            <ws-ht:attachedBy>Dr. Brum</ws-ht:attachedBy>
            <xdw:homeCommunityId>urn:oid:1.2.3</xdw:homeCommunityId>
2745 </ws-ht:attachmentInfo>
          </ws-ht:part>
        </ws-ht:output>
      </xdw:taskData>
2750 :
```

## **Glossary**

*Add the following terms to the Glossary:*

2755 No new terms