Integrating the Healthcare Enterprise

IHE Pharmacy
Technical Framework Supplement

Community Medication Administration (CMA)

Rev. 1.0 – Draft for Public Comment

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Please verify you have the most recent version of this document. See here for Trial Implementation and Final Text versions and here for Public Comment versions.

Foreword

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 July 14, 2017 for public comment. Comments are invited and can be submitted at http://www.ihe.net/Pharmacy_Public_Comments. In order to be considered in development of the trial implementation version of the supplement, comments must be received by August 13, 2017.

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.

Amend Section X.X by the following:

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.

General information about IHE can be found at www.ihe.net.

Information about the IHE Pharmacy domain can be found at http://www.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://www.ihe.net/IHE_Process and http://www.ihe.net/Profiles.

The current versions of IHE Pharmacy Technical Framework supplements can be found at http://www.ihe.net/Technical_Frameworks.

CONTENTS

Introduction to this Supplement

The Community Medication Administration (CMA) is a Content Module Profile describing the content and format of an administration document generated during the process in which a health care professional (physician, pharmacist, nurse, etc.) administers a medication to a patient. The process may also be performed by the patient him- or herself (self-administrations) or others (e.g., relatives, etc.).

Depending on the nature of the medication, the administration event may take place at a **point of time** (e.g., intake of tablets) or may take place as an **interval** process having a start and end time (e.g., infusion).

The interval process can be divided into a "simple interval" variant, where only one interval is documented and "complex interval" variant, where multiple, related intervals are documented (e.g., because the parameters of the administration, such as medication, dose, drop-rate, etc., changed during the timespan of the overall administration process). The scope of this profile is to cover all of the characteristics of administrations.

Documents created according to this profile are intended to be used in the context of the "Community Prescription and Dispense" Integration Profile (CMPD). This supplement also references other documents[1]. The reader should have already read and understood these documents:

1. PHARM Common parts document
2. PHARM Community Prescription and Dispense Integration Profile (CMPD)
3. PCC Technical Framework Volume 1
4. PCC Technical Framework Volume 2
5. IT Infrastructure Technical Framework Volume 1
6. IT Infrastructure Technical Framework Volume 2
7. IT Infrastructure Technical Framework Volume 3
8. HL7®[2] and other standards documents referenced in this document
9. IHE Pharmacy White Paper

[1] The first seven documents can be located on the IHE Website at http://ihe.net/Technical_Frameworks. The remaining documents can be obtained from their respective publishers.

[2] HL7 is the registered trademark of Health Level Seven International.

Open Issues and Questions

- Shall the document also contain information regarding the workflow of administration (e.g., “complications during this administration lead to a change of the appointed next administration” or “next intake shall be skipped”, etc.)?
    - If yes, does that have implications on current of future workflow profiles which utilize this profile

Closed Issues

- Is each administration resulting in a single document?
    - Yes, every administration results in a single Administration document, including administrations of medicines be done in parallel (e.g., two different infusions at a time)
    - But, if you have to take e.g., 2 pills of one medicine to reach your dose at this administration, this results in just one document.
- Shall we record information to the case that the patient actually got the medicine administered, but for some reason (e.g., vomiting) could not digest it? Shall we record it in “Allergies and Adverse Reaction”?
    - Yes. Issues recognized until the creation of the CMA report are documented in the CMA Item. Issues recognized after the creation of the CMA report are documented in PADVs related to the CMA.
- Shall non-administration events be recorded too?
    - Yes. They are reported by setting “Amount of units of the consumable administered” is set to zero.

General Introduction

Update the following Appendices to the General Introduction as indicated below. Note that these are not appendices to Volume 1.

Appendix A - Actor Summary Definitions

Add the following actors to the IHE Technical Frameworks General Introduction list of actors:

No new actors.

Appendix B - Transaction Summary Definitions

Add the following transactions to the IHE Technical Frameworks General Introduction list of Transactions:

No new transactions.

Glossary

Add the following glossary terms to the IHE Technical Frameworks General Introduction Glossary:

Glossary Term	Definition
Community Medication Administration	Community Medication Administration is the act of applying a medication to a patient (e.g., intake of tablet, injecting a syringe, applying an infusion, etc.), whether performed by the patient him- or herself or another person, such as a health care professional.
Medication Administration Item	A Medication Administration Item belongs to a Community Medication Administration and represents one administered medication. It contains the administered medicinal product including information such as product code, brand name, lot number as well as all other parameters describing the administering process, such as dose, drop-rate, etc.

Volume 1 – Profiles

Copyright Licenses

Add the following to Section 2.5

2.5 Dependencies of the Pharmacy Integration Profiles

Community Medication Administration (CMA)	PCC	Content definition	This profile includes Section and Entry Content Modules of the Patient Care Coordination (PCC) domain.

Add the following to Section 2.7

2.7 History of Annual Changes

X Community Medication Administration (CMA) Profile

The Community Medication Administration (CMA) is a Content Module Profile describing the content and format of an administration document generated during the process in which a health care professional (physician, pharmacist, nurse, etc.) administers a medication to a patient. The process may also be performed by the patient him- or herself (self-administrations) or others (e.g., relatives, etc.).

Depending on the nature of the medication, the administration event may take place at a **point of time** (e.g., intake of tablets) or may take place as an **interval** process having a start and end time (e.g., infusion).

The interval process can be divided into a "simple interval" variant, where only one interval is documented and "complex interval" variant, where multiple, related intervals are documented (e.g., because the parameters of the administration, such as medication, dose, drop-rate, etc., changed during the timespan of the overall administration process). The scope of this profile is to cover all of the characteristics of administrations.

Documents created according to this profile are intended to be used in the context of the "Community Prescription and Dispense" Integration Profile (CMPD).

For a detailed overview on the whole Pharmacy domain business processes, please refer to the "Common parts" document, which is accompanying this profile.

X.1 CMA Actors, Transactions, and Content Modules

This section defines the actors, transactions, and/or content modules in this profile. General definitions of actors are given in the Technical Frameworks General Introduction Appendix A at http://www.ihe.net/Technical_Framework/index.cfm.

Figure X.1-1 shows the actors directly involved in the CMA Profile and the direction that the content is exchanged.

A product implementation using this profile must group actors from this profile with actors from a workflow or transport profile to be functional. The grouping of the content module described in this profile to specific actors is described in more detail in the "Required Actor Groupings" section below.

Figure X.1-1: CMA Actor Diagram

Table X.1-1 lists the content module(s) defined in the CMA Profile. To claim support with this profile, an actor shall support all required content modules (labeled "R") and may support optional content modules (labeled "O").

Table X.1-1: CMA Profile - Actors and Content Modules

Actors	Content Modules	Optionality	Reference
Content Creator	Community Medication Administration Content Module 1.3.6.1.4.1.19376.1.9.1.1.4	R	TF-3: 6.3.1.D1
Content Consumer	Community Medication Administration Content Module 1.3.6.1.4.1.19376.1.9.1.1.4	R	TF-3: 6.3.1.D1

X.1.1 Actor Descriptions and Actor Profile Requirements

Most requirements are documented in Transactions (Volume 2) and Content Modules (Volume 3). This section documents any additional requirements on profile's actors.

X.2 CMA Actor Options

Options that may be selected for each actor in this profile, if any, are listed in the Table X.2-1. Dependencies between options when applicable are specified in notes.

Table X.2-1: Community Medication Administration - Actors and Options

Actor	Option Name	Reference
Content Consumer	View Option (See Note 1)	PCC TF-2: 3.1.1
	Document Import Option (See Note 1)	PCC TF-2: 3.1.2
	Section Import Option (See Note 1)	PCC TF-2: 3.1.3
	Discrete Data Import Option (See Note 1)	PCC TF-2: 3.1.4
Content Creator	No options defined	

Note 1: The actor shall support at least one of these options.

X.3 CMA Required Actor Groupings

An actor from this profile (Column 1) shall implement all of the required transactions and/or content modules in this profile ***in addition to*** all of the transactions required for the grouped actor (Column 2).

If this is a content profile, and actors from this profile are grouped with actors from a workflow or transport profile, the Content Bindings reference column references any specifications for mapping data from the content module into data elements from the workflow or transport transactions.

In some cases, required groupings are defined as at least one of an enumerated set of possible actors; this is designated by merging column one into a single cell spanning multiple potential grouped actors. Notes are used to highlight this situation.

Section X.5 describes some optional groupings that may be of interest for security considerations and Section X.6 describes some optional groupings in other related profiles.

Actors from the Pharmacy CMPD Profile embody the Content Creator and Content Consumer sharing function of this profile. A Content Creator or Content Consumer may be grouped with appropriate actors from the XDS, XDM or XDR Profiles to exchange the content described therein. The metadata sent in the document sharing or interchange messages has specific relationships or dependencies (which we call bindings) to the content of the clinical document described in the content profile.

The Patient Care Coordination Technical Framework defines the bindings to use when grouping the Content Creator of this profile with actors from the Pharmacy CMPD Integration Profiles.

Table X.3-1: Community Medication Administration - Required Actor Groupings

CMA Actor	Actor to be grouped with	Reference	Content Bindings Reference
Content Consumer	ITI XDS.b Document Consumer	ITI TF-1: 10.1	PCC TF-2: 4.1

CMA Actor	Actor to be grouped with	Reference	Content Bindings Reference
	ITI XDR Document Recipient	ITI TF-1: 15.1	PCC TF-2: 4.1
	ITI XDM Portable Media Importer	ITI TF-1: 16.1	PCC TF-2: 4.1
Content Consumer	ITI Consistent Time Client	ITI TF-1: 7.1	--
Content Creator	None		

X.4 CMA Overview

The CMA describes all information of an administration event, which are generated during the process in which a health care professional (physician, pharmacist, nurse, etc.) administers a medication to a patient. The process may also be performed by the patient him- or herself (self-administrations) or others (e.g., relatives, etc.).

Depending on the nature of the medication, the administration event may take place at a **point of time** (e.g., intake of tablets) or may take place as an **interval** process having a start and end time (e.g., infusion).

The interval process can be divided into a "simple interval" variant, where only one interval is documented and "complex interval" variant, where multiple, related intervals are documented (e.g., because the parameters of the administration, such as medication, dose, drop-rate, etc., changed during the timespan of the overall administration process). The scope of this profile is to cover all of the characteristics of administrations.

Documents created according to this profile are intended to be used in the context of the "Community Prescription and Dispense" Integration Profile (CMPD).

X.4.1 Concepts

The Community Pharmacy Prescription and Dispense workflow includes the stage of administering medication by a health care professional (physician, pharmacist, nurse, etc.) to the patient.

A Community Medication Administration document is the documentation of the performed administration act. It contains the administered medication and other additional information concerning the administration act and may reference an underlying plan, prescription and/or dispense (if available).

This profile defines the content and format of such a Community Medication Administration document.

For a detailed overview on the whole Pharmacy domain business processes, please refer to the "Common parts" document, which is accompanying this profile.

X.4.2 Use Cases

In the Community Pharmacy setting most of the medication administrations are performed by the patient at home and are usually not electronically documented. The last point, where a healthcare professional may electronically document a medication-related interaction with the patient is at the point of medication dispense, where the medication is handed over to the patient in the pharmacy. Whether or not the patient is actually taking the medication is often unknown and the care-taking healthcare professionals have to rely on the word of the patient.

However, there are cases the administration of medication to the patient might be recordable in electronic form by a healthcare professional even in Community Pharmacy setting.

Some cases where medication administrations might be recorded electronically by a healthcare professional in the Community Pharmacy setting:

- Drug-substitution intakes in front of the pharmacist
  - The patient enters the pharmacy and wants to get its prescribed drug-substitution medicine dispensed. The pharmacist dispenses the medication to the patient, but legal requirements enforce that the patient performs the intake of the medicine in front of the pharmacist.
    Thus witness of the actual intake the pharmacist enters the administration information in its software system, which creates and publishes an administration record according to the CMA Profile.
- The administration of vaccinations by the primary care physician
  - The patient enters the physician office and requests a vaccination. The physician performs the immunization and enters the administration information in its software system, which creates and publishes an administration record according to the CMA Profile.
- Chemotherapy administration
  - The medicine for the Chemotherapy treatment, e.g., ambulatory at a hospital, is administered to the patient in a controlled environment by healthcare professionals. After the administration act is completed, the healthcare professional enters the administration information in its software system, which creates and publishes an administration record according to the CMA Profile.
- Administration of contrast agents at a radiologic examination
  - The patient is referred to a specialist for radiology to get an examination performed, which requires the use of contrast agents. The healthcare professional administers contrast agents to the patient before or during the radiology examination. Contrast agents can be administered more than one time during the examination.
    After the radiology examination is completed, the healthcare professional enters all administration information in its software system, which creates and publishes one or more administration records according to the CMA Profile.

Medication administrations divide into the following characteristics:

- **"Point of time" administration**
  - The administration act takes place at one point of time (e.g., intake of tablets)
- **"Simple interval" administration**
  - The administration act takes place as an interval process having a start and end time (e.g., infusion) documenting a single set of parameters (medication, dose, drop-rate, etc.) for the whole interval (even if parameters changed during the interval, the changes are not recorded).
- **"Complex interval" administration**
  - The administration act takes place as an interval process having a start and end time (e.g., infusion), but is documented as multiple "simple interval" administrations, which are related to each other, because e.g., the parameters (medication, dose, drop-rate, etc.) changed during the process or for other reasons, e.g., the administering personnel changed during the process, etc.

X.4.2.1 Use Case #1: "Point of time" administration of a medication

This is the most simple use case for administration. The administration act takes place at an exact point of time and after its completion all information related to it is documented.

An example for "point of time" administrations is the "drug-substitution intakes in front of the pharmacist" example from the list above:

A patient is subject of a drug-substitution therapy and possesses valid prescriptions for 10mg Methadone. 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.

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.

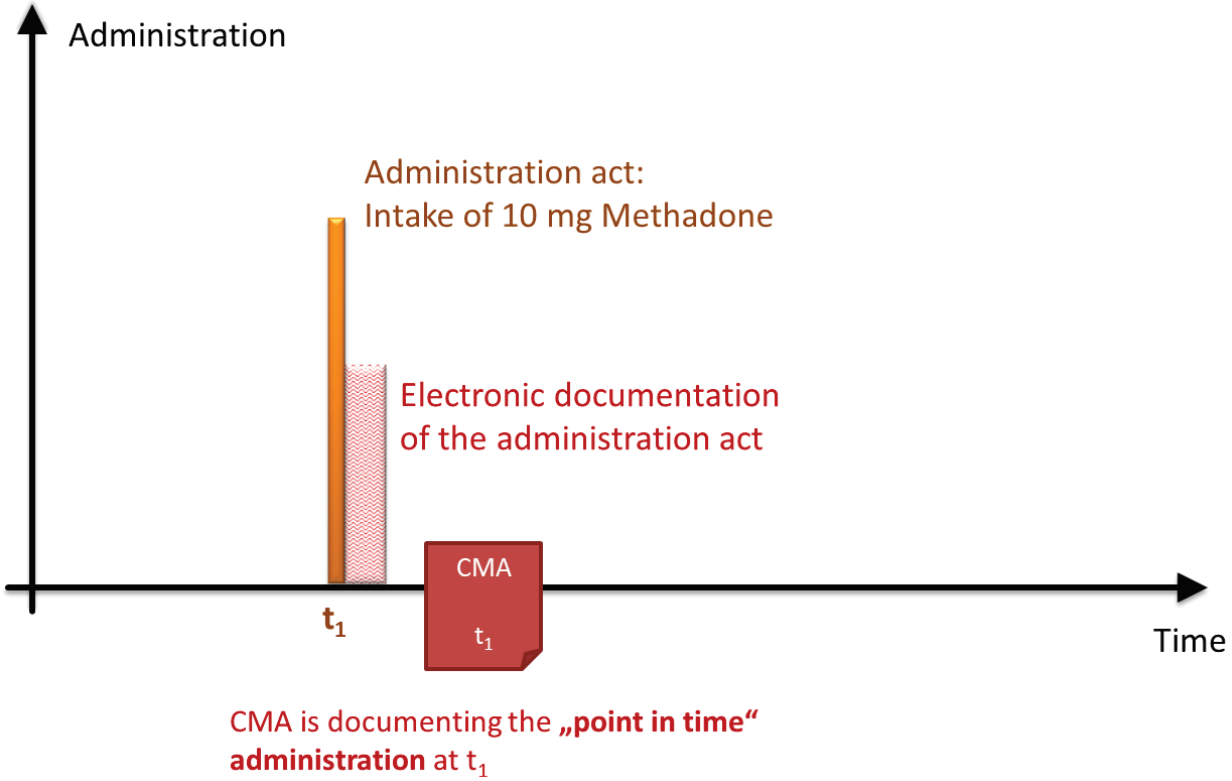


Figure X.4.2.1-1: "Point of time" administration of a medication

t_1: The patient drinks the Methadone solution in front of the pharmacist and the pharmacist documents the administration act in the system.

The administration act is documented by one Community Medication Administration document, containing one Medication Administration Item, which includes the medication, dosage and other attributes of the administration act taking place at time t_1.

X.4.2.2 Use Case #2: "Simple interval" administration of a medication

This is the second simple use case for administration. The administration act takes place as an interval process having a start and end time and after its completion all information related to it is documented.

An example for a "simple interval" administration is the "Chemotherapy administration" example from the list above:

A cancer patient is subject of chemotherapy and visits the outpatient department of a hospital for its scheduled administration of the chemotherapy medication. After the patient is entering the outpatient department of the hospital the nurse prepares the patient for the administration.

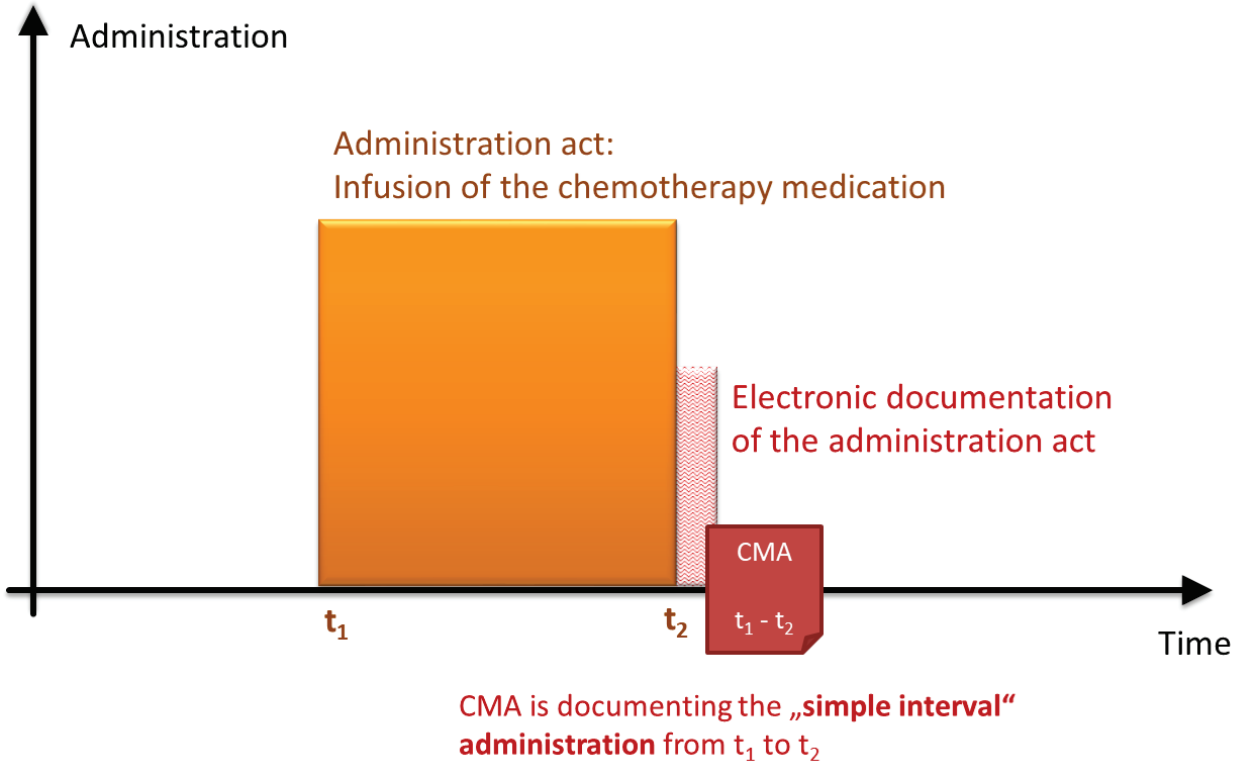


Figure X.4.2.2-1: "Simple interval" administration of a medication

t_1: The nurse starts the infusion of the chemotherapy medication with the prescribed drop-rate, etc.

t_2: After the medication has been administered into the patient's body the nurse documents the administration act in the system.

The administration act is documented by one Community Medication Administration document, containing one Medication Administration Item, which includes the medication, dosage, drop-rate and other attributes of the administration act taking place in the time interval from t_1 to t_2.

X.4.2.3 Use Case #3: "Complex interval" administration of a medication

This is the most complex use case for administration. The administration act takes place as an interval process having a start and end time, but is documented as multiple "simple interval" administrations, which are related to each other, because e.g., the parameters (medication, dose, drop-rate, etc.) changed during the process or for other reasons, e.g., the administering personnel changed during the process, etc.

An example for a "complex interval" administration is the "Chemotherapy administration" example from the list above, with the addition that the nurse adjusts the drop-rate during the administration depending on the patient's condition:

A cancer patient is subject of chemotherapy and visits the outpatient department of a hospital for its scheduled administration of the chemotherapy medication. After the patient is entering the outpatient department of the hospital the nurse prepares the patient for the administration.

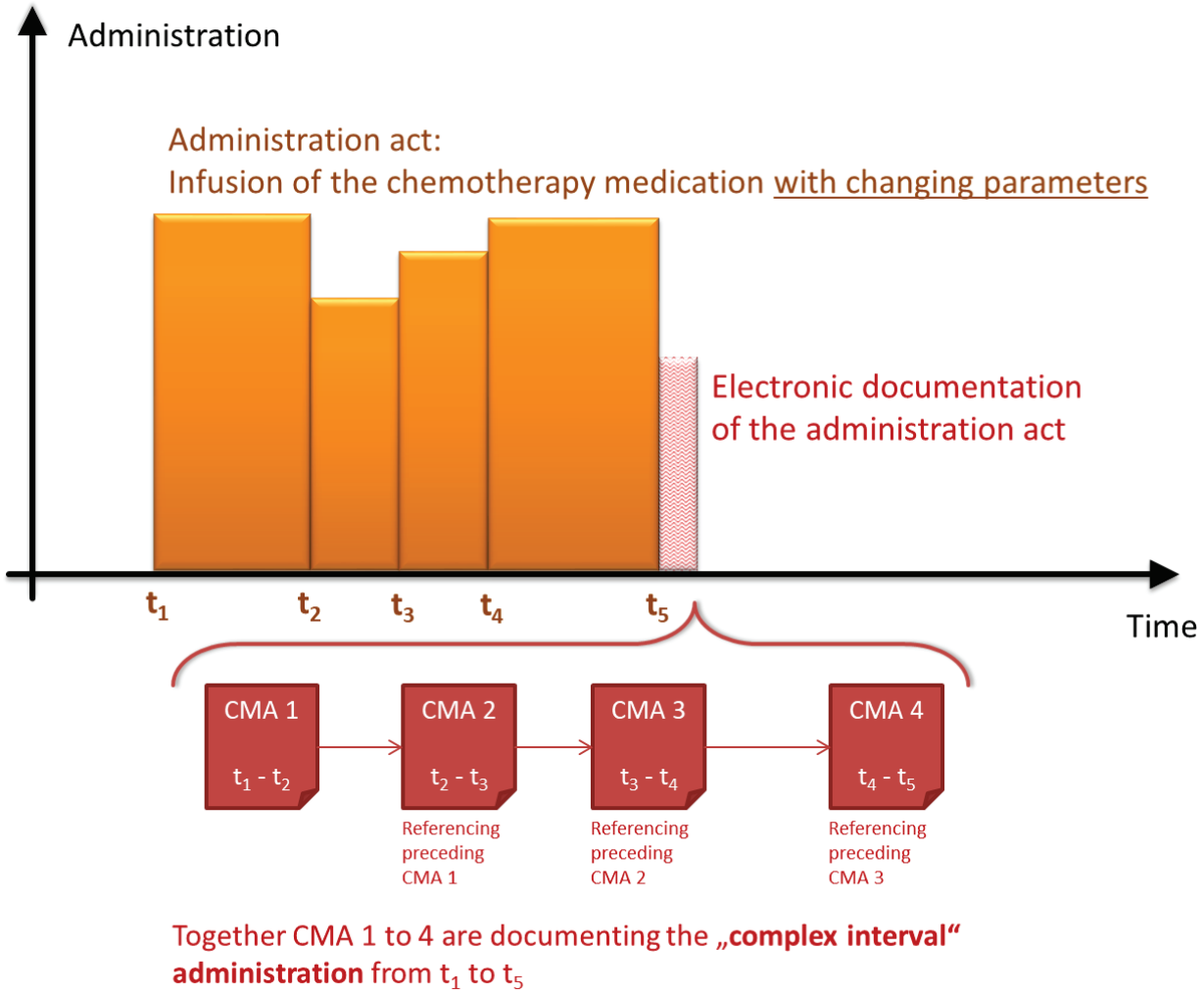


Figure X.4.2.3-1: "Complex interval" administration of a medication

t_1: The nurse starts the infusion of the chemotherapy medication with the prescribed drop-rate, etc.

t_2: The patient feels nausea and tells the nurse about her bad condition. As reaction, the nurse reduces the drop-rate of the chemotherapy medication

t_3: The patient notifies the nurse that she feels much better now, so the nurse decides to try a slightly higher drop-rate of the medication

t_4: The nurse looks after the patient and recognizes that the patient still feels good, so she raises the drop-rate again on the prescribed level and the administration continues to the end with those parameters

t_5: After the medication has been administered into the patient's body the nurse documents the administration act in the system.

The administration act is documented by multiple Community Medication Administration documents, each containing one Medication Administration Item, which includes the medication, dosage, drop-rate and other attributes of the administration act taking place in the given time interval.

Together all Community Medication Administration documents are documenting the overall "complex interval" administration from t_1 to t_5.

X.5 CMA Security Considerations

The security considerations for a content module are dependent upon the security provisions defined by the grouped actor(s).

The CMA Integration Profile assumes that a minimum security and privacy environment has been established across all participants. There must exists security policies regarding the use of training, agreements, risk management, business continuity and network security that need to be already in place prior to the implementation of CMA.

The IHE ITI ATNA Integration Profile is required of the actors involved in the IHE transactions specified in this profile to protect node-to-node communication and to produce an audit trail of the PHI related actions when they exchange messages.

In addition, the IHE ITI DSG Integration Profiles can be applied to the actors involved in the transactions specified in this profile to securely identify individuals involved in transactions and verify document integrity and authorizations (DSG).

Interested parties should also read the detailed Security Considerations sections provided for each of the aforementioned profiles in the IHE ITI Technical Framework and its supplements.

The CMA Profile does have a few security considerations of its own.

Pharmacy systems should be thoughtfully designed so that providers are able to review and verify information before it is imported into their Pharmacy system, and that positive user acknowledgements are made before import, and audit trails are recorded when imports occur.

Imported information should be traceable both to the source Pharmacy system, and the receiver that accepted it into the Pharmacy system. XDS Affinity domain policies should support policies and procedures for tracing information flows between Pharmacy systems.

Because the information being transferred is in XML, it will be common that different Pharmacy systems utilize different transformations to render the contents into human readable form. A Content Creator should make available the transforms used by the sending provider to review the

460 documents, and a Content Consumer must support rendering the information as seen by the sending provider, allowing both providers to see what was sent in its original rendered form.

X.6 CMA Cross Profile Considerations

Section not applicable.

Appendices

None.

Volume 2 – Transactions

Section not applicable.

Volume 3 – Content Modules

Namespaces and Vocabularies

Add to Section 5 Namespaces and Vocabularies

codeSystem	codeSystemName	Description
1.3.6.1.4.1.19376.1.9	IHE Pharmacy Object Identifiers	This is the root OID for all IHE Pharmacy objects
1.3.6.1.4.1.19376.1.5.3.4		Namespace OID used for IHE Extensions to CDA®[3] Release 2.0

See also the Namespaces and Vocabularies of the IHE PCC Technical Framework (PCC-TF-2/Namespaces and Vocabularies).

Add to Section 5.1.1 IHE Format Codes

Profile	Format Code	Media Type	Template ID
2017 Profiles			
Community Medication Administration (CMA)	urn:ihe:pharm:cma:2017	text/xml	1.3.6.1.4.1.19376.1.9.1.1.4

Add to Section 5.1.2 IHE ActCode Vocabulary

Section not applicable.

Add to Section 5.1.3 IHE RoleCode Vocabulary

Section not applicable.

[3] CDA is the registered trademark of Health Level Seven International.

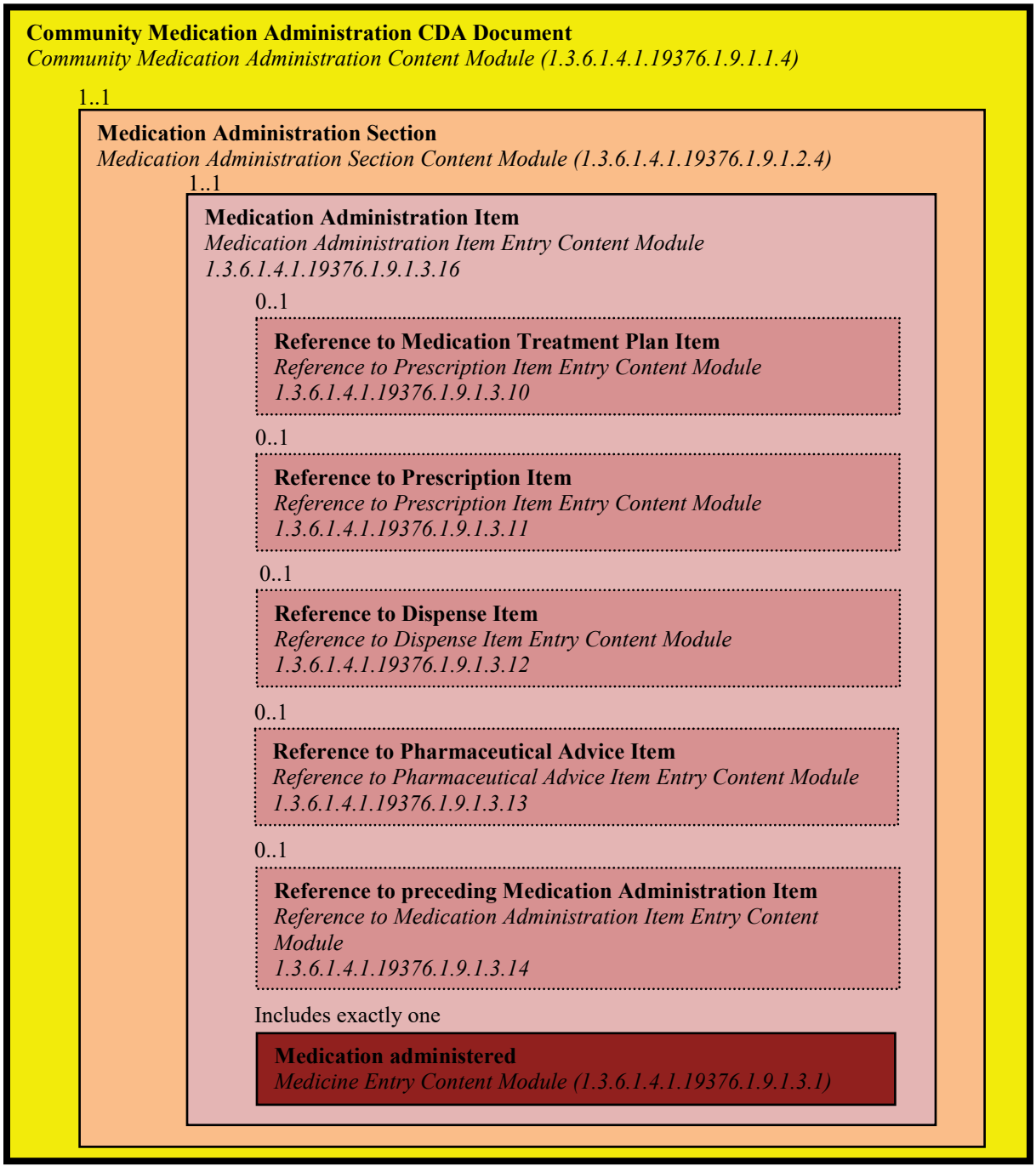
6 Content Modules

6.3.1 CDA Document Content Modules

490 *Add to Section 6.3.1.D Document Content Modules*

6.3.1.D1 Community Medication Administration (CMA) Document Content Module

Structure of a Pharmacy Administration Document



6.3.1.D1.1 Format Code

The XDSDocumentEntry format code for this content is **urn:ihe:pharm:cma:2017**.

6.3.1.D1.2 Parent Template

This document is an instance of the Medical Document template.

6.3.1.D1.3 Referenced Standards

All standards which are reference in this document are listed below with their common abbreviation, full title, and link to the standard.

Table 6.3.1.D1.3-1: CMA - Referenced Standards

Abbreviation	Title	URL
HL7V3 NE2009	HL7 V3 2009 Normative Edition	HL7 V3 2009 Normative Edition
CDAR2	HL7 CDA Release 2.0	HL7 CDA Release 2.0
CCD®[4]	ASTM/HL7 Continuity of Care Document	ASTM/HL7 Continuity of Care Document
XMLXSL	Associating Style Sheets with XML documents	Associating Style Sheets with XML documents

6.3.1.D1.4 Data Element Requirement Mappings to CDA

This section identifies the mapping of data between referenced standards into the CDA implementation guide.

Table 6.3.1.D1.4-1: CMA - Data Element Requirement Mappings to CDA

Clinical Data Element	CDA Release 2.0
Patient Information	recordTarget/patientRole
Patient Administrative Identifiers	recordTarget/patientRole/id
Patient Name	recordTarget/patientRole/patient/name
Patient Gender	recordTarget/patientRole/patient/administrativeGenderCode
Patient Birth Date	recordTarget/patientRole/patient/birthTime
Patient Address	recordTarget/patientRole/addr
Patient Telecom	recordTarget/patientRole/telecom
HCP Person Information	author
HCP ID(s)	author/assignedAuthor/id
HCP Profession	author/functionCode
HCP Name	author/assignedAuthor/assignedPerson/name

[4] CCD is the registered trademark of Health Level Seven International.

Clinical Data Element	CDA Release 2.0
HCP Telecom	author/assignedAuthor/telecom
HCP Specialty	author/assignedAuthor/code
HCP Organization	author/assignedAuthor/representedOrganization
HCP Organization Name	author/assignedAuthor/representedOrganization/name
HCP Organization Address	author/assignedAuthor/representedOrganization/addr
HCP Organization Telecom	author/assignedAuthor/representedOrganization/telecom
Service Event[5]	documentationOf/serviceEvent
Date of Service Event	documentationOf/serviceEvent/effectiveTime
Service Event Code	documentationOf/serviceEvent/code
Encounter in the healthcare institution[6]	componentOf/encompassingEncounter
ID of the encounter	componentOf/encompassingEncounter/id
Date of Admission/Encounter start date	componentOf/encompassingEncounter/effectiveTime/low
Date of Discharge/Encounter end date	componentOf/encompassingEncounter/effectiveTime/high
Authorization	authorization/consent
Patient contacts	guardian
General Medical Information Height, Weight	VITAL SIGNS
Allergies and Drug Sensitivities	ALLERGIES, ADVERSE REACTIONS, ALERTS
Active Problems	PROBLEM LIST
Resolved Problems	HISTORY OF PAST ILLNESS
Immunizations	HISTORY OF IMMUNIZATIONS
Pregnancy History	HISTORY OF PREGNANCIES
Community Medication Administration	MEDICATION CMAINISTRATION

6.3.1.D1.5 Community Medication Administration (CMA) Document Content Module Specification

This section specifies the header, section, and entry content modules which comprise the Community Medication Administration (CMA) Document Content Module, using the Template ID as the key identifier.

Sections that are used according to the definitions in other specifications are identified with the relevant specification document. Additional constraints on vocabulary value sets, not specifically constrained within the section template, are also identified.

[5] Service Event is optional and may contain service event information of the medical event in which context the inclusion in the medication treatment plan has been taken.

[6] Encounter is optional and shall contain encounter information if applicable.

Table 6.3.1.D1.5-1: Community Medication Administration Document Content Module Specification

Template Name		Community Medication Administration			
Template ID		1.3.6.1.4.1.19376.1.9.1.1.4			
Parent Template		1.3.6.1.4.1.19376.1.5.3.1.1.1 [PCC]			
General Description		A document containing one Medication Administration Item representing one medication included in the global treatment plan of the patient.			
Document Code		SHALL be xxxxx-x LOINC, "xxx"			
Opt and Card	**Condition**	**Header Element or Section Name**	**Template ID**	**Specification Document**	**Vocabulary Constraint**
Header Elements					
M [1..1]		Patient Information	1.3.6.1.4.1.19376.1.9.1.4.1		
M [1..1]		Healthcare Provider Information	1.3.6.1.4.1.19376.1.9.1.4.2		
R2 [1..1]		Authorizations	1.3.6.1.4.1.19376.1.5.3.1.2.5		
Sections					
O [0..1]		General Medical Information	1.3.6.1.4.1.19376.1.5.3.1.1.5.3.2		
O [0..1]		Height, Weight	1.3.6.1.4.1.19376.1.5.3.1.3.13		
O [0..1]		Allergies and Drug Sensitivities	1.3.6.1.4.1.19376.1.5.3.1.3.6		
O [0..1]		Active Problems	1.3.6.1.4.1.19376.1.5.3.1.3.8		
O [0..1]		Resolved Problems	1.3.6.1.4.1.19376.1.5.3.1.3.23		
O [0..1]		Immunizations	1.3.6.1.4.1.19376.1.5.3.1.1.5.3.4		
M [1..1]		Community Medication Administration	1.3.6.1.4.1.19376.1.9.1.2.6	PHARM TF-3: 6.3.3.10.S1	

Additional explanation:

The sections "Coded Vital Signs", "Allergies and Drug Sensitivities", "Active Problems", "Resolved Problems", "Immunizations", "Pregnancy History" are considered as sections containing medical information of the patient.

Although real-world projects may require some of these information, no stricter constraints as optional (O) could been applied to these sections in the profile due to the large degree of diversity in business requirements and privacy issues among different current.

6.3.1.D1.6 CMA Conformance and Example

CDA Release 2.0 documents that conform to the requirements of this document content module shall indicate their conformance by the inclusion of the 1.3.6.1.4.1.19376.1.9.1.1.4 XML elements in the header of the document.

A CDA Document may conform to more than one template. This content module inherits from the PCC TF Medical Document, 1.3.6.1.4.1.19376.1.5.3.1.1.1, content modules and so must conform to the requirements of those templates as well as this document specification, Community Medication Administration template, 1.3.6.1.4.1.19376.1.9.1.1.4.

A complete example of the Community Medication Administration (CMA) Document Content Module is available on the IHE ftp server.

Note that this is an example and is meant to be informative and not normative. This example shows the <templateId (OIDs)> elements for all of the specified templates.

```
<ClinicalDocument xmlns='urn:hl7-org:v3'>
  <typeId extension="POCD_HD000040" root="2.16.840.1.113883.1.3"/>
  <templateId root='1.3.6.1.4.1.19376.1.5.3.1.1.1'/>
  <templateId root='1.3.6.1.4.1.19376.1.9.1.1.4'/>
  <id root=' ' extension=' '/>
  <code code='xxxxx-x' displayName='xxx'
    codeSystem='2.16.840.1.113883.6.1' codeSystemName='LOINC'/>
  <title>Community Medication Administration</title>
  <effectiveTime value='20150219012005'/>
  <confidentialityCode code='N' displayName='Normal'
    codeSystem='2.16.840.1.113883.5.25' codeSystemName='Confidentiality' />
  <languageCode code='en-US'/>
     :
  <component>
    <structuredBody>
       :
    </structuredBody>
  </component>
</ClinicalDocument>
```

Add to Section 6.3.2 Header Content Modules

6.3.2 CDA Header Content Modules

Section not applicable.

6.3.3 CDA Section Content Modules

Add to Section 6.3.3.10 Section Content Modules

6.3.3.10.S1 Medication Administration Section Content Module (1.3.6.1.4.1.19376.1.9.1.2.4)

Template ID	1.3.6.1.4.1.19376.1.9.1.2.4
Parent Template	
General Description	The Medication Administration Section contains a description of the medications administered to the patient. It includes exactly one Medication Administration Item

	entry as described in the Medication Administration Item Entry Content Module.	
LOINC Code	**Opt**	**Description**
xxxxx-x	R	xxxx
Entries	**Opt**	**Description**
1.3.6.1.4.1.19376.1.9.1.3.16	R	Medication Administration Item Entry Content Module

```
<component>
  <section>
    <templateId root='1.3.6.1.4.1.19376.1.9.1.2.4'/>
    <!-- The section ID is the Community Medication Administration ID -->
    <id root=' ' extension=' '/>
    <code code='xxxxx-x' displayName='xxxxx'
      codeSystem='2.16.840.1.113883.6.1' codeSystemName='LOINC'/>
    <title>Medication Administration</title>
    <text>
      Text as described above
    </text>
    <author>
      :
    </author>
    <!-- Medication Administration Item -->
    <entry>
        :
      <!-- Required element indicating the
               Medication Administration Item entry content module -->
        <templateId root='1.3.6.1.4.1.19376.1.9.1.3.16'/>
        :
    </entry>
  </section>
</component>
```

6.3.3.10.S1.1 Parent Templates

This section has no parent structure. The value for 'section/code' SHALL be "xxxxx-x" "xxxxx".

6.3.3.10.S1.2 Medication Administration Section ID

<id root=' ' extension=' '/>

A Medication Administration Section identifier SHALL be represented in the section <id> Element. The data type of the ID is II.

6.3.3.10.S1.3 Medication Administration Author

<author>…</author>

In the case where the CMA author or the timestamp of a Medication Administration Item is different from the author and timestamp of the Community Medication Administration document, the CMA author and timestamp of the medication treatment plan shall be represented by the <author> element of the section.

Data element	HL7 V3 Data Type	CDA Body position (relative XPath expression)
CMA Author Profession	CE	*author/functionCode*
Timestamp of administration	TS	*author/time*
CMA Author ID	II	*author/assignedAuthor/id*
CMA Author Specialty	CE	*author/assignedAuthor/code*
CMA Author Name	PN	*author/assignedAuthor/assignedPerson/name*
CMA Author Organization Identifier	II	*author/assignedAuthor/representedOrganization/id*
CMA Author Organization Name	ON	*author/assignedAuthor/representedOrganization/name*
CMA Author Organization Address	AD	*author/assignedAuthor/representedOrganization/addr*

6.3.4 CDA Entry Content Modules

Add to Section 6.3.4.E Entry Content Modules

6.3.4.E1 Medication Administration Item Entry Content Module (1.3.6.1.4.1.19376.1.9.1.3.16)

Medication Administration Item belongs to one Community Medication Administration and represents one administered medication. It may be associated with one or more observations. Medication Administration Item describes the medicine and dosage information as well as other information.

6.3.4.E1.1 Standards

This part describes the general structure for a Medication Administration Item. It is based on the following standards:

HL7V3 NE2009	HL7 V3 2009 Normative Edition
CCD	ASTM/HL7 Continuity of Care Document
IHE PCC	Medications Entry (1.3.6.1.4.1.19376.1.5.3.1.4.7)

6.3.4.E1.2 Parent Template

This entry content module is based on the HL7 CCD template medication activity 2.16.840.1.113883.10.20.1.24 and inherits the structure of the Medication Entry Content Module, 1.3.6.1.4.1.19376.1.5.3.1.4.7.

6.3.4.E1.3 Specification

This section makes use of the medicine and other entry content modules.

This specification relies on the PCC Medication Entry Content Module (1.3.6.1.4.1.19376.1.5.3.1.4.7) specification and only describes additional constraints.

The chapters below identify and describe these fields, and indicate the constraints on whether or not they are required to be sent. The fields are listed in the order that they appear in the CDA XML content.


```
<substanceAdministration classCode='SBCMA' moodCode='EVN'>
  <templateId root='2.16.840.1.113883.10.20.1.24'/>
  <templateId root='1.3.6.1.4.1.19376.1.5.3.1.4.7'/>
  <templateId root='1.3.6.1.4.1.19376.1.9.1.3.16'/>
  <templateId root='1.3.6.1.4.1.19376.1.9.1.3.6'/>
  <id root=' ' extension=' '/>
  <code code=' ' codeSystem=' ' displayName=' ' codeSystemName=' '/>
  <text><reference value='#med-1'/></text>
  <statusCode code='completed'/>
  <effectiveTime xsi:type='IVL_TS'>
      <low value=' '/>
      <high value=' '/>
  </effectiveTime>
  <effectiveTime operator='A' xsi:type='TS|PIVL_TS|EIVL_TS|PIVL_PPD_TS|SXPR_TS'>
    :
  </effectiveTime>
  <routeCode code=' ' codeSystem=' ' displayName=' ' codeSystemName=' '/>
  <approachSiteCode code=' ' codeSystem=' ' displayName=' ' codeSystemName=' '/>
  <doseQuantity value=' ' unit=' '/>
  <rateQuantity value=' ' unit=' '/>
  <consumable>
    <manufacturedProduct" classCode="MANU">
        <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.7.2"/>
        <templateId root="2.16.840.1.113883.10.20.1.53"/>
        <manufacturedMaterial classCode="MMAT" determinerCode="KIND">
          :
          <!-- Medicine Entry Content Module (1.3.6.1.4.1.19376.1.9.1.3.1) -->
          :
        </manufacturedMaterial>
    </manufacturedProduct>
  </consumable>
  <!--
      Author(s) in case of usage elsewhere as in a CMA document
  -->
  <author>...</author>
  <author>...</author>
  <!-- 0..* entries describing the components -->
  <entryRelationship typeCode='COMP' >
    <sequenceNumber value=''/>
      :
  </entryRelationship>
  <!-- An optional entry relationship that indicates the reason for use -->
  <entryRelationship typeCode='RSON'>
    <act classCode='ACT' moodCode='EVN'>
      <templateId root='1.3.6.1.4.1.19376.1.5.3.1.4.4.1'/>
      <id root='' extension=''/>
    </act>
  </entryRelationship>
  <!-- Reference to a related prescription activity (supply) -->
  <entryRelationship typeCode='REFR'>
    <templateId root='1.3.6.1.4.1.19376.1.5.3.1.4.7.3'/>
      :
  </entryRelationship>
  <!-- Optional Fulfillment Notes -->
  <entryRelationship typeCode='SUBJ' inversionInd='true'>
    <act classCode='ACT' moodCode='INT'>
      <templateId root='2.16.840.1.113883.10.20.1.43'/>
      <templateId root='1.3.6.1.4.1.19376.1.5.3.1.4.3.1'/>
      <code code='FINSTRUCT' codeSystem='1.3.6.1.4.1.19376.1.5.3.2'
        codeSystemName='IHEActCode' />
      ...
  </entryRelationship>
  <!-- Amount of units of the consumable administered -->
  <entryRelationship typeCode='COMP'>
    <supply classCode='SPLY' moodCode='RQO'>
      <templateId root='1.3.6.1.4.1.19376.1.9.1.3.8'/> <!-- PHARM -->
```



```
      <independentInd value='false'/>
      <quantity value=' ' unit=' '/>
    </supply>
  </entryRelationship>
  <!-- Reference(s) to other items -->
  <entryRelationship typeCode='REFR'>
    <substanceAdministration classCode='SBCMA' moodCode='INT'>
      <templateId root=' '/>
        ...
    </substanceAdministration>
  </entryRelationship>
    :
  <!-- ID of parent container -->
  <reference typeCode='XCRPT'>
    <externalDocument>
      <id root=' ' extension=' '/>
    </externalDocument>
  </reference>
  <!-- Precondition -->
  <precondition>
    <criterion>
      <text><reference value=''></text>
    </criterion>
  </precondition>
</substanceAdministation>
```

6.3.4.E1.3.1 Medication Administration Item Entry General Specification

<substanceAdministration classCode='SBCMA' moodCode='EVN'>
…
</substanceAdministration>

The moodCode SHALL be set to EVN.

See PCC TF-2, Medication Entry Module (1.3.6.1.4.1.19376.1.5.3.1.4.7) specification.

6.3.4.E1.3.2 Medication Administration Item Entry TemplateID

<templateId root='2.16.840.1.113883.10.20.1.24'/> **<!-- CCD -->**

<templateId root='1.3.6.1.4.1.19376.1.5.3.1.4.7'/> **<!-- PCC -->**

<templateId root='1.3.6.1.4.1.19376.1.9.1.3.16'/> **<!-- PHARM -->**

A templateId of '1.3.6.1.4.1.19376.1.9.1.3.16' SHALL be present to indicate that this entry is conforming to the Medication Administration Item Entry Content Module.

See PCC TF-2, Medication Entry Module (1.3.6.1.4.1.19376.1.5.3.1.4.7) specification.

6.3.4.E1.3.3 Medication Administration Item Entry Additional Template ID

<templateId root=' '/>

The <templateId> element identifies this <entry> as a particular type of medication event, allowing for validation of the content.

The templateId must use one of the values in the table below for the root attribute.

Root	Description
1.3.6.1.4.1.19376.1.5.3.1.4.7.1	A "normal" <substanceAdministration> act that may not contain any subordinate <substanceAdministration> acts.
1.3.6.1.4.1.19376.1.5.3.1.4.8	A <substanceAdministration> act that records tapered dose information in subordinate <substanceAdministration> act.
1.3.6.1.4.1.19376.1.5.3.1.4.9	A <substanceAdministration> act that records split dose information in subordinate <substanceAdministration> acts.
1.3.6.1.4.1.19376.1.5.3.1.4.10	A <substanceAdministration> act that records conditional dose information in subordinate <substanceAdministration> acts.
1.3.6.1.4.1.19376.1.5.3.1.4.11	A <substanceAdministration> act that records combination medication component information in subordinate <substanceAdministration> acts.

See PCC TF-2, Medication Entry Module (1.3.6.1.4.1.19376.1.5.3.1.4.7) specification.

6.3.4.E1.3.4 Medication Administration Item ID

<id root=' ' extension=' '/>

This ID represents the Medication Administration Item ID and SHALL be present.

See PCC TF-2, Medication Entry Module (1.3.6.1.4.1.19376.1.5.3.1.4.7) specification.

6.3.4.E1.3.5 Administration Status Code

<code code='' displayName='' codesystem='2.16.840.1.113883.4.642.1.101'

codeSystemName='HL7 EventStatus'/>

This <code> element is used to indicate the overall status of the administration event documented. It SHALL be set to a value out of the HL7 code system “EventStatus” (2.16.840.1.113883.4.642.1.101), according to the following rules:

In case this administration is the only documented administration of a “point of time” or “simple interval” administration or the last documented administration of a “complex interval” administration chain, it SHALL be set to “**completed**” or “**aborted**”, depending on the course of the administration.

In all other cases it SHALL be set to “**in-progress**”.

6.3.4.E1.3.6 Narrative Text

<text><reference value=' '/></text>

This element SHALL be present. The URI given in the value attribute of the <reference> element points to an element in the narrative content that contains the complete text describing the medication included in the plan.

See PCC TF-2, Medication Entry Module (1.3.6.1.4.1.19376.1.5.3.1.4.7) specification.

6.3.4.E1.3.7 Status Code

<statusCode code='completed'/>

See PCC TF-2, Medication Entry Module (1.3.6.1.4.1.19376.1.5.3.1.4.7) specification.

Please note that this element does NOT represent the status of the Medication Administration Item. There is no dedicated data element to record such a status, please refer to the Community Medication Prescription and Dispense (CMPD) Profile for more information.

6.3.4.E1.3.8 Dosage administered

The Medication Administration Item SHALL contain dosage instructions according to the specification of the dosage instructions in the Dosage Instructions Content Module (1.3.6.1.4.1.19376.1.9.1.3.6).

Note: The following elements part of the Dosage Instructions:

- Medication Administration Item Entry Additional Template ID
- Effective Time (Duration of Treatment)
- Medication Frequency
- Route of Administration
- Approach Site Code
- Dose Quantity
- Rate Quantity
- Related Components

6.3.4.E1.3.9 <Reserved>

6.3.4.E1.3.10 Consumable

```
<consumable>
  <manufacturedProduct" classCode="MANU">
    <templateId root="1.3.6.1.4.1.19376.1.5.3.1.4.7.2"/>
    <templateId root="2.16.840.1.113883.10.20.1.53"/>
    <manufacturedMaterial classCode="MMAT" determinerCode="KIND">
        :
        <!-- Medicine Entry Content Module (1.3.6.1.4.1.19376.1.9.1.3.1) -->
        :
    </manufacturedMaterial>
```


</manufacturedProduct>

</consumable>

The <consumable> element SHALL be present, and shall contain a medication entry, conforming to the Medicine Entry template (1.3.6.1.4.1.19376.1.9.1.3.1).

The <consumable> element of a Community Medication Administration describes the medication that is administered to the patient.

See PHARM-TF3, Medicine Entry Module (1.3.6.1.4.1.19376.1.9.1.3.1) specification.

6.3.4.E1.3.11 Medication Administration Author

<author>…</author>

In the case that the Medication Administration Item is used within a Community Medication Administration document according to the "Community Medication Administration" (CMA) Profile this element SHALL NOT be present.

In all other cases (e.g., when used in a "Pharmacy Medication List" document according to the PML Profile or in medication sections of other documents as for example Discharge Summaries, etc.) this element SHOULD be present and represent the author and timestamp of the Medication Administration Item.

This first author element SHALL be present in case that the "Medication Administration document author" is present (see chapter 6.3.4.E1.3.12).

The table below shows the meaning of the data elements of this <author> element. It SHOULD be corresponding to the <author> element of the Community Medication Administration document or, if given, the <author> element of the Medication Administration section within the Community Medication Administration document.

Data element	HL7 V3 Data Type	CDA Body position (relative XPath expression)
CMA Author Profession	CE	*author/functionCode*
Timestamp of creation	TS	*author/time*
CMA Author ID	II	*author/assignedAuthor/id*
CMA Author Specialty	CE	*author/assignedAuthor/code*
CMA Author Name	PN	*author/assignedAuthor/assignedPerson/name*
CMA Author Organization Identifier	II	*author/assignedAuthor/representedOrganization/id*
CMA Author Organization Name	ON	*author/assignedAuthor/representedOrganization/name*

Data element	HL7 V3 Data Type	CDA Body position (relative XPath expression)
CMA Author Organization Address	AD	*author/assignedAuthor/representedOrganization/addr*

6.3.4.E1.3.12 Medication Administration document author

<author>…</author>

In the case that the Medication Administration Item is used within a Community Medication Administration document according to the "Community Medication Administration" (CMA) Profile this element SHALL NOT be present.

If the author of the Community Medication Administration document is already present in the "Medication Administration Author" element (see chapter above) this element SHALL NOT be present.

In all other cases (e.g., when used in a "Pharmacy Medication List" document according to the PML Profile or in medication sections of other documents as for example Discharge Summaries, etc.) this element MAY be present and represent the author and timestamp of the Community Medication Administration document.

The table below shows the meaning of the data elements of this <author> element. It SHALL be corresponding to the <author> element of the Community Medication Administration document header.

Data element	HL7 V3 Data Type	CDA Body position (relative XPath expression)
CMA document author Profession	CE	*author/functionCode*
Timestamp of document creation	TS	*author/time*
CMA document author ID	II	*author/assignedAuthor/id*
CMA document author Specialty	CE	*author/assignedAuthor/code*
CMA document author Name	PN	*author/assignedAuthor/assignedPerson/name*
CMA document author Organization Identifier	II	*author/assignedAuthor/representedOrganization/id*
CMA document author Organization Name	ON	*author/assignedAuthor/representedOrganization/name*

Data element	HL7 V3 Data Type	CDA Body position (relative XPath expression)
CMA document author Organization Address	AD	*author/assignedAuthor/representedOrganization/addr*

6.3.4.E1.3.13 Reason

```
<entryRelationship typeCode='RSON'>
  <act classCode='ACT' moodCode='EVN'>
    <templateId root='1.3.6.1.4.1.19376.1.5.3.1.4.4.1'/>
    <id root=' ' extension=' '/>
  </act>
</entryRelationship>
```

See PCC TF-2, Medication Entry Module (1.3.6.1.4.1.19376.1.5.3.1.4.7) specification.

6.3.4.E1.3.14 Reference to a related prescription activity (supply)

~~<entryRelationship typeCode='REFR'>~~
~~<templateId root='1.3.6.1.4.1.19376.1.5.3.1.4.7.3'/>~~
~~:~~
~~</entryRelationship>~~

See PCC TF-2, Medication Entry Module (1.3.6.1.4.1.19376.1.5.3.1.4.7) specification.

This element SHALL NOT be present.

6.3.4.E1.3.15 <Reserved>

6.3.4.E1.3.16 Fulfillment Notes

```
<entryRelationship typeCode='SUBJ' inversionInd='true'>
  <act classCode='ACT' moodCode='INT'>
    <templateId root='2.16.840.1.113883.10.20.1.43'/>
    <templateId root='1.3.6.1.4.1.19376.1.5.3.1.4.3.1'/>
    <code code='FINSTRUCT' codeSystem='1.3.6.1.4.1.19376.1.5.3.2'
      codeSystemName='IHEActCode' />
    ...
</entryRelationship>
```


At most one fulfillment note MAY be provided for each <substanceAdministration> entry.-When present, this entry relationship SHALL contain a Medication Fulfillment Instructions (1.3.6.1.4.1.19376.1.5.3.1.4.3.1) entry.

Fulfillment Notes (used in a Medication Administration Item) are comments from the administering person regarding issues happened during the administration act or up until the creation of the CMA report. Due to the nature of the Medication Fulfillment Instructions (1.3.6.1.4.1.19376.1.5.3.1.4.3.1) Content Module, these comments are limited to narrative text only.

Examples:

- The patient reacted on the administration by fainting
- The infusion device had a minor malfunction, but was repaired without influencing the administration

Note: Comments regarding the administration act about issues happening after the creation of the CMA report (e.g., an allergy to the medication recognized after the administration act, etc.) should be documented by a Pharmaceutical Advice (PADV) related to this administration. PADV may also be used for comments regarding the administration act happened during the administration act or up until the creation of the CMA report, e.g., in case narrative description of the issue is not sufficient.

6.3.4.E1.3.17 Amount of units of the consumable administered

<entryRelationship typeCode='COMP'>

<supply classCode='SPLY' moodCode='RQO'>

…

</supply>

</entryRelationship>

This element SHALL be present and describes the amount of units administered. If present, it SHALL contain a quantity conforming to the Amount of units of the consumable Entry template (1.3.6.1.4.1.19376.1.9.1.3.8). See PHARM-TF3, Amount of units of the consumable Entry Module (1.3.6.1.4.1.19376.1.9.1.3.8) specification.

Note: If no medication has been administered for any reason, but the act is still considered as completed (non-administration) this SHALL be recorded with the value of quantity set to zero and unit being not present. Reasons for the non-administration can be described in Fulfillment Notes.

6.3.4.E1.3.18 Reference to Medication Treatment Plan Item

<entryRelationship typeCode='REFR'>

<substanceAdministration classCode='SBCMA' moodCode='INT'>


```
    <templateId root='1.3.6.1.4.1.19376.1.9.1.3.10'/> <!-- PHARM -->
    …
  </substanceAdministration>
</entryRelationship>
```

The reference to a related Medication Treatment Plan Item SHOULD be present IF KNOWN and SHALL contain a reference to a Medication Treatment Plan Item, conforming to the Reference to Medication Treatment Plan Item Content Module (1.3.6.1.4.1.19376.1.9.1.3.10).

See PHARM-TF3, Reference to Medication Treatment Plan Item Content Module (1.3.6.1.4.1.19376.1.9.1.3.10) specification.

6.3.4.E1.3.19 Reference to Prescription Item

```
<entryRelationship typeCode='REFR'>
  <substanceAdministration classCode='SBCMA' moodCode='INT'>
    <templateId root='1.3.6.1.4.1.19376.1.9.1.3.11'/> <!-- PHARM -->
    …
  </substanceAdministration>
</entryRelationship>
```

The reference to the Prescription Item this administration is related to SHOULD be present IF KNOWN and SHALL contain a reference to a Prescription Item Entry, conforming to the Reference to Prescription Item Content Module (1.3.6.1.4.1.19376.1.9.1.3.11).

See PHARM-TF3, Reference to Prescription Item Content Module (1.3.6.1.4.1.19376.1.9.1.3.11) specification.

6.3.4.E1.3.20 Reference to Dispense Item

```
<entryRelationship typeCode='REFR'>
  <supply classCode='SPLY' moodCode='EVN'>
    <templateId root='1.3.6.1.4.1.19376.1.9.1.3.12'/>
    …
  </supply>
</entryRelationship>
```

The reference to the Dispense Item this administration is related to SHOULD be present IF KNOWN and SHALL contain a reference to a Dispense Item, conforming to the Reference to Dispense Item Content Module (1.3.6.1.4.1.19376.1.9.1.3.12).

See PHARM-TF3, Reference to Dispense Item Content Module (1.3.6.1.4.1.19376.1.9.1.3.12) specification.

6.3.4.E1.3.21 Reference to Pharmaceutical Advice Item

```
<entryRelationship typeCode='REFR'>
  <observation classCode='OBS' moodCode='EVN'>
    <templateId root='1.3.6.1.4.1.19376.1.9.1.3.13'/>
    …
  </observation>
</entryRelationship>
```

An administration may be related to a Pharmaceutical Advice, which was given on one of the items on higher (e.g., PADV on underlying prescription or dispense) or equal (e.g., PADVs on previous administrations) steps of this administration act.

Example: a Pharmaceutical Advice to the underlying dispense of this administration, indicating that the dosage instructions have changed since the last administration of the dispensed medication.

The reference to a Pharmaceutical Advice Item this administration is related to SHOULD be present IF KNOWN and SHALL contain a reference to a Pharmaceutical Advice Item, conforming to the Reference to Pharmaceutical Advice Item Content Module (1.3.6.1.4.1.19376.1.9.1.3.13).

See PHARM-TF3, Reference to Pharmaceutical Advice Item Content Module (1.3.6.1.4.1.19376.1.9.1.3.13) specification.

6.3.4.E1.3.22 Reference to preceding Medication Administration Item

```
<entryRelationship typeCode='REFR'>
  <substanceAdministration classCode='SBCMA' moodCode='EVN'>
    <templateId root='1.3.6.1.4.1.19376.1.9.1.3.14'/>
    …
  </substanceAdministration>
</entryRelationship>
```

An administration may be related to a preceding Medication Administration Item to indicate that this “chain of administrations” shall be seen as one **„complex interval” administration**.

For more information on the usage of this element see use-case chapter of volume 1 of this profile.

The reference to a preceding Medication Administration Item this administration is related to SHALL be present and SHALL contain a reference to a Medication Administration Item, conforming to the Reference to Medication Administration Item Content Module (1.3.6.1.4.1.19376.1.9.1.3.14).

See PHARM-TF3, Reference to Medication Administration Item Content Module (1.3.6.1.4.1.19376.1.9.1.3.14) specification.

6.3.4.E1.3.23 ID of parent container (Community Medication Administration document)

```
<reference typeCode='XCRPT'>
  <externalDocument>
    <id root=' ' extension=' '/>
  </externalDocument>
</reference>
```

In the case that the Medication Administration Item is used within a Community Medication Administration document according to the "Community Medication Administration" (CMA) Profile this element SHALL NOT be present.

In all other cases (e.g., when used in a "Pharmacy Medication List" document according to the PML Profile or in medication sections of other documents as for example Discharge Summaries, etc.) this element SHOULD be present and contain the identifier of the Community Medication Administration document, the Medication Administration Item initially has been created.

6.3.4.E1.3.24 Precondition Criterion

```
<precondition>
  <criterion>
    <text><reference value=' '></text>
  </criterion>
</precondition>
```

In a CDA document, the preconditions for use of the medication are recorded in the <precondition> element. The value attribute of the <reference> element is a URL that points to the CDA narrative describing those preconditions.

This element MAY be present.

See PCC TF-2, Medication Entry Module (1.3.6.1.4.1.19376.1.5.3.1.4.7) specification.

Add to Section 6.5 Value Sets

6.4 Section not applicable

This heading is not currently used in a CDA document.

6.5 CMA Value Sets

Add value to IHE Pharmacy Item Type List

6.5.2 IHE Pharmacy Item Type List

Add the following value to the **IHE Pharmacy Item Type List (1.3.6.1.4.1.19376.1.9.2.2)**:

Code	Display Name
CMAItem	Medication Administration Item

Appendices

Appendix A – Validating CDA Documents using the Framework

A.1 Validating Documents

For validation of document content modules please refer to PCC-TF-2: A.1.

A.2 Validating Sections

For validation of section content modules please refer to PCC-TF-2: A.2.

A.3 Phases of Validation and Types of Errors

For the phases of validation and types of errors please refer to PCC-TF-2: A.3.

Appendix B – Extensions to CDA Release 2

See extensions to CDA Release 2 described in chapter "Appendix B – Extensions to CDA Release 2" of the Prescription (PRE) Profile.

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Volume 3 Namespace Additions

Add the following terms to the IHE Namespace:

- Community Medication Administration (CMA) Document Content Module
  - 1.3.6.1.4.1.19376.1.9.1.1.4
- Community Medication Administration Section Content Module
  - 1.3.6.1.4.1.19376.1.9.1.2.4
- Community Medication Administration Entry Content Module
  - 1.3.6.1.4.1.19376.1.9.1.3.16

Volume 4 – National Extensions

Add appropriate Country section

Not applicable

