

# **Health & Care Information Model:**

## **nl.zorg.MedicationAdministration2-**

### **v2.0.1**

Status: Final

Release status: Prepublished

# Content

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# 1. nl.zorg.MedicationAdministration2-v2.0.1

DCM::CoderList	Projectgroep Medicatieproces
DCM::ContactInformation.Address	
DCM::ContactInformation.Name	*
DCM::ContactInformation.Telecom	
DCM::ContentAuthorList	Projectgroep Medicatieproces
DCM::CreationDate	1-2-2017
DCM::DeprecatedDate	
DCM::DescriptionLanguage	nl
DCM::EndorsingAuthority.Address	
DCM::EndorsingAuthority.Name	PM
DCM::EndorsingAuthority.Telecom	
DCM::Id	2.16.840.1.113883.2.4.3.11.60.40.3.9.13
DCM::KeywordList	Medicatie, Toediening
DCM::LifecycleStatus	Final
DCM::ModelerList	Architectuurgroep Registratie aan de Bron
DCM::Name	nl.zorg.MedicatieToediening2
DCM::PublicationDate	15-10-2023
DCM::PublicationStatus	Prepublished
DCM::ReviewerList	Projectgroep Medicatieproces & Architectuurgroep Registratie aan de Bron
DCM::RevisionDate	18-07-2023
DCM::Supersedes	nl.zorg.MedicatieToediening2-v2.0
DCM::Version	2.0.1
HCIM::PublicationLanguage	EN

## 1.1 Revision History

Publicatieversie 1.0 (04-09-2017)

Publicatieversie 1.0.1 (31-12-2017)

Bevat: ZIB-618.

Publicatieversie 1.1 (31-01-2020)

Bevat: ZIB-812.

Publicatieversie 1.1.1 (01-09-2020)

Bevat: ZIB-911.

Publicatieversie 2.0 (10-06-2022)

Bevat: ZIB-1724, ZIB-1740.

Publicatieversie 2.0.1 (15-10-2023)

Bevat: ZIB-1896, ZIB-1974.

## 1.2 Concept

Medication administration is the registration of the individual administrations of the medicine on the patient by the administrator (e.g. a nurse or patient themselves), in relation to the entered agreements.

## 1.3 Mindmap

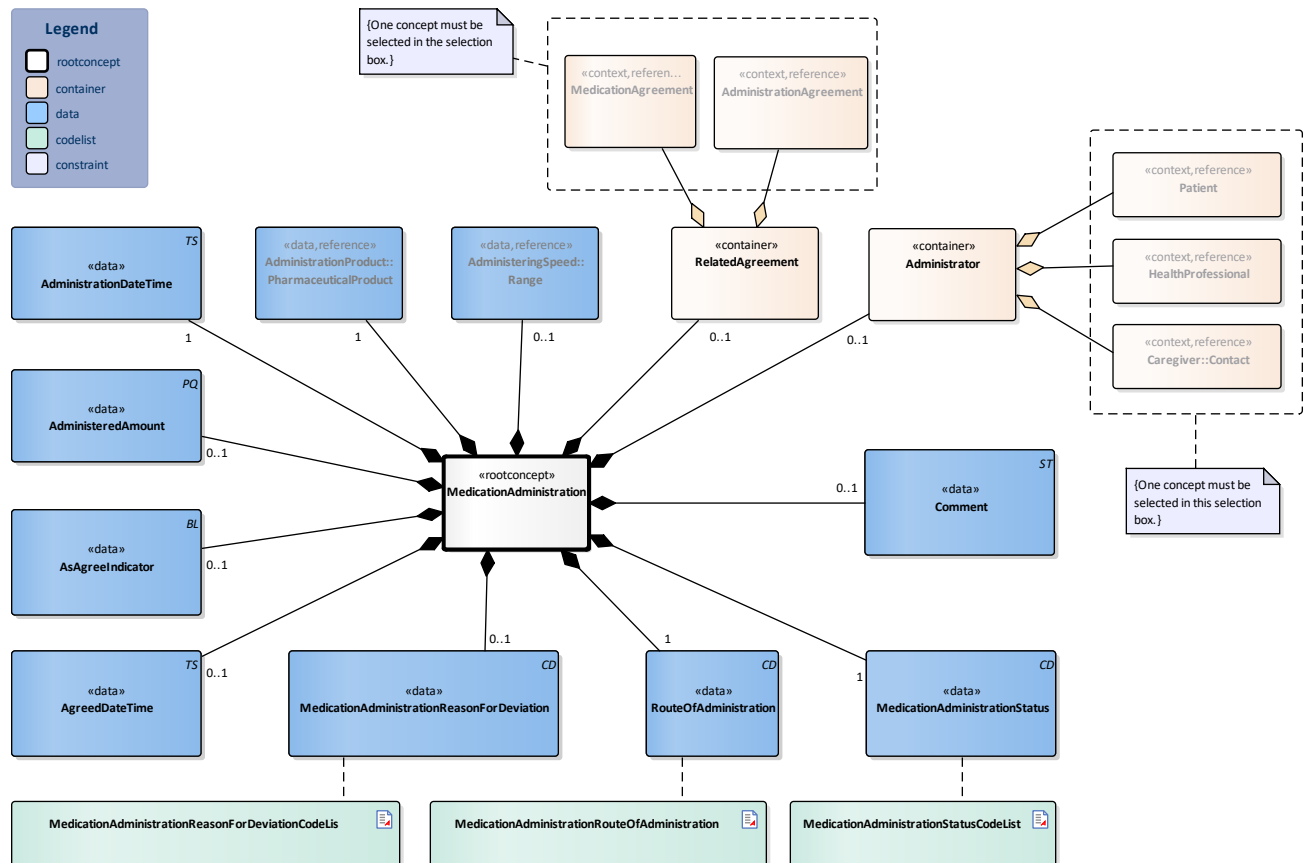
## 1.4 Purpose

The goal of administering the medication is to provide insight into the actual administered products.

## 1.5 Patient Population

## 1.6 Evidence Base

## 1.7 Information Model



«rootconcept»	MedicationAdministration	
Definitie	Root concept of the MedicationAdministration information model. This root concept contains all data elements of the MedicationAdministration information model.	
Datatype		
DCM::ConceptId	NL-CM:9.13.20928	
DCM::DefinitionCode	SNOMED CT: 18629005 Administration of drug or medicament	
Opties		

<b>«data»</b>	<b>AdministrationProduct::PharmaceuticalProduct</b>
<b>Definitie</b>	<p>The product taken or administered. This is usually medication. Food, blood products, aids and bandages do not strictly fall under the category of medication, but can be reported as well.</p> <p>In principle, this will be the prescribed product, but the administrator may substitute it by replacing the product with an equivalent product. For</p>

	example: two 50mg tablets can be administered instead of one 100mg tablet.	
<b>Datatype</b>		
<b>DCM::ConceptId</b>	NL-CM:9.13.20929	
<b>DCM::ReferencedConceptId</b>	NL-CM:9.7.1	This is a reference to the rootconcept of information model PharmaceuticalProduct.
<b>Opties</b>		

<b>«data»</b>	<b>AdministeringSpeed::Range</b>	
<b>Definitie</b>	<p>The administering speed is used in slow administration of liquid. In practice, the measuring unit is almost always ml/hour. Entering an interval (such as 0-10 ml/hour) is also a commonly used option.</p> <p>For example, with an administering speed of 10ml/hour:</p> <ul style="list-style-type: none"> <li>• amount = 10,</li> <li>• dose unit = ml</li> <li>• time unit = hour</li> </ul> <p>Optionally a translation to NHG table Gebruiksvoorschriften(Table 25) is also allowed.</p>	
<b>Datatype</b>		
<b>DCM::ConceptId</b>	NL-CM:9.13.23159	
<b>DCM::ExampleValue</b>	Aantal= 10 Gebruikseenheid= ml Tijdseenheid= uur	
<b>DCM::ReferencedConceptId</b>	NL-CM:20.1.1	This is a reference to the rootconcept of partial information model Range.
<b>Opties</b>		

<b>«data»</b>	<b>AdministrationDateTime</b>	
<b>Definitie</b>	The date and time at which the medication was administered.	
<b>Datatype</b>	TS	
<b>DCM::ConceptId</b>	NL-CM:9.13.21193	
<b>Opties</b>		

<b>«data»</b>	<b>AgreedDateTime</b>	
<b>Definitie</b>	Date and time in the medication or administration agreement to which this administration pertains. Since multiple times can be indicated in one medication/administration agreement, this can be used to identify the agreed time in the event of e.g. early administration or a late administration.	
<b>Datatype</b>	TS	
<b>DCM::ConceptId</b>	NL-CM:9.13.23171	
<b>Opties</b>		

<b>«data»</b>	<b>AdministeredAmount</b>	
<b>Definitie</b>	Amount of the administered product.	
<b>Datatype</b>	PQ	
<b>DCM::ConceptId</b>	NL-CM:9.13.21194	
<b>Opties</b>		

<b>«data»</b>	<b>AsAgreeIndicator</b>	
<b>Definitie</b>	Is the medicine used as outlined in the medication agreement?	
<b>Datatype</b>	BL	
<b>DCM::ConceptId</b>	NL-CM:9.13.23167	
<b>Opties</b>		

«data»	RouteOfAdministration	
Definitie	The route through which the medication is administered (oral, nasal, intravenous,...).	
Datatype	CD	
DCM::ConceptId	NL-CM:9.13.21195	
DCM::DefinitionCode	SNOMED CT: 410675002 Route of administration	
DCM::ValueSet	MedicationAdministrationRouteOfAdministration	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.9.13.2
Opties		

«container»	RelatedAgreement	
Definitie	Medication or administration agreement on which this administration is based.	
Datatype		
DCM::ConceptId	NL-CM:9.13.23169	
Opties		

«context»	MedicationAgreement	
Definitie	Medication agreement on which this administration is based.	
Datatype		
DCM::ConceptId	NL-CM:9.13.23170	
DCM::ReferencedConceptId	NL-CM:9.6.1	This is a reference to the rootconcept of information model MedicationAgreement.
Opties		

«context»	AdministrationAgreement	
Definitie	Administration agreement on which this administration is based.	
Datatype		
DCM::ConceptId	NL-CM:9.13.23237	
DCM::ReferencedConceptId	NL-CM:9.8.1	This is a reference to the rootconcept of information model AdministrationAgreement.
Opties		

«container»	Administrator	
Definitie	Container of the Administrator concept. This container contains all data elements of the Administrator concept. The concept describes the person who administered the product. This is a professional authorised administrator, the patient themselves or the caregiver, for example.	
Datatype		
DCM::ConceptId	NL-CM:9.13.21196	
Opties		

«context»	Patient	
Definitie	If the patient administered the medication themselves, indicate that here. If the medication is administered by a health professional or caregiver/family member/etc., the health professional is entered in the 'HealthProfessional' element or the caregiver/family member/etc. is entered in the 'Contact' element respectively.	
Datatype		
DCM::ConceptId	NL-CM:9.13.23380	
DCM::ReferencedConceptId	NL-CM:0.1.1	This is a reference to the rootconcept of information model Patient.

<b>Opties</b>	
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«context»	HealthProfessional	
<b>Definitie</b>	The concept describes the person who administered the product. This is a professional authorised administrator.	
<b>Datatype</b>		
<b>DCM::ConceptId</b>	NL-CM:9.13.23172	
<b>DCM::ReferencedConceptId</b>	NL-CM:17.1.1	This is a reference to the rootconcept of information model HealthProfessional.
<b>Opties</b>		

«context»	Caregiver::Contact	
<b>Definitie</b>	Information on the patient's personal relative or contact that administered the medication.	
<b>Datatype</b>		
<b>DCM::ConceptId</b>	NL-CM:9.13.23355	
<b>DCM::ReferencedConceptId</b>	NL-CM:3.1.1	This is a reference to the rootconcept of information model ContactPerson.
<b>Opties</b>		

«data»	MedicationAdministrationReasonForDeviation	
<b>Definitie</b>	Reason why the medication was not taken or administered or was taken or administered differently. Here, you can choose to enter text or one of the codes.	
<b>Datatype</b>	CD	
<b>DCM::ConceptId</b>	NL-CM:9.13.23166	
<b>DCM::DefinitionCode</b>	SNOMED CT: 153631000146105 Reason for deviation in administration of drug or medicament	
<b>DCM::ValueSet</b>	MedicationAdministrationReasonForDeviationCodeList	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.9.13.3
<b>Opties</b>		

«data»	MedicationAdministrationStatus	
<b>Definitie</b>	<p>The status of the administration, as a description of the stage within the administering process. Only the status codes 'completed' and 'cancelled' apply to indivisible products (such as tablets or suppositories). For divisible products (such as infusions), doses can also be 'suspended' or 'aborted'.</p> <p>When documenting this, the following interpretations are used:</p> <ul style="list-style-type: none"> <li>• Active: The product is administered.</li> <li>• Suspended: Use has (temporarily) been interrupted, because of a side effect, for example. Later, the patient and/or doctor can decide whether or not to resume or discontinue use.</li> <li>• Aborted: Administration has stopped.</li> <li>• Completed: Administration has been completed.</li> <li>• Cancelled: The product was never administered.</li> </ul>	
<b>Datatype</b>	CD	
<b>DCM::ConceptId</b>	NL-CM:9.13.21191	
<b>DCM::ValueSet</b>	MedicationAdministrationStatusCodeList	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.9.13.1
<b>Opties</b>		

«data»	Comment	
Definitie	Comments on administering the medication.	
Datatype	ST	
DCM::ConceptId	NL-CM:9.13.21337	
DCM::DefinitionCode	LOINC: 48767-8 Annotation comment	
Opties		

«document»	MedicationAdministrationRouteOfAdministration	
Definitie		
Datatype		
DCM::ValueSetBinding	Extensible	
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11.60.40.2.9.13.2	
HCIM::ValueSetLanguage	--	
Opties		
<b>MedicatieToedieningToedieningswegCodelijst</b>		<b>OID: 2.16.840.1.113883.2.4.3.11.60.40.2.9.13.2</b>
Codes	Coding Syst. Name	Coding System OID
Alle waarden	G-Standaard Toedieningswegen	2.16.840.1.113883.2.4.4.9

«document»	MedicationAdministrationStatusCodeList			
Definitie				
Datatype				
DCM::ValueSetBinding	Extensible			
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11.60.40.2.9.13.1			
HCIM::ValueSetLanguage	EN			
Opties				
<b>MedicatieToedieningStatusCodeList</b>		<b>OID: 2.16.840.1.113883.2.4.3.11.60.40.2.9.13.1</b>		
Concept Name	Concept Code	Code System Name	Code System OID	Description
Active	active	ActStatus	2.16.840.1.113883.5.14	Actief
Suspended	suspended	ActStatus	2.16.840.1.113883.5.14	Onderbroken
Aborted	aborted	ActStatus	2.16.840.1.113883.5.14	Afgebroken
Completed	completed	ActStatus	2.16.840.1.113883.5.14	Voltooid
Cancelled	cancelled	ActStatus	2.16.840.1.113883.5.14	Niet gestart

«document»	MedicationAdministrationReasonForDeviationCodeList
Definitie	
Datatype	



<b>DCM::ValueSetBinding</b>	Extensible		
<b>DCM::ValueSetId</b>	2.16.840.1.113883.2.4.3.11.6 0.40.2.9.13.3		
<b>HCIM::ValueSetLanguage</b>	EN		
<b>Opties</b>			

**Medicatie-toediening Reden Van Afwijken Codelijst** **OID: 2.16.840.1.113883.2.4.3.11.60.40.2.9.13.3**

Concept Name	Concept Code	Coding Syst. Name	Coding System OID	Description
Product discontinued	DISCONT	ActReason	2.16.840.1.113883.5.8	Product niet meer leverbaar [DEPRECATED]
Patient not available	NON-AVAIL	ActReason	2.16.840.1.113883.5.8	Patiënt niet beschikbaar [DEPRECATED]
Patient refuse	PREFUS	ActReason	2.16.840.1.113883.5.8	Patiënt heeft geweigerd [DEPRECATED]
Unable to use	UNABLE	ActReason	2.16.840.1.113883.5.8	Toediening volgens voorschrift niet mogelijk [DEPRECATED]
Order aborted	FOABORT	ActReason	2.16.840.1.113883.5.8	Medicatieafpraak is gestopt [DEPRECATED]
Forgotten to administer	FORGOT	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	Vergeten toe te dienen [DEPRECATED]
Administration performer not available	APNA	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	Toediener niet aanwezig [DEPRECATED]
Deficit of medication supply	705046008	SNOMED CT	2.16.840.1.113883.6.96	Product niet meer leverbaar
Medication discontinued	274512008	SNOMED CT	2.16.840.1.113883.6.96	Medicatieafpraak is gestopt
Drug spat out by patient	152741000146103	SNOMED CT	2.16.840.1.113883.6.96	Uitgespuugd door patiënt
Health care professional not available to administer drug	153221000146105	SNOMED CT	2.16.840.1.113883.6.96	Toediener niet aanwezig
Health care professional forgot to administer drug	153211000146100	SNOMED CT	2.16.840.1.113883.6.96	Vergeten toe te dienen
Unable to use medication	408366001	SNOMED CT	2.16.840.1.113883.6.96	Toediening volgens voorschrift niet mogelijk
Medication declined	406149000	SNOMED CT	2.16.840.1.113883.6.96	Patiënt heeft geweigerd
Patient not available to receive drug	153241000146104	SNOMED CT	2.16.840.1.113883.6.96	Patiënt niet beschikbaar

	Legend
<b>Definitie</b>	
<b>Datatype</b>	
<b>Opties</b>	

	Constraint
<b>Definitie</b>	One concept must be selected in the selection box.
<b>Datatype</b>	

<b>Opties</b>	
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	<b>Constraint</b>
<b>Definitie</b>	One concept must be selected in this selection box.
<b>Datatype</b>	
<b>Opties</b>	

## 1.8 Example Instances

MedicatieToedienin gDatumTijd	Toedieningsproduct	Afwijkende Toediening	MedicatieToedie ningStatus	Toedienings weg	Toegediende Hoeveelheid	Afgesproken DatumTijd	MedicatieToedienin gRedenVanAfwijken	MedicatieAfspraak
	ProductCode							Gebruiksaanwijzing   Doseerinstructie   Doosering   Keerdosis
3-6-2014 16:19:07	Pantoprazol mylan tablet msr 20mg	Nee	Gereed	Oraal	1 stuk			
11-9-2012 17:21:00	Bumetanide pch tablet 2 mg	Ja	Afgebroken	Oraal	1 stuk		Patiënt heeft geweigerd	2 stuks
19-9-2014 14:12:11	Novorapid Flexpen Injvst 100e/MI Pen 3ml	Ja	Uitgesteld	Subcutaan	22 eenheden	19-9-2014 9:00:00	Vergeeten toe te dienen	22 elementen

## 1.9 Instructions

## 1.10 Interpretation

## 1.11 Care Process

## 1.12 Example of the Instrument

## 1.13 Constraints

## 1.14 Issues

## 1.15 References

## 1.16 Functional Model

## 1.17 Traceability to other Standards

## 1.18 Disclaimer

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