

Health & Care Information Model:

nl.zorg.Reaction-v2.0

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1. nl.zorg.Reaction-v2.0

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1.1 Revision History

Publicatieversie 1.0 (01-12-2021)

Publicatieversie 2.0 (15-04-2024)

Bevat: ZIB-1994, ZIB-2028, ZIB-2130, ZIB-2183.

1.2 Concept

An adverse clinical response that is possible, probable or proven to result from exposure to a substance, group of substances or radiation.

1.3 Mindmap

1.4 Purpose

Information about an adverse reaction in a patient to exposure to a substance or radiation is important for the healthcare provider to determine whether or not re-exposure to that substance or radiation is desirable. An undesirable reaction may lead to a decision to start monitoring.

1.5 Patient Population

1.6 Evidence Base

Note on zib Reaction

The zib Reaction broadly covers all diagnoses that amount to an adverse response by the patient that is possibly, probably or confirmed to be the result of exposure to a specific substance, group of substances or

type of radiation. In terms of substances, the causative agent covers, among other things, medicines, food ingredients, inhalation allergens (e.g. pollen), insect poison and contact allergens (e.g. nickel and latex).

The zib Reaction is based on the zib DiagnosticInsight, because it concerns a diagnosis. Only 1 diagnosis can be recorded as a reaction and no differential diagnosis, because the reaction is linked to the cause. For this reason, CausativeAgent also has cardinality 1.

The zib Reaction has a number of elements that are specific to a reaction, such as CausativeAgent, LatencyTime and RouteOfExposure. The latter only applies to a reaction to medicines. For example, with pollen, insect poison and contact allergens, the route of exposure speaks for itself.

Just like DiagnosticInsight, if a reaction is (possibly) present, there is a reference from reaction to Condition, because it concerns the diagnostic interpretation of the condition.

In addition, there is also the possibility of a reference from Reaction to HypersensitivityIntolerance to establish the relationship between an actual reaction and the tendency to develop a reaction. Sometimes the patient is known to have a hypersensitivity or intolerance with a relatively mild risk of exposure. In that case, one can decide to administer the substance(s) in question and record the actual reactions to monitor whether the risk increases.

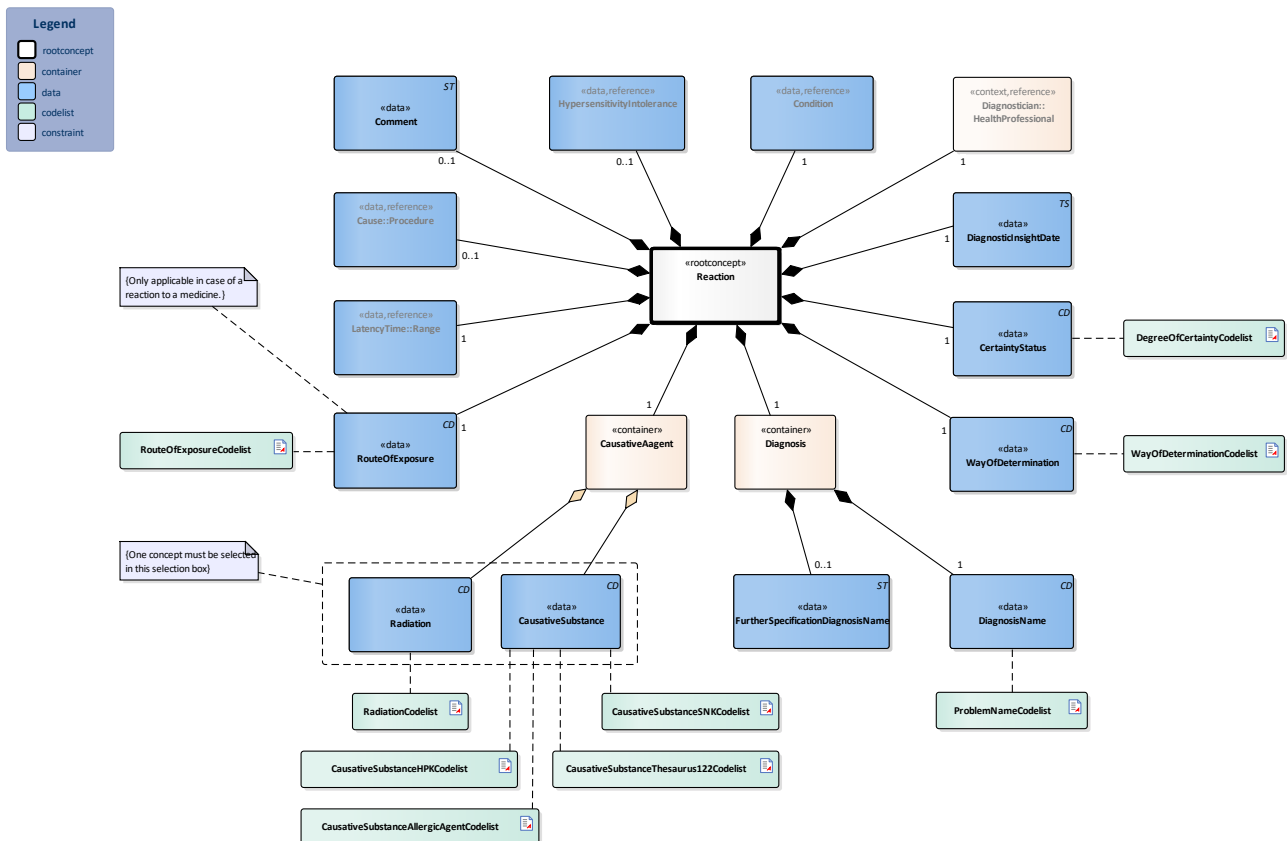
Functionality (informative)

EHRs already offer the option to distinguish between recording a new diagnosis or changing a diagnosis. Similar functionality is also needed when it concerns a reaction. When recording a new reaction, the EHR must create a new Condition and have the new instance of Reaction refer to it.

Because a reaction is also a diagnosis, the EHR must also make it possible to change a 'normal' diagnosis to a reaction and vice versa. In the event of such a change, the EHR must have the new instance of Reaction or DiagnosticInsight refer to the same Condition as the previous instance of Reaction or DiagnosticInsight.

In order to be able to distinguish between a 'normal' diagnosis and a reaction, the EHR should preferably have meta-knowledge of whether a diagnosis concerns a reaction or not and, on that basis, offer the correct subset of the diagnosis list. If not, there is no validation as to whether the diagnosis chosen by the user is a 'normal' diagnosis or a reaction.

1.7 Information Model



«rootconcept»	Reaction	
Definitie	This is a reference to the rootconcept of information model Reaction.	
Datatype		
DCM::ConceptId	NL-CM:5.3.1	
DCM::DefinitionCode	SNOMED CT: 281647001 ongewenste reactie	
Opties		

«data»	Condition	
Definitie	The condition that the healthcare provider has identified as a reaction.	
Datatype		
DCM::ConceptId	NL-CM:5.3.2	
DCM::DefinitionCode	SNOMED CT: 365860008 bevinding betreffende algemene klinische toestand	
DCM::ReferencedConceptId	NL-CM:5.4.1	This is a reference to the rootconcept of information model Condition.
Opties		

«context»	Diagnostician::HealthProfessional	
Definitie	The health professional that acquired the diagnostic insight of the reaction. This can be a different individual than the person who recorded the diagnostic insight.	
Datatype		
DCM::ConceptId	NL-CM:5.3.5	
DCM::DefinitionCode	ParticipationType: PRF performer	
DCM::ReferencedConceptId	NL-CM:17.1.1	This is a reference to the rootconcept of information model HealthProfessional.
Opties		

«data»	DiagnosticInsightDate	
Definitie	Date (and time) at which the care professional obtained the diagnostic insight.	
Datatype	TS	
DCM::ConceptId	NL-CM:5.3.6	
DCM::DefinitionCode	SNOMED CT: 432213005 datum van diagnose	
Opties		

«data»	CertaintyStatus	
Definitie	Indicates the conviction of the care professional with respect to the reaction as interpretation of the condition.	
Datatype	CD	
DCM::ConceptId	NL-CM:5.3.7	
DCM::ValueSet	DegreeOfCertaintyCodelist	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.1
Opties		

«data»	WayOfDetermination	
Definitie	The way in which the reaction is determined.	
Datatype	CD	
DCM::ConceptId	NL-CM:5.3.8	
DCM::DefinitionCode	SNOMED CT: 418775008 methode van bevinding	

DCM::ValueSet	WayOfDeterminationCodeList	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.2
Opties		

«container»	Diagnosis	
Definitie	Container of the Diagnosis concept involving a reaction. This container contains all data elements of the Diagnosis concept. Represents a reaction as interpretation of the condition.	
Datatype		
DCM::ConceptId	NL-CM:5.3.9	
Opties		

«data»	DiagnosisName	
Definitie	The term with associated code that the care professional selects from the used code list.	
Datatype	CD	
DCM::ConceptId	NL-CM:5.3.10	
DCM::DefinitionCode	SNOMED CT: 439401001 diagnose	
DCM::ValueSet	ProblemNameCodelist	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.3
Opties		

«data»	FurtherSpecificationDiagnosisName	
Definitie	A more detailed description of the name of the reaction in free text, when this detail is not available in the used code list.	
Datatype	ST	
DCM::ConceptId	NL-CM:5.3.11	
DCM::DefinitionCode	SNOMED CT: 330341000146107 toelichting op diagnose	
Opties		

«container»	CausativeAgent	
Definitie	Container of the CausativeAgent concept. This container contains all data elements of the CausativeAgent concept. It is the agent that triggered the reaction.	
Datatype		
DCM::ConceptId	NL-CM:5.3.12	
DCM::DefinitionCode	SNOMED CT: 246075003 veroorzaker	
Opties		

«data»	CausativeSubstance	
Definitie	The substance that (presumably) caused the adverse reaction.	
Datatype	CD	
DCM::ConceptId	NL-CM:5.3.13	
DCM::DefinitionCode	SNOMED CT: 105590001 Substantie	
DCM::ValueSet	CausativeSubstanceAllergicAgentCodelist	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.7
DCM::ValueSet	CausativeSubstanceSNKCodeList	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.4
DCM::ValueSet	CausativeSubstanceHPKCodeList	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.8

DCM::ValueSet	CausativeSubstanceThesaurus122Codelist	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.6
Opties		

«data»	Radiation	
Definitie	The radiation that (presumably) caused the reaction.	
Datatype	CD	
DCM::ConceptId	NL-CM:5.3.14	
DCM::DefinitionCode	SNOMED CT: 82107009 straling	
DCM::ValueSet	RadiationCodelist	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.9
Opties		

«data»	RouteOfExposure	
Definitie	Way in which the patient came into contact with the causative agent or the way in which the agent was administered.	
Datatype	CD	
DCM::ConceptId	NL-CM:5.3.15	
DCM::DefinitionCode	SNOMED CT: 410675002 toedieningsweg	
DCM::ValueSet	RouteOfExposureCodelist	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.10
Opties		

«data»	LatencyTime::Range	
Definitie	The period of time between the moment of exposure to the substance or radiation and the onset of the undesirable reaction.	
Datatype		
DCM::ConceptId	NL-CM:5.3.16	
DCM::DefinitionCode	SNOMED CT: 350371000146103 Tijdsinterval tussen datum van blootstelling en datum van eerste optreden van symptomen	
DCM::ReferencedConceptId	NL-CM:20.1.1	This is a reference to the rootconcept of information model Range.
Opties		

«data»	Cause::Procedure	
Definitie	The procedure that caused the reaction.	
Datatype		
DCM::ConceptId	NL-CM:5.3.3	
DCM::DefinitionCode	SNOMED CT: 71388002 verrichting	
DCM::ReferencedConceptId	NL-CM:14.1.1	This is a reference to the rootconcept of information model Procedure.
Opties		

«data»	HypersensitivityIntolerance	
Definitie	Hypersensitivity or intolerance underlying the reaction.	
Datatype		
DCM::ConceptId	NL-CM:5.3.4	

DCM::DefinitionCode	SNOMED CT: 420134006 neiging tot ongewenste reactie	
DCM::ReferencedConceptId	NL-CM:8.6.1	This is a reference to the rootconcept of information model HypersensitivityIntolerance.
Opties		

«data»	Comment	
Definitie	Textual explanation of the reaction which cannot be expressed in any of the other fields.	
Datatype	ST	
DCM::ConceptId	NL-CM:5.3.18	
DCM::DefinitionCode	LOINC: 48767-8 Annotation comment	
Opties		

«document»	DegreeOfCertaintyCodelist	
Definitie		
Datatype		
DCM::ValueSetBinding	Required	
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11.6 0.40.2.5.3.1	
HCIM::ValueSetLanguage	--	
Opties		

ZekerheidsStatusCodelijst			OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.1	
Concept Name	Concept Code	Coding Syst. Name	Coding System OID	Description
Suspected	415684004	SNOMED CT	2.16.840.1.113883.6.96	Vermoedelijk
Known possible	410590009	SNOMED CT	2.16.840.1.113883.6.96	Mogelijk
Confirmed present	410605003	SNOMED CT	2.16.840.1.113883.6.96	Bevestigd
Probably not present	410593006	SNOMED CT	2.16.840.1.113883.6.96	Onwaarschijnlijk

«document»	WayOfDeterminationCodelist	
Definitie		
Datatype		
DCM::ValueSetBinding	Extensible	
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11.6 0.40.2.5.3.2	
HCIM::ValueSetLanguage	--	
Opties		

WijzeVanVastellenCodelijst			OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.2	
Concept Name	Concept Code	Coding Syst. Name	Coding System OID	Description
anamnese en lichamelijk onderzoek met evaluatie en management van patiënt	14736009	SNOMED CT	2.16.840.1.113883.6.96	Vastgesteld op basis van het klinisch beeld en aanvullend onderzoek
anamnese en lichamelijk onderzoek	63332003	SNOMED CT	2.16.840.1.113883.6.96	Vastgesteld op basis van het klinisch beeld
afnemen van anamnese	84100007	SNOMED CT	2.16.840.1.113883.6.96	Vastgesteld op basis van de anamnese

Vastgesteld op basis van aanvullend onderzoek	NTB	SNOMED CT	2.16.840.1.113883.6.96	Vastgesteld op basis van aanvullend onderzoek
verwerven van gezondheidsinformatie van eerdere behandelaar voor klinische afstemming	117131000146104	SNOMED CT	2.16.840.1.113883.6.96	Overgenomen uit betrouwbare rapportage
Other	OTH	NullFlavor	2.16.840.1.113883.5.1008	Anders

«document»		ProblemNameCodelist		
Definitie				
Datatype				
DCM::ValueSetBinding	Required			
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11.6 0.40.2.5.3.3			
HCIM::ValueSetLanguage	--			
Opties				
DiagnoseNaamCodelijst		OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.3		
Codes	Coding Syst. Name	Coding System OID		
Alle waarden	DHD Diagnosethesaurus	2.16.840.1.113883.2.4.3.120.5.1		
Alle waarden	ICPC-1 NL	2.16.840.1.113883.2.4.4.31.1		
Alle waarden	SNOMED CT	2.16.840.1.113883.6.96		

«document»		CausativeSubstanceSNKCodelist		
Definitie				
Datatype				
DCM::ValueSetBinding	Required			
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11.6 0.40.2.5.3.4			
HCIM::ValueSetLanguage	--			
Opties				
VeroorzakendeStofSNKCodelist		OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.4		
Codes	Coding Syst. Name	Coding System OID		
Alle waarden	G-standaard Stofnaamcode (SNK)	2.16.840.1.113883.2.4.4.1.750		

«document»		CausativeSubstanceThesaurus122Codelist		
Definitie				
Datatype				
DCM::ValueSetBinding	Required			
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11.6 0.40.2.5.3.6			
HCIM::ValueSetLanguage	--			
Opties				
VeroorzakendeStofThesaurus122Codelist		OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.6		
Codes	Coding Syst. Name	Coding System OID		
Alle waarden	G-standaard Ongewenste medicatiegroepen	2.16.840.1.113883.2.4.4.1.902.122		

«document»		CausativeSubstanceAllergicAgentCodelist	
Definitie			
Datatype			
DCM::ValueSetBinding	Required		
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11.6 0.40.2.5.3.7		
HCIM::ValueSetLanguage	--		
Opties			
VeroorzakendeStofAllergeneStoffenCodelijst		OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.7	
Codes	Coding Syst. Name	Coding System OID	
SNOMED CT: ^98061000146100 Dutch non-drug allergen simple reference set (foundation metadata concept)	SNOMED CT	2.16.840.1.113883.6.96	

«document»		CausativeSubstanceHPKCodelist	
Definitie			
Datatype			
DCM::ValueSetBinding	Required		
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11.6 0.40.2.5.3.8		
HCIM::ValueSetLanguage	--		
Opties			
VeroorzakendeStofHPKCodelijst		OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.8	
Codes	Coding Syst. Name	Coding System OID	
Alle waarden	G-Standaard Handels Product Kode (HPK)	2.16.840.1.113883.2.4.4.7	

«document»		RadiationCodelist		
Definitie				
Datatype				
DCM::ValueSetBinding	Extensible			
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11.6 0.40.2.5.3.9			
HCIM::ValueSetLanguage	--			
Opties				
StralingCodelijst		OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.9		
Concept Name	Concept Code	Coding Syst. Name	Coding System OID	Description
Radioactivity	32888000	SNOMED CT	2.16.840.1.113883.6.96	Radioactieve straling
Light emitted by the sun	49926000	SNOMED CT	2.16.840.1.113883.6.96	Zonlicht
Ultraviolet radiation	41355003	SNOMED CT	2.16.840.1.113883.6.96	UV-licht
Radiant heat	285337003	SNOMED CT	2.16.840.1.113883.6.96	Warmtestraling
Radio wave	52799000	SNOMED CT	2.16.840.1.113883.6.96	Radiogolven
Unknown	UNK	NullFlavor	2.16.840.1.113883.5.1008	Onbekend

«document»		RouteOfExposureCodelist
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Definitie			
Datatype			
DCM::ValueSetBinding	Required		
DCM::ValueSetId	2.16.840.1.113883.2.4.3.11.6 0.40.2.5.3.10		
HCIM::ValueSetLanguage	--		
Opties			
WijzeVanBlootstellingCodelijst		OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.10	
Codes	Coding Syst. Name	Coding System OID	
Alle waarden	G-Standaard Toedieningswegen	2.16.840.1.113883.2.4.4.9	

	Legend
Definitie	
Datatype	
Opties	

	Constraint
Definitie	Only applicable in case of a reaction to a medicine.
Datatype	
Opties	

	Constraint
Definitie	One concept must be selected in this selection box
Datatype	
Opties	

1.8 Example Instances

Reactie	
DiagnostischInzichtDatum	07-10-2023
ZekerheidsStatus	Waarschijnlijk
WijzeVanVaststellen	Vastgesteld op basis van het klinisch beeld en aanvullend onderzoek.
WijzeVanBlootstelling	Oraal
Diagnose	
DiagnoseNaam	Pneumonitis
NadereSpecificatieDiagnoseNaam	Amiodaron geïnduceerde pneumonitis
Veroorzaker	
VeroorzakendeStof	Amiodaron
Toelichting	Radioloog beschrijft in het CT-verslag het volgende: gemalen glas en reticulaire opaciteit of CT-scan passend bij COP. Klinisch beeld past hier ook bij.
Latentietijd::Bereik	
nominaleWaarde	30 dg
Diagnosesteller::Zorgverlener	
Naam	H. Kuch
Specialisme	Longgeneeskunde
OvervoeligheidIntolerantie	
DiagnoseNaam	Neiging tot ongewenste reactie op medicatie en/of drug
Categorie	Geneesmiddelen
Stof	Amiodaron
AandoeningOfGesteldheid	
PeriodeAanwezig	
StartDatumTijd	03-10-2023
StatusDatum	07-10-2023
Ernst	Ernstig

Reactie	
DiagnostischInzichtDatum	12-04-2023
ZekerheidsStatus	Waarschijnlijk
WijzeVanVaststellen	Vastgesteld op basis van het klinisch beeld
WijzeVanBlootstelling	Intraveneus
Diagnose	
DiagnoseNaam	Geneesmiddelbijwerking
NadereSpecificatieDiagnoseNaam	
Veroorzaker	
VeroorzakendeStof	Rixathon
Toelichting	15 min na verhoging van de pompstand naar 5
Latentietijd::Bereik	
nominaleWaarde	15 min
Diagnosesteller::Zorgverlener	
Naam	L. van der Hoeven
Specialisme	Neurologie
AandoeningOfGesteldheid	
PeriodeAanwezig	
StartDatumTijd	12-04-2023 11:15
EindDatumTijd	12-04-2023 12:15
StatusDatum	12-04-2023
Ernst	Matig

Reactie	
DiagnostischInzichtDatum	13-08-2023
ZekerheidsStatus	Bevestigd
WijzeVanVaststellen	Vastgesteld op basis van het klinisch beeld
WijzeVanBlootstelling	
Diagnose	
DiagnoseNaam	Anafylactische shock
NadereSpecificatieDiagnoseNaam	
Veroorzaker	
VeroorzakendeStof	Bijengif
Toelichting	
Latentietijd::Bereik	
nominaleWaarde	5 min
Diagnosesteller::Zorgverlener	
Naam	G.H. Schweers
Specialisme	SEH-geneeskunde
AandoeningOfGesteldheid	
PeriodeAanwezig	
StartDatumTijd	13-08-2023 15:20
EindDatumTijd	
StatusDatum	13-08-2023 15:20
Ernst	Ernstig

1.9 Instructions

A reaction always refers to the condition of which it is the interpretation. If > 1 instance of hypersensitivity or intolerance or reaction or diagnostic insight refers to the same condition, then the instantiation with the most recent diagnosis date represents the current diagnostic insight.

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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