

# **Health & Care Information Model:**

## **nl.zorg.Reaction-v1.0**

Status: Final

Release status: Prepublished

# Content

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# 1. nl.zorg.Reaction-v1.0

|                                 |  |
|---------------------------------|--|
| DCM::CoderList                  | Werkgroep Overgevoeligheid             |
| DCM::ContactInformation.Address | *                                      |
| DCM::ContactInformation.Name    | *                                      |
| DCM::ContactInformation.Telecom | *                                      |
| DCM::ContentAuthorList          | Werkgroep Overgevoelighed              |
| DCM::CreationDate               | 4-11-2021                              |
| DCM::DeprecatedDate             |  |
| DCM::DescriptionLanguage        | nl                                     |
| DCM::EndorsingAuthority.Address |  |
| DCM::EndorsingAuthority.Name    | PM                                     |
| DCM::EndorsingAuthority.Telecom |  |
| DCM::Id                         | 2.16.840.1.113883.2.4.3.11.60.40.3.5.3 |
| DCM::KeywordList                | Reactie                                |
| DCM::LifecycleStatus            | Final                                  |
| DCM::ModelerList                | Werkgroep overgevoeligheid             |
| DCM::Name                       | nl.zorg.Reactie                        |
| DCM::PublicationDate            | 15-10-2023                             |
| DCM::PublicationStatus          | Prepublished                           |
| DCM::ReviewerList               |  |
| DCM::RevisionDate               | 16-11-2021                             |
| DCM::Supersedes                 |  |
| DCM::Version                    | 1.0                                    |
| HCIM::PublicationLanguage       | EN                                     |

## 1.1 Revision History

Publicatieversie 1.0 (01-12-2021)

## 1.2 Concept

An allergy or intolerance describes a patient's tendency towards hypersensitivity to a certain substance, so that an unwanted physiological reaction is expected after exposure to the substance, while most people would not exhibit such a reaction to that amount. The observed physiological changes are usually the result of an immunological reaction.

The substances can be categorized as follows:

- Medicine
- Medicine category
- Ingredient/addition
- Nutrition
- Environmental factor
- Animal
- Plants
- Chemicals
- Inhaled allergenic

## 1.3 Mindmap

## 1.4 Purpose

Documenting and communicating allergies and intolerances is an important part of medical registration. It concerns the core of patient safety in general and medication safety in particular. In the execution of research, treatment and care, these patient characteristics constantly have to be taken into account.

Allergies/intolerances have a lot in common with warnings (Alert). An important difference is that with allergies and intolerances, a lot of detailed information is recorded on things such as the reactions to the causative substance. Furthermore, not every warning is a problem or medical condition. Every allergy/intolerance is, however, while not every allergy or intolerance implies a warning.

| «rootconcept»  | Reaction  |  |
|----------------|---|--|
| Definitie      | Root concept of the Reaction information model. This root concept contains all data elements of the Reaction information model. |  |
| Datatype       |   |  |
| DCM::ConceptId | NL-CM:5.3.1   |  |
| Opties         |   |  |

| «data»            | ReactionPhenomenon   |  |
|-------------------|--|--|
| Definitie         | The substantive specification of the reaction (symptoms) that occurs when the patient is exposed to the substance. |  |
| Datatype          | CD   |  |
| DCM::ConceptId    | NL-CM:5.3.7  |  |
| DCM::ExampleValue | Anafylaxie,Jeuk  |  |
| DCM::ValueSet     | ReactionPhenomenonCodelist   | OID:<br>2.16.840.1.113883.2.4.3.11.60.40.2.5.3.7 |
| Opties            |  |  |

| «container»    | CausativeAgent   |  |
|----------------|--|--|
| Definitie      | Container of the CausativeAgent concept.This container contains all data elements of the CausativeAgent concept. |  |
| Datatype       |  |  |
| DCM::ConceptId | NL-CM:5.3.6  |  |
| Opties         |  |  |

| «data»         | Radiation   |  |
|----------------|---|--|
| Definitie      | Indicates whether it is (presumably) a reaction to radiation. |  |
| Datatype       | BL  |  |
| DCM::ConceptId | NL-CM:5.3.5   |  |
| Opties         |   |  |

| «data»         | CausativeSubstance                                   |  |
|----------------|--|--|
| Definitie      | The substance that (presumably) caused the reaction. |  |
| Datatype       | CD   |  |
| DCM::ConceptId | NL-CM:5.3.8  |  |
| DCM::ValueSet  | CausativeSubstanceThesaurus122Codelist               | OID:<br>2.16.840.1.113883.2.4.3.11.60.40.2.5.3.5 |
| DCM::ValueSet  | CausativeSubstanceHPKCode list                       | OID:<br>2.16.840.1.113883.2.4.3.11.60.40.2.5.3.2 |
| DCM::ValueSet  | CausativeSubstanceSNKCode list                       | OID:<br>2.16.840.1.113883.2.4.3.11.60.40.2.5.3.3 |
| DCM::ValueSet  | CausativeSubstanceSSKCode list                       | OID:<br>2.16.840.1.113883.2.4.3.11.60.40.2.5.3.4 |
| DCM::ValueSet  | CausativeSubstanceAllergicAgentCodelist              | OID:<br>2.16.840.1.113883.2.4.3.11.60.40.2.5.3.1 |
| Opties         |  |  |

| «data»         | ReactionDescription   |  |
|----------------|---|--|
| Definitie      | Textual description of the reaction as a whole including the reaction phenomena (symptoms). |  |
| Datatype       | ST  |  |
| DCM::ConceptId | NL-CM:5.3.9   |  |
| Opties         |   |  |

| «data»            | Severity   |  |
|-------------------|--|--|
| Definitie         | The severity of the reaction as a result of exposure to the substance. |  |
| Datatype          | CD   |  |
| DCM::ConceptId    | NL-CM:5.3.10   |  |
| DCM::ExampleValue | Ernstig  |  |
| DCM::ValueSet     | SeverityCodelist   | OID:<br>2.16.840.1.113883.2.4.3.11.60.40.2.5.3.8 |
| 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:5.3.11  |  |
| DCM::ValueSet  | RouteOfExposureCodelist   | OID:<br>2.16.840.1.113883.2.4.3.11.60.40.2.5.3.6 |
| Opties         |   |  |

| «container»    | SpecificationExposure   |  |
|----------------|---|--|
| Definitie      | Container of the SpecificationExposure concept. This container contains all data elements of the SpecificationExposure concept. |  |
| Datatype       |   |  |
| DCM::ConceptId | NL-CM:5.3.4   |  |
| Opties         |   |  |

| «data»         | ReactionPeriod   |  |
|----------------|--|--|
| Definitie      | Start Date: Date and time the response started. This may also only be a date or a partial date, if not known more precisely. TimeDuration: Duration of the reaction. End date: Date and time when the response stopped occurring. This may also only be a date or a partial date, if this is not known more precisely. |  |
| Datatype       | TS   |  |
| DCM::ConceptId | NL-CM:5.3.12   |  |
| Opties         |  |  |

| «data»         | DateTimeCommit                      |  |
|----------------|-------------------------------------|--|
| Definitie      | The date the reaction was recorded. |  |
| Datatype       | TS                                  |  |
| DCM::ConceptId | NL-CM:5.3.3                         |  |
| Opties         |                                     |  |

| «context»                | Author::HealthProfessional   |   |
|--------------------------|--|---|
| Definitie                | Person who records the reaction, this can be a healthcare professional, patient or contact person. |   |
| Datatype                 |  |   |
| DCM::ConceptId           | NL-CM:5.3.2  |   |
| DCM::ReferencedConceptId | NL-CM:17.1.1   | This is a reference to the rootconcept of information model HealthProfessional. |
| Opties                   |  |   |

| «document»                                 | CausativeSubstanceAllergicAgentCodelist  |   |
|--|--|---|
| Definitie                                  |  |   |
| Datatype                                   |  |   |
| DCM::ValueSetBinding                       | Required                                 |   |
| DCM::ValueSetId                            | 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.1 |   |
| HCIM::ValueSetLanguage                     | --                                       |   |
| Opties                                     |  |   |
| VeroorzakendeStofAllergeneStoffenCodelijst |  | OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.1 |
| Codes                                      | Coding Syst. Name                        | Coding System OID                             |
| SNOMED CT:<br>^98061000146100  Dutch       | SNOMED CT                                | 2.16.840.1.113883.6.96                        |

|  |  |  |
|--|--|--|
| non-drug allergen simple reference set (foundation metadata concept) |  |  |
|--|--|--|

| «document»                    | CausativeSubstanceHPKCodeList                |   |
|-------------------------------|--|---|
| Definitie                     |  |   |
| Datatype                      |  |   |
| DCM::ValueSetBinding          | Required                                     |   |
| DCM::ValueSetId               | 2.16.840.1.113883.2.4.3.11.6<br>0.40.2.5.3.2 |   |
| HCIM::ValueSetLanguage        | --   |   |
| Opties                        |  |   |
| VeroorzakendeStofHPKCodeLijst |  | OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.2 |
| 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»                    | CausativeSubstanceSNKCodeList                |   |
|-------------------------------|--|---|
| Definitie                     |  |   |
| Datatype                      |  |   |
| DCM::ValueSetBinding          | Required                                     |   |
| DCM::ValueSetId               | 2.16.840.1.113883.2.4.3.11.6<br>0.40.2.5.3.3 |   |
| HCIM::ValueSetLanguage        | --   |   |
| Opties                        |  |   |
| VeroorzakendeStofSNKCodeLijst |  | 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                  | G-standaard Stofnaamcode (SNK)               | 2.16.840.1.113883.2.4.4.1.750                 |

| «document»                    | CausativeSubstanceSSKCodeList                        |   |
|-------------------------------|--|---|
| Definitie                     |  |   |
| Datatype                      |  |   |
| DCM::ValueSetBinding          | Required   |   |
| DCM::ValueSetId               | 2.16.840.1.113883.2.4.3.11.6<br>0.40.2.5.3.4         |   |
| HCIM::ValueSetLanguage        | --   |   |
| Opties                        |  |   |
| VeroorzakendeStofSSKCodeLijst |  | 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 i.c.m. toedieningsweg (SSK) | 2.16.840.1.113883.2.4.4.1.725                 |

| «document»           | CausativeSubstanceThesaurus122CodeList       |  |
|----------------------|--|--|
| Definitie            |  |  |
| Datatype             |  |  |
| DCM::ValueSetBinding | Required                                     |  |
| DCM::ValueSetId      | 2.16.840.1.113883.2.4.3.11.6<br>0.40.2.5.3.5 |  |

|  |   |   |
|--|---|---|
| HCIM::ValueSetLanguage                 | --                                      |   |
| Opties                                 |   |   |
| VeroorzakendeStofThesaurus122Codelijst |   | OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.5 |
| 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»  | RouteOfExposureCodelist                  |   |
| Definitie   |  |   |
| Datatype  |  |   |
| DCM::ValueSetBinding                                  | Required                                 |   |
| DCM::ValueSetId                                       | 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.6 |   |
| HCIM::ValueSetLanguage                                | --                                       |   |
| Opties  |  |   |
| WijzeVanBlootstellingCodelijst                        |  | OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.6 |
| Codes   | Coding Syst. Name                        | Coding System OID                             |
| SNOMED CT: <284009009   route of administration value | SNOMED CT                                | 2.16.840.1.113883.6.96                        |

|   |  |   |                          |   |
|---|--|---|--------------------------|---|
| «document»  | ReactionPhenomenonCodelist               |   |                          |   |
| Definitie   |  |   |                          |   |
| Datatype  |  |   |                          |   |
| DCM::ValueSetBinding                              | Extensible                               |   |                          |   |
| DCM::ValueSetId                                   | 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.7 |   |                          |   |
| HCIM::ValueSetLanguage                            | --                                       |   |                          |   |
| Opties  |  |   |                          |   |
| ReactieVerschijnselCodelijst                      |  | OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.7 |                          |   |
| Concept Name                                      | Concept Code                             | Coding Syst. Name                             | Coding System OID        | Description   |
| Anaphylaxis                                       | 39579001                                 | SNOMED CT                                     | 2.16.840.1.113883.6.96   | Anafylaxie  |
| Angioedema  | 41291007                                 | SNOMED CT                                     | 2.16.840.1.113883.6.96   | Angio-oedeem  |
| Upper respiratory tract hypersensitivity reaction | 490008                                   | SNOMED CT                                     | 2.16.840.1.113883.6.96   | Overgevoeligheidsreactie van de bovenste luchtwegen |
| Dyspnea   | 267036007                                | SNOMED CT                                     | 2.16.840.1.113883.6.96   | Kortademigheid                                      |
| Bronchospasm                                      | 4386001                                  | SNOMED CT                                     | 2.16.840.1.113883.6.96   | Bronchospasme                                       |
| Urticaria (hives)                                 | 126485001                                | SNOMED CT                                     | 2.16.840.1.113883.6.96   | Urticaria   |
| Contact dermatitis                                | 40275004                                 | SNOMED CT                                     | 2.16.840.1.113883.6.96   | Contactdermatitis                                   |
| Itching of skin                                   | 418363000                                | SNOMED CT                                     | 2.16.840.1.113883.6.96   | Jeuk  |
| Eruption of skin                                  | 271807003                                | SNOMED CT                                     | 2.16.840.1.113883.6.96   | Exantheem   |
| Allergic conjunctivitis                           | 473460002                                | SNOMED CT                                     | 2.16.840.1.113883.6.96   | Allergische conjunctivitis                          |
| Lyell syndrome                                    | 768962006                                | SNOMED CT                                     | 2.16.840.1.113883.6.96   | Syndroom van Lyle                                   |
| Nausea and vomiting                               | 16932000                                 | SNOMED CT                                     | 2.16.840.1.113883.6.96   | Misselijk en braken                                 |
| Diarrhoea   | 62315008                                 | SNOMED CT                                     | 2.16.840.1.113883.6.96   | Diarree   |
| Drug-induced erythema multiforme                  | 297942002                                | SNOMED CT                                     | 2.16.840.1.113883.6.96   | Door medicatie veroorzaakte erythema multiforme     |
| Fever   | 386661006                                | SNOMED CT                                     | 2.16.840.1.113883.6.96   | Koorts  |
| Overig  | OTH                                      | NullFlavor                                    | 2.16.840.1.113883.5.1008 | Overig  |



| «document»             |              | SeverityCodelist                         |   |             |
|------------------------|--------------|--|---|-------------|
| Definitie              |              |  |   |             |
| Datatype               |              |  |   |             |
| DCM::ValueSetBinding   |              | Required                                 |   |             |
| DCM::ValueSetId        |              | 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.8 |   |             |
| HCIM::ValueSetLanguage |              | --                                       |   |             |
| Opties                 |              |  |   |             |
| ErnstCodelijst         |              |  | OID: 2.16.840.1.113883.2.4.3.11.60.40.2.5.3.8 |             |
| Concept Name           | Concept Code | Coding Syst. Name                        | Coding System OID                             | Description |
| Mild                   | 255604002    | SNOMED CT                                | 2.16.840.1.113883.6.96                        | Licht       |
| Moderate               | 6736007      | SNOMED CT                                | 2.16.840.1.113883.6.96                        | Matig       |
| Severe                 | 24484000     | SNOMED CT                                | 2.16.840.1.113883.6.96                        | Ernstig     |

| Legend    |  |
|-----------|--|
| Definitie |  |
| Datatype  |  |
|           |  |
| Opties    |  |

## 1.8 Example Instances

| Reactie                    |                  |                        |
|----------------------------|------------------|------------------------|
| ReactieErnst               | Ernstig          | Matig                  |
| ReactieTijdstip            | 12-10-2020       | 02-06-2021             |
| ReactieSymptomen           | Trombocytopenie  | Jeuk                   |
| Veroorzakendestof          | Fragmin          | Amoxicilline           |
| DatumTijdVastlegging       | 13-10-2020 13:15 | 03-06-2021 12:00       |
| Auteur::Zorgverlener       | Mevr. Zaal       | Dhr. Jacobs            |
| EersteAuteur::Zorgverlener |                  |                        |
| Naam                       | Mevr. Zaal       | Mevr. Zaal             |
| Specialisme                | SEH-arts         | SEH-arts               |
| ReactieBeschrijving        | -                | Over het hele lichaam. |

## 1.9 Instructions

## 1.10 Interpretation

## 1.11 Care Process

## 1.12 Example of the Instrument

## 1.13 Constraints

## 1.14 Issues

### No known allergies

The question is whether to offer a code for "No known allergies (SNOMED CT 160244002)" and subdirectories in this information model that fall under this code, or to determine that, where applicable, the document should outline when the information model is to be applied.

### Value set for the 'Causative substance' concept

Currently, no defined code list is yet available for allergenic substances other than medication. Entering SNOMED CT must therefore suffice to code allergenic substances for the time-being. The G standard is used to code medical products.

## 1.15 References

1. Z-INDEX. (2011) *Allergieën en ongewenste middelen* [Online] v. R V-2-3-1 Beschikbaar op: <http://www.z-index.nl/g-standaard/beschrijvingen/functioneel/wijzigingen/mb/bewaking-op-allergie/IR%20Allergieën%20V%202-1-1.pdf> [Geraadpleegd: 15 oktober 2014]
2. HL7 FHIR *Resource AllergyIntolerance*. [Online] Continuous Build. Beschikbaar op: <http://hl7-fhir.github.io/allergyintolerance.html> [Geraadpleegd: 12 maart 2014]

## 1.16 Functional Model

## 1.17 Traceability to other Standards

## 1.18 Disclaimer

The Health and Care Information Models (a.k.a Clinical Building Block) has been made in collaboration with several different parties in healthcare. These parties asked Nictiz to manage good maintenance and development of the information models. Hereafter, these parties and Nictiz are referred to as the collaborating parties. The collaborating parties paid utmost attention to the reliability and topicality of the data in these Health and Care Information Models. Omissions and inaccuracies may however occur. The collaborating parties are not liable for any damages resulting from omissions or inaccuracies in the information provided, nor are they liable for damages resulting from problems caused by or inherent to distributing information on the internet, such as malfunctions, interruptions, errors or delays in information or services provide by the parties to you or by you to the parties via a website or via e-mail, or any other digital means. The collaborating parties will also not accept liability for any damages resulting from the use of data, advice or ideas provided by or on behalf of the parties by means of the Health and Care Information Models. The parties will not accept any liability for the content of information in this Health and Care Information Model to which or from which a hyperlink is referred. In the event of contradictions in mentioned Health and Care Information Model documents and files, the most recent and highest version of the listed order in the revisions will indicate the priority of the documents in question. If information included in the digital version of a Health and Care Information Model is also distributed in writing, the written version will be leading in case of textual differences. This will apply if both have the same version number and date. A definitive version has priority over a draft version. A revised version has priority over previous versions.

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