

# Health & Care Information Model:

## nl.zorg.Respiration-v3.2

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# Content

<b>1. nl.zorg.Respiration-v3.2</b> .....	<b>3</b>
1.1 Revision History .....	3
1.2 Concept .....	3
1.3 Mindmap .....	4
1.4 Purpose .....	4
1.5 Patient Population .....	4
1.6 Evidence Base .....	4
1.7 Information Model .....	4
1.8 Example Instances .....	8
1.9 Instructions .....	9
1.10 Interpretation .....	9
1.11 Care Process .....	9
1.12 Example of the Instrument .....	9
1.13 Constraints .....	9
1.14 Issues .....	9
1.15 References .....	9
1.16 Functional Model .....	9
1.17 Traceability to other Standards .....	9
1.18 Disclaimer .....	10
1.19 Terms of Use .....	10
1.20 Copyrights .....	10

# 1. nl.zorg.Respiration-v3.2

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DCM::Version	3.2
HCIM::PublicationLanguage	EN

## 1.1 Revision History

### Publicatieversie 1.0 (01-04-2015)

Bevat: ZIB-113, ZIB-308, ZIB-361, ZIB-364, ZIB-365, ZIB-366.

Incl. algemene wijzigingsverzoeken:

ZIB-94, ZIB-154, ZIB-200, ZIB-201, ZIB-309, ZIB-324, ZIB-326.

### Publicatieversie 1.0.1 (22-05-2015)

Bevat: ZIB-407, ZIB-398.

### Publicatieversie 1.0.2 (16-07-2015)

Bevat: ZIB-415, ZIB-416.

### Publicatieversie 3.0 (01-05-2016)

Bevat: ZIB-453.

### Publicatieversie 3.1 (04-09-2017)

Bevat: ZIB-431, ZIB-441, ZIB-549, ZIB-564.

### Publicatieversie 3.2 (31-01-2020)

Bevat: ZIB-924.

## 1.2 Concept

During breathing or respiration, air flows to and from the lungs, where gas exchange occurs, absorbing oxygen from the air into the blood and exhaling carbon dioxide into the air. Observations of spontaneous breathing, usually registered as part of the observation of vital functions.

### 1.3 Mindmap

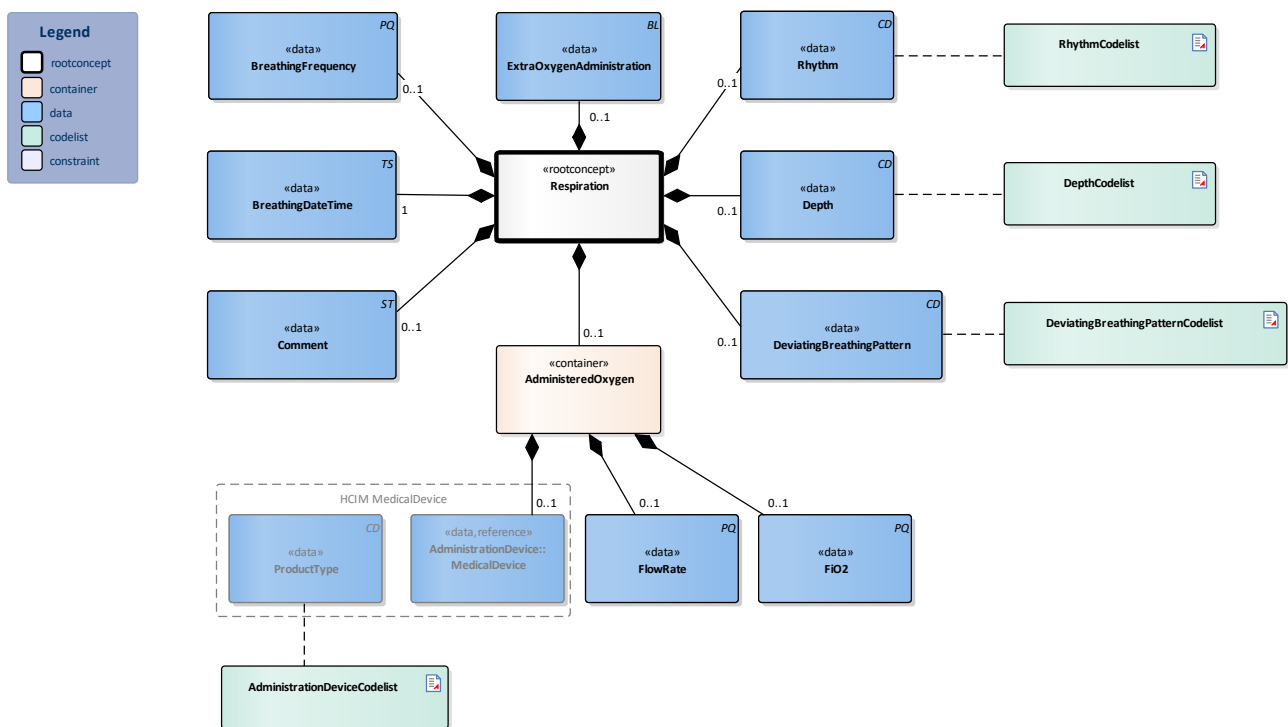
### 1.4 Purpose

Observing a person’s spontaneous breathing, including recording breathing frequency, depth and rhythm, is done to gain an indication of the health condition of the patient’s pulmonary system.

### 1.5 Patient Population

### 1.6 Evidence Base

### 1.7 Information Model



«rootconcept»	Respiration	
Definitie	Root concept of the Breathing information model. This root concept contains all data elements of the Breathing information model.	
Datatype		
DCM::ConceptId	NL-CM:12.5.1	
DCM::DefinitionCode	SNOMED CT: 422834003	Respiratory assessment
Opties		

«data»	BreathingFrequency	
Definitie	The value of the measured breathing frequency. The breathing frequency is the number of breaths per minute.	
Datatype	PQ	
DCM::ConceptId	NL-CM:12.5.2	

<b>DCM::DefinitionCode</b>	LOINC: 9279-1 Respiratory Rate	
<b>DCM::ExampleValue</b>	15/min	
<b>Opties</b>		

<b>«data»</b>	<b>BreathingDateTime</b>	
<b>Definitie</b>	Date and if possible time of measurement.	
<b>Datatype</b>	TS	
<b>DCM::ConceptId</b>	NL-CM:12.5.4	
<b>Opties</b>		

<b>«data»</b>	<b>Rhythm</b>	
<b>Definitie</b>	The rhythm or regularity of breathing.	
<b>Datatype</b>	CD	
<b>DCM::ConceptId</b>	NL-CM:12.5.5	
<b>DCM::DefinitionCode</b>	SNOMED CT: 48064009 Respiratory rhythm	
<b>DCM::ValueSet</b>	RhythmCodelist	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.5.1
<b>Opties</b>		

<b>«data»</b>	<b>Depth</b>	
<b>Definitie</b>	The depth of the breaths.	
<b>Datatype</b>	CD	
<b>DCM::ConceptId</b>	NL-CM:12.5.6	
<b>DCM::DefinitionCode</b>	SNOMED CT: 271626009 Depth of respiration	
<b>DCM::ValueSet</b>	DepthCodelist	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.5.2
<b>Opties</b>		

<b>«data»</b>	<b>DeviatingBreathingPattern</b>	
<b>Definitie</b>	Specific, abnormal breathing patterns.	
<b>Datatype</b>	CD	
<b>DCM::ConceptId</b>	NL-CM:12.5.7	
<b>DCM::DefinitionCode</b>	SNOMED CT: 278907009 Respiratory pattern	
<b>DCM::ValueSet</b>	DeviatingBreathingPatternCodelist	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.5.3
<b>Opties</b>		

<b>«data»</b>	<b>ExtraOxygenAdministration</b>	
<b>Definitie</b>	An indication stating whether the patient is given extra oxygen. In that event, additional information can be recorded in the concepts that are part of the AdministeredOxygen container.	
<b>Datatype</b>	BL	
<b>DCM::ConceptId</b>	NL-CM:12.5.12	
<b>DCM::DefinitionCode</b>	SNOMED CT: 16206004 Oxygen delivery	
<b>Opties</b>		

<b>«data»</b>	<b>Comment</b>	
<b>Definitie</b>	Comment on additional factors that can influence breathing such as the extent of fear, pain, nutrition in the case of infants or a tracheostomy.	
<b>Datatype</b>	ST	

<b>DCM::ConceptId</b>	NL-CM:12.5.3	
<b>DCM::DefinitionCode</b>	LOINC: 48767-8 Annotation comment	
<b>Opties</b>		

<b>«container»</b>	<b>AdministeredOxygen</b>	
<b>Definitie</b>	Container of the AdministeredOxygen concept. This container contains all data elements of the AdministeredOxygen concept.	
<b>Datatype</b>		
<b>DCM::ConceptId</b>	NL-CM:12.5.8	
<b>Opties</b>		

<b>«data»</b>	<b>FlowRate</b>	
<b>Definitie</b>	The amount of administered oxygen. The value is between 0.0 and 50.0 l/min.	
<b>Datatype</b>	PQ	
<b>DCM::ConceptId</b>	NL-CM:12.5.10	
<b>DCM::DefinitionCode</b>	SNOMED CT: 427081008 Delivered oxygen flow rate (observable entity)	
<b>Opties</b>		

<b>«data»</b>	<b>FiO2</b>	
<b>Definitie</b>	The fractional concentration of inspired oxygen. Value is between 0.0 and 1.0, with a normal value of 0.21 (no extra oxygen administered).	
<b>Datatype</b>	PQ	
<b>DCM::ConceptId</b>	NL-CM:12.5.9	
<b>DCM::DefinitionCode</b>	SNOMED CT: 250774007 Inspired oxygen concentration	
<b>Opties</b>		

<b>«data»</b>	<b>AdministrationDevice::MedicalDevice</b>	
<b>Definitie</b>	Device used for administering extra oxygen to the patient.	
<b>Datatype</b>		
<b>DCM::ConceptId</b>	NL-CM:12.5.13	
<b>DCM::ReferencedConceptId</b>	NL-CM:10.1.1	This is a reference to rootconcept of information model MedicalDevice.
<b>Opties</b>		

<b>«data»</b>	<b>ProductType</b>	
<b>Definitie</b>	Type of device used for administering.	
<b>Datatype</b>	CD	
<b>DCM::ConceptId</b>	NL-CM:10.1.3	
<b>DCM::ValueSet</b>	AdministrationDeviceCodeList	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.5.4
<b>Opties</b>		

<b>«document»</b>	<b>AdministrationDeviceCodeList</b>	
<b>Definitie</b>		
<b>Datatype</b>		
<b>DCM::ValueSetBinding</b>	Extensible	
<b>DCM::ValueSetId</b>	2.16.840.1.113883.2.4.3.11.60.40.2.12.5.4	

<b>HCIM::ValueSetLanguage</b>	--			
<b>Opties</b>				
<b>ToedieningHulpmiddelCodelijst</b>		<b>OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.5.4</b>		
Concept Name	Concept Code	CodeSys. Name	CodeSystem OID	Description
Oxygen nasal cannula	336623009	SNOMED CT	2.16.840.1.113883.6.96	Neusbril
Venturi mask	428285009	SNOMED CT	2.16.840.1.113883.6.96	Venturi masker
Nonrebreather oxygen mask	427591007	SNOMED CT	2.16.840.1.113883.6.96	Non-rebreathing masker
Other	OTH	NullFlavor	2.16.840.1.113883.5.1008	Anders

<b>«document»</b>	<b>DeviatingBreathingPatternCodelist</b>			
<b>Definitie</b>				
<b>Datatype</b>				
<b>DCM::ValueSetBinding</b>	Extensible			
<b>DCM::ValueSetId</b>	2.16.840.1.113883.2.4.3.11.60.40.2.12.5.3			
<b>HCIM::ValueSetLanguage</b>	--			
<b>Opties</b>				
<b>AfwijkendAdemhalingspatroonCodelijst</b>		<b>OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.5.3</b>		
Concept Name	Concept Code	CodeSys. Name	CodeSystem OID	Description
Kussmaul's respiration	414563008	SNOMED CT	2.16.840.1.113883.6.96	Ademhaling volgens Kussmaul
Cheyne-Stokes respiration	309155007	SNOMED CT	2.16.840.1.113883.6.96	Ademhaling volgens Cheyne-Stokes
Ataxic respiration	39106000	SNOMED CT	2.16.840.1.113883.6.96	Atactische ademhaling
Apneustic breathing	70185004	SNOMED CT	2.16.840.1.113883.6.96	Apneustische ademhaling
Cluster breathing	7013003	SNOMED CT	2.16.840.1.113883.6.96	Cluster ademhaling
Apnoea	1023001	SNOMED CT	2.16.840.1.113883.6.96	Apneu
Prolonged expiration	248586000	SNOMED CT	2.16.840.1.113883.6.96	Verlengde expiratoire fase
Gasping respiration	23141003	SNOMED CT	2.16.840.1.113883.6.96	Happende ademhaling
Other	OTH	NullFlavor	2.16.840.1.113883.5.1008	Anders

<b>«document»</b>	<b>DepthCodelist</b>
<b>Definitie</b>	
<b>Datatype</b>	

<b>DCM::ValueSetBinding</b>	Extensible	
<b>DCM::ValueSetId</b>	2.16.840.1.113883.2.4.3.11.6 0.40.2.12.5.2	
<b>HCIM::ValueSetLanguage</b>	--	
<b>Opties</b>		

<b>DiepteCodelijst</b>		<b>OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.5.2</b>		
Concept Name	Concept Code	CodeSys. Name	CodeSystem OID	Description
Normal depth of breathing	301284009	SNOMED CT	2.16.840.1.113883.6.96	Normale ademhalingsdiepte
Shallow breathing	386616007	SNOMED CT	2.16.840.1.113883.6.96	Oppervlakkige ademhaling
Deep breathing	289123006	SNOMED CT	2.16.840.1.113883.6.96	Diepe ademhaling
Depth of respiration varies	248587009	SNOMED CT	2.16.840.1.113883.6.96	Ademhalingsdiepte varieert

<b>«document»</b>	<b>RhythmCodelist</b>		
<b>Definitie</b>			
<b>Datatype</b>			
<b>DCM::ValueSetBinding</b>	Extensible		
<b>DCM::ValueSetId</b>	2.16.840.1.113883.2.4.3.11.6 0.40.2.12.5.1		
<b>HCIM::ValueSetLanguage</b>	--		
<b>Opties</b>			

<b>RitmeCodelijst</b>		<b>OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.5.1</b>		
Concept Name	Concept Code	CodeSys. Name	CodeSystem OID	Description
Normal respiratory rhythm	5467003	SNOMED CT	2.16.840.1.113883.6.96	Normaal ademhalingsritme
Abnormal respiratory rhythm	85617008	SNOMED CT	2.16.840.1.113883.6.96	Abnormaal ademhalingsritme

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

## 1.8 Example Instances



Ademhaling	
Ritme	Normaal ademhalingsritme
Diepte	Normale ademhalingsdiepte
AfwijkendAdemhalingspatroon	-
Ademfrequentie	15/min
AdemhalingDatumTijd	11-03-2015 14:47
ExtraZuurstofToediening	Ja
Toelichting	-
ToegediendeZuurstof	
FlowRate	2 l/min
FiO2	0,29l
ToedieningHulpmiddel	
ProductType	Neusbril

## 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. Parelsnoer DCM Ademhalingsfrequentie v0.4 [Online] Beschikbaar op: <http://www.nictiz.nl/uploaded/FILES/htmlcontent/dcm/parelsnoer/nl.parelsnoer.Ademhalingsfrequentie.v0.4.pdf> [Geraadpleegd: 23 februari 2015].
2. openEHR-EHR-OBSERVATION.respiration.v1 [Online] Beschikbaar op: <http://www.openehr.org/knowledge/> [Geraadpleegd: 23 februari 2015].

### 1.16 Functional Model

### 1.17 Traceability to other Standards

### 1.18 Disclaimer

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