Concept change request

Oxygen Saturation

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Dataset release	2022.1	**Consulted expert**	Christophe Gaudet-Blavignac

1 Change request input/rationale

In the PSSS Dataset, the value sets for body site and method have been specified. They seem to make sense in general and should be added to the SPHN Dataset.

2 Comparison to other systems

2.1 FHIR

In FHIR, Oxygen Saturation is an observation, identified by a LOINC code, e.g. {LOINC code '2708-6' = 'Oxygen saturation in Arterial blood'} or {LOINC code '59408-5' = 'Oxygen saturation in Arterial blood by Pulse oximetry'}.

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3 Change content

For the concept *Oxygen Saturation*, add value set to composedOf *body site* and composedOf *method as* outlined below. Following these changes, the concept description has been adapted and the LOINC meaning binding has been added.

3.1 Currently released concept

SPHN Dataset version: 2021.1

Unique concept ID: 0000000306

Concept name	Description	Type	Value set	Meaning binding SNOMED CT
Oxygen Saturation	fraction of oxygen present in the blood			103228002 |Hemoglobin saturation with oxygen (observable entity)|
saturation	measured oxygen saturation	quantitative		
datetime	datetime of measurement	temporal		
body site	body site of measurement	Body Site		
method	method of measurement	Measurement Method		
unit	unit of oxygen saturation	Unit	%	

3.2 Proposed new concept

Contextualized concept name	Description	Type	Standard	Value set	Meaning binding SNOMED CT	Additional information
Oxygen Saturation	fraction of oxygen present in the blood				103228002 |Hemoglobin saturation with oxygen (observable entity)|	
saturation	measured oxygen saturation, and unit	Quantity		unit: %		
datetime	datetime of measurement	temporal				
body site	body site of measurement	Body Site		29707007 | Toe structure (body structure); |7569003 | Finger structure (body structure) |; 48800003 | Ear lobule structure (body structure) |		extendable value set
measurement method	method of measurement	Measurement Method		252465000 | Pulse oximetry (procedure) |		extendable value set

4 Pros and cons

4.1 Advantages

- Increased interoperability of the data through defined value sets
- As the composedOf body site comes with an extendable value set, further body sites can be added on the project level when needed
- As the composedOf method comes with an extendable value set, IoT devices allowing measurement of Oxygen Saturation, such as Oura Ring or Apple Watch can be added on the project level when needed

4.2 Disadvantages

- None

5 Discussion

Point-of-care testing (POCT) arterial blood gas test (e.g. via epoc blood analysis system), or oxygen laboratory tests are not subject of the present concept. These laboratory measurement results are represented with the *Lab Results* concept.