

New concept proposal

Birth

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Dataset release	2024.1	Consulted expert	-

1 Rationale

Currently, two birth related data concepts are represented in the SPHN Dataset: Gestational Age at Birth and Birth Date. However, so far the concepts are not connected to each other. In addition, the ADONIS demonstrator project requires further information related to birth, such as delivery mode and device used. The new concept of *Birth* will establish the relationship between existing birth related concepts, it captures the information needed by the ADONIS project and allows additional (meta-) data on birth to be added in the future.

2 Comparison to other standards/data models

2.1 SNOMED CT

SNOMED CT provides several codes related to birth, such as the following procedure and finding codes:

- 236973005 |Delivery procedure (procedure)| (a descendant is for example: 48204000 |Spontaneous unassisted delivery, medical personnel present (procedure)|)
- 3950001 |Birth (finding)| (a descendant is for example: 28030000 |Twin birth (finding)|).

2.2 UMLS

UMLS provides several definitions of Birth, e.g. "The process of giving birth to one or more offspring.", "The reproductive process in which the parent is separated from its offspring either by giving birth to live young or by laying eggs".

2.3 HL7 FHIR

The resource Patient covers the birth date.

3 Concept information

Concept or concept compositions or inherited	General concept name	General description	Contextualized concept name	Contextualized description	Type	Standard	Value set or subset	Meaning binding	Cardinality for composedOf
concept	Birth	the event of being born	Birth	the event of being born					
composedOf	date	date of the concept	birth date	date of birth	Birth Date				1:1
composedOf	gestational age	gestational age associated to the concept	gestational age at birth	gestational age associated to birth	Gestational Age at Birth				0:1
composedOf	country	country of the concept	birth country	country of birth	Country				0:1
composedOf	delivery mode code	mode of delivery during concept	delivery mode	mode of delivery during birth	Code	SNOMED CT	descendant of: 118215003 Delivery finding (finding)		0:1
composedOf	medical device	medical device associated to the concept	delivery device	medical device used during the delivery	Medical Device				0:n

General concept name	Cardinality for concept to Administrative Case	Cardinality for concept to Data Provider Institute	Cardinality for concept to Subject Pseudo Identifier	Cardinality for concept to Source System
Birth	0:1	1:1	1:1	1:1

4 Impact on the SPHN Dataset

None.

5 Discussion

The term “birth” can be associated with giving birth or with being born, depending on the perspective (either parent or child). The data concept of Birth will be related to the individual in the sense of being born as it represents information about the child. As the SNOMED CT code of 236973005 |Delivery procedure (procedure)| is taking the perspective of giving birth, it is not suitable as a meaning binding for the concept. Similarly, the definition of birth provided by UMLS takes the perspective of the parent and therefore cannot serve as a description of the concept.

5.1 Medical Device Value Set

The value set for medical device code might be restricted in project specific datasets and can contain values such as 386015005 |Vacuum extractor, device (physical object)| and 29319002 |Forceps, device (physical object)|.

6 Example

Birth

datetime (Birth Date):

Year: 2021

Month: 06

Day: 05

Time: 23:11

gestational age (Gestational Age at Birth):

quantity:

value: 280

unit: d

country (Country):

code: 223642007 |Switzerland (geographic location)|

delivery mode code: 289259007 |Vaginal delivery (finding)|

medical device code: 386015005 |Vacuum extractor, device (physical object)|