New concept proposal

Death Date

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1   Rationale

The composedOf datetime in the *Death Status* concept is constantly misunderstood as the datetime the status was retrieved. Such misunderstandings should be avoided and the SPHN Dataset needs to be clear and easy to read. The death date is an important date for data analytics, e.g. for calcualtion of overall survival (OS) of patients with a certain disease. Considering birth date and death date being both important dates for health data analytics they should be aligned. Due to the newest changes to the Birth Date concept and the importance of the death date, it is proposed as a stand alone concept in the SPHN Dataset.

2   Comparison to other standards/data models

2.1   Phenopackets
Time of death is part of the Vital Status element.

2.2   HL7 FHIR
There is a death certificate with a date, but it is not clear if it is datetime of the certificate or the death datetime.
Source: https://hl7.org/fhir/us/vrdr/STU1/StructureDefinition-VRDR-Death-Certificate.html

A project of

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Swiss Academy of Medical Sciences

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SIB | Swiss Institute of Bioinformatics
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3   Concept information

Contextualized concept name	Contextulaized description	Type	Standard	Value set	Meaning binding SNOMED CT	Meaning binding LOINC
Death Date	the date and time of death of the individual				399753006 |Date of death (observable entity)|	81954-0 Date of death [Date]
year	year the individual died	temporal				
month	month the individual died	temporal				
day	day the individual died	temporal				
time	time the individual died	temporal				

4   Impact on the SPHN Dataset

The *Death Date* concept can be reused in the *Death Status* concept.

5   Discussion

It is possible that further concepts may reuse the *Death Date* concept in the future, e.g., a general concept Death may become necessary once a project would like to include data about the cause of death or manner of death.
The meaning binding to SNOMED CT (399753006 |Date of death (observable entity) and LOINC (81954-0 Date of death [Date]) moves from the former composedOf datetime (in concept Death Status) to the new concept *Death Date* and with that the meaning of "death date" can be represented in a stronger manner in the RDF implementation.