New concept proposal

Allergen

Author	Kristin Gnodtke, Pierre Chodanowski	Date last updated	13.12.2022
Project	-	Contact person	-
Dataset release	2023.1	Consulted expert	-

1 Rationale

According to the semantic strategy, a meaning should be represented only once in the SPHN Dataset. Therefore, the *Allergen* concept should be added and thus made availabe for reuse in the different concepts such as Allergy and Allergy Episode.

2 Comparison to other standards/data models

2.1 HL7 Switzerland and eHealth Suisse

Allergy/intolerance reaction substance value set
The value set published by HL7 Switzerland contains SNOMED CT codes from several hierarchies, e.g. (substance), (medicinal product), (organism).

Link to the value set:
https://fhir.ch/ig/ch-allergyintolerance/ValueSet-CHAllergyIntoleranceReactionSubstanceValueSet.html

2.2 UMLS
In UMLS, the concept Allergens (UMLS Concept Unique Identifier (CUI): C0018704) is defined for example as follwos:

A project of

SAMWASSM
Schweizerische Akademie der Medizinischen Wissenschaften
Académie Suisse des Sciences Médicales
Accademia Svizzera delle Scienze Mediche
Swiss Academy of Medical Sciences

SIB
Swiss Institute of Bioinformatics

SIB | Swiss Institute of Bioinformatics
PHI | Personalized Health Informatics Group
www.sphn.ch | dcc@sib.swiss

Definitions (10)

Antigen-type substances that produce immediate hypersensitivity (HYPERSENSITIVITY, IMMEDIATE). **(MSH)**

Products containing allergenic substances used for allergy diagnosis or treatment. **(SNOMEDCT_US)**

A substance that elicits an allergic reaction. **(NCI)**

A substance that causes an allergy **(CHV)**

Antigen or hapten capable of provoking an allergic response; post coordinate with appropriate source of allergen, ie, DOG or INSECT POISON. **(CSP)**

3 Concept information

Concept name	Description	Type	Standard	Value set	Meaning binding SNOMED CT	Meaning binding LOINC
Allergen	any substance, product or physical force producing immediate hypersensitivity					
code	code, name, coding system and version describing the allergen	Code	SNOMED CT, ATC, GTIN			

4 Impact on the SPHN Dataset

Reuse the concept for the composedOf *allergen* in the concepts *Allergy* and *Allergy Episode*.

5 Discussion

The standards used to express the allergen code are SNOMED CT, ATC and GTIN allowing to represent the variety of allergen information available.

6 Examples

Allergen example	Standard	Code	SNOMED CT semantic tag	Name	Allergen category
Acetylcysteine / Carbocysteine	SNOMED CT	102751005	substance	Sulfur-bearing amino acid (substance)	Medication
amoxicillin + clavulanic acid	SNOMED CT	734844004	medicinal product	Product containing amoxicillin and clavulanic acid (medicinal product)	Medication
NSAID	SNOMED CT	16403005	product	Non-steroidal anti-inflammatory agent (product)	Medication
Leather	SNOMED CT	19627002	physical object	Leather (physical object)	Biologic
House dust mite	SNOMED CT	260147004	organism	House dust mite (organism)	Biologic
Apparent epidermal production	SNOMED CT	7748002	body structure	Skin appendage structure (body structure)	Biologic
Sun light	SNOMED CT	49926000	physical force	Light emitted by the sun (physical force)	Environment
Accupaque sol inj 300 mg	ATC	V08AB02		Iohexol	Medication
Mefix	GTIN	7332551586225		Mefix vlies autocollant	Biologic