

New concept proposal

Nationality

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Dataset release	2024.1	Consulted expert	-

1 Rationale

Nationality represents the relationship between a person and the political state to which he or she belongs or is affiliated (= citizenship). Nationality is associated with certain rights (e.g., voting rights) and obligations as well as access and exclusions concerning education, health and work. In clinical information systems, nationality is recorded in a structured way, allowing conclusions on certain cultural and socio-economic relationships. This highlights the importance of the proposed concept and why nationality should be represented in the SPHN dataset.

2 Comparison to other standards/data models

2.1 HL7 FHIR

Nationality in FHIR is represented in the resource *Patient*. Source: Extension: nationality - FHIR v4.3.0 (hl7.org). Source: [Extension: nationality - FHIR v4.0.1 \(hl7.org\)](https://hl7.org/fhir/extensions/2023may/nationality/)

Extension: nationality

Patient Administration Work Group	Maturity Level: 1	Informative
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URL for this extension:

<http://hl7.org/fhir/StructureDefinition/patient-nationality>

Status: draft. Extension maintained by: HL7




The nationality of the patient.


Context of Use: Use on Element ID Patient

Extension Content

[Summary](#)
[Full Structure](#)
[XML](#)
[JSON](#)
[All](#)

Summary

Name	Flags	Card.	Type	Description & Constraints
 nationality		0..*	Extension	URL = http://hl7.org/fhir/StructureDefinition/patient-nationality nationality: The nationality of the patient.
 code		0..1	CodeableConcept	Use on Element ID Patient Code representing nationality of patient.
 period		0..1	Period	Period when nationality was effective.

 [Documentation for this format](#)

2.2 SNOMED CT and LOINC

Neither SNOMED CT nor LOINC have a code for the concept of nationality.

2.3 ISO

The nationality is represented by the ISO 3166-1 standard which provides country codes. This standard provides a two-letter code (ISO 3166-1 alpha-2) and a three-letter code (ISO 3166-1 alpha-3).

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	Nationality	nationality of the individual	Nationality	nationality of the individual					
composedOf	code	coded information specifying the concept	nationality code	code representing the individual's nationality	Code	ISO 3166-1 alpha-2			1:1
composedOf	record datetime	datetime the concept was recorded	record datetime nationality	datetime the nationality was recorded	temporal				0:1
composedOf	acquisition code	coded mode of acquisition of the concept	acquisition of nationality	mode of acquisition of nationality	Code	SNOMED CT	255396000 Acquired (qualifier value) ; 19535007 Original (qualifier value)		0:1

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
Nationality	-	1:1	1:1	1:1

Note: A patient can have multiple nationalities although this is not visible from the cardinalities. An instance of a nationality is bound to one patient only (because of the record datetime).

4 Impact on the SPHN Dataset

The addition of the new concept does not require any further change in the current SPHN Dataset release.

5 Discussion

Since nationality can influence certain behaviors or have an impact on the individual, it is important to allow researchers access to this information. By knowing the nationality, certain conclusions can be drawn about health data. For example, nationality helps to draw conclusions about preventive medical checkups, medication exposure (vitamin D recommendations, vitamin K administration) or vaccinations (national vaccination programs). It can also influence, for example, the behavior of patients in everyday life or the attitudes towards clinical studies and health practices (e.g. general consent). Limitation: The concept "Nationality" will not help to interpret some specific laboratory values or specific genetic health data. Here a separate concept "Ethnicity" might be developed.

The ISO 3166-1 (alpha-2) codes have been selected to represent the nationality (citizenship) of an individual although the codes do not represent a citizenship term, such as Swiss, German or French. Since there is no semantic standard for nationality terms, the ISO 3166-1 (alpha-2) codes standard is the best choice currently available. This standard is also used in machine-readable passports to represent the nationality code.

The acquisition code value set contains two values: 255396000 | Acquired (qualifier value) | and 19535007 | Original (qualifier value) |. Acquired means a person has applied for and been granted nationality (Swiss citizenship or other). Original means a person has the nationality since birth. These definitions are based on the variable list of the Swiss Federal Office of statistics ([STATPOP Variablenliste - Jährlicher Bevölkerungsbestand | Publikation | Bundesamt für Statistik \(admin.ch\)](https://www.bfs.admin.ch/bfs/portal/de/index.html)).

6 Example

Nationality

code:
 identifier: **AU**
 name: **Austria**
 coding system and version: **ISO 3166-1 alpha-2**
 record datetime: **2023-05-30T09:30:10+01:00**
 acquisition code:
 identifier: **19535007**
 name: **Original (qualifier value)**
 coding system and version: **SNOMED-CT-2023-07-31**