Release Notes OPS-SNOMED CT map December 2019

# Sources

* SNOMED CT July 2019 release, by SNOMED International
* OPS 2019, released by DIMDI
* Frequency information of OPS codes, provided by TriNetX

# Purpose of map

* To annotate electronic health record for which manually assigned OPS codes exist, with the SNOMED CT codes, which meaning can be unambiguously inferred from the former codes
* The inverse direction is not supported, given the diversity of information (time, demographic, number of sessions, dosages, health professionals involved) not being inferable from SNOMED CT encoded EHRs
* The exercise considers the situation in Germany, where no SNOMED CT codings exist, but where international interoperability of information regarding medical procedures so far is not given because OPS is of national use only

# Workflow

* The Averbis responsible and senior terminologist Stefan Schulz recruited two medical students and instructed them in the structure, semantics and usage of both terminologies
* After a pilot study with 100 codes the first version of mapping guidelines was drafted
* Interactively the first 1000 OPS codes were mapped between April and June 2019.
* A detailed description of the mapping procedure and the results was published in the Proceedings of ODLS 2019 @ JOWO 2019, Graz, Austria (see annex).
* Another 1125 codes were selected and mapped between July and December 2019 by the same team. The total number (2125) corresponds to a token coverage of clinical mappings, based on the frequency table provided by TriNetX

# Mapping principles of the final release

* For all OPS codes, at least partial information could be extracted and represented by SNOMED CT codes. This is the reason, why "no mapping" – opposed to the first phase does not occur any more.
* No distinction was made between main codes and ancillary codes ("Zusatzcodes")
* In addition to the SNOMED CT procedure codes, also substance and device codes were allowed in the map. However, no compositional syntax (SNOMED CT post-coordination) was used
* The disjunctive semantics of many OPS codes (e.g. "procedure X at thorax and back" – meaning "thorax OR back" in logical terms) required logical connectors, as well as the fact that in many cases a precise reconstruction of meaning required logical conjunction (e.g. "diagnostic procedure AND endoscopic procedure"), and the addition of sub-procedures (e.g. "laparotomy with ureter reconstruction"), expressed by the operator ADD. This led to the need of complex logical expressions in some cases, involving maximally five SNOMED CT codes.
* The type of the map distinguished broader from exact mapping, the latter also refined in terms of exact mapping ignoring quantitative constraints (e.g. number of sessions). Finally, those mappings in would only a device or substance could be mapped were characterised as material only. Therefore the value set for map types is {"exact", "exact-q", "broader", "material only"}

# Format of the release

* The release is delivered as an Excel table with the following columns:
	+ A – OPS code
	+ B – The German textual description of the OPS class belonging to the code
	(for the map also comments, inclusion and exclusion statements were considered, only available in the official OPS document (annex))
	+ C – G – The SNOMED Procedure codes needed for the map (C1 – C5)
	+ H – Field for additional SNOMED codes for substances and devices
	+ I – Type of the map {"exact", "exact-q", "broader", "material only"}
	+ J – For each map that involves more than one SNOMED CT code, the logical operators required to interpret them

# Annexes

* **1-2125\_Release\_December\_17\_2019.xlsx**, the Excel table with the maps
* **OPS-SNOMED-FINAL1.pdf**, the publication mentioning the construction and validation of the first 1000 maps
* **ops2019syst\_referenz\_20181203.pdf**, the OPS source used

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