



Università degli Studi di Udine

Dottorato di ricerca in Scienze e Tecnologie cliniche

Ciclo XXVII

**The integration of WHO classifications and reference terminologies to
improve information exchange and quality of electronic health records: the
SNOMED–CT ICF harmonization within the ICD-11 revision process**

Dipartimento di Scienze Mediche e Biologiche

Settore Scientifico Disciplinare MED/42 Igiene generale e applicata

Coordinatore

Prof. Giuseppe Damante

Tutor

Prof. Silvio Brusaferrò

Supervisore

Prof. Vincenzo Della Mea

Dottorando

Dott. Francesco Gongolo

Anni Accademici 2011/14

Table of contents

Table of contents	2
Abstract	4
Acknowledgements	6
Introduction	10
The work of updating the WHO classifications	12
The revision of ICD – the ICD-11 revision process	13
Study objectives.....	18
Materials and methods.....	19
Methodology.....	20
Results and conclusions.....	24
Missing SNOMED CT content.....	24
ICF and SNOMED CT mapping targets and sources.....	25
Different hierarchies	26
Activities and abilities in SNOMED CT	26
Activities and Participation in ICF	29
Conclusions	30
Recommendations to WHO and IHTSDO	32
Business cases	33
Identifying and tracking care needs.....	33
Support development of structured digital documentation models and information retrieval	33
Functional status information for Casemix & reimbursement.	34
Disability certification	34
References	35
Annexes	37
Annex 1 - Gongolo F., Vogel U., Moskal L URC 2014 Annual Report	37
Introduction	37
Methods & Materials.....	37
Results	37
Conclusions	41
Acknowledgements	41
References	41
Presentation and Publication	42
Annex 2- Gongolo F. , Frattura L., Della Mea V., Brusaferrero S. Linked data and translational medicine: the role of ICD11	43

Introduction	43
The Content model of ICD-11	43
Methods & Materials	44
Results	45
Conclusions	46
Presentation and Publication	46
Annex 3- Gongolo F., Bang S., Sykes C. ICD-11 and the “Factors influencing health status and contact with health services”: a test of integration for the Family of International Classifications.....	48
Introduction	48
Methods & Materials	48
Results	50
Conclusions	52
Acknowledgements	53
References	53
Presentation and Publication	53
Annex 4 – Gongolo F. URC and MbRG Revision Issue – v. 2014.....	55
Annex 5 - GongoloF., Karlsson D., Hough J., Matney S. - ICF-SNOMED-CT gap analysis	99
ACTIVITIES AND PARTICIPATION	99

Abstract

The integration of WHO classifications and reference terminologies to improve information exchange and quality of electronic health records: the SNOMED –CT ICF harmonization within the ICD-11 revision process

Introduction

The Family of International Classifications (WHO-FIC) is a suite of integrated classification products of the World Health Organization (WHO) that can be used to provide information on different aspects of health and the health-care system. These tools and their national modifications allow, together with the related classifications of health interventions, full representation of the volumes of health services provided in the various countries that adopt case mix systems. The use of standardized terminologies in classifications, for the definition of the descriptive characteristics of the disease, is a necessary step to allow full integration between different information systems, making available information about the diagnosed diseases, the performed health procedures and the level of functioning of the person, for very different uses such as, for example, public health, safety of care and quality control.

Materials and methods

Within the WHO and International Health Terminology Standards Development Organization (IHTSDO) collaboration agreement, a work of independent review was carried out on all the Activities and Participation categories (A&P) of the WHO International Classification of Functioning, Disability and Health (ICF), in order to identify equivalence and gaps to the Systematized Nomenclature of Medicine-Clinical Terms (SNOMED-CT) concepts in terms of lexical, semantic (content) and hierarchical matching, to harmonize WHO classifications and SNOMED CT.

Results and conclusions

The performed mapping suggests that the ICF A&P categories are semantically and hierarchically different from the terms of SNOMED CT thus confirming the high value of the WHO-IHTSDO

synergy aiming to frame together, in a joint effort, their respective unique contribution.

Recommendations were formulated to WHO and IHTSDO in order to better frame together, in a joint effort, their respective unique contribution ensuring that SNOMED CT and ICF can interoperate in electronic health records.

Acknowledgements

Methodology adopted in the work was defined by the Author together with other 3 Joint Working Group members prompted by Jane Millar responsible officer for the task at IHTSDO and Molly Meri Robinson, responsible officer for the task at the World Health Organization, who drafted the requirements of the work.

The gap analysis presented as annex 5 was performed by the Author together with the other three members of the Joint Working Group in charge of the Phase 1 work. The gap analysis was carried out independently, by the Author acting as WHO representative, checked with the other European partner, Daniel Karlsson of Linköping University, Sweden, acting as IHTSDO representative, counterchecked by the other couple (North American WHO representative John Hough of The National Committee on Vital and Health Statistics, and North American IHTSDO representative Susan Matney of 3M). Critical revision of the results, in order to ensure accuracy and integrity was carried out by Jane Millar responsible officer for the task at IHTSDO and Molly Meri Robinson, responsible officer for the task at the World Health Organization.

In the results of the work, substantial contribution was given on the SNOMED-CT relevance of the findings, by the IHTSDO European representative Daniel Karlsson of Linköping University, Sweden.

For the Work of Updating the ICD-10 and ICF, the Author co-chaired for four years between 2010 and 2014, a group of about 40 expert members from different Countries around the world. The work presented in Annex 1, Gongolo F., Vogel U., Moskal L., *URC 2014 Annual Report*, was conceived, designed and drafted by the Author while Ulrich Vogel from the German Institute of Medical Documentation and Information and Lori Moskal from the Canadian Institute for Health Information, reviewed the draft in order to ensure the accuracy and integrity.

For the preliminary work presented in annex 2, Gongolo F., Frattura L., Della Mea V., Brusaferrò S. *Linked data and translational medicine: the role of ICD11*, the Author conceived, designed and

drafted the manuscript under the supervision of first level supervisor Vincenzo Della Mea of the Department of Mathematics and Informatics of the University of Udine. Lucilla Frattura, Head of the Italian WHO Collaborating Centre for the Family of International Classification critically revised the work that was approved for final version by the second level supervisor, Silvio Brusafarro, University of Udine, Director of Department of Medical and Biological Sciences, Director of Accreditation, Clinical Risk Management and Performance Evaluation at the University Hospital.

The work on the former ICD-10 Chapter XXI, Gongolo F., Bang S., Sykes C., *ICD-11 and the “Factors influencing health status and contact with health services”*: a test of integration for the Family of International Classifications was suggested by the Functioning Topic Advisory Group Chair, Gerold Stucki, Chairholder and Professor of Department of Health Sciences and Health Policy at the University of Lucerne, under the managing supervision of the World Health Organization officer, Molly Meri Robinson. The Author of the present work conceived and designed the work, acquired and analyzed the data and reported back for critical revision and final approval to Solveig Bang of the Statens Serum Institut, National e-Health Authority, Denmark and to Catherine Sykes, Faculty of Health Sciences at University of Sydney and World Confederation for Physical Therapy (WCPT) representative at the WHO.

The work of collecting and compiling ICD-10 issues to take into account for the ICD-11 revision process (Gongolo F. *URC and MBRG Revision Issue – v. 2014*, annex 4) and the subsequent activity of monitoring how those issues were addresses, was undertaken under specific Agreement for Performance of Work issued by the World Health Organization directly to the Author. Molly Meri Robinson, responsible officer at the World Health Organization critically revised the work that was approved for final version by Bedirhan Ustun, Coordinator Classifications, Terminologies and Standards, Health Statistics and Informatics, Information Evidence and Research at the World Health Organization.

The present work has been done entirely under the scopes of collaboration agreements between the Author or his Organization, the Central Health Directorate of the Friuli Venezia Giulia Region, and the World Health Organization:

- The activity of co-chairing the Updating and Revision Committee was performed under the ongoing collaboration agreement between the Central Health Directorate of the Friuli Venezia Giulia Region and the World Health Organization:
 - As part of this agreement the Author was made available, as Assistant Medical Reviewer to WHO Headquarters in Geneva for 40 working weeks between 2011 and 2014;
 - Funding for this activity was provided Regional Central Health Directorate of the Friuli Venezia Giulia Region whose contribution is gratefully acknowledged.
- The activity as member of the Joint Advisory Group for the harmonization of ICF and SNOMED CT was partly funded by the Swedish Collaborating Centre for the Family of International Classification and partly funded through an agreement for performance of work between the IHTSDO and the Friuli Venezia Giulia Region under the scopes of the wider WHO-IHTSDO collaboration agreement;
- The analysis of ICD-10 chapter XXI Factors influencing health status and contact with health services for ICD-11 was carried out by the Author as WHO appointed member of the Topic Advisory Group on Functioning for the ICD-11 revision process;
- The compilation of the document URC and MbRG Revision Issue was performed under a consultancy contract between the Author and the World Health Organization.

Vincenzo Della Mea of the Department of Mathematics and Informatics of the University of Udine acted as first level supervisor of this work and Silvio Brusaferrò University of Udine, Director of Accreditation, Clinical Risk Management and Performance Evaluation at the University Hospital

acted as second level supervisor. Their substantial contribution in the overall conception of the work is acknowledged with deep gratitude.

Introduction

A key role of World Health Organization (WHO) is to produce maintain and implement health information standards, to provide a consensual, meaningful and useful common language for use by governments, health care providers and consumers. Classifications are one of these standards, a set of discrete, exhaustive and mutually exclusive observations which can be assigned to one or more variables to be measured in the collation and/or presentation of data¹. In particular, internationally agreed classifications facilitate the storage, retrieval, analysis and interpretation and comparison of health and health-related data (WHO 2014)².

The Family of International Classifications (WHO-FIC) is a suite of integrated classification products of the World Health Organization that can be used to provide information on different aspects of health and the health-care system³. A classification is set of discrete, exhaustive and mutually exclusive observations which can be assigned to one or more variables to be measured in the collation and/or presentation of data⁴. In particular the WHO classification tools are applied as a framework to capture various aspects of health and allow, through the use of a standardized common language, the communication about health (-care) across the world. The International Classification of Diseases (ICD) classifies primarily health conditions, providing an etiological framework, while the International Classification of Function, Disability and Health (ICF) classifies functioning and disability associated with a health condition.

WHO Classifications are used to capture key information on diseases, disability, interventions and other indicators of population's health. Commentators have highlighted how crucial are the classification tools in a crowded global health landscape characterized by poor coordination among

¹ UN Glossary of Classification Terms (<http://unstats.un.org>)

² WHO, Classifications of disease <http://www.who.int/topics/classification/en/>

³ WHO, International Statistical Classification of Diseases and Related Health Problems, WHO Geneva 2010 edition (4th edition)

⁴ UN Glossary of Classification Terms (<http://unstats.un.org>)

multiple players, where WHO is no longer the only major actor (Pang and Garret, 2012)⁵. As highlighted by Pang and Garret in 2012, the WHO should refocus on its original aim of being primarily a ‘knowledge broker’ and some of its most successful achievements, such as the International Classification of Diseases (ICD), are in line with this scope⁶.

The ICD, endorsed in its 10th revision (ICD-10) by the Forty-third World Health Assembly in May 1990⁷, is the standard diagnostic tool for epidemiology, health management and clinical purposes. It is used to monitor the incidence and prevalence of diseases and other health problems, providing a picture of the general health situation of countries and populations⁸. More than 100 countries use the system to report mortality data, a primary indicator of health status. This system helps to monitor death and disease rates worldwide and measure progress towards the Millennium Development Goals. About 70% of the world’s health expenditures (USD \$ 3.5 billion) are allocated using ICD for reimbursement and resource allocation⁹.

The present research work stems from the activity carried out by the Author at the WHO from 2009 to 2013, along the following worklines:

1. Updating the version of ICD-10, currently used world wide to code mortality (death certificates) and morbidity (Discharge summary);

⁵ Pang T, Garrett L., The WHO must reform for its own health; Nat Med. 2012 May 4;18(5):646. doi: 10.1038/nm0512-646.

⁶ Pang T, Garrett L., The WHO must reform for its own health; Nat Med. 2012 May 4;18(5):646. doi: 10.1038/nm0512-646.

⁷ WHO, International Statistical Classification of Diseases and Related Health Problems, WHO Geneva 2010 edition (4th edition)

⁸ WHO, Classifications <http://www.who.int/classifications/icd/en/>

⁹ International Classification of Diseases (ICD) Information Sheet <http://www.who.int/classifications/icd/factsheet/en/>

2. Participating in the preparation, the so called revision, of the new version of ICD, the ICD-

11

The work of updating the WHO classifications

In 2010, the author was elected co-chair of the WHO Committee for the Update and Revision (URC) of the WHO Health Classifications both the ICD and the International Classification of Function, Disability and Health (ICF)¹⁰. The role was maintained for the two possible mandates, until October 2014. The Update and Revision Committee (URC) assesses the need for updating the ICD and develops proposals of classification update, to be discussed by member states and to be adopted by WHO. It fosters reference groups for specific areas of interest and addresses issues brought forward by reference groups¹¹. A summary of the activities carried out by the author as chair of the update and revision committee is highlighted in the activity reports, submitted annually to the assembly of the WHO Collaborating Centres for the Family of International Classification and published on the WHO website. The latest activity document, structured in the work *URC 2014 Annual Report* (Gongolo F., et al 2014)¹² is annexed to the present work. All activity report prepared by the Author are displayed on the WHO website¹³. The work of the Committee is relevant as introduction to the research work because it identifies the issues to be addressed with a major revision and defines how such a revision could be undertaken. The ICD can be seen as one of the tools bound up in the origins of welfare state (Ewald 1986)¹⁴ but, on the other hand, ICD and its clinical modifications have proven to be insufficient to record the important elements of health care in a systematic way without being unduly restrictive in the range of terms and language required by the numerous individuals, groups and organizations who will be expected to use it

¹⁰ WHO, International Classification of Functioning, Disability and Health (ICF), WHO Geneva 2001

¹¹ WHO, The WHO-FIC Update and Revision Committee <http://www.who.int/classifications/committees/updating/en/>

¹² Gongolo F., Vogel U., Moskal L. *URC 2014 Annual Report* , annex 1

¹³ WHO WHO-FIC Network Meetings <http://www.who.int/classifications/network/meetings/en/>

¹⁴ Ewald F., L'Etat Providence , B. Grasset, Paris, 1986

(Chalmers 2006)¹⁵. These issues have been collected and systematically ordered by the work of the URC thus informing the research work carried out in the second activity line, the revision of ICD.

The Author, upon specific mandate from WHO, compiled the list of issues to be addressed with the 11th revision in order to inform and monitor the review work carried out by the Topic Advisory Groups, advisory bodies of world experts helping WHO in all steps leading to the revision of topic sections of ICD (Oncology, Mental Health, External Causes of Injury, Communicable Diseases, Malignancies, Rare Diseases...). Specifically the work line consisted in evaluating the current ICD-11 morbidity linearization from a clinical, research, and statistical perspective to identify issues which may produce data collection errors, Including evaluation of the resolution of issues identified by the URC, Morbidity Topic Advisory Group (Mb-TAG) and suggest a solution for identified issues that will support feasible implementation of the classification in various settings, such as in-patient, research settings, and primary care. The most updated version of the document is attached as annex¹⁶.

The revision of ICD – the ICD-11 revision process

The ICD-11 revision aims to build a classification tool to better reflect progress in health sciences and medical practice. In line with advances in information technology, ICD-11 will be used with electronic health applications and information systems.

The main features of the ICD-11 revision process are:

- Collaborative web-based editing, open to all interested parties, peer reviewed for accuracy and relevance.
- Availability in multiple languages.

¹⁵ Chalmers RJ., Health care terminology for the electronic era. Mayo Clin Proc. 2006 Jun;81(6):729-31.

¹⁶ Gongolo F. URC and MbRG Revision Issue, v. 2014 annex 4

- Definitions, signs and symptoms, and other content related to diseases will be defined in a structured way to be recorded more accurately.
- Compatibility with electronic health applications and information systems¹⁷.

The electronic health record compatibility is the crucial feature of ICD-11 and is based on the fact that each ICD entity can be seen from different dimensions or “parameters” structured in a content model. A parameter is expressed using “value sets” based on standard reference terminologies. A reference terminology for clinical data is a set of concepts and relationships that provides a common reference point for comparison and aggregation of data about the entire health care process, recorded by multiple different individuals, systems, or institutions (K.A. Spackman et al. 1997)¹⁸.

SNOMED Clinical Terms (SNOMED CT) is a comprehensive health care terminology, that contains concepts with unique meanings and formal logic based definitions, organized into hierarchies and covering a wide range of clinical domains¹⁹. It is a reference terminology for clinical data, meaning that is a set of concepts and relationships that provides a common reference point for comparison and aggregation of data about the entire health care process, recorded by multiple different individuals, systems, or institutions²⁰. SNOMED CT is based on three components: clinical concepts organized into hierarchies, human readable descriptions and relationships linking each concept to other related concepts. Every concept is associated with a unique identifier thus allowing detailed clinical data to be recorded and later retrieved or aggregated

¹⁷ WHO, International Classification of Diseases (ICD) Revision

<http://www.who.int/classifications/icd/revision/icd11faq/en/>

¹⁸ Spackman KA, Campbell KE, Côté RA. SNOMED RT: a reference terminology for health care; Proc AMIA Annu Fall Symp. 1997:640-4.

¹⁹ International Health Standards Development Organisation (IHTSDO), SNOMED CT Starter Guide, July 2014 version www.snomed.org/doc

²⁰ Spackman KA, Campbell KE, Côté RA, *SNOMED RT: a reference terminology for health care*; Proc AMIA Annu Fall Symp. 1997:640-4

at a more general level. The SNOMED CT underpinning logic allows semantic interoperability of health records²¹.

It is important to understand the difference between a classification and a terminology. A classification groups similar concepts together under one code or category. This results in a limited number of categories and less specificity. A terminology provides a separate unique identifier for each item and results in very extensive and detailed information.

ICD-10 is a statistical classification used as international standard for diagnostic coding: it is used for general epidemiological purposes, health management and clinical use. ICD is widely used in many types of health records including death certificates. SNOMED-CT as a reference terminology can be used as key to link different classifications: it functions as common reference point for comparison and aggregation of data about the entire health care process²². SNOMED-CT is nonrestrictive in the range of terms and language required by the numerous individuals, groups, and organizations who are expected to use it²³.

The use of standardized terminologies in classifications, for the definition of the descriptive characteristics of the disease, is a necessary step to allow full integration between different information systems, making available information about the diagnosed diseases, the performed health procedures and the level of functioning of the person, for very different uses such as, for example, public health, safety of care and quality control.

The ICD is at the moment undergoing its 11th revision process. The goal of the revision is to ensure that the International Classification of diseases will function in an electronic health record

²¹ Wang A.Y., Sable J.H., Spackman K.A. The SNOMED Clinical Terms Development Process: Refinement and Analysis of Content Proc AMIA Symp. 2002 : 845–849).

²² (Spackman KA, Campbell KE, Côté RA, *SNOMED RT: a reference terminology for health care*; Proc AMIA Annu Fall Symp. 1997:640-4).

²³ Chalmers R.J., Health care terminology for the electronic era. Mayo Clin Proc. 2006 Jun;81(6):729-31.

environment logically linking ICD categories, defined by "logical operational rules", to logical underpinning terminologies and ontologies (SNOMED-CT) thus evolving a multi-purpose and coherent classification to be used across different domains such as mortality, morbidity, primary care, clinical care, research, public health... The ICD 11 transition is made to move away from a list of codes into a formalized knowledge representation, capturing key parameters and related properties in a standardized and systematic way. On the other hand the full representation by SNOMED-CT of stored clinical information, requires the use of a record structure (information or content model) that stores similar information consistently and in ways that can be easily retrieved. Thus the ICD-11 content model has, as well as the name and definition of the disease(like in the previous versions of the classification), a list of thirteen 'descriptive characteristics' including signs, symptoms, etiology, treatment and functional properties to enable full and interoperable representation of any health condition. This full representation is obtained building the maps and linkages between ICD and SNOMED-CT in order to improve coding and information exchange with the automated processing of health data. The practical applications of this process are further detailed in the Business case chapter of the present work.

The relevance of standard reference terminologies, the structure of the content model and the applications in translational medicine are highlighted in the preliminary work *Linked data and translational medicine: the role of ICD11* (Gongolo F., et al 2012), annexed to the present document²⁴.

The standardized terminology chosen to build ICD-11 is SNOMED CT, a multilingual clinical healthcare terminology, maintained and distributed by the International Health Terminology Standards Development Organisation (IHTSDO). SNOMED-CT is used to populate the content model of ICD-11, providing, for each ICD entity, textual definition, synonyms, inclusion,

²⁴ Gongolo F., Frattura L., Della Mea V., Brusaferrò S. *Linked data and translational medicine: the role of ICD11*, annex 2

exclusion, index terms, Body system(s)/parts, Temporal properties, Severity properties, Causal properties, Functioning properties, Treatment properties and Diagnostic criteria. In 2010 a collaboration agreement was signed by WHO and IHTSDO to build maps and linkages between ICD and SNOMED-CT for automated processing of data to improve coding and information exchange in order to enhance the work on the revision of the ICD for its 11th revision (WHO, 2010).

A core characteristic of ICD-11 is the ability to describe the functional impact of a disease. This feature was conceptually present also in ICD-10 where some issues related to disability were coded using chapter XXI, *Factors influencing health status and contact with health services*. The most comprehensive WHO classification for Disability is though the ICF, the WHO framework for measuring health and disability at both individual and population levels, whose update is also governed by the URC, the Committee chaired by the Author.

The International Classification of Functioning, Disability and Health, known as ICF is the WHO classification used to provide a unified and standard language to describe the impact of health conditions in terms of functioning and disability. This impact is subcategorized into domains, namely Body Functions and Structures, Activities and Participation and Environmental factors interacting with these constructs. ICF systematically groups information on a person's health condition using these domains and describes what a person with a disease or a disorder does, do or can do. ICF, differently and complementarily with ICD, is etiologically neutral. A core domain of ICF is the Activity and Participation chapter: Activity is the execution of a task or action by an individual while Participation is involvement in a life situation. The domains for the Activities and Participation component are presented in a list covering a complete range of life areas (from basic learning or watching to composite areas such as interpersonal interactions or employment)²⁵. The relation between ICD-10 and ICF and their integration within the realm of WHO classification were studied in the work ICD-11 and the "*Factors influencing health status and contact with health*

²⁵ WHO, International Classification of Functioning, Disability and Health (ICF), WHO Geneva 2001

services”: a test of integration for the Family of International Classifications (Gongolo et al, 2013)²⁶.

Study objectives

WHO and IHTSDO through their Joint Advisory Group (JAG), agreed on a proposal to start harmonisation work between SNOMED CT and ICF. This work was to be carried out by 4 experts, 2 nominated by WHO and 2 by IHTSDO, that in a Joint Working Group (JWG) with relevant organization representatives, had to perform the following activities:

- Phase 1 - Gap analysis: identify all existing SNOMED CT and ICF terms related to functioning and disability as well as if and how they align with each other
- Phase 2 - New terminology: develop terminology around missing concepts in ICF and SNOMED CT – and build them into the corpus via revision cycles of SNOMED CT and ICF
- Phase 3 - Aggregation logic: develop and implement a model for aggregating SNOMED CT terms to higher level ICF concepts

The Author was nominated by the WHO as one of the four expert of the working group in charge of carrying out the Phase 1, which was taken as objective of this work and was aimed to produce joint recommendations to WHO and IHTSDO.

²⁶ Gongolo F., Bang S., Sykes C., *ICD-11 and the “Factors influencing health status and contact with health services”*: a test of integration for the Family of International Classifications, annex 3

Materials and methods

Subsequent to the WHO-IHTSDO agreement, in June 2012, to set up the JWG and scope of initial work, membership of the JWG was agreed by each organization, Author Francesco Gongolo was appointed by WHO (Fig. 1).

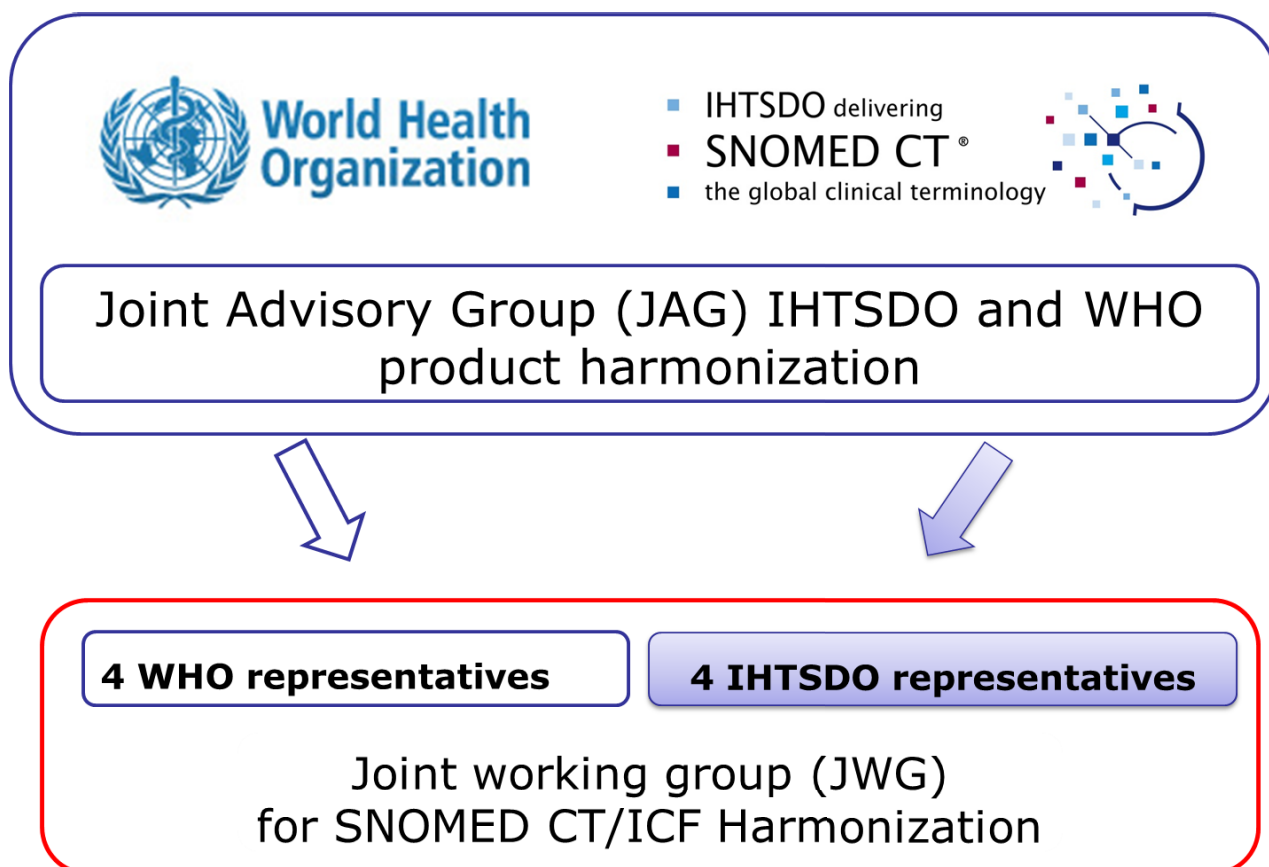


Fig. 1 – WHO, IHTSDO, JAG and JWG

A first teleconference took place on 25th July 2012 with subsequent regular teleconferences with the focus to collect and discuss relevant information on the topic of gap analysis and also ensure that all members of the group had base line understanding of both SNOMED CT and ICF.

In October 2012, a 2 day face to face meeting was held at the National Library of Medicine in Washington DC. The focus of the meeting was the following:

1. Develop the methodology for the gap analysis of ICF concepts to SNOMED CT terminologies;

2. Consider who should complete the methodology, and in what context and on what timeline.

The Activities and participation (AP) component from ICF was used for the gap analysis.

The logic of the thesis work is to observe how additional information can be added to disease concepts listed in a classification, in order to be used in an electronic health records environment. This additional information is added using a formal structure, called information model or content model, which is composed of different characteristics of the disease. As explained in the introduction the characteristics of the disease, called parameters, are compiled in ICD-11, using a reference terminology (SNOMED-CT). One of these parameters is “functioning properties”, the impact of a disease on the functioning of a person. This impact is traditionally classified using the ICF and particularly its Activity and Participation component. As described in the introduction, while terminologies are very extensive and can be enriched to respond to the need of granularity, classifications have a limited, defined number of categories. Therefore SNOMED-CT has been tested with all the Activity and Participation categories of ICF to see if the reference terminology is fit for the purpose of compiling the functioning properties of the diseases listed in ICD-11 with a degree of completeness comparable with the ICF, the WHO classification that at the moment is used to classify functioning.

The material consisted of the 283 non-residual categories (and sub-categories) from the nine chapters of the AP component, i.e. all categories but the “unspecified” and “other specified” ones. The online ICF Browser²⁷ was used as the reference source for ICF and for SNOMED CT the January 2013 release was used.

Methodology

The following key ‘rules’ have been developed by the Author, together with the other three members of the JWG, to aid consistent application by sets of users.

27 WHO, ICF Browser, <http://apps.who.int/classifications/icfbrowser/>

1. Define the set of concepts that will be examined for gaps based on the scope of the project:
 - a. All ICF concepts, excluding residuals (i.e. the so-called .8s and .9s)
 - b. This includes a subset of approximately 1496 terms (*categories and subcategories*)
2. Choose the SNOMED CT hierarchies that will be examined for concepts to be aligned:
 - a. All SNOMED CT hierarchies will be included in the consideration, as to exclude any hierarchy may result in a false negative
3. Normalize the terms, including:
 - a. Removal of genitives (i.e. -'s)
 - b. Removal of stop words (i.e. NOS)
 - c. Removal of capital letters
 - d. Removal of all punctuation
 - e. Removal of inflection (i.e. plurality)
 - f. Discontinue consideration of word order, while maintaining awareness that in some situations word order may be important.
4. Examine each ICF concept, its definition, and its relationships to other concepts, and search for equivalence within SNOMED CT. Specifically looking for:
 - a. Lexical Matching
 - b. Semantic (content) Matching; *particularly where lexical matching fails*
 - i. Matching from Synonyms
 1. A type of semantic match which is done based on already existing and documented synonyms included in either ICF or SNOMED CT
 - ii. Observables versus Findings
 1. When SNOMED CT includes both an “observable” and a “finding” option, the link will preferentially match to the observable entity in the initial stage, with further consideration of the finding entity at a later stage

c. Hierarchical Matching

- i. Examine where each item exists in the hierarchy, including the parents, siblings, and children, as well as ancestors and descendants
- ii. Look for similarities in the hierarchy in which each term occurs, looking for the event in which the hierarchy in which an item appears changes the meaning such that the two terms don't match even though they might otherwise appear to, either lexically or semantically.

5. In the absence of a clear match at fully specified name, inclusions and synonyms will be used

6. Look at coding advice for ICF to refine the concept matching

7. Determine the type of alignment between ICF and SNOMED CT, and whether or not a GAP exists. Types may include:

- a. No alignment
- b. One-to-one alignment
- c. One-to-multiple alignment
- d. Multiple-to-one alignment
- e. Multiple-to-multiple alignment

8. Concepts which include greater than 10 descendants will not be aligned to the level of all of the descendants

9. In the event that concepts from ICF or SNOMED CT are ambiguous, or otherwise require consideration or clarification, they will be flagged for further discussion with the source. Items may be flagged for:

- a. WHO consideration
- b. IHTSDO consideration
- c. Mutual consideration

Four members of the JWG, working in pairs (one in representative of IHTSDO and one in representative of WHO, see Fig. 2), independently reviewed all the ICF categories of *Activities and*

Participation (A&P), excluding residuals: concept, definition and relationship to other categories were considered. Author Francesco Gongolo acted as WHO representative in the European pair. Equivalence to SNOMED CT concepts was searched in terms of lexical, semantic (content) and hierarchical matching. For every ICF *A&P* category it was defined whether or not a gap existed with SNOMED CT. In the event of concept ambiguity, items were flagged either to WHO or IHTSDO for consideration. The pairs documented their independent reviews and then came together to discuss their findings. Weekly teleconferences were used to seek additional feedback and to review the methodology.

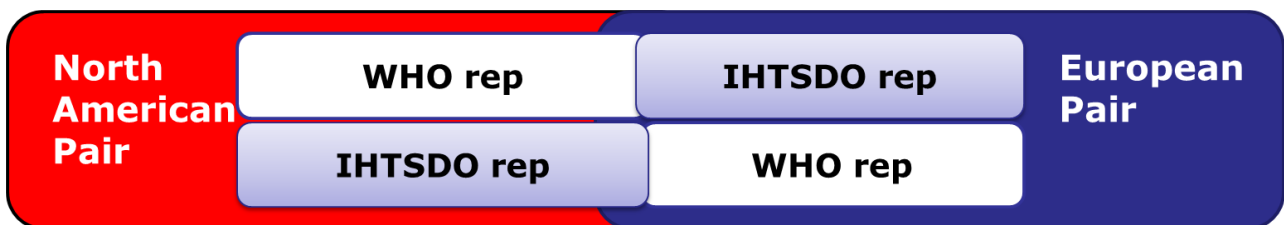


Fig. 2 – Gap analysis working methodology

Results and conclusions

Although in other components of ICF, such as Body Structures, preliminary work has shown good mapping possibilities^{28, 29}, the present gap analysis suggests that the categories of *A&P* in ICF are semantically and hierarchically, and often lexically, different from the concepts in SNOMED CT. Although there were non-exact matches of various kinds, for about 40 % of the ICF AP categories there was no match of any kind. For individual chapters the ratio of no-match categories ranged from 20 % to almost 90 %. The results of the gap analysis are fully reported the MS Excel tables in annex 5.

These findings indicate the need to develop new SNOMED CT content to support mapping to such ICF categories.

Missing SNOMED CT content

Generally, and to a degree depending on strictness of interpretation, the coverage in current SNOMED CT of ICF AP categories is very small, close to zero. Existing SNOMED CT concepts mainly map to ICF AP qualifiers or to ICF AP scale values. SNOMED CT ability observables correspond to the ICF AP capacity qualifier, e.g. *282097004|Ability to walk (observable entity)|* corresponds to the capacity qualifier of *d450 Walking*. SNOMED CT ability and performance clinical findings correspond to qualified ICF categories, i.e. ICF categories with values assigned, e.g. *282144007|Able to walk (finding)|* corresponds to *d450._0* (without assistance) or *d450.___0* (with assistance). However, the scales do not match completely as ICF uses a five level 0-4 scale and SNOMED CT uses a pattern of “Able to”, “Difficulty”, and “Unable” in ability/capacity findings and a pattern of “Does” and “Does not” in performance findings.

²⁸ Simoncello A., Della Mea V. Preliminary Mapping of ICF-CY Body Structures to SNOMED-CT, WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK MEETING 2011, Cape Town, South Africa, 2011

²⁹ Della Mea V., Simoncello A. An ontology-based exploration of the concepts and relationships in the activities and participation component of the international classification of functioning, disability and health, *Journal of Biomedical Semantics* 2012, 3:1

ICF and SNOMED CT mapping targets and sources

There are several potential targets and/or sources in ICF for SNOMED CT mapping. Categories (and subcategories) correspond to the ICF terms and codes as presented in the ICF Detailed classification with definitions. When coding with ICF, for each category a number of qualifiers can be specified. Different qualifiers are used for different ICF components. For the AP component four different qualifiers apply. Depending on which option is used, AP can be seen as two distinct set of categories or a single combined category, see ICF Annex 3. Thus, for each ICF term in the AP component, there may be up to eight different qualifiers. Examples of qualifiers are Extent of impairment for Body function and Body structure, Capacity and Performance for Activity and participation, and Barrier and Facilitator for Environmental factors.

When multiple qualifiers are used for the same category it is understood that the qualifiers apply to the same entity. E.g. in the case of a body structure code, the first qualifier, extent of impairment, and the second qualifier, nature of impairment, are qualifiers of the same body structure instance.

For each component and qualifier there are different scales for assigning values to the qualifiers. Different kinds of scale are used. Most qualifiers use the same five-level ordinal assessment scale of 0-4 corresponding to a range from NO problem (0), through MILD (1), MODERATE (2), and SEVERE (3) to COMPLETE (4) problem. Additionally, the values 8 and 9 may be used for “not specified” and “not applicable” respectively. In addition to the ordinal scales, for the Body structure component there are two nominal scales for coding nature and location of impairment.

When coding, qualifiers are denoted by a full stop '.' between the category and the qualifier values.

ICF codes are required to include at least one qualifier.

Correspondingly there are options to map ICF qualifiers, codes or categories to SNOMED CT Observable entities, Evaluation procedures, Clinical Findings, Body structure etc. or even to new hierarchies depending on what ICF entity to map to or from.

In the gap analysis performed on the AP component, the analysis was on the level of categories and no specific qualifiers were explicitly targeted for analysis.

Different hierarchies

The hierarchies in ICF and SNOMED CT are very different. While currently the SNOMED CT Observable entities are only primitively defined concepts in a manually maintained hierarchy with some issues, the intent is that the SNOMED CT hierarchies should be pure IsA hierarchies. The SNOMED CT hierarchy is semi-automatically created and maintained. As a contrast, the ICF hierarchy is intended to group categories for classification purposes. Due to the different purposes of the two products, the hierarchies should not be expected to converge. Any approach to mapping between SNOMED CT and ICF should support the division of management of the meaning of concepts from the management of any classification aspects.

Activities and abilities in SNOMED CT

There are many arbitrary differences between ICF and SNOMED CT. As an example, fig. 3 and 4 below, represent the 2 possible match for the ICF A&P category d330 Speaking. At least two SNOMED CT alternatives exist: 87335007|Ability to speak (observable entity)| and 87335007|Speaking (observable entity)|.

The diagrams of SNOMED CT IsA hierarchies shown here display all IsA relations existing in the January 2013 release of SNOMED CT. As concepts in the Observable entities hierarchy are not defined in terms of relations except the IsA relation, the hierarchy and the fully specified name is what we have to understand the concept.

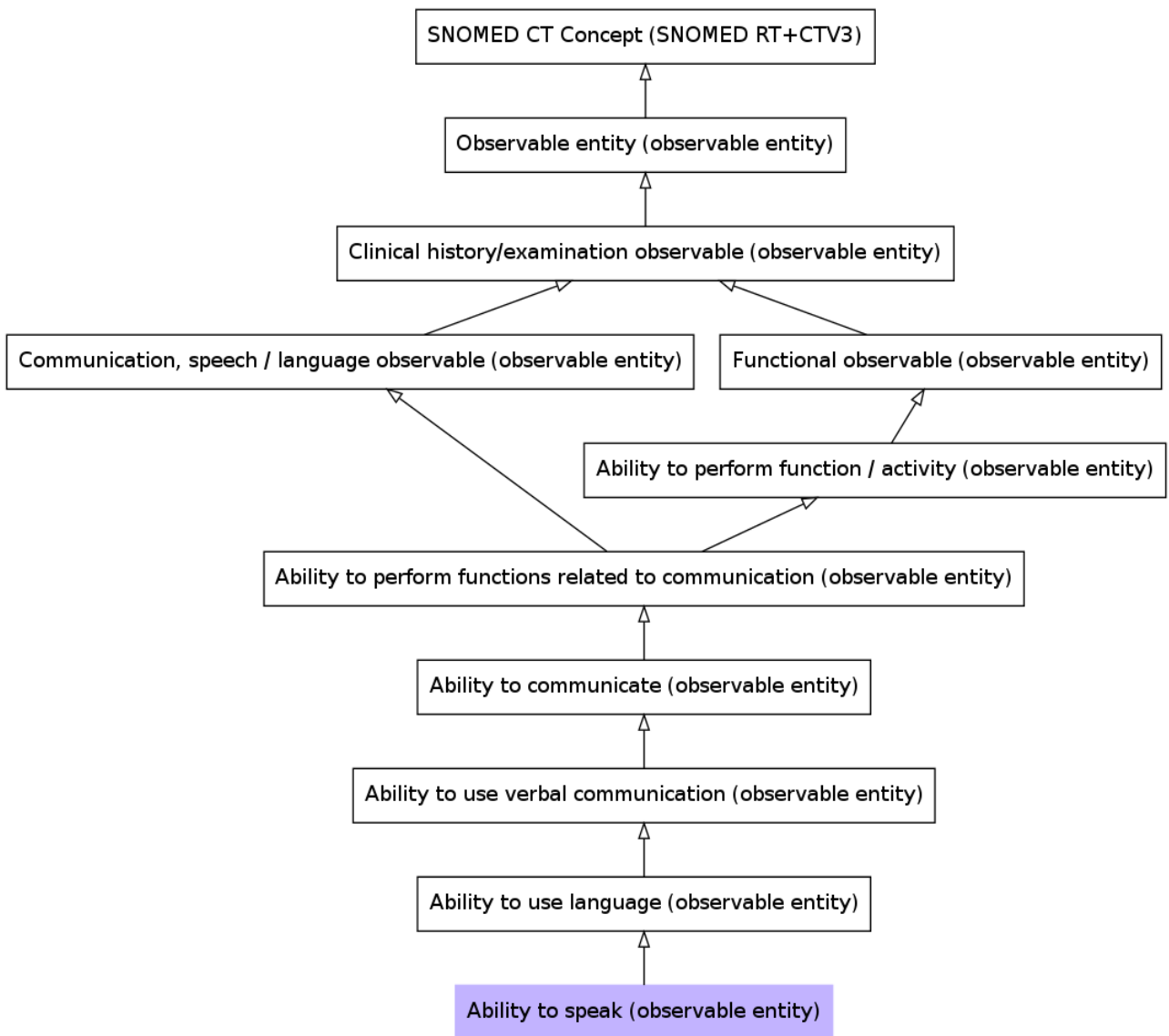


Figure 3: Ability to speak (observable entity)

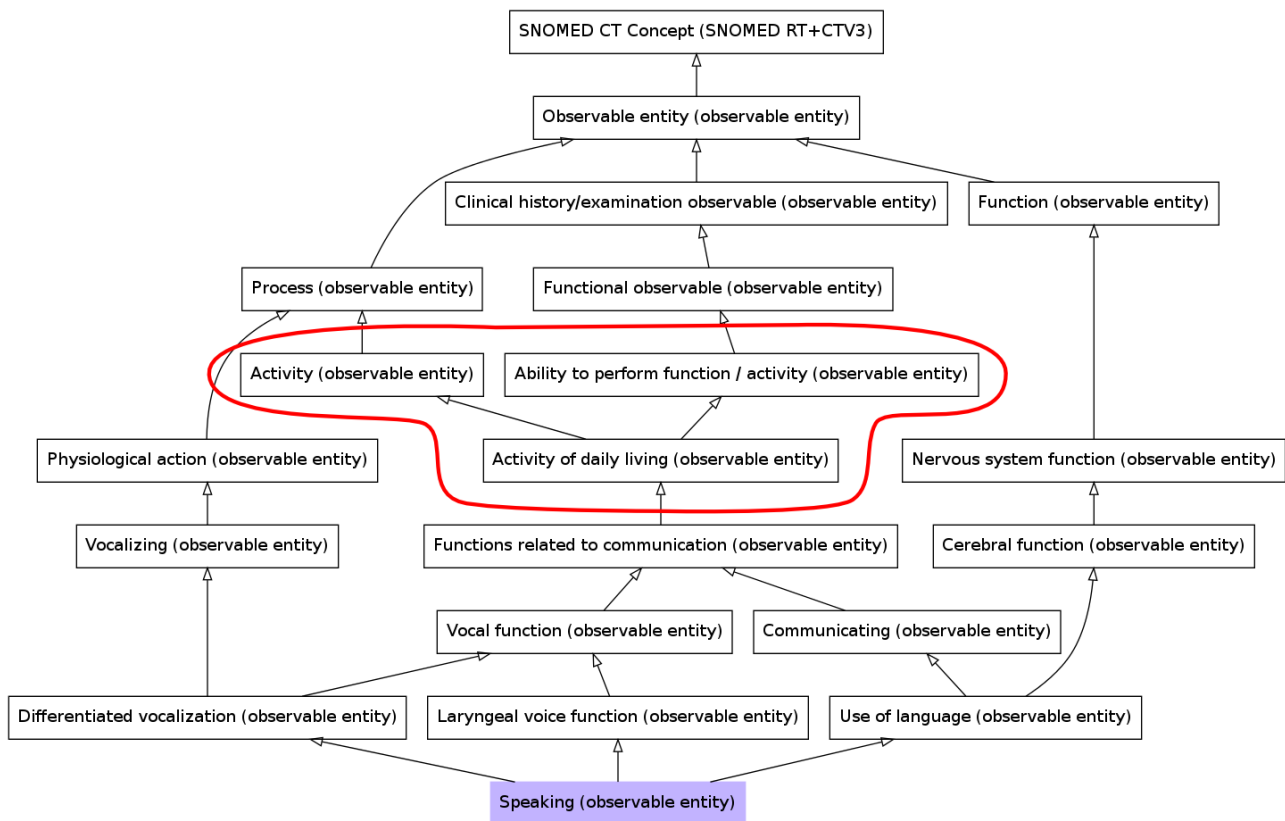


Figure 4: Speaking (observable entity)

Lexically the choice may seem easy with a perfect lexical match between the ICF category and the latter SNOMED CT concept. However, when examining the ancestors of the *Speaking (observable entity)* concept, there are a few issues. There are two concepts *Function* and *Functional observable* where the difference in meaning is unclear.

Also the concept *Activity of daily living (observable entity)* has two parents: *Activity (observable entity)* and *Ability to perform function / activity (observable entity)* (red marking in Fig. 4). Thus, the concept *Activity of daily living*, and thereby all its descendants, including *Speaking (observable entity)*, are to be interpreted as both activities and the ability to perform those activities. A second example is the ICF category *d550 Eating*. According to the ICF note, the category includes several eating related activities, e.g. bringing food to the mouth and opening cans and bottles. There is no single SNOMED CT concept corresponding to this ICF category, but instead a number of distinct candidate SNOMED CT concepts e.g. *289005001 |Ability to take food to mouth (observable entity)|* and *288399004 |Ability to open and close containers (observable entity)|*.

In order to map terms from the ICF Activities and participation component to SNOMED CT, the distinction between performance and capacity would have to be made. At least two mutually exclusive alternatives exist:

1. Extracting the (cleaned up) Activity hierarchy as separate nonobservable hierarchy and constructing new observables for capacity (ability, function) and performance referencing the activity concepts according to a yet to be determined concept model, or
2. Removing all activity content from SNOMED CT, replacing those concepts with ability (capacity, function) concepts, and constructing new observables referencing the ability concepts according to a yet to be determined concept model.

Additional considerations have to be made to determine the consequences of the two alternatives, such as understandability, usability, construction effort, maintainability etc.

As a disclaimer, we would hopefully not need both activity and ability concepts, but future use of SNOMED CT may give other requirements.

Activities and Participation in ICF

The categories in the AP component of ICF are defined in multiple ways:

1. The category's title;
2. The note (or definition) with its examples;
3. The Inclusions/Exclusions;
4. The hierarchy which:
 - a. Tells which is the parent concept of a category,
 - b. Tells what are the sibling categories (that are excluded from the category we are considering);
 - c. Tells the subcategories break down of the concept;

While between ICF AP concepts and SNOMED-CT terms a certain number of lexical similarities have been found, the actual matches between the classification and the reference terminology are closed to zero. This is probably mainly due to the variety of nuances that all the above mentioned features contribute to give to the definition of the same ICF category.

The nature of a classification imposes the existence of broad categories to which users can classify the aspects of reality they are interested to record. The bio-psycho-social model underpinning ICF, impose these categories to a broader nature compared to categories mainly used in clinical setting.

Conclusions

Categories of *A&P* in ICF are semantically and hierarchically, and often lexically, different from the concepts in SNOMED CT. There were non-exact matches of various kinds, usually forms of overlap, but for about 40 % of the ICF *A&P* categories there were no matches of any kind. For individual chapters the ratio of non-matching categories ranged from 20 % to almost 90 %. Thus, there is a need to develop new SNOMED CT content to support mapping to such ICF categories.

- As an example, ICF *A&P* category *d330 Speaking* is represented at least twice in SNOMED CT:
 - 87335007|*Ability to speak (observable entity)*|
 - 87335007|*Speaking (observable entity)*|.
- The ICF category includes several eating related activities:

Carrying out the coordinated tasks and actions of eating food that has been served, bringing it to the mouth and consuming it in culturally acceptable ways, cutting or breaking food into pieces, opening bottles and cans, using eating implements, having meals, feasting or dining.

Exclusion: drinking (d560)

- There is no single SNOMED CT concept corresponding to this ICF category, but instead a number of distinct candidate SNOMED CT concepts, e.g.

- 289005001 |*Ability to take food to mouth (observable entity)*|

288399004|*Ability to open and close containers (observable entity)*|.

Recommendations to WHO and IHTSDO

The results of the work allowed to present the following recommendations to the World Health Organization and to the International Health Terminology Standards Development Organisation, namely at the IHTSDO Business Meeting held in Washington D.C. USA, October 6-11, 2013 and at the International meeting *Universal Coverage: information and innovation* of the WHO Collaborating Centres for the Family of International Classifications, organized by World Health Organization, Beijing (People's Republic of China) October 12-18, 2013.

Recommendation 1 - There needs to be agreement between IHTSDO and WHO on a common model for representing the capacity and performance aspects.

Recommendation 2 - In doing this, there will need to be consideration of what SNOMED CT needs to support in the electronic care records.

Recommendation 3 - What is also clear from this work that mapping will be impossible between SNOMED CT and ICF unless the two organisations take forward the recommendations and they should be done in a coordinated way to enable all planned phases, i.e. to reach harmonization of SNOMED CT and ICF.

Business cases

Identifying and tracking care needs

A wide range of health and social care settings (i.e. post-acute care, rehabilitation, long-term care) the need for care is determined by the type and extent of functioning rather than the disease labels alone. Existing data sources containing functioning information, some derived from clinical and social care case records, others from population surveys and a third group from institutional populations, are fragmented – not congruent and therefore not comparable. The functioning information is not expressed in a comparable language or measurement approach, and so does not provide the basis for a methodology for tracking the care trajectory. ICF as the internationally recognised common framework and taxonomy for disability and functional status information with SNOMED CT as a granular clinical terminology will provide the needed unifying and standardized reference framework.

Support development of structured digital documentation models and information retrieval

The information generated and used in health care and social care should support both the care process and provide data for different secondary purposes. Linking professional health terminologies to classifications supports the further development of structured digital documentation models which allows for information retrieval and use according to need, e.g. information exchange between professionals and organisations, follow-up of care on different level and research. The current strategic approach to e-health in Sweden is an example where this development is in progress. A generic national information structure for health care and social care has been developed, based on generic descriptions of care processes, work flows and information models as well as the associated concepts, terms and classifications used and needed in both health care and the social sector. The documentation of all processes is facilitated by using the same

comprehensive terminology that contains all concepts and terms needed in both health care and social care process. By linking the ICF and SNOMED CT each could be enhanced and developed to become more useful separately and especially used together:

- SNOMED CT could be used to describe the individual's health and health-related status according to the bio-psychosocial model. Research shows that using the biopsychosocial model approach to interventions increases the individual's well-being.
- SNOMED CT includes concepts with more detail which could contribute to the further development of the levels in the ICF structure.

Functional status information for Casemix & reimbursement.

The added value of functional status information for casemix application and prospective payment systems is increasingly recognized. For example, studies in Singapore showed that for elderly inpatients, the incorporation of patients' functional status significantly improves the DRG model's ability to predict the patients' actual Length of Stay (LOS) as well as to explain inter-departmental Length of Stay differences between Geriatric Medicine and General Medicine. Similar results have been reported in studies from Germany and Australia. However, apart from a few sub-national initiatives, so far no systematic national or international projects have been undertaken to incorporate functional status in casemix applications.

Disability certification

Due to resource constraints, higher Non Communicable Disease (NCD) prevalence, population growth and aging, various countries have or are in the process reforming their disability certification system. In the context of these reforms assessment instruments and procedure are aligned with ICF concept of disability and move beyond using only one-dimensional, deficit-oriented diagnostic or body impairment labels.

References

Sources indexed as footnotes in the text of the present work are here listed for convenience in alphabetical order:

- Chalmers RJ., Health care terminology for the electronic era. *Mayo Clin Proc.* 2006 Jun;81(6):729-31.
- Ewald F., *L'Etat Providence*, B. Grasset, Paris, 1986
- Della Mea V., Simoncello A. An ontology-based exploration of the concepts and relationships in the activities and participation component of the international classification of functioning, disability and health, *Journal of Biomedical Semantics* 2012, 3:1
- Gongolo F., Vogel U., Moskal L. *URC 2014 Annual Report*, annex 1
- Gongolo F., Frattura L., Della Mea V., Brusaferrero S. Linked data and translational medicine: the role of ICD11, annex 2
- Gongolo F., Bang S., Sykes C., *ICD-11 and the "Factors influencing health status and contact with health services": a test of integration for the Family of International Classifications*, annex 3
- International Health Standards Development Organisation (IHTSDO), *SNOMED CT Starter Guide*, July 2014 version www.snomed.org/doc
- Gongolo F. *URC and MBRG Revision Issue*, v. 2014 annex 4
- Pang T, Garrett L., The WHO must reform for its own health; *Nat Med.* 2012 May 4;18(5):646. doi: 10.1038/nm0512-646.
- Simoncello A., Della Mea V. Preliminary Mapping of ICF-CY Body Structures to SNOMED-CT, WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK MEETING 2011, Cape Town, South Africa, 2011
- Spackman KA, Campbell KE, Côté RA. SNOMED RT: a reference terminology for health care; *Proc AMIA Annu Fall Symp.* 1997:640-4.
- UN Glossary of Classification Terms (<http://unstats.un.org>)

- Wang A.Y., Sable J.H., Spackman K.A. The SNOMED Clinical Terms Development Process: Refinement and Analysis of Content Proc AMIA Symp. 2002 : 845–849)
- WHO, Classifications <http://www.who.int/classifications/icd/en/>
- WHO, Classifications of disease <http://www.who.int/topics/classification/en/>
- WHO, ICF Browser, <http://apps.who.int/classifications/icfbrowser/>
- WHO, International Classification of Diseases (ICD) Information Sheet
<http://www.who.int/classifications/icd/factsheet/en/>
- WHO, International Classification of Diseases (ICD) Revision
<http://www.who.int/classifications/icd/revision/icd11faq/en/>
- WHO, International Classification of Functioning, Disability and Health (ICF), WHO Geneva 2001
- WHO, International Statistical Classification of Diseases and Related Health Problems, WHO Geneva 2010 edition (4th edition)
- WHO, WHO-FIC Network Meetings
<http://www.who.int/classifications/network/meetings/en/>
- WHO, The WHO-FIC Update and Revision Committee
<http://www.who.int/classifications/committees/updating/en/>

Annexes

Annex 1 - Gongolo F. ⁽¹⁾, Vogel U. ⁽²⁾, Moskal L ⁽³⁾ URC 2014 Annual Report

¹ Central Health Directorate of Friuli Venezia Giulia Region – Italian WHO-FIC Collaborating Centre URC Co-chair; ²German Institute of Medical Documentation and Information (DIMDI) German WHO-FIC Collaborating Centre – URC Co-chair; ³Canadian Institute for Health Information (CIHI) – North American WHO-FIC Collaborating Centre, URC Secretariat.

Introduction

Purpose of the Update and Revision Committee (URC) is to support WHO and WHO-FIC Network in keeping the WHO Family of International Classifications “Reference Classifications” up to date in line with current knowledge. The functions of the URC are the development of Update policies, Update coordination & decision making and the participation in the revision work in order to ensure synchronization from one revision to the other and consistency within the members of Family of International Classifications.

Methods & Materials

The URC work currently focuses on the 10 Revision of the International Classification of Diseases (ICD-10) and the International Classification of Functioning Disability and Health (ICF) and is mainly conducted through the update and revision platforms. These platforms are workflow engines designed to facilitate communication within expert workgroups and ensure transparency of the processes. Work and communication is also carried out via e-mail, conference calls and meetings, including an annual meeting during the WHO-FIC Annual Meeting. The key deliverables of the URC work are the lists of annual updates for WHO-FIC member classifications.

Results

Annual updates: the URC ratified 121 recommendations at the WHO-FIC Network 2013 Annual Meeting held in Beijing, China for updating the ICD-10 and 40 recommendations for updating the ICF (Fig. 1 and 2). At the moment, in 2014, 77 proposals have been moderated for ICD and 48

proposals have been reviewed and put to vote for ICF. Functions, activities and completeness of deliverables are represented in the latest version of the Strategic Work Plan submitted to the WHO-FIC Council (Tab 1).

Deliverable	Activities	Start Date	End Date (plan)	%
Annual updates to ICD-10	Submission, review, decision and implementation of update proposals for ICD-10.	nov-13	oct-14	0,8
Realize a Foundation ICF implementation of ICF proposals	Submission, review, decision and implementation of ICF-CY related update proposals for ICF. Due to the difference in submission process and lack of supporting rationale additional work is required.	nov-10	oct-12	0,8
Provide annual updates to ICF	Submission, review, decision and implementation of update proposals for ICF.	nov-12	oct-13	0,8
Overall coordination of the update process	Secretariat. Participation in the works, meetings and teleconferences of Initial Review Group and FDRG.	nov-12	oct-13	0,8

Tab. 1 – The URC relevant part of the WHO-FIC SWP (August 2014 v, simplified):

An intensive restructuring of the content of the ICF update platform was carried out in coordination with FDRG. Using the features of the ICF update platform, all the proposals in the Open Discussion Layer were checked for consistency and then clustered together according to the relevant topic/block. Under every cluster, all the comments related to the different proposals were compiled and edited thus greatly simplifying the work of updating ICF carried out by the URC.

Instruction	Tabular list entries	Source URC #	Appr. Date	Major / Minor	Sugg. impl. Date
Revise list of three character categories	Arthropod-borne viral fevers and viral haemorrhagic fevers (A90A92-A99) A90 Dengue fever [classical dengue] A91 Dengue haemorrhagic fever <u>A97 Dengue</u>	1971 WHO	October 2013	Major	January 2016
Revise list of three	Exposure to inanimate mechanical forces (W20-W49)	2001 Australia	October 2013	Major	January 2016

character categories	... W26 Contact with knife, sword or dagger <u>other sharp objects</u>				
Delete categories at chapter level	Arthropod-borne viral fevers and viral haemorrhagic fevers (A90A92-A99) A90 Dengue fever [classical dengue] <i>Excl.:</i> dengue haemorrhagic fever (A91) A91 Dengue haemorrhagic fever	1971 WHO	October 2013	Major	January 2016
Add categories, codes and text	<u>A97 Dengue</u> <u>Dengue is a viral disease transmitted by bite of mosquito infected by dengue viruses. It is one disease entity with different clinical presentations and often with unpredictable clinical evolution and outcome. Most patients recover following a self-limiting non severe clinical course like nausea, vomiting, rash, aches and pains, but a small proportion progress to severe disease, mostly characterized by plasma leakage with or without haemorrhage, although severe haemorrhages or severe organ impairment can occur, with or without dengue shock.</u>	1971 WHO	October 2013	Major	January 2016
	<u>A97.0 Dengue without warning signs</u> <u>Dengue fever (DF)Dengue haemorrhagic fever Grades 1 and 2</u> <u>Dengue haemorrhagic fever without warning signs</u>				
	<u>A97.1 Dengue with warning signs</u> <u>Clinical warning signs are: abdominal pain or tenderness, mucosal bleeding, lethargy and /or restlessness, rapid decrease in platelet count, increase in hematocrit. Other signs can include: persistent vomiting, visible fluid accumulation, liver enlargement more than 2 cm.</u>				
	<u>Dengue haemorrhagic fever with warning signs</u>				
	<u>A97.2 Severe Dengue</u>				

<p>Revise code in excludes note</p>	<p><u>Clinical signs include: 1. Severe plasma leakage leading to shock (Dengue shock syndrome - DSS) and/or fluid accumulation with respiratory distress; 2. Severe bleeding as evaluated by clinician; 3. Severe organ involvement: Liver AST or ALT \geq1000, CNS: impaired consciousness (encephalitis), involvement of other organs, as myocarditis or nephritis</u></p> <p><u>Severe Dengue fever</u> <u>Severe Dengue haemorrhagic fever</u></p> <p>A98 Other viral haemorrhagic fevers, not elsewhere classified <i>Excl.:</i> chikungunya haemorrhagic fever (A92.0) dengue haemorrhagic fever (A91A97.-)</p>				
-------------------------------------	--	--	--	--	--

Fig. 2 – Snap shot from the ICD annual updates document v. 2014

Proposal ID & update type	Affected Code	Original version	Update version
<p>ID # 55 Major: Addition of a new code and addition of exclusion</p>	<p>b114 Orientation functions</p>	<p>b1565 Visuospatial perception Mental function involved in distinguishing by sight the relative position of objects in the environment or in relation to oneself.</p>	<p><u>b1143 Orientation to objects</u> <u>Mental functions that produce awareness of objects or features of objects.</u> b1565 Visuospatial perception Mental function involved in distinguishing by sight the relative position of objects in the environment or in relation to oneself. <u>Exclusion: orientation to objects (b1143)</u></p>
<p>ID # 56 Major: Addition of a new code</p>	<p>b114 Orientation functions</p>		<p><u>b1144 Orientation to space</u> <u>Mental functions that produce awareness of one's body in relation to the immediate physical space.</u></p>

ID # 64 Major: Addition of a new code	b1670 Reception of language		<u>b16703 Reception of body language</u> <u>Mental functions of decoding messages in body gestures made by hands and other movements, in order to obtain their meaning.</u>
ID # 65 Major: Addition of a new code	b1671 Expression of language		<u>b16713 Expression of body language</u> <u>Mental functions necessary to produce messages using body gestures made by hands and other movements.</u>

Fig. 2 – Snap shot from the ICF annual updates document v. 2014

Conclusions

The achievements of the Committee, made possible by the generous efforts of members and relative institution, show an increasing engagement of the Collaborating Centres both in maintaining the ICD-10, particularly in view of the synchronization from one revision to the other, and in realizing a foundation ICF, with the implementation of the updates proposal coming from the ICF-CY.

Acknowledgements

Members of the Committee: R. Anderson, S. Bang, C. Barral, H. Brear, A. Brooke, D. Caulfeild, L. Clarke, T. Crawford, V. Dimitropoulos, C. Van Gool, H. Di Nubila, A. Elsworthy, L. Frattura, Olivier Guye, J. Hargreaves, D. Hoyert, R. Jakob, J. Jelsma, L.A. Johansson, J. Kasamatsu, N. Kostanjsek, R. Laurenti, R. Madden, D. Murphy, E. Oikawa, D. Pickett, M. Renahan, M. Robinson, H. Rocha, J. Rust, E. Sauls, P. Saxena, K. Seo, O. Steinum, H. Ten Napel, P. Tonel, U. Trinks, M. Virtanen, P. Wood, Y.

References

1. Terms of Reference for WHO FIC Update and Revision Committee (URC) version Dec 2012
2. URC SWP, March 4, 2013
3. The WHO Updating & Revision Committee

<http://www.who.int/classifications/committees/URC.pdf>

1. The ICD update platform

<https://extranet.who.int/icdrevision/nr/login.aspx?ReturnUrl=%2Ficdrevision%2FDefault.aspx>

5. The ICF update platform

<https://extranet.who.int/icfrevision/nr/loginICF.aspx>

Presentation and Publication

Poster communication presented at:

Driving improvement in healthcare: from data to eHealth tools

International meeting of the WHO Collaborating Centres for the Family of International

Classifications, organized by World Health Organization, Barcelona, Catalonia, Spain from 11-17

October 2014.

The poster is accessible on the World Health Organization website at the following link:

<http://www.who.int/classifications/network/meeting2014/en/>

To rapidly access a published digital version of the poster, you can also scan the following q.r code:



Annex 2- Gongolo F. ⁽¹⁾, Frattura L. ⁽¹⁾, Della Mea V. ⁽²⁾, Brusaferrero S. ^{(3),(4)} **Linked data and translational medicine: the role of ICD11**

(1) Friuli Venezia Giulia Region – Central Health Directorate WHO-FIC Collaborating Centre, (2) Dept. of Mathematics and Computer Science – University of Udine, (3) Department of Medical and Biological Sciences, (4) Accreditation, Clinical Risk Management and Performance Evaluation AOUD

Introduction

Internet and digital information enable strong interactions within an information ecosystem of researchers, clinical practitioners and other resources and users of biomedical data. Currently the lack of standards for data representation is an obstacle in translational research, making difficult to extract all potential knowledge from data acquired through experiments and data analysis. However, the concept of linked data has recently gained relevance, indicating the practice of publishing structured data that can be interlinked and become more useful. The WHO International Classification of Diseases (ICD) is the world’s standard tool to capture health information. The content model of ICD-11, described in the box below, is designed to enable a full exploitation of the ICD in information systems allowing the import of standardized terminologies such as SNOMED-CT for the description of the ICD categories.

The Content model of ICD-11
<ul style="list-style-type: none">• It is a standard way to represent ICD categories;• Each ICD category is described using 13 defined main parameters (sign, symptoms, investigation findings...);• A parameter is expressed using standard terminologies known as “value sets”;• Value sets are accessed through the Bioportal search engine directly from the ICD-11 collaborative authoring platform

The present work moves from the direct experience of authors in the ICD-11 revision process, to demonstrate how a classification's category (*B50 Plasmodium Falciparum Malaria*) can be defined using value sets taken from underpinning standardized terminologies.

Methods & Materials

Being Malaria one of the most important areas of engagement of the WHO, the former ICD-10 *B50 Plasmodium Falciparum Malaria* has been chosen for an exercise of completing the ICD-11 Content Model. The medical literature on malaria has been reviewed to identify the describing parameters of the disease in order to define the classification's category using descriptive characteristics taken from underpinning standardized terminologies. Information such as signs and symptoms, morphology, causal agents or treatment, body system(s), body parts, treatment and diagnostic criteria, has been described using standardized terminologies such as SNOMED-CT. The exercise has been done using the Collaborative Authoring Platform iCAT, which is used by registered and accredited classification experts to manage the revision process.

iCAT ICD Collaborative Authoring Tool Francesco Gongolo | [Sign Out](#) | [Options](#) | [Send feedback](#)

My ICD | **ICD Content** | Category Notes and Discussions | Reviews | Change History | Manage Hierarchy | Export and Import

ICD Categories

Create Watch Branch Search: B50 Plasmodium falciparum n

- Infections due to Balantidium 3 4
- Infections due to Blastocystis 1 4
- Infections due to Cryptosporidium 1 6
- Infections due to Cyclospora 1 7
- Infections due to Entamoeba 1 33
- Infections due to Giardia 2 7
- Infections due to Isospora 1 4
- Infections due to Leishmania 7 4
- Infections due to Naegleria 1 3
- Infections due to Plasmodium 1 31
- Malaria 1 30
 - B50 Plasmodium falciparum malaria 3 3
 - B50.0 Plasmodium falciparum malaria with cere...
 - B50.8 Other severe and complicated Plasmodi...
 - B50.9 Plasmodium falciparum malaria, unspeci...
 - P37.3 Congenital falciparum malaria 1
 - B51 Plasmodium vivax malaria 4 1
 - B52 Plasmodium malariae malaria 4 4
 - B53 Other parasitologically confirmed malaria 4
 - B54 Unspecified malaria 4 4

Details for B50 Plasmodium falciparum malaria

Title & Definition Classification Properties Terms Clinical Description **Manifestation Properties**

Causal Properties Temporal Properties Severity Properties Functioning Properties

Specific Condition Properties Treatment Diagnostic Criteria ICD-10 Notes and Hints

ICD-10 Linearizations Editorial Information

Signs and Symptoms

label	Term ID	Link		
Fever	388661006			
Chills	43724002			
Myalgia	68962001			
Arthralgia	156592007			
Headache	25064002			
Diarrhea	62315008			
Vomiting	422400008			

Investigation Findings

label	Term ID	Link		
Antigen detection	121276004			
Antigen test	312504002			
Microscopic examination	115419007			
PCR analysis	9718006			
Blood film microscopy (procedure)	142791005			
Peripheral blood smear interpretation	14768001			

Parents of B50 Plasmodium falciparum malaria

Selected Cause is Malaria

043 Tabulated - Malaria

Malaria

The value sets have been accessed and imported through Bioportal, which is linked to iCAT and allow input of the descriptive characteristics (Muscle ache, myalgia here below).

The screenshot shows the BioPortal interface for SNOMED Clinical Terms. The top navigation bar includes 'BioPortal', 'Browse', 'Search', 'Mappings', 'Recommender', 'Annotator', 'Resource Index', 'Projects', and 'Recently'. The main header is 'SNOMED Clinical Terms' with a 'Terms' dropdown menu. Below the header, there are tabs for 'Details', 'Visualization', 'Notes (0)', 'Term Mappings (53)', and 'Term Resources'. The 'Details' tab is active, showing a table of properties for the term 'Muscle pain' (ID: 68962001). The left sidebar shows a tree view of terms, with 'Muscle pain' selected.

Property	Value
Preferred Name	Muscle pain
Synonyms	Muscle ache Myodynia Myoneuralgia Myosalgia Muscle pain (finding) Myalgia Aching muscles
ID	68962001
Full Id	http://purl.bioontology.org/ontology/SNOMEDCT/68962001
Conceptstatus	0
Ctv3	X75rs
Has Clinical Course	Courses
Has Episodicity	Episodicities
Has Finding Site	Skeletal muscle structure
Has Severity	Severities
Inverse May Be A	(Myalgia: [unspecified] or [intercostal myalgia]) or (muscle pain)
Inverse Was A	Myalgia unspecified
Isa	General finding of soft tissue Musculoskeletal pain Muscle finding

Results

The completed version of the ICD-11 category “Plasmodium Falciparum Malaria” as it appears in the ICD-11 Beta Browser is shown below.

ICD11 Beta Sep 10 - 11:02 UTC [Log In]

Search [Advanced Search] Foundation Linearizations Contributions Info

- ▶ Selected Cause is Plague
- ▶ Selected Cause is Diphtheria
- ▶ Selected Cause is Whooping cough
- ▶ Selected Cause is Meningococcal infection
- ▶ Selected Cause is Septicaemia
- ▶ Selected Cause is Acute poliomyelitis
- ▶ Selected Cause is Rabies
- ▶ Selected Cause is Yellow fever
- ▶ Selected Cause is Measles
- ▶ Selected Cause is Viral hepatitis
- ▶ Selected Cause is Human immunodeficiency [HIV] disease
- ▼ Selected Cause is Malaria
 - ▼ Plasmodium falciparum malaria
 - Plasmodium falciparum malaria with cerebral complications
 - Other severe and complicated Plasmodium falciparum malaria
 - Plasmodium falciparum malaria, unspecified
 - Congenital falciparum malaria
 - ▶ Plasmodium vivax malaria
 - ▶ Plasmodium malariae malaria
 - ▶ Other parasitologically confirmed malaria
 - ▶ Unspecified malaria
 - ▶ Selected Cause is Leishmaniasis
 - ▶ Selected Cause is Trypanosomiasis
 - ▶ Selected Cause is Schistosomiasis
 - ▶ Selected cause is Malignant neoplasm of lip, oral cavity and pharynx
 - ▶ Selected cause is Malignant neoplasm of oesophagus
 - ▶ Selected cause is Malignant neoplasm of stomach
 - ▶ Selected cause is Malignant neoplasm of colon, rectum and anus
 - ▶ Selected cause is Malignant neoplasm of liver and intrahepatic bile ducts
 - ▶ Selected cause is Malignant neoplasm of

ID : <http://who.int/icd#B50>

Plasmodium falciparum malaria

Parent(s)

- Selected Cause is Malaria
- Tabulated - Malaria
- Malaria

Definition

Plasmodium falciparum malaria is disease caused by infection of red blood cells with protozoan parasites of genus Plasmodium falciparum, inoculated into the human by a feeding female anopheles mosquito. The first symptoms of malaria are nonspecific including fever, headache, and vomiting, but if the disease progresses, malaria can quickly become life-threatening by massive haemolysis.

Narrower Terms

- mixed infections of Plasmodium falciparum with any other Plasmodium species *

Signs and Symptoms

- Fever
- Chills
- Myalgia
- Arthralgia
- Headache
- Diarrhea
- Vomiting
- Splenomegaly
- Anemia
- Thrombocytopenia

Investigation Findings

- Antigen detection
- Antigen test
- Microscopic examination
- PCR analysis
- Blood film microscopy (procedure)
- Peripheral blood smear interpretation

Causal Mechanisms

- Plasmodium malariae (organism)
- Bite of mosquito

The description of the ICD category Plasmodium Falciparum Malaria using standardized terminologies enables the availability in an electronic environment of all the information related to the disease. ICD11 represents a good example of linked data exercise, leading the way to better data usage and therefore faster exploitation of information collected in translational research. Moreover the ICD-11 update and revision process, based on ontological tools, allows for collaborative web-based editing thus opening to all interested parties the possibility to rapidly update the classification and allowing fast transfer of biomedical discoveries into the classifications used in clinical practice.

Conclusions

The content model of ICD-11 represents a novelty enhancing information transfer in translational medicine, but only a large web-based engagement of users in this domain, will determine if the classification will become an effective tool for systematic bench-to-bedside knowledge exchange.

Presentation and Publication

Poster communication presented at:

XXXI Meeting Of The Italian Society Of Pathology And Translational Medicine
12– 15 September 2012 Udine, Italy

Abstract published on

The American Journal of Pathology Vol. 181 September 2012 Supplement
accessible at the following link:

www.journals.elsevierhealth.com/periodicals/ajpa/supplements

Annex 3- Gongolo F.⁽¹⁾, Bang S.^(2,3), Sykes C.^(4,5) ICD-11 and the “Factors influencing health status and contact with health services”: a test of integration for the Family of International Classifications

¹ Central Health Directorate of Friuli Venezia Giulia Region – Italian WHO-FIC Collaborating Centre; ² Statens Serum Institut, National e-Health Authority, Denmark, ³ Collaborating Centre for the WHO-FIC in Nordic Countries, ⁴ World Confederation for Physical Therapy (WCPT) ⁵ Faculty of Health Sciences, University of Sydney

Introduction

ICD-10 Chapter XXI is used to record health related circumstances that are not a disease. These categories, coded with Z codes, contain a mix of concepts, including reasons for encounter, risk factors and interventions. The current scenario of the revision of ICD presents an opportunity to review the chapter and propose new ways of organising the content. The Topic Advisory Group on functioning (fTAG) has the mandate of suggesting a new structure of the Z codes chapter starting from the alignment of the revised ICD and ICF but also taking into account all the possibilities given by the joint uses of the WHO-FIC.

Methods & Materials

After a preliminary meeting of fTAG co-chairs with WHO a Z codes working group was formed. Background materials and briefing notes were made available and a work plan drafted. Current debate on Z codes and suggestions for change were collected through a search of scientific literature and through the commenting features of the WHO ICD-11 beta browser. The ICD-10 chapter XXI (current ICD-11 Chapter 23, Fig.1), exported in spreadsheet format from the revision collaborative platform (Collaborative authoring tool, iCAT, Fig. 2), was taken as starting point for redrafting the chapter. The different blocks of chapter XXI were reviewed in teleconferences, highlighting the relevance of the single classification entities in terms of their relevance as post-coordination categories of ICD-11, as contextual factors of the International Classification of Functioning

Disability and Health (ICF), or as categories of the International Classification of Health Interventions (ICHI, now under development).

INTERNATIONAL CLASSIFICATION OF DISEASES - *Morbidity Linearization*

CHAPTER 23

Factors influencing health status and contact with health services

This chapter contains the following blocks:

- Persons encountering health services for examination and investigation
- Persons with potential health hazards related to communicable diseases
- Persons encountering health services in circumstances related to reproduction
- Persons encountering health services for specific procedures and health care
- Persons with potential health hazards related to socioeconomic and psychosocial circumstances
- Persons encountering health services in other circumstances
- Persons with potential health hazards related to family and personal history and certain conditions influencing health status

Persons encountering health services for examination and investigation

Exclusions: examinations related to pregnancy and reproduction

8B0 **General examination and investigation of persons without complaint and reported diagnosis**

Exclusions: special screening examinations
examination for administrative purposes

8B0.1 **General medical examination**

Inclusions: Health check-up NOS
Periodic examination (annual)(physical)

Exclusions: general health check-up of: infant or child

Fig. 1 – The Morbidity linearization of ICD-11 Chapter 23, former ICD Chapter XXI (June 2013).



Fig. 2 – a screen shop of Z codes in iCAT (June 2013)

Results

Of the 801 ICD-10 chapter XXI categories considered in the analysis 158 ICD-10 categories relate to ICF contextual factors. In this regard the development and integration of a personal factors classification is encouraged. A large group of categories (367) could be represented in an interventions classification. Classifications of devices and assistive technology are important extensions to these categories. The possibility offered by ICD-11 to post-coordinate dimensions

such as “history of” would make redundant another 105 categories (see examples below in Tab. 1 and 2). For 171 categories alternative possibilities for ordering the concepts remain to be debated. Overall results are shown in Fig. 3

ICD-10 code and title		WHO-FIC classification
Z51.0	Radiotherapy session	ICHI/interventions related
Z51.2	Chemotherapy session for neoplasm	ICHI/interventions related
Z51.3	Blood transfusion (without reported diagnosis)	ICHI/interventions related
Z73.1	Accentuation of personality traits	PERSONAL FACTORS
Z73.2	Lack of relaxation and leisure	PERSONAL FACTORS
Z73.3	Stress	PERSONAL FACTORS
Z73.4	Inadequate social skills	PERSONAL FACTORS
Z73.5	Social role conflict	PERSONAL FACTORS
Z97.0	Presence of artificial eye	ICHI/interventions related+ ISO9999

Tab. 1 – Examples of Z codes and relevant WHO classifications

ICD-10 code and title		WHO-FIC classification
Z20.5	Contact with and exposure to viral hepatitis	ICD-11 post-coordination
Z20.6	Contact with and exposure to human immunodeficiency virus [HIV]	ICD-11 post-coordination
Z20.7	Contact with and exposure to pediculosis, acariasis and other infestations	ICD-11 post-coordination

Tab. 2 – Examples of Z codes as ICD-11 post-coordination dimensions

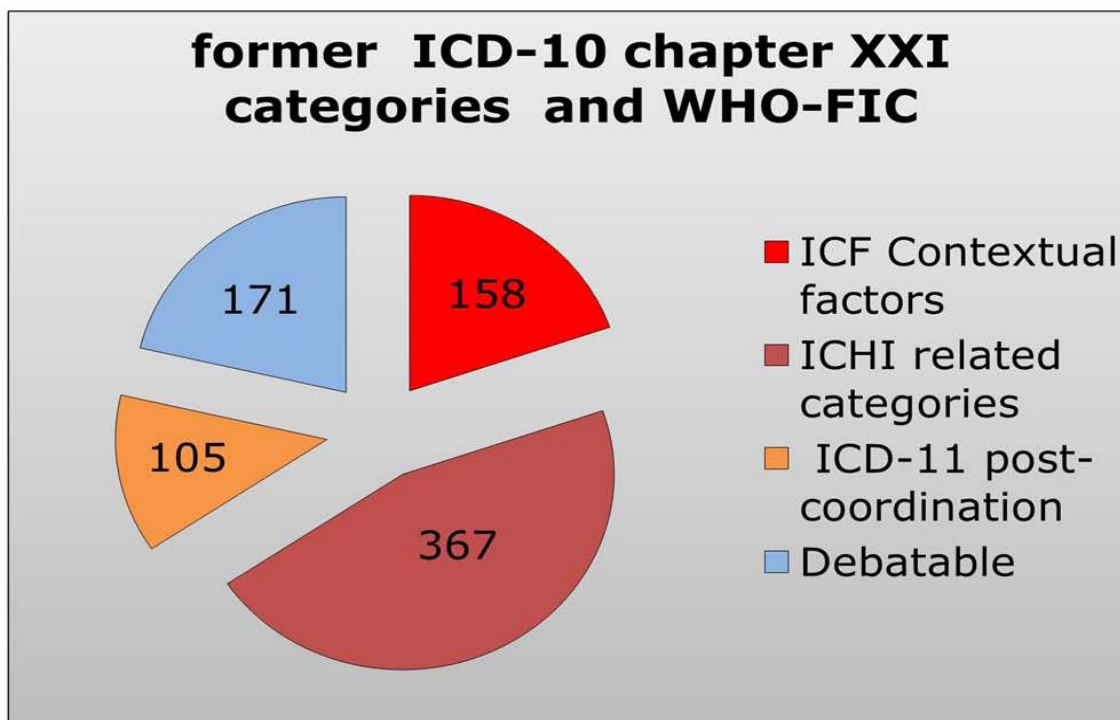


Fig. 3 – Overall possible reassignments of former ICD-10 Chapter XXI Codes

Conclusions

Revising the structure of ICD-10 chapter XXI in the context of development of ICD-11 offers the possibility of testing the actual integration of the Family of International Classifications in terms to effectively represent, beyond the disease, all dimensions of health. In order to achieve this task the fTAG highly values the involvement, through the collaborating centres, of experts in all WHO reference classifications.

Acknowledgements

Authors are members of the World Health Organization Topic Advisory Group on Functioning (fTAG) and in their work took advantage of preparatory materials made available by the Group for this purpose.

References

1. Kennedy C. Overview of ICD-10 Version 2010 Z Codes V1 3.21.2013
2. iCAT <http://icat.stanford.edu/>
3. ICD-11 Beta browser <http://apps.who.int/classifications/icd11/browse/f/en>

Presentation and Publication

Poster communication presented at:

Universal Coverage: information and innovation

International meeting of the WHO Collaborating Centres for the Family of International Classifications, organized by World Health Organization, Beijing (People's Republic of China) October 12-18, 2013.

The poster is accessible on the World Health Organization website at the following link:

www.who.int/classifications/network/meeting2013/en/

To rapidly access a published digital version of the poster, you can also scan the following q.r code:



Annex 4 – Gongolo F. URC and MbRG Revision Issue – v. 2014

	Item	Code s	Mb_RG Issue(s) [M_RG, if so stated]	MbRG Suggestion(s) [M_RG, if so stated]	Primary TAG	Actions Taken	iCAT status 2012	Actions 2012	ICD 11 beta browser 2014	Actions 2014
Chapter I	Classification of bacteria	A00-B99		Remove all information on bacterial names which is not exclusively specific to well defined syndrome	WHO_Assigned	WHO: High level rearrangement principles identified - to be implemented	test to be entered in iCAT platform:	WHO to coordinate with each TAG their Inf Dis Categories and refine titles	Implemented	MB_TAG to note
			Need to include new bacteria	microbiology listed in a block of categories similar to the present B95-B97	WHO_Assigned	New bacteria included; SNOMED Ct Harmonization needed.	Value set needs to be trimmed	SDT to be given the value set	Implemented	MB_TAG to note
				use a separate Classification for microbiology (like ATC-codes are used for drugs)		DONE as suggested.	done as above	done as above	Implemented	MB_TAG to note
						WHO: content model completed for some PH relevant infectious diseases		All primary TAGs to complete the Content model for causal agent of relevant diseases : The following TAGs are involved: <i>TAG_IM_Cardiovascular,</i> <i>TAG_Dermatology,</i> <i>TAG_IM_Endocrinology,</i> <i>TAG_IM_Gastroenterology,</i> <i>TAG_GURM,</i> <i>TAG_IM_Haematology,</i> <i>TAG_IM_Hepatology_and_Pancreatobiliary,</i> <i>TAG_Mental_Health,</i> <i>TAG_Musculoskeletal,</i> <i>TAG_IM_Nephrology,</i> <i>TAG_Neurology,</i> <i>TAG_Ophthalmology,</i> <i>TAG_Paediatrics,</i> <i>TAG_Rare_Diseases,</i> <i>TAG_IM_Respiratory</i>	1. NO content model for Diphtheria, Infections due to Human poliovirus, Influenza, Measles, Mumps, Japanese encephalitis 2. content model for PH relevant Infection diseases (World Health Statistics 2014; WHO fact sheets) rarely	WHO to coordinate completing content model for relevant PH infectious disease entities.

									goes beyond the definition of causal mechanism (name of microorganism) and etiology type (i.e. infectious disease). 3. Inconsistency in interpretation of the different parameters (body system vs. body site; causal agent vs. causal mechanism) See table on sheet 2 for content model completeness	
	Botulism not associated with food poisoning	A05.1	Need to distinguish food-borne from other modes of transmission.	Discussion needed as to whether this distinction is needed in ICD-11.	TAG_IM_Gastroenterology	WHO proposes to retain this in second segment of Infectious Disease Chapter (Generic Infectious Disease Clusterings)	to be implemented	SDT to be given the value set	Implemented (Infections due to Clostridium botulinum > botulism > food-borne botulism; Inhalation botulism; Iatrogenic botulism)	MB_TAG to note
	Anthrax	A22		capture cutaneous, respiratory, and gastrointestinal infection	WHO_Assigned	solved in first segment	to be implemented	SDT to be given the value set; relevant TAG to check: dermatology, respiratory; gastroenterology	Implemented (Anthrax>cutaneous A.; Pulmonary A.; Gastrointestinal A.; Anthrax sepsis).	MB_TAG to note
	Prion diseases	A81	various forms and manifestations of prion are not grouped together	all prion diseases be included in the same category	TAG_Neurology	solved in first segment (<i>check for non-prion infectious agent: miDNA, miRNA etc</i>)	to be implemented	SDT to be given the value set	Implemented 1. The category Infections due to Prions has been harmoniously organized into	WHO to check possible multidimensional parenting of relevant categories.

									subcategories 2. Some prion disease entities are not grouped under the category Infections due to Prions (Autonomic disorder due to prion disease; Tics due to prion disease; Parkinsonism secondary to prion diseases...)	
	Poxviruses	B08.0	ICD-10 not aligned with current knowledge	Keep B03 for smallpox and reconstruct the category	TAG_Dermatology	B00-B09 has been restructured with other poxviruses as subcategories	implemented	TAG_MB to note.	Implemented (Smallpox, cowpox, paravaccinia, molluscum contagiosum, orf.. all subcategories of Infections due to poxvirus)	MB_TAG to note
Chapter 2	Use of ICD-O-3 morphology and topography codes	C00-D48		topic needs to be addressed	TAG_Neoplasms	1. WHO and TAG_neoplasms agree on TOPOGRAPHY (i.e. high level anatomy) codes; 2. WHO and TAG-Neoplasms agree on MORPHOLOGY (i.e. histopathology) codes.	to be implemented	SDT to be given the value set	Implemented	MB_TAG to note Side note: Reconsider etiology type for the category "Neoplasm": at the moment it shows only "Chemical" http://id.who.int/icd/entity/1630407678
	Definition of 'primary' and 'secondary'	C00-D48		topic needs to be addressed	TAG_Neoplasms	accordingly	to be implemented	SDT to be given the value set	The concept of "Secondary neoplasm" shows in the category "Secondary neoplasms of the respiratory system" and	WHO to confirm a definition of primary and secondary neoplasm is given in "Volume 2".

									"Secondary malignant neoplasm of gallbladder and bile duct". No definition is given of secondary versus primary.	
	Need for further classification of extension, recurrence etc	C00-D48		topic needs to be addressed	TAG_Neoplasms	to be handled by post coordination in Temporality and course			Implemented postcoordination of dimensions	MB_TAG to note
	Haemangioma	D18.0		topic needs to be addressed	TAG_Neoplasms	TAG_neoplasms to verify: D18 Hemangioma abnormal buildup of blood vessels in the skin or internal organs.	Haemangioma differently entered in several parts of classifications (duplication? Double-parenting?), namely, TAG_RD; TAG Ophthalmology; TAG_Dermatology; TAG_IM_Gastroenterology	WHO: highlight the issue to TAG_Neoplasms; Other TAGs to align with TAG_Neoplasms: TAG_RD; TAG_Ophthalmology; TAG_Dermatology; TAG_IM_Gastroenterology	Implemented Complete set of harmoniously listed subcategories of haemangioma;	WHO to check some categories that still do not appear as parented to haemangioma, "Focal/multifocal/segmental infantile haemangioma", "Pulmonary sclerosing haemangioma", "Dandy Walker malformation - facial haemangioma"
	Leukemia and Lymphoma	C81-C96	Alignment needed between ICD-10 ICD-O-3 and WHO Blue book	Review the section	TAG_Neoplasms	First draft revision by TAG_IM_Haematology (2ndary TAG) and TAG_RD	Revised section is in iCAT	WHO: highlight the issue to TAG_Neoplasms; Other TAGs to align with TAG_Neoplasms: TAG_IM_Haematology and then TAG_RD.	Implemented The most recent blue book (WHO Classification of Tumours of Haematopoietic and Lymphoid Tissues, Fourth Edition, 2008) is not explicitly used as a reference. The majority of subcategories of "Acute myeloid leukaemias and related precursor neoplasms", "Precursor T-	WHO to consider methodology documents made available by TAG neoplasm and consistently refine naming, definitions and references. caveat "2B63 Chronic myeloid leukemia, not otherwise specified" should be spelled leukaemia

									lymphoblastic neoplasms "Classical Hodgkin lymphoma" have nevertheless a 2001 or 2004 WHO definition, probably referring to a previous version of the blue book. Some categories lack an explicit reference (eg. Mature B-cell neoplasms and subcategories).	
Chapter 3	Anaemia in chronic disease classified elsewhere	D63*	Need for anemia as main condition	Allow coding Anaemia as main condition	TAG_IM_Haematology	D50-D69 is restructured by TAG Haematology	Revised section is in iCAT	TAG_IM_Nutrition and TAG_RD to review the proposal	Implemented "Anaemia of chronic diseases" is an ICD-11 is a self standing category both in foundation (preferred parent other acquired anaemias; additional parenting anaemia and Clinical view of diseases of the blood and blood-forming organs) and in linearization, with subcategories for neoplastic diseases chronic infectious diseases and chronic kidney	WHO to check consistency of definition and subcategories.

									diseases + residuals if applicable. The definition of Anaemia of chronic diseases does not explicitly mention anaemia in chronic kidney disease, condition that is though represented as subcategory. On the other hand the same definition seems to refer also to the etiology of chronic immune activation that does not find a subcategory. In the linearization "Anaemia in chronic kidney disease, stage 3" appears as index term of 3A33.Y Other specified anaemia of chronic diseases: this should be redirected to 3A33.3 Anaemia in chronic kidney disease.	
				Introduce anaemia in acute diseases classified elsewhere	TAG_IM_Nutrition and TAG_RD for specific conditions	TAG_HEM TO RESPOND			The concept of anaemia in acute diseases classified elsewhere is not present as	TAG_HEM to clarify

			Index entry "Anaemia in malaria" erroneously directs to D63.8	Update index with examples for D63.8		Index correction =Correction needed in ICD-10 as well	Index term to be corrected	Celik to modify	such. The concept of "Anaemia in malaria" is not present as such.	WHO to check
			Should D63* be considered "aplastic" or "other"	Regard D63* as a block for aplastic anaemia		D63* is abolished within dagger-asterisk abolition		iCAT implementation	Implemented as explained above	MB_TAG to note
	other coagulation defects	D68			TAG_IM_Haematology	all other specified is unmarked into the foundation as individual entities.	Revised section is in iCAT by TAG HEM.	WHO: highlight the issue to TAG_Neoplasms (although not involvement stated); TAG_MB to review	Implemented "Von Willebrand disease" as "Haemorrhagic diseases due to constitutional coagulation factor defects" (double parented to hereditary haemorrhagic disorder); Hereditary factor IX deficiency as hereditary haemorrhagic disorder; Hereditary factor XII [Hageman factor] deficiency does not exist in the linearization (double parented to "Hereditary deficiency of other coagulation factors" and to "Inherited coagulation factor deficiency	MB TAG to check if relevant categories have to be present also in the linearization. TAG_IM_Immunology and TAG haematology to check if "Acquired von Willebrand disease" and "Factor X deficiency associated with systemic amyloidosis" have to be double parented to relevant haematological categories.

									without bleeding tendency") but does not exist in the linearization. Similarly Acquired factor V deficiency, Hereditary factor X [Stuart-Prower factor] deficiency, Hereditary factor XIII [Fibrin-stabilizing factor] deficiency, are not present in joint linearization. "Acquired von Willebrand disease" and "Factor X deficiency associated with systemic amyloidosis" are categorized under "Other non-autoimmune acquired coagulation factor deficiencies" (only parent).	
	Pancytopenia	D61.9	Pancytopenia currently classified to D61.9 aplastic anaemia (covers only one aspect of	Unique code for pancytopenia/Inst ruction for sequencing coding	TAG_IM_Haematology	D50-D69 is restructured by TAG Haematology	Pancytopenia as such does not appear to be in iCAT	WHO: highlight the issue to TAG_Haematology	Pancytopenia appears only as "Pancytopenia due to IKZF1 mutations" (Combined immunodeficiencies) and as narrower term of	1. Check why pancytopenia as such has not been given a category in ICD-11 2. Check if the use of pancytopenia in "Pancytopenia due to IKZF1 mutations" and "Constitutional aplastic anaemias" is consistent with the choice of not having

			Pancytopenia)						Constitutional aplastic anaemias	such category
	Polycythaemia and erythrocytosis	D45	Polycythaemia and erythrocytosis are indexed to D45 Polycythaemia Vera which is different condition	Separate the two conditions	TAG_IM_Haematology	D45 is restructured by TAG Haematology: created subclasses	Created subclasses in a revised structure	WHO: highlight the issue to TAG_Neoplasms; TAG_MB to review	Implemented Polycythaemia is present as such in "Clinical view of diseases of the blood and blood-forming organs" (allowed in linearization). Erythrocytosis NOS is present only as index term of 3A51 Secondary polycythaemia. 3B80.2 Primary inherited erythrocytosis is a subcategory of 3B80 Congenital and constitutional polycythaemia which is a subcategory of Polycythaemia.	TAG_IM_Haematology to confirm consistency of having erythrocytosis both as index term of a secondary polycythaemia and as a sub-subcategory of Polycythaemia.
Chapter 4	Diabetes Mellitus	E10-E14	Major changes since ICD-10 was published	Needs to be rewritten	TAG_IM_Endocrinology	Classification has been rewritten	The proposal produced by TAG_IM_Endocrinology is not yet in iCAT. TAG_RD input in iCAT for particular conditions.	TAG_IM_Endocrinology to load the proposal in iCAT; TAG_IM_Nutrition to review the proposal TAG_RD to align with the proposal	Implemented	MB_TAG to note
			Dagger asterisk issues in morbidity coding	Complications in other organs should be represented		Multidimensional structure to allow conditions to appear in different part of the classification (organ manifestation).	to be implemented as the Dagger Asterisk Information note		Diabetes mellitus does appear in other relevant part of the classification but the multidimensional possibilities	WHO to confirm if multidimensional structure should be further implemented for diabetes mellitus.

									offered by the ICD-11 modelling seems not to have been fully implemented. Diabetic retinopathy does appear only under retinopathy without any further parenting to other relevant ICD-11 categories; same for "Diabetic foot" appearing only as diabetic skin disorder, "Diabetic neuropathy" showing as subcategory of "Autonomic neuropathy in endocrine and metabolic diseases"--> Other disorders of nervous system in diseases classified elsewhere...	
						Double parenting of condition previously coded with D&A convention.			same as above	same as above
	Cystic fibrosis	E84	ICD-10 classification of c.f. based on manifestations is outdated	Identify atypical and classical c.f., with the latter further identified as with or without pancreatic insufficiency	TAG_IM_Endocrinology (2ndary involved: TAG_IM_Respiratory)	TAG RD to be made primary and TAG_IM Respiratory to be associated.	to be implemented	WHO: highlight the topic to TAG_RD and TAG_IM_Respiratory. And others (e.g. Gastro) accordingly.	Implemented suggested hierarchy has been implemented, definitions are consistent, foundational	TAG_IM_Gastroenterology to check if Digestive manifestations/Hepatic manifestations of atypical cystic fibrosis should be double parented to Digestive system conditions

									double parenting mostly applied.	
	Malnutrition	E40-46	Outdated grading	Introduce severity related grading using ESPEN criteria	TAG_WG_Nutrition	Topic has been revised by TAG_WG_Nutrition	to be implemented	TAG_WG_Nutrition to load the proposal into iCAT. TAG_IM_Endocrinology to review as 2ry involved TAG	Undernutrition used instead of malnutrition (consistently with ESPEN). Further subcategorization into Undernutrition based on anthropometric and clinical criteria (children and adolescent vs. adults) and Undernutrition due to specific nutrient deficiencies. WHO Child Growth Standards used as a reference. No reference is given about "Undernutrition based on anthropometric and clinical criteria in adults".	MB_TAG to confirm ESPEN criteria still to be used as standard. TAG_WG_Nutrition to specify references of adult undernutrition classification criteria
	Amyloidosis	E85	E85.4 Organ related Amyloidosis is insufficient for Morbidity coding	Expansion of sites	TAG_IM_Endocrinology	Topic assigned to Metabolic (PRIMARY) {+ after splitting Endocrine and Metabolic} and referred to TAG_Neoplasm, TAG_Ophthalmology, TAG_IM_Nephrology, TAG_Neurology	to be implemented	WHO: highlight the topic to TAG_WG_Metabolic, TAG_Neoplasm, TAG_Ophthalmology, TAG_IM_Nephrology, TAG_Neurology to review and align afterwards.	Implemented subcategories have been adopted to classify secondary systemic amyloidosis (cardiac, cerebral, Glomerular disorders), Organ limited amyloidosis (cardiac, glomerular,	TAG_WG_Nutrition confirm consistency between subcategories of Organ limited amyloidosis" and "certain amyloidosis"

									liver, small intestine)	
	Obesity	E65-E68		Adopt current criteria and definitions for obesity	TAG_WG_Nutrition	Topic has been revised by TAG_WG_Nutrition	to be implemented	TAG_WG_Nutrition to load the proposal into iCAT. TAG_IM_Endocrinology to review as 2ry involved TAG. TAG_RD and TAG_IM_Cardiovascular to align to proposal.	To be implemented The current category of Obesity seems not to have an operational definition.	TAG_WG_Nutrition to implement a definition of obesity with relevant criteria and related reference
				Classify childhood obesity.				TAG_Paediatrics to review	To be implemented a classification of childhood obesity as such does not seem to have been adopted	TAG_Paediatrics to clarify
Chapter 5	Drug and alcohol codes – fourth characters	F10-F19		Change block name to make evident physical harm.	TAG_MH	topic dealt with TAG_MH	to be implemented	WHO: highlight the topic to TAG_MH	Implemented Harmful use of alcohol, Harmful use of opioid,	MB_TAG to note
				Split F15 into amphetamine and related drugs and caffeine.		topic dealt with TAG_MH	to be implemented	WHO: highlight the topic to TAG_MH	Implemented Harmful use of stimulants including amphetamines but excluding caffeine and cocaine	MB_TAG to note
				Add category for GHB					Not implemented	TAG_MH to clarify if GHB as illicit drug has been taken into consideration.
Chapter 6	Migraines and other headache syndromes	G43	Headache classification not reflected in ICD-10	Incorporate headache classification	TAG_Neurology	Topic restructured by TAG_Neurology	Newly revised section is in iCAT but under a "To be retired - Diseases of the nervous system" TAB	WHO: ask TAG_Neurology for clarification	Implemented	TAG_Neurology to check if conditions that are not primarily attributed to a neurological disorder are consistently double parented to the relevant categories, e.g. Headache attributed to injury to the head or neck, 8B90 External compression headache (external causes?), 8C01 Headache attributed to a substance...
	Myotonic disorders	G71	Need for specificity	Distinguish myotonic dystrophy from milder course of	TAG_Neurology	"Primary disorders of muscles" restructured by	Newly revised section is in iCAT but under a "To be retired - Diseases of	WHO: ask TAG_Neurology for clarification	Implemented Myotonic disorders further	MB_TAG to note

				myotonia congenital		TAG_Neurology	the nervous system" TAB		specified into 8E70 Myotonic dystrophy, 8E71 Chondrodystrophic myotonia, 8E72 Myotonia congenita, 8E73 Neuromyotonia, 8E74 Pseudomyotonia + residual	
	Auditory processing disorder			Need for this concept	Unassigned	Request for a full proposal to be submitted	APD does not appear in iCAT	WHO: highlight the issue to TAG_Functioning	Implemented The category of "Functional auditory disorder" has been introduced in ICD-11 as Functional clinical forms of the nervous system	F_TAG to confirm equivalence of Functional auditory disorder and Auditory processing disorder
	Insomnia, hypersomnia and sleep apnea	G47	Need for diagnostic, severity and duration criteria	Add criteria	TAG_Neurology	Criteria obtained	Proposal by TAG_Neurology do not include criteria	TAG_MH and TAG_IM_Respiratory to review.	Implemented Sleep wake disorders introduced as a chapter, including Insomnia disorders (further subcategorized), 7A20 Hypersomnolence disorders and Sleep-related breathing disorders (further subcategorized)	MB_TAG to note
	Central Pain syndrome		Need to describe encounters for pain	USA to add the concepts; Nordic CC to address the topic in	TAG_Neurology	TAG Neurology created a "Central post-stroke pain"	Newly added category is in iCAT but under a "To be retired - Diseases of	WHO: ask TAG_Neurology for clarification and highlight the issue	Implemented Central Pain syndrome does not appear as	MB_TAG to note

			managem ent	intervention classification		category	the nervous system" TAB		such but category 8J50 Pain disorders appears as a category in Other disorders of the nervous system. The category does appear in the Joint linearization for mortality and morbidity thus responding to the request of describing encounters for pain management.	
Chapter 7	Retrolental Fibroplasia	H35.1	Need to capture pre-threshold ROP	Subdivide ROP into stages and include Retrolental Fibroplasia	TAG_RD	TAG_Ophthalmology has further subdivided Retinopathy of prematurity in stages including a stage 0.	TAG_Ophthalmology proposal is in iCAT	WHO: to resolve RD and OPTH. Overlap.	Implemented The need to capture the pre-threshold condition is fully achieved in the foundation where a comprehensive classification of Retinopathy of prematurity is given. In the Joint linearization Retrolental fibroplasia is present only as inclusion of 9G57 Retinopathy of prematurity.	MB_TAG to indicate if pre-threshold condition should be present in the joint linearization as well.
Chapter 8	Dual sensory impairment		Coding blindness and hearing loss does not capture the dual	Create a code		TAG functioning assigned to review impairment related topics	Condition mentioned only as 'Deaf blind hypopigmentation syndrome, Yemenite type' child of Syndromic	WHO: highlight topic to TAG functioning; TAG_RD to align. RSG to solve issue of single condition vs. co-morbidity.	Not implemented no action taken on the topic that remains confined to the only category	TAG_functioning to confirm topic is still relevant

			sensory impairment				genetic deafness		of Deaf blind hypopigmentation syndrome, Yemenite type.	
	Speech and language developmental delay due to hearing loss	H91	Speech ability impairment due to congenital hearing loss in children is not captured	Create a code	WHO_Assigned	TAG functioning assigned to review impairment related topics	TAG RD identified RD with congenital hearing loss	WHO: highlight topic to TAG_functioning and TAG_MH;TAG_RD to align.	New block Developmental speech and language disorders has been created with further subcategorization into (Developmental speech sound disorder, Voice disorder ..)	MB_TAG to note
	Hearing loss	H90	Common problem: needs laterality		WHO_Assigned	Laterality is addressed	Hearing loss in iCAT has the ICD-10 structure	WHO: highlight topic to TAG_functioning	Implemented Laterality is addressed in postcoordination	MB_TAG to confirm that distinction is not needed in the Joint linearization in JLM&Mb
Chapter 9	Acute coronary syndrome	I21	Need to distinguish STEMI vs. NSTEMI	Add subtypes	TAG_IM_Cardiovascular	Proposal "under construction"	to be implemented	When proposal is as TAG_MB; TAG_QS to review;	Implemented Ischaemic heart disease further classified into Angina pectoris, Acute myocardial infarction (subclass into STEMI, NSTEMI), Acute myocardial infarction, Subsequent myocardial infarction.. In JLM&Mb BA41 Acute myocardial infarction is further subdivided into STEMI, NSTEMI, without specification of ST elevation,	MB_TAG to note

									and acute periprocedural MI	
	Isolated systolic hypertension and isolated diastolic hypertension	I10-I15	Need to distinguish them	Add specific codes	TAG_IM_Cardiovascular	Hypertensive diseases area has been restructured	Proposal updated. Distinction does not appear.	WHO: highlight topic to TAG_Cardiovascular	Not implemented the distinction of hypertension into isolated systolic and diastolic does not appear as such in ICD-11.	TAG_IM_Cardiovascular to clarify
	Heart failure	I50	HF ≠ Congestive HF	Need to distinguish them	TAG_IM_Cardiovascular	Proposal "under construction"	Topic still not reviewed	Wait until proposal is on iCAT; then TAG_MB to review	Implemented BB40.1 Congestive heart failure is a subclass of BB40 Heart failure	MB_TAG to note
	Rheumatic heart disease	I09	Etiology is becoming secondary in classification of heart valve disease	Combine rheumatic and non rheumatic heart diseases (I05-06, maybe I08 with I34-37)	TAG_IM_Cardiovascular	Proposal "under construction"	Topic still not reviewed	Wait until proposal is on iCAT; then TAG_MB to review	Implemented In foundation and in linearization Heart valve disease (no code but further subdivided into BA80 Mitral valve disease, BA81 Aortic valve disease...) is a different category from Rheumatic heart disease (no code but further subdivided into BA90 Rheumatic chorea, BA91 Certain specified rheumatic heart diseases..)	MB_TAG to note
	Hypertensive diseases	I10-I15	Not consistent:	Delete "association	TAG_IM_Cardiovascular	clinical modification	Topic still not reviewed	Wait until proposal is on iCAT; then TAG_MB to review	Implemented In ICD-11	MB_TAG to note

			cause effect relationship mixed to "association with"	with" codes and code out the two conditions		imported, with granularity at 5 th character level. Proposal "under construction"			Hypertensive diseases remains a block of categories such as BA30 Essential hypertension, BA31 Hypertensive heart disease, BA32 Hypertensive renal disease, BA33 White coat hypertension, BA34 Hypertensive crisis All ICD-10 "association with" codes do not appear anymore.	
	Ischaemic heart disease	I20-I25	change of concepts and terminology, phases of AMI	describe temporal definition of MI with "acute" "healing" or "healed"	TAG_IM_Cardiovascular	Proposal "under construction"	Topic still not reviewed	Wait until proposal is on iCAT; then TAG_MB to review	Implemented The temporal description of myocardial infarction is obtained with the three ICD-11 categories of Acute myocardial infarction, Acute coronary syndrome Subsequent myocardial infarction and Old myocardial infarction (synonym Healed myocardial infarction)	MB_TAG to note
				the addition of a new code at I24.7 Myocardial			Topic still not reviewed	Wait until proposal is on iCAT; then TAG_MB to review	Implemented Timeframe is specified in	MB_TAG to note

				infarction, intermediate, and a time frame for its application					inclusions of the above mentioned categories.	
				the removal of the concept of chronic myocardial infarction from I25.8 Other forms of chronic ischaemic heart disease and the creation of a new code I25.7 Myocardial infarction, late stage			Topic still not reviewed	Wait until proposal is on iCAT; then TAG_MB to review	Implemented chronic myocardial infarction not to be found in ICD-11. See above for new categorization	MB_TAG to note
				the correction of the inclusion term at I25.8 Other forms of chronic ischaemic heart disease, to maintain consistency with the excludes note at I24.0 Coronary thrombosis not resulting in myocardial infarction			Topic still not reviewed	Wait until proposal is on iCAT; then TAG_MB to review	Implemented BA46 Coronary thrombosis not resulting in myocardial infarction is a self standing category of Ischaemic heart disease. Inclusion are consistent. No external consistency is needed anymore since ICD-10 category Other forms of chronic ischaemic heart disease is no longer implemented in ICD-11.	MB_TAG to note
				The amendment of the note at I 23 Certain current complications following acute myocardial infarction, which			Topic still not reviewed	Wait until proposal is on iCAT; then TAG_MB to review	To be implemented Concurrency of myocardial infarction seems to still exclude the	TAG_MB check consistency of notes

				will allow the assignment of both the code for the acute MI and the current complication.					condition.	
				the amendment of the inclusion term at I25.2 Old myocardial infarction			Topic still not reviewed	Wait until proposal is on iCAT; then TAG_MB to review	Implemented	TAG_IM_Cardiovascular to double check spelling
	Classification of ischaemic stroke	I64	update needed	Adopt TOAST classification of subtypes of Acute Ischaemic Stroke	TAG_Neurology	Codes I60-I69 moved to Diseases of the nervous system	ICD-10 categories I60-I 69 are in iCAT as such but under a "To be retired - Diseases of the nervous system" tab.	WHO: wait until TAG_Neurology loads the proposal into iCAT	Not implemented TOAST classification (<i>Stroke</i> 1993 Jan;24:35-41.1993) foresees the following subcategories: 1) large-artery atherosclerosis, 2) cardioembolism, 3) small-vessel occlusion, 4) stroke of other determined etiology, and 5) stroke of undetermined etiology. Currently the ICD-11 category of BA01 Cerebral ischaemic stroke has the following subcategories: BA01.1 Cerebral ischaemic stroke due to small artery occlusion (equivalent to TOAST 3); BA01.2	TAG_Neurology to clarify

										<p>Cerebral ischaemic stroke due to unspecified occlusion or stenosis of intracranial large artery and BA01.3</p> <p>Cerebral ischaemic stroke due to unspecified occlusion or stenosis of extracranial large artery (together somehow equivalent to TOAST 1); BA01.4</p> <p>Cerebral ischaemic stroke due to multiple potential causes (not present in TOAST); BA01.5</p> <p>Cerebral ischaemic stroke in association with subarachnoid haemorrhage (not present in TOAST); The ICD-11 automatically generated category of BA01.Y Other specified cerebral ischaemic stroke has, as index term, Cerebral</p>
--	--	--	--	--	--	--	--	--	--	---

									ischaemic stroke due to cardiac embolism (equivalent to TOST 2)	
	Atherosclerosis of arteries of extremities	I70.2	need to capture the presence of claudication, rest pain, ulceration or gangrene	Further specification	TAG_IM_Cardiovascular	distinction with/without gangrene. No other change.	accordingly	WHO: wait until TAG_IM_Cardiovascular completes the proposal	Implemented Creation of category BB52.3 Chronic arterial occlusive disease classified by functional impact with subclasses such as BB52.33 Intermittent claudication, BB52.32 Critical ischaemia resulting from chronic arterial occlusive disease (further classified BB52.321 Critical ischaemia with rest pain and BB52.322 Critical ischaemia with tissue loss). The category of EK90 Ischaemic ulceration of skin is only parented to Dermatoses due to arterial and arteriolar disease without any reference to the ischaemia of	TAG_IM_Cardiovascular to verify if gangrene and ulceration are also needed to show together with the other occlusive diseases classified by functional impact.

									vascular chapter. Gangrene is present as "Symptoms and signs involving the circulatory system"	
	Dissection of aorta	I71.0	need to capture the site of the aorta	Further specification	TAG_IM_Cardiovascular	Proposal "under construction"	Topic still not reviewed	WHO: wait until TAG_IM_Cardiovascular completes the proposal	Implemented site will be postcoordinated; possible localization listed among index terms of BB53.2 Thoracic aortic aneurysm and BB53.3 Abdominal aortic aneurysm	MB_TAG to note
	Haemorrhoids	I84	haemorrhoids are primarily a condition in the anal mucosa	move to Digestive System chapter	TAG_IM_Cardiovascular	moved into digestive chapter	accordingly	TAG_MB to note.	Implemented Haemorrhoids as Diseases of anal canal	MB_TAG to note
Chapter 10	Food allergy with respiratory manifestations			[probably] need for respiratory reactions to food allergens	TAG_IM_Respiratory	none	ICD-10 category structure undergoing change at the moment	WHO: highlight topic to TAG_IM_Respiratory	Not implemented MD51.2 Allergy or allergic reaction is a type of MD51 Adverse effects, not elsewhere classified (external causes). Respiratory reactions can be potentially post-coordinated but do not appear in among possible index	TAG_external_causes to revise the topic; TAG_IM_Respiratory for the relevant revision issue once the topic is revised.

									terms. MD51.4 Other adverse food reactions, not elsewhere classified seems not to be consistent as subcategory of MD51 Adverse effects, not elsewhere classified since food reactions are not mentioned in other categories of the block and there's an overlap with the automatically generated category MD51.Y Other specified adverse effects, not elsewhere classified.	
	Tonsillitis - acute, recurrent acute and chronic			[probably]need to capture "recurrent"/ "recurrent-acute"	TAG_IM_Respiratory	addition of concept for "recurrent acute tonsillitis" in ICD-11	accordingly	TAG_MB to note.	Implemented Recurrency can be post-coordinated. Recurrent acute tonsillitis present as foundation subcategory and as linearization index term of Acute tonsillitis.	WHO to confirm recurrency is a postcoordinated dimension.
	Chronic suppurative lung disease		need for unique code		TAG_IM_Respiratory	none	ICD-10 category structure undergoing change at the moment	WHO: highlight topic to TAG_IM_Respiratory	Not implemented	TAG_IM_Respiratory to clarify
	Croup and stridor	J05	concerns regarding correct code		TAG_IM_Respiratory	none	ICD-10 category structure undergoing change at the moment	WHO: highlight topic to TAG_IM_Respiratory	Implemented LD94.2 Stridor adopted as subcategory of	TAG_MB_to note

			assignment in the different modifications						LD94 Abnormalities of breathing. Croup is present in ICD-11 only as Index term of 1D30.2 Acute obstructive laryngitis (narrower term in foundation)	
	Pneumonia	J10-J18	precoordination enlarges too much the concept	use additional codes to identify the agent	WHO and TAG_IM_Respiratory	WHO is restructuring chapter 1	ICD-10 category structure undergoing change at the moment	WHO: restructure chapter 1; TAG_IM_Respiratory to align	Implemented	MB_TAG to note
Chapter 11	Hernia, abdominal	K40 – K46	classification of certain herniae not updated		TAG_IM_Gastroenterology	total restructure of chapter	new categories for Herniae	TAG_MB to note.	Implemented Hernia is further subdivided into DF40 Groin hernia, Primary midline abdominal wall hernia (subclasses DF50 Umbilical hernia, DF51 Paraumbilical hernia ... and the automatically generated DF5Z Primary midline abdominal wall hernia, unspecified) and DF60 Secondary abdominal wall hernia (subclasses DF60.1 Incisional hernia... and the automatically generated	TAG_IM_Gastroenterology check for consistency of codes in the JLM&Mb

									DF60.Z Secondary abdominal wall hernia, unspecified) there seems to be an inconsistency since both primary and secondary block level classes are given an automatically generated residual but only the latter is also given a proper code.	
	term 'toxic' in chapter 11		use of "toxic" is not clear	definition of the term toxic	TAG_IM_Gastroenterology	total restructure of chapter but no further explanation on this issue	not relevant	WHO: highlight issue to the TAG_IM_Gastroenterology	Implemented Former ICD-10 category Toxic gastroenteritis and colitis not present neither as such nor as split category or as new entities such as toxic gastritis or toxic enteritis. Toxic liver disease still present as DE65 Drug-induced and toxic liver disease.	TAG_IM_Gastroenterology to confirm consistency of use of the term Toxic liver
	Diverticular disease of intestine	K57	More specificity	differentiation between diverticulosis and diverticulitis	TAG_IM_Gastroenterology	total restructure of chapter; specific codes for the 2 conditions	accordingly	TAG_MB to note.	Implemented Now DD32.1 Diverticular disease of small intestine further subdivided into DD32.11 Diverticulitis of small intestine,	MB_TAG to note

									DD32.12 Diverticulosis of small intestine, DD32.13 Diverticulum of small intestine...	
	Dyspepsia			Include functional dyspepsia in digestive chapter	TAG_IM_Gastroen terology	Functional dyspepsia included in digestive chapter and dyspepsia included in new category "Symptom arising from upper GI. tract"	accordingly	TAG_MB to note.	Implemented DF90.4 Functional dyspepsia is present as Functional gastrointestinal disorders	MB_TAG to note
Chapter 12	Wound ulcers and abscesses			request severity related classification	TAG_Dermatology	Chapter completely restructured. Staging has been included at pressure ulcers codes.	Dermatology proposal is in iCAT	Issue has been addressed; MB_TAG to review	Implemented Pressure ulcer grading (I to IV) with relevant definitions is to be found in JLM&Mb	MB_TAG to note
				secondary (optional) category				WHO: highlight issue to the TAG_dermatology	Implemented pressure ulcers as Dermatoses provoked by physical or environmental factors	MB_TAG to note
Chapter 13	Arthropathies and systemic disorders in diseases classified elsewhere	M14* & M36*	Ambiguity between these categories		TAG_IM_Rheumat ology	Hierarchy has been restructured and these concepts listed together	changed accordingly	TAG_MB to note.	Implemented some concepts listed under Clinical forms of the musculoskeleta l system, some other taken away and assigned to the relevant category after resolution of the dagger and asterisk convention	MB_TAG to note
	Infectious arthropathies		Concern regarding	Suggest using multiple coding	TAG_IM_Rheumat ology	WHO is restructuring	ICD-10 category structure	WHO: restructure chapter 1; TAG Rheumatology to align	Implemented Infectious	MB_TAG to note

			the number of pre-coordinate codes		chapter 1 drafting precoordination at top category level	undergoing change at the moment. Also restructuring has been done by rheumatology		arthropathies to be found as Infectious disease groupings for clinical purposes (Infections of the musculoskeletal system and connective tissue). JLM&Mb only allow coding of subcategories 1B11 Infections of the bone, 1B12 Infective myositis...		
Chapter 14	Renal tubulointerstitial diseases – overlaps and ambiguities in section N10 – N16	N10-N16	Concern about the number of exclude notes and the confusion in applying them		TAG_IM_Nephrology	Hierarchy has been restructured and is still being reviewed	accordingly	WHO: highlight topic to TAG_IM_Nephrology	The section has been completely restructured. With a few exceptions it seems that only congenital conditions have been excluded.	WHO to review exclude notes of the newly created categories
	Chronic kidney disease	N18		Update the terminology and add staging	TAG_IM_Nephrology	New proposal has included CKD	accordingly	TAG_MB to note.	Implemented classification is in place. Chronic uraemia does not appear anymore as inclusion of Chronic kidney disease, stage 5.. It is only present as inclusion of GE70.2 Chronic kidney: is chronic uremia to be	TAG_IM_Nephrology to confirm the concept of Chronic uremia to appear only as inclusion of GE70.2 Chronic kidney disease. Check spelling convention.

									considered inclusion of all subclasses (CKD stage I to V)? To none of them?	
	PIN – prostatic intraepithelial neoplasia		Concern about the correct chapter assignment i.e. body system chapter vs. neoplasm chapter		TAG_Neoplasms	PIN has not been addressed in the revision at this time	Unchanged	WHO: highlight topic to TAG_Neoplasms and TAG_IM_Nephrology	Implemented prostatic intraepithelial neoplasia PIN III/PIN grade III/pin iii.. are all synonyms of 2H15 Carcinoma in situ of prostate (inclusions in the linearization) while Low grade PIN/PIN I - II /Low grade prostatic intraepithelial neoplasia/Low grade dysplasia are all narrower terms (inclusions in the linearization) of Dysplasia of prostate	TAG_Neoplasm to confirm consistent use of narrower terms for dysplasia and asynonyms for carcinoma in situ in the foundation.
Chapter 15	Need to distinguish in what stage of the pregnancy or puerperium the condition occurred, ie 5th characters in ICD-9.			Addition of a subclassification to identify the stage of the pregnancy or puerperium	TAG_GURM	This has not been addressed in the revision at this time	Unchanged	WHO: highlight topic to TAG_GURM	Implemented stage of the pregnancy or puerperium as post-coordinatedn ditions	WHO to confirm post-coordination of these parameters.
		O99		Addition of Duration of pregnancy codes	TAG_GURM	The category O09 Duration of pregnancy has been included in the foundation model	implemented	TAG_MB to note.	Implemented HA15 Duration of pregnancy, further subdivided into classes according to the completed weeks	TAG_GURM to correct he name of the first category of duration: HA15.1 Less than 5 completed of pregnancy (the word "weeks" is missing)

	O44.1 Placenta previa with hemorrhage	O44.1		Addition of information to show the trimester in which this condition occurred	TAG_GURM	This has not been addressed in the revision at this time	Unchanged	WHO: highlight topic to TAG_GURM	Implemented HA6B.2 Placenta praevia with haemorrhage does not have the suggested further distinction based on trimesters. This dimension can, nevertheless be post-coordinated.	WHO to confirm post-coordination of these parameters is possible. Mb_TAG to confirm postcoordination is sufficient to address the issue.
	Eclampsia, pre-eclampsia and gestational hypertension codes	O10-O16	Need to address the issue of severity levels and terminology used.		TAG_GURM	Change of code title to " mild to moderate pre-eclampsia "	implemented	TAG_MB to review; GURM to consider Mild/ Moderate/ Severe as a scale	Implemented HA24.1 Mild to moderate pre-eclampsia and HA24.2 Severe pre-eclampsia	MB_TAG to note
				remove reference to proteinuria in code title for pre-eclampsia	TAG_GURM	Change of category and code titles to "pre-eclampsia"	implemented	TAG_MB to note.	Implemented, see above	MB_TAG to note
	Overlap and use of O26 codes and O99 codes	O26 & O99	Overlap between O26.8 and O99 codes. Issues of when to assign these codes	Use multiple coding	TAG_GURM	None	Unchanged	WHO: highlight topic to TAG_GURM	Unchanged The issue is about the possible ambiguity between maternal care for conditions predominantly related to pregnancy and maternal diseases classifiable elsewhere but complicating pregnancy... In ICD-11 the classification structure seem to mimic the previous ICD-10 version.	WHO: highlight topic to TAG_GURM
	Rupture of uterus/extension of	O71.1	Need to distinguish	Addition of 5th characters to	TAG_GURM	None	Unchanged	WHO: highlight topic to TAG_GURM	Unchanged No distinction	WHO: highlight topic to TAG_GURM

	uterine scar		between lacerations and ruptures of the uterus in obstetric cases as a true rupture is extremely severe compared to a laceration	distinguish differences					between rupture and laceration. Term laceration used only for the obstetric laceration of cervix, as it was in ICD-10	
	Anaphylactoid syndrome of pregnancy	O88.1	MRG highlighted amniotic fluid embolism is an outdated terminology	anaphylactoid syndrome	TAG_GURM	Not monitored	Not monitored	Not monitored	Unchanged HA91.2 Amniotic fluid embolism is the relevant category for the joint linearization. Anaphylactoid syndrome of pregnancy is only present as index term	WHO: highlight topic to TAG_GURM
Chapter 16	Cerebral oedema not related to birth trauma	P91.8	Correct code assignment for this condition?		TAG_GURM	Some work has been done on the category P91 but not yet complete	implemented	WHO: highlight topic to TAG_GURM	Unchanged Former ICD-10 category P91 has been proposed with the ICD-11 category JB61 Cerebrovascular disorders originating in the perinatal or neonatal period. The residual category does not seem to have any direct reference to the condition of Cerebral oedema not related to birth trauma. This	WHO: highlight topic to TAG_GURM: has the topic been addressed differently?

									last condition is not to be found in ICD-11.	
	Hypoxia of newborn, Hypoxic ischemic encephalopathy [HIE] and related newborn issues	P91.6 & P91.8	Issues with terminology	recommend that HIE be the more appropriate terminology	TAG_GURM	Additional codes based on the severity of the HIE have been included.	implemented	TAG_MB to note.	Implemented Suggested terminology has been implemented. Severity related subclasses are present in foundation but are only index terms in the linearization.	MB_TAG to confirm severity is not needed in linearization
	Necrotizing enterocolitis	P77	Current codes does not provide information on severity		TAG_GURM	This will be resolved with postcoordination	Unchanged	WHO: highlight the issue to TAG_GURM together with TAG_Quality and Safety	Implemented severity subclasses are present both in foundation and in JLM&Mb	MB_TAG to note
Chapter 17	Genetic susceptibility to disease			New category for genetic susceptibility	TAG_Rare_Diseases	Currently being reviewed and discussed by WHO and RSG	Unchanged	RSG: to take a position on genetic susceptibility	Implemented Genetic susceptibility to particular pathogens is present with 4A30 Monocytopenia with susceptibility to infections as subclass allowed in linearization. Other subclasses are present in foundation and are all listed as 32 index terms of the automatically generated residual category 4A3Y Other specified genetic	MB_TAG to note

									susceptibility to particular pathogens	
	Congenital deformities and malformations		Overlap in terminology in various code titles		TAG_Rare_Diseases	Hierarchy has been substantially restructured and is still being reviewed	implemented	TAG_MB to review on completion of proposal entry by TAG_Rare_Disease	Implemented Terminology consistently changed to KC00 Structural developmental anomalies of the skeleton	MB_TAG to note
	Congenital occlusion of ureterovesical orifice	Q62	Codes within this category are not mutually exclusive	Review the section	TAG_Rare_Diseases	Category Q62 has been retired and the hierarchy in this chapter has been substantially restructured and is still being reviewed	implemented	TAG_MB to review on completion of proposal entry by TAG_Rare_Disease	In ICD-11 congenital occlusion of ureterovesical orifice is a foundation narrower term of Atresia and stenosis of ureter (inclusion in the linearization). The ambiguity of ICD-10 seems to remain in ICD-11 since potential overlap may exist for instance with category Fetal lower urinary tract obstruction having as narrower term Congenital: stricture of: vesicourethral orifice (which is also a linearization inclusion term).	TAG_Rare disease to review together with TAG_GURM
	Incomplete segmentation of bone		Need a code		TAG_Rare_Diseases	This concept now exists in the revision	implemented	TAG_MB to note.	Implemented KC00.435 Segmentation	MB_TAG to note

						(Segmentation anomalies of vertebrae) and is line with the information included in the original URC proposal			anomalies of vertebrae	
Chapter 19	Traumatic brain injury	S06.2	diffuse axonal and axonal shearing injuries versus focal injuries	refine terminology	TAG_External_Causes	TAG_External causes does not see this as priority.	no changes to ICD-10 structure. Foundation has included clinical modifications	WHO: highlight topic to TAG_External_Causes for review	Implemented Although in the JLM6Mb the structure has remained very similar to that of ICD-10, the foundation show extensive subclassification of the two categories of Diffuse brain injury and of Focal brain injury	TAG_MB to indicate the desirable granularity of the two categories and subclasses in the joint linearization as well. TAG_external_causes to align.
				delete SO6.7		SO6.7 deleted			Implemented coma in intracranial injury is only present as narrower term of coma	MB_TAG to note
	Head injury/concussion/LOC	S06.9	"closed head injury" as synonym of intracranial injury	index revision	TAG_External_Causes	no major structural changes are foreseen for this chapter	no changes to ICD-10 structure	WHO: highlight topic to TAG_External_Causes: change index and exclusion note accordingly.	not implemented No narrower terms/inclusion/index terms have been added to the ICD-11 Intracranial injury category to represent the concept of "closed head injury".	WHO to implement closed head injury as narrower term of Intracranial injury
	Spinal cord injury/ level of injury of vertebrae	G82	need to capture whether paralysis is complete or		TAG_Neurology		no changes to ICD-10 structure	WHO: wait until TAG_Neurology loads the proposal into iCAT	Implemented The overall structure remains similar to ICD-11, minor changes	MB_TAG to indicate if foundation subclasses of diplegia of upper limbs and diplegia of lower limbs, should also be present in the JLMb

			incomplete						in terminology in non code associated linearization entities (eg. Injury of spinal cord at thorax instead of the former ICD-10 Injury of nerves and spinal cord at thorax level). Although structure remains similar to ICD-10 structure, the relevant suggested concepts have been added Diplegia of upper extremities (further classified into Flaccid diplegia of upper extremities and Spastic diplegia of upper extremities) and Diplegia of lower extremities (similarly subclassified). The JLM&Mb remains the same as in ICD-10.	
	Fracture and dislocation of tooth	SO2, SO3	terminology of tooth is not in the category title	refine terminology	TAG_External_Causes	TAG_Oral Health added a concept for non traumatic fracture of teeth in the Digestive system.	additional codes added to Digestive chapter	WHO: highlight topic to TAG_External_Causes mentioning the work of TAG_Oral Health that potentially solves the issue	Implemented the current parenting of the category fracture of tooth to Fracture of	WHO to modify the category title MA03 Dislocation or sprain of joints or ligaments of head to MA03 Dislocation or sprain of joints or ligaments of head and teeth

						Similarly for dislocation.			skull or facial bones solves the ambiguity. The problem remains though for the category Dislocation of tooth parented to Dislocation or sprain of joints or ligaments of head. In ICD-10 an update has modified the title of the parent category to Dislocation, sprain and strain of joints and ligaments of head and teeth.	
	Sports medicine and overuse injuries		lack of applicable codes and specificity for overuse injuries in both injury and musculoskeletal chapter		TAG_External_Causes	none	Unchanged ICD-10 category structure	WHO: highlight the issue to TAG_External_causes and TAG Musculoskeletal	Implemented The structure remains similar to that of ICD-10 but clinically relevant condition such as FB50.1 Bursitis related to use, overuse and pressure is now present in the JLM&Mb.	MB_TAG to note
	Maltreatment syndromes	T74	identify perpetrator as external cause not injury	addition of 4th character at X85-Y09	TAG_External_Causes	added category "dimension" with subcategories "perpetrator"	implemented	TAG_MB to note.	Implemented iCAT status shows the category as still in progress (yellow) but "perpetrator" is an ICD-11 implemented dimension specifically related to	TAG_external causes to finalize

	Poisoning and adverse effects and definitions for key words		duplication of concepts between chapter 19 and 20		TAG_External_Causes	chapter 20 has been completely restructured with different axes, however no change is made to chapter 19	implemented	WHO: highlight topic to TAG_External_Causes and TAG_MB to review.	assault. Implemented expanded section for drugs as external causes eg. Poisoning by and exposure to noxious substances: Drugs, Other and unspecified drugs, medicaments and biological substances...	MB_Tag to note
	Toxicity		concept not fully covered by ICD-10		TAG_External_Causes	none	Unchanged ICD-10 category structure	WHO: highlight the issue to TAG_External_causes	Not implemented There are several conditions due to toxicity in the organ specific chapters of ICD-11 eg. Neurological disorders due to toxicity or "Secondary to drug toxicity" as subcategory of Nasolacrimal canalicular stenosis among Diseases of lacrimal drainage system. in none of the cases a multidimensional reference is made to the injury/external causes chapter.	TAG_external causes to double link relevant categories
	Drug classification		drugs are classified		TAG_External_Causes	none	Unchanged ICD-10 category structure	WHO: highlight the issue to TAG_External_causes	Drugs in external causes	MB_Tag to note

			by constituent rather than indication for treatment					are classified by constituent category		
	Complications of devices	T82 – T85	confusion over when the codes may be assigned		TAG_External_Causes	none	Unchanged ICD-10 category structure	WHO: highlight the issue to TAG_External_causes	Implemented Ambiguity is solved by the new structure of the chapter.	MB_TAG to note
	External cause in diagnostic codes		duplication of information	removal of external cause concepts from codes titles	TAG_External_Causes	none	Unchanged ICD-10 category structure	WHO: highlight the issue to TAG_External_causes	Implemented Ambiguity is solved and specific information on the type of complication has been added with specific subcategories.	MB_TAG to note
	Definitions of ‘early’ and ‘late’ complications		need to distinguish	early and late complications addressed in ICD-11	WHO_Assigned	none	Unchanged ICD-10 category structure	WHO: highlight the issue to TAG_External_causes	early complications are proposed as they were in ICD-10, no definition is given.	TAG_External_Causes to define the category
	Ambiguity between T codes and end of chapter post-procedural complication codes		supposed ambiguity between index entries		WHO_Assigned	the issue seems to raise from a misinterpretation of the index	Unchanged ICD-10 category structure	WHO: refine the index	Implemented Index is generated from the categories	TAG_MB Review ICD-11 Index and ICD-11 coding rules once classification is stable
	Intraoperative/postoperative		clarification of terminology; define both		TAG_External_Causes			WHO: highlight the issue to TAG_External_causes together with TAG_Quality and Safety	Not implemented The term intraoperative is only found twice in ICD-11 beta and always in procedures complicating interventions to the eye. Possibly a naming convention is in place since, for instance, ICD-10	TAG Quality and safety to give definitions. TAG_Ophthalmology to confirm used terminology.

									category H59.8 "Other postprocedural disorders of eye and adnexa" becomes, in ICD-11, Other intraoperative complications of eye and adnexa. No definition is though given. as a side comment, it's not clear if the two concepts are equivalent. Title may raise some caveats as well (complication of eye?)	
	Lack of specific postprocedural code		ICD-10 index issue		WHO_Assigned	none		TAG_MB Review ICD-11 Index and ICD-11 coding rules once classification is stable	Implemented The index will be generated from the code titles with index base terms listed under the tab	MB_TAG to note
	Overlap of T81 Complications of procedures, not elsewhere classified and T88 Other complications of surgical and medical care, not elsewhere classified	T81-T88			TAG_External_Causes	none	Unchanged ICD-10 category structure	WHO: highlight the issue to TAG_External_causes together with TAG_Quality and Safety	Implemented complication of has become, in ICD-11, Complication associated with, thus solving the problem of specifically stating that complication is due to the device.	MB_Tag to note
	Extravasation of vesicant chemotherapy			add a code	TAG_External_Causes	none	Unchanged ICD-10 category structure	WHO: highlight the issue to TAG_External_causes and TAG_Quality and Safety	Implemented in iCAT/ICD-11 beta, category of	MB_TAG to decide whether this category is also needed in the Joint Linearization.

									"Necrosis/ulceration due to extravasation of drug into the skin" has been created under "Localised adverse cutaneous reactions to administration of drug".	
	Nosocomial infections		inadequate capture of nosocomial infections	new category for chapter 19	TAG_External_Causes	none	Unchanged ICD-10 category structure	WHO: highlight the issue to TAG_External_causes and TAG_Quality and Safety	Not implemented The old ICD-10 category Y95 'Nosocomial condition' can still be found in iCAT in a red display status. Nosocomial as such (and common related synonyms) cannot be found in ICD-11 beta.	TAG_External_Causes to implement the category
Chapter 20	Mixed concepts in external cause codes	U to Y	duplication of diagnostic information	remove diagnostic information	TAG_External_Causes	chapter has been completely restructured with different axes	Proposal under construction	Wait until proposal is on iCAT; then TAG_MB to review	Implemented The current adopted fully specified names seem to eliminate every ambiguity since its clear the external causes nature of the category (external causes).	MB_TAG to confirm that "NC91 Perforation" as "Mode of injury or harm associated with a surgical or other medical procedure" is acceptable.
	Four wheel motorcycles		new code needed	add a code	TAG_External_Causes	chapter has been completely restructured with different axes	still only refers to 2 or three wheeled motorcycles	WHO: highlight topic to TAG_External_Causes	Implemented reference is made only two- three-wheeled motor vehicles and 'Light transport	MB_TAG to confirm conceptual equivalence with the proposed "four wheels motorcycles" and indicate if concept is also needed in JLM&Mb.

									vehicle with four or more wheels'.	
	Electrically powered indoor/outdoor conveyances		new code needed	add a code	TAG_External_Causes	chapter has been completely restructured with different axes	seems not to be included in the proposal	WHO: highlight topic to TAG_External_Causes	Implemented Mobility scooter (motorized) is a new external causes category under Pedestrian conveyance involved in fall	MB_TAG to confirm category equivalence with the proposed Electrically powered indoor/outdoor conveyances
	Exposure to environmental substances		new code needed	add a code	TAG_External_Causes	chapter has been completely restructured with different axes	seems not to be included in the proposal	WHO: highlight topic to TAG_External_Causes	Implemented In iCAT the category "Environmental-pollution-related condition" is present as Supplementary factors related to causes of morbidity and mortality classified elsewhere. The concept though is not yet implemented in the Beta draft as external causes category (advanced search of "environmental" as Object or Substance Producing Injury gives no results in foundation). There's instead a condition JA15.6 Fetus and newborn affected by maternal exposure to	MB_TAG to confirm relevance of the concept. TAG_external_causes to make available the category.

									environmental chemical substances which should perhaps have for consistency, a corresponding concept.	
	Anaphylactic reaction to food		new code needed	add a code	TAG_External_Causes	chapter has been completely restructured with different axes			Not implemented The overall ICD-10 structure seems to have been used for ICD-11 as well (with minor modification in the foundation): anaphylactic reaction to food is an index term of MD51.3 Anaphylactic shock due to adverse food reaction. Anaphylactic reaction to food is not present in iCAT.	MB_TAG to confirm category is needed beyond index term. TAG_external_causes to align.
				food allergies and reactions in the disease chapters	TAG_External_Causes			WHO to consider the matter in the possible creation of an immune disease chapter	Not implemented There are no multidimensional references to conditions in different chapters and the search for food reaction/allergies.. does not bring up eligible categories in other ICD-11	MB_TAG to note

	Misadventures to patients during surgical and medical care	Y60-Y69	definition of misadventure		TAG_External_Causes	chapter has been completely restructured with different axes	the term "misadventure" is not been used		chapters. No longer needed The relevant section of external causes chapter has been completely restructured. Misadventure is not a retrievable concept in the external causes chapter of ICD-11 beta. Old ICD-10 categories using the term misadventure are still in iCAT in a red display status: work in progress or to be erased?	TAG_External_Causes to make clear if these categories are still needed in the new chapter structure. TAG_MB to judge Terminology consistency of chapter Pregnancy, childbirth and the puerperium where the term Misadventure (without definition) is still used several times (eg. Misadventures to women during caesarean section). TAG_GURM to align.
	Deaths from smoke inhalation	X09	MRG highlights no information about the source of the smoke		TAG_External_Causes	Not monitored	Not monitored	Not monitored	The concept is further specified with the implementation of the new structure that allows to define smoke source.	M_TAG to note
	Carbon monoxide sources	X47, X67, Y17	MRG highlights no information about the source of carbon monoxide		TAG_External_Causes	Not monitored	Not monitored	Not monitored	The concept is further specified with the implementation of the new structure that allows to define smoke source.	M_TAG to note
	Medical devices associated with adverse incidents in diagnostic and	Y70-Y82	overlapping and ambiguity		TAG_External_Causes	chapter has been completely restructured with different axes	issue of ambiguity solved by new structure	Wait until proposal is on iCAT; then TAG_MB to review	Implemented ambiguity solved by new axial structure	MB_TAG to note

	therapeutic use									
	Surgical and other medical procedures as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure	Y83	overlapping of subcategories		TAG_External_Causes	chapter has been completely restructured with different axes	hierarchy completely new, issue solved	Wait until proposal is on iCAT; then TAG_MB to review	Implemented The concept of misadventure is no longer used in external causes.	MB_TAG to note
	Place of occurrence and activity codes	Chapter XX	constrained by the place of occurrence and activity codes being incorporated into the ICD codes	MRG recommended that place of occurrence and activity codes be separated from the ICD code	TAG_External_Causes	Not monitored	Not monitored	Not monitored	Implemented ambiguity solved by new axial structure	M_TAG to note
	Suspected suicide but intent not clearly stated	Chapter XX		MRG suggested to disentangle intent from mechanism	TAG_External_Causes	Not monitored	Not monitored	Not monitored	Implemented ambiguity solved by new axial structure	M_TAG to note
	Ritual or cultural practice as cause of death	Chapter XX	new code for non medical procedures and procedures of traditional medicine		TAG_External_Causes	created a category "injury or harm in therapy and care NEC"		Wait until proposal is on iCAT; then TAG_MB to review	Not implemented No relevant concepts can be retrieved using "ritual" and "cultural" in the advanced search function of the ICD-11 browser nor in iCAT.	TAG_M to confirm the concept is still needed. TAG_external causes to align
Chapter 21	Contextual factors			framework for non-medical contextual factors	WHO_Assigned and potentially all other TAGs	chapter still pending	no structural changes to the previous ICD-10 structure	WHO: decision on chapter 21	Implemented Former ICD-10 chapter 21, now chapter 23, have been restructured with rearrangements of non medical contextual factors.	MB_TAG to note
	Carrier of infectious	Z22		classify to the	WHO Assigned	chapter 1 is	to be implemented	include in Chapter I.	Implemented	MB_TAG to note

	disease (Z22)			specific disease		under revision by WHO. The issue has been considered and carrier state will be classified with the disease			
--	----------------------	--	--	------------------	--	--	--	--	--

Annex 5 - GongoloF., Karlsson D., Hough J., Matney S. - ICF-SNOMED-CT gap analysis

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d	ACTIVITIES AND PARTICIPATION																					
d1	CHAPTER 1 LEARNING AND APPLYING KNOWLEDGE	This chapter is about learning, applying the knowledge that is learned, thinking, solving problems, and making decisions.					No match	+learn* +apply* +know*							GAP	SNOMED CT does not contain "non-healthcare" activities, SNOMED CT does not distinguish between functions and activities, activities and abilities						
d110	Watching	Using the sense of seeing intentionally to experience visual stimuli, such as watching a sporting event or children playing.			[338588016]	Constant watching [338588016]	Partial match	watch*	Constant supervision (regime/therapy)	"seeing" not a synonym in ICF, b210 Seeing functions	NO	completely different concepts	NO	NO alignment	GAP							
d110-d129	Purposeful sensory experiences						No match	purpos* sens* experience*							GAP							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d115	Listening	Using the sense of hearing intentionally to experience auditory stimuli, such as listening to a radio, music or a lecture.			1490897019	Listening	Match	listen*	Auscultation (procedure)	"listening" synonym to "auscultation" in SCT	NO	completely different concepts	NO	NO alignment	GAP							
d130	Copying	Imitating or mimicking as a basic component of learning, such as copying a gesture, a sound or the letters of an alphabet.			288447002	Ability to perform copying activities	Partial match	copy*	Not relevant	NO	Partial Overlap	There's a difference between the activity and the ability to perform the activity. There could be partial overlap with a.0 qualified value of d130	NO	details	GAP							
d130-d159	Basic learning				50829006	Basic learning problem	Partial match	+basic +learn*		"learning, function", "basic learning problem (finding)" exists in SCT	NO		NO		GAP							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d135	Rehearsing	Repeating a sequence of events or symbols as a basic component of learning, such as counting by tens or practicing the recitation of a poem.			228576005	Behavior rehearsal technique (procedure)	Partial match	rehears*	NO	NO	NO	NO	NO		GAP							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d140	Learning to read	Developing the competence to read written material (including Braille) with fluency and accuracy, such as recognizing characters and alphabets, sounding out words with correct pronunciation, and understanding words and phrases.			52824009	Developmental reading disorder (disorder)	Partial match	some sort of lexical similarity	Reading disorder		NO	Potentially there is some sort of overlap between a qualified value of d140, other than .0 and Developmental reading disorder in SNOMED-CT	NO	details	GAP							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d145	Learning to write	Developing the competence to produce symbols that represent sounds, words or phrases in order to convey meaning (including Braille writing), such as spelling effectively and using correct grammar.				Developmental expressive writing disorder (disorder)	Partial match	some sort of lexical similarity	Disorder of written expression		NO	Potentially there is some sort of overlap between a qualified value of d145, other than .0 and Developmental expressive writing disorder (disorder) in SNOMED-CT	NO	details	GAP							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d150	Learning to calculate	Developing the competence to manipulate numbers and perform simple and complex mathematical operations, such as using mathematical signs for addition and subtraction and applying the correct mathematical operation to a problem.			47916000	Developmental arithmetic disorder (disorder)	No match	No lexical similarity		Synonyms under "d172 calculating" and there discussed		Potentially there is some sort of overlap between a qualified value of d155, d1550, d1551, other than .0 and Developmental mental disorder in SNOMED-CT	NO	details	GAP							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d155	Acquiring skills	Developing basic and complex competencies in integrated sets of actions or tasks so as to initiate and follow through with the acquisition of a skill, such as manipulating tools or playing games like chess.	Inclusion: acquiring basic and complex skills		NO	NO	No match	NO	NO	NO	NO	Potentially there is some sort of overlap between a qualified value of d155, d1550, d1551, other than .0 and Developmental mental disorder in SNOMED-CT	NO	details	GAP							
d1550	Acquiring basic skills	Learning elementary, purposeful actions, such as learning to manipulate eating utensils, a pencil or a simple tool.			NO	NO	No match	NO	NO	NO	NO	Potentially there is some sort of overlap between a qualified value of d155, d1550, d1551, other than .0 and Developmental mental disorder in SNOMED-CT	NO	details	GAP							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d1551	Acquiring complex skills	Learning integrated sets of actions so as to follow rules, and to sequence and coordinate one's movements, such as learning to play games like football or to use a building tool.			NO	NO	No match	NO	NO	NO	NO	Potentially there is some sort of overlap between a qualified value of d155, d1550, d1551, other than .0 and Developmental mental disorder in SNOMED-CT	NO	details	GAP							
d160	Focusing attention	Intentionally focusing on specific stimuli, such as by filtering out distracting noises.			311517002	Focused attention, function (observable entity)	Match	+focus* +atten*	Focused attention, function [2670417011]	No synonyms in ICF	NO	although semantic similarity NO content match	NO	details	GAP							
					288768002	Ability to direct attention (observable entity)	Match	Only one word matches	Ability to direct attention [428488012]	No synonyms in ICF	O	content overlap: match with capacity qualifier	NO	details	GAP							
d160-d179	Applying knowledge						No match	+apply* +know*							GAP							
d163	Thinking	Formulating and manipulating ideas, concepts,		Exclusions: solving problems (d175);	88952004	Thinking, function (observable entity)	Match	Exact lexical one-to-one match with ICF term	Thinking [147492011]	No synonyms in ICF	O	content overlap	NO	details	GAP	function, unclarity about functions viz activities						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
		and images, whether goal-oriented or not, either alone or with others, such as creating fiction, proving a theorem, playing with ideas, brainstorming, meditating, pondering, speculating, or reflecting.		making decisions (d177)																		
									Reasoning [147494012]													
		Performing activities involved in the comprehension and interpretation of written language (e.g.		Exclusion: learning to read (d140)	50360004	Reading (observable entity)	Match	Exact lexical one-to-one match with ICF term	Reading [83893012]	No synonyms in ICF	O	content overlap	P	details	GAP	Partial conceptual alignment but yes GAP/subsumed by activity						
d166	Reading				452618018	Ability to read (observable entity)	Match	One word partially matched	Ability to read [452618018]	No synonyms in ICF	O	content overlap	NO									

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
		books, instructions or newspapers in text or Braille), for the purpose of obtaining general knowledge or specific information.			309251006	Able to read (finding)	Match	One word partially matched		No synonyms in ICF nor SNOMED	P	the content would overlap with a qualified value of d166 Eg. D166.0 No problems in reading	NO								
d170	Writing	Using or producing symbols or language to convey information, such as producing a written record of events or ideas or drafting a letter.		Exclusion: learning to write (d145)	12261009	Writing (observable entity)	Match	Exact lexical one-to -one match with ICF term	Writing [21108014]	No synonyms in ICF	P	Same as with reading before.. In snomed it is both an activity and the ability to perform the activity.		details	GAP	Partial conceptual alignment but yes GAP/subsumed by activity. writing is a multirepresented concept in the SNOMED-CT hierarchies but there's no alignment between hierarchies					

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment				
d172	Calculating	Performing computations by applying mathematical principles to solve problems that are described in words and producing or displaying the results, such as computing the sum of three numbers or finding the result of dividing one number by another.		Exclusion: learning to calculate (d150)	no	no	No match	no	b172 Calculation functions	ICF has lexical synonyms in the functions domain; learning to calculate is discussed above	No	No overlapping concepts: only lab procedures in SNOMED.	No		GAP	No alignment									
									b1720 Simple calculation																
									b1721 Complex calculation																
									d150 Learning to calculate	See above for discussion															

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d175	Solving problems	Finding solutions to questions or situations by identifying and analyzing issues, developing options and solutions, evaluating potential effects of solutions, and executing a chosen solution, such as in resolving a dispute between two people.	Inclusions : solving simple and complex problems	Exclusions: thinking (d163); making decisions (d177)	247581008	Problem solving (observable entity)	Match	Exact lexical one-to -one match with ICF term		The only partial lexical synonyms are d1750 and d1751	Partial Overlap	Same as with reading before.. In snomed it is both an activity and the ability to perform the activity.	NO	details	GAP	Partial conceptual alignment but yes GAP. Cognitive function observable maps to ICF function						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d1750	Solving simple problems	Finding solutions to a simple problem involving a single issue or question, by identifying and analysing the issue, developing solutions, evaluating the potential effects of the solutions and executing a chosen solution.					No	No match	No	No	No	No	No	details	GAP	No distinction in SNOMED-CT between simple and complex problems						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d1751	Solving complex problems	Finding solutions to a complex problem involving multiple and interrelated issues, or several related problems, by identifying and analysing the issue, developing solutions, evaluating the potential effects of the solutions and executing a chosen solution.					No	No match	No	No	No	No	No	details	GAP	No distinction in SNOMED-CT between simple and complex problems						
d177	Making decisions	Making a choice among options, implementing the choice, and evaluating the effects of the choice, such as		Exclusions: thinking (d163); solving problems (d175)	247583006	Decision making	Match	Exact lexical one-to-one match with ICF term	Decision taking [1224049015]	No synonyms in ICF	Partial Overlap	Same as with reading before.. In snomed it is both an activity and the ability to perform the activity.	NO	details	GAP	Partial conceptual alignment but yes GAP. Cognitive function observable.						Same as with reading before.. In snomed it is both an activity and the ability to perform the activity.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
		selecting and purchasing a specific item, or deciding to undertake and undertaking one task from among several tasks that need to be done.							Making up mind [1224050015]													
									Decision making behaviour [2161350014]													

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d2	CHAPTER 2 GENERAL TASKS AND DEMANDS	This chapter is about general aspects of carrying out single or multiple tasks, organizing routines and handling stress. These items can be used in conjunction with more specific tasks or actions to identify the underlying features of the execution of tasks under different circumstances.			258156005	everyday tasks (observable entity)	Partial	One word complete match.														This is in the correct domain - ADL.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d210	Undertaking a single task	Carrying out simple or complex and coordinated actions related to the mental and physical components of a single task, such as initiating a task, organizing time, space and materials for a task, pacing task performance, and carrying out, completing, and sustaining a task.	Inclusions : undertaking a simple or complex task; undertaking a single task independently or in a group	Exclusions: acquiring skills (d155); solving problems (d175); making decisions (d177); undertaking multiple tasks (d220)	258156005	everyday tasks (observable entity)	Partial	One word complete match.							There are not any individual task concepts in SCT.							This is in the correct domain - ADL.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d2100	Undertaking a simple task	Preparing, initiating and arranging the time and space required for a simple task; executing a simple task with a single major component, such as reading a book, writing a letter, or making one's bed.			258156005	everyday tasks (observable entity)	Partial	One word complete match.							There are not any individual task concepts in SCT.							This is in the correct domain - ADL.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d2101	Undertaking a complex task	Preparing, initiating and arranging the time and space for a single complex task; executing a complex task with more than one component, which may be carried out in sequence or simultaneously, such as arranging the furniture in one's home or completing an assignment for school.			258156005	everyday tasks (observable entity)	Partial	One word complete match.								There are not any individual task concepts in SCT.						This is in the correct domain - ADL.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d2102	Undertaking a single task independently	Preparing, initiating and arranging the time and space for a simple or complex task; managing and executing a task on one's own and without the assistance of others.			258156005	everyday tasks (observable entity)	Partial	One word complete match.							There are not any individual task concepts in SCT.							This is in the correct domain - ADL.
d2103	Undertaking a single task in a group	Preparing, initiating and arranging the time and space for a single task, simple or complex; managing and executing a task with people who are involved in some or all steps of the task.			258156005	everyday tasks (observable entity)	Partial	One word complete match.							There are not any individual task concepts in SCT.							This is in the correct domain - ADL.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d220	Undertaking multiple tasks	Carrying out simple or complex and coordinated actions as components of multiple, integrated and complex tasks in sequence or simultaneously.	Inclusions : undertaking multiple tasks; completing multiple tasks; undertaking multiple tasks independently and in a group	Exclusions: acquiring skills (d155); solving problems (d175); making decisions (d177); undertaking a single task (d210)	258156005	everyday tasks (observable entity)	Partial	One word complete match.							There are not any individual task concepts in SCT.							This is in the correct domain - ADL.
d2200	Carrying out multiple tasks	Preparing, initiating and arranging the time and space needed for several tasks, and managing and executing several tasks, together or sequentially.			258156005	everyday tasks (observable entity)	Partial	One word complete match.							There are not any individual task concepts in SCT.							This is in the correct domain - ADL.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d2201	Completing multiple tasks	Completing several tasks, together or sequentially.			258156005	everyday tasks (observable entity)	Partial	One word complete match.							There are not any individual task concepts in SCT.							This is in the correct domain - ADL.
d2202	Undertaking multiple tasks independently	Preparing, initiating and arranging the time and space for multiple tasks, and managing and executing several tasks together or sequentially, on one's own and without the assistance of others.			258156005	everyday tasks (observable entity)	Partial	One word complete match.							There are not any individual task concepts in SCT.							This is in the correct domain - ADL.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d2203	Undertaking multiple tasks in a group	Preparing, initiating and arranging the time and space for multiple tasks, and managing and executing several tasks together or sequentially with others who are involved in some or all steps of the multiple tasks.			258156005	everyday tasks (observable entity)	Partial	One word complete match.							There are not any individual task concepts in SCT.							This is in the correct domain - ADL.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d230	Carrying out daily routine	Carrying out simple or complex and coordinated actions in order to plan, manage and complete the requirements of day-to-day procedures or duties, such as budgeting time and making plans for separate activities throughout the day.	Inclusions : managing and completing the daily routine; managing one's own activity level	Exclusion: undertaking multiple tasks (d220)	225787000	use of day finding (finding)	None				ADL										

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d2301	Managing daily routine	Carrying out simple or complex and coordinated actions in order to plan and manage the requirements of day-to-day procedures or duties.			225787000	use of day finding (finding)	None															There are domains is SCT specific to performing or carrying out activities . See "finding related to ability to perform community living activities (finding)" or "finding related to ability to perform play and sports activities (finding)" but no real match

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d2302	Completing the daily routine	Carrying out simple or complex and coordinated actions in order to complete the requirements of day-to-day procedures or duties.			225787000	use of day finding (finding)	None															There are domains is SCT specific to performing or carrying out activities . See "finding related to ability to perform community living activities (finding)" or "finding related to ability to perform play and sports activities (finding)" but no real match

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d2303	Managing one's own activity level	Carrying out actions and behaviours to arrange the requirements in energy and time day-to-day procedures or duties.			225787000	use of day finding (finding)	None															There are domains is SCT specific to performing or carrying out activities . See "finding related to ability to perform community living activities (finding)" or "finding related to ability to perform play and sports activities (finding)" but no real match

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d240	Handling stress and other psychological demands	Carrying out simple or complex and coordinated actions to manage and control the psychological demands required to carry out tasks demanding significant responsibilities and involving stress, distraction, or crises, such as driving a vehicle during heavy traffic or taking care of many children.	Inclusions : handling responsibilities; handling stress and crisis		422761005	difficulty managing stress (finding)	None															This is the only concept related to handling anything such as responsibilities, stress or crisis.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d2400	Handling responsibilities	Carrying out simple or complex and coordinated actions to manage the duties of task performance and to assess the requirements of these duties.																				No match
d2401	Handling stress	Carrying out simple or complex and coordinated actions to cope with pressure, emergencies or stress associated with task performance.																				No match

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d2402	Handling crisis	Carrying out simple or complex and coordinated actions to cope with decisive turning points in a situation or times of acute danger or difficulty .																				No match

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d3	CHAPTER 3 COMMUNICATION	This chapter is about general and specific features of communicating by language, signs and symbols, including receiving and producing messages, carrying on conversations, and using communication devices and techniques.			43272002	Communicating (observable entity)	match							Hierarchies are different	y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d310	Communicating with - receiving - spoken messages	Comprehending literal and implied meanings of messages in spoken language, such as understanding that a statement asserts a fact or is an idiomatic expression.					no match				no match		no match		y							
d310-d329	Communicating - receiving						no match				no match	SNOMED does not specify "receiving" or "producing"	no match	See semantic comment	y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d315	Communicating with - receiving - nonverbal messages	Comprehending the literal and implied meanings of messages conveyed by gestures, symbols and drawings, such as realizing that a child is tired when she rubs her eyes or that a warning bell means that there is a fire.	Inclusions : communicating with - receiving - body gestures, general signs and symbols, drawings and photographs		288580007	Ability to use non-verbal communication (observable entity)	semi match				no match	Ability corresponds to one of ICF's two qualifiers	no match		y							
d3150	Communicating with - receiving - body gestures	Comprehending the meaning conveyed by facial expressions, hand movements or signs, body postures, and other forms of body language.			288586001	Ability to use body language (observable entity) (FSN)	semi match				no match		no match		y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d3151	Communicating with - receiving - general signs and symbols	Comprehending the meaning represented by public signs and symbols, such as traffic signs, warning symbols, musical or scientific notations, and icons.					no match				no match		no match		y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d3152	Communicating with - receiving - drawings and photographs	Comprehending the meaning represented by drawings (e.g. line drawings, graphic designs, paintings, three-dimensional representations), graphs, charts and photographs, such as understanding that an upward line on a height chart indicates that a child is growing.					no match				no match		no match		y							
d320	Communicating with - receiving - formal sign language messages	Receiving and comprehending messages in formal sign language with literal and implied meaning.			415807006	Using sign language (observable entity)	semi match				no match		no match		y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d325	Communicating with - receiving - written messages	Comprehending the literal and implied meanings of messages that are conveyed through written language (including Braille), such as following political events in the daily newspaper or understanding the intent of religious scripture.					no match				no match		no match		y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d330	Speaking	Producing words, phrases and longer passages in spoken messages with literal and implied meaning, such as expressing a fact or telling a story in oral language.			87335007	Speaking (observable entity)	match				semi match	SNOMED "Speaking" is both vocalization, vocal function and use of language.	semi match	SNOMED hierarchy mixes some distinctions of ICF	y							
d330-d349	Communicating - producing						no match				no match	SNOMED does not specify "receiving" or "producing"			y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d335	Producing nonverbal messages	Using gestures, symbols and drawings to convey messages, such as shaking one's head to indicate disagreement or drawing a picture or diagram to convey a fact or complex idea.	Inclusion: producing body gestures, signs, symbols, drawings and photographs		288580007	Ability to use non-verbal communication (observable entity)	semi match				no match				y							
d3350	Producing body language	Conveying meaning by movements of the body, such as facial gestures (e.g. smiling, frowning, wincing), arm and hand movements, and postures (e.g. such as embracing to indicate affection).			288586001	Ability to use body language (observable entity) (FSN)	semi match				no match				y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d3351	Producing signs and symbols	Conveying meaning by using signs and symbols (e.g. icons, Bliss board, scientific symbols) and symbolic notation systems, such as using musical notation to convey a melody.					no match				no match				y							
d3352	Producing drawings and photographs	Conveying meaning by drawing, painting, sketching, and making diagrams, pictures or photographs, such as drawing a map to give someone directions to a location.			288435008	Ability to perform drawing activities (observable entity)	match				no match				y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d340	Producing messages in formal sign language	Conveying, with formal sign language, literal and implied meaning.			415807006	Using sign language (observable entity)	match				no match				y							
d345	Writing messages	Producing the literal and implied meanings of messages that are conveyed through written language, such as writing a letter to a friend.			307124006	Ability to write (observable entity)	semi match				no match	SNOMED does not distinguish "messages"			y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d350	Conversation	Starting, sustaining and ending an interchange of thoughts and ideas, carried out by means of spoken, written, sign or other forms of language, with one or more people one knows or who are strangers, in formal or casual settings.	Inclusions : starting, sustaining and ending a conversation; conversing with one or many people		288633005	Ability to make conversation (observable entity)	match				no match	Ability/activity distinction missing			y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d3500	Starting a conversation	Beginning a dialogue or interchange, such as by introducing oneself, expressing customary greetings, and introducing a topic or asking questions.			288639009	Ability to initiate conversation	semi match				no match				y							
d3501	Sustaining a conversation	Continuing and shaping a dialogue or interchange by adding ideas, introducing a new topic or retrieving a topic that has been previously mentioned, as well as by taking turns in speaking or signing.			288663001	Ability to maintain conversation (observable entity)	semi match				no match				y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d3502	Ending a conversation	Finishing a dialogue or interchange with customary termination statements or expressions and by bringing closure to the topic under discussion.			288676007	Ability to terminate conversation (observable entity)	semi match				no match				y							
d3503	Conversing with one person	Initiating, maintaining, shaping and terminating a dialogue or interchange with one person, such as in discussing the weather with a friend.					no match				no match				y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d3504	Conversing with many people	Initiating, maintaining, shaping and terminating a dialogue or interchange with more than one individual, such as in starting and participating in a group interchange.					no match				no match				y							
d350-d369	Conversation and use of communication devices and techniques						no match				no match				y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d355	Discussion	Starting, sustaining and ending an examination of a matter, with arguments for or against, or debate carried out by means of spoken, written, sign or other forms of language, with one or more people one knows or who are strangers, in formal or casual settings.	Inclusion: discussion with one person or many people				no match				no match				y							
d3550	Discussion with one person	Initiating, maintaining, shaping or terminating an argument or debate with one person.					no match				no match				y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d3551	Discussion with many people	Initiating, maintaining, shaping or terminating an argument or debate with more than one individual.					no match				no match				y							
d360	Using communication devices and techniques	Using devices, techniques and other means for the purposes of communicating, such as calling a friend on the telephone.	Inclusions : using telecommunication devices, using writing machines and communication techniques		423723003	Communication device observable (observable entity)	semi match				no match	A SNOMED "communication device observable" are observables about devices, not the activities in which they are participants			y							
d3600	Using telecommunication devices	Using telephones and other machines, such as facsimile or telex machines, as a means of communication.			423723003	Communication device observable (observable entity)	semi match				no match				y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d3601	Using writing machines	Using machines for writing, such as typewriters, computers and Braille writers, as a means of communication.					no match				no match				y							
d3602	Using communication techniques	Performing actions and tasks involved in techniques for communicating, such as reading lips.					no match				no match			E.g. "using lip reading" exist but there is no correspondence to "communication techniques".	y							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d4	CHAPTER 4 MOBILITY	This chapter is about moving by changing body position or location or by transferring from one place to another, by carrying, moving or manipulating objects, by walking, running or climbing, and by using various forms of transportation.																			

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d410	Changing basic body position	Getting into and out of a body position and moving from one location to another, such as getting up out of a chair to lie down on a bed, and getting into and out of positions of kneeling or squatting .	Inclusion: changing body position from lying down, from squatting or kneeling, from sitting or standing, bending and shifting the body's centre of gravity	Exclusion: transferring oneself (d420)	299981009	changing position, function (observable entity)	similar				Exact match		gross motor functions		No							
d4100	Lying down	Getting into and out of a lying down position or changing body position from horizontal to any other position, such as standing up or sitting down.	Inclusion: getting into a prostrate position		282924002	ability to lie down (observable entity)	similar				Exact match		ability to move (observable entity), 301998005	Yes, similar parent.	No							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4101	Squatting	Getting into and out of the seated or crouched posture on one's haunches with knees closely drawn up or sitting on one's heels, such as may be necessary in toilets that are at floor level, or changing body position from squatting to any other position, such as standing up.			364867000	ability to squat (observable entity)	similar				Exact match		ability to move (observable entity), 301998005	Yes, similar parent.	No							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d4102	Kneeling	Getting into and out of a position where the body is supported by the knees with legs bent, such as during prayers, or changing body position from kneeling to any other position, such as standing up.			282979005	ability to kneel (observable entity)	similar				Exact match		ability to move (observable entity), 301998005	Yes, similar parent.	No				YES	SCT needs to review both concepts to see if we need both	
d4103	Sitting	Getting into and out of a seated position and changing body position from sitting down to any other position, such as standing up or lying down.	Inclusions : getting into a sitting position with bent legs or cross-legged; getting into a sitting position with feet supported or unsupported		282964003	ability to sit (observable entity)	similar				Exact match		ability to move (observable entity)	Yes, similar parent.	No						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4104	Standing	Getting into and out of a standing position or changing body position from standing to any other position, such as lying down or sitting down.			282970009	ability to stand (observable entity)	similar				Exact match		ability to move (observable entity)	Yes, similar parent.	No							There are multiple codes for "able to stand up:", "does stand up", and "not able to stand up" These seem like the answers to the question of "Standing"
d4105	Bending	Tilting the back downwards or to the side, at the torso, such as in bowing or reaching down for an object.			282974000	ability to bend (observable entity)	similar				Exact match		ability to change position (observable entity), 282869009		No							SNOMED has "Ability to bend forward" and "Ability to Bend Backward" as well.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4106	Shifting the body's centre of gravity	Adjusting or moving the weight of the body from one position to another while sitting, standing or lying, such as moving from one foot to another while standing.		Exclusions: transferring oneself (d420); walking (d450)		No match	No match				No match		musculoskeletal function (observable entity)		Yes	This could go under musculoskeletal function.						
d410-d429	Changing and maintaining body position				299981009	changing position, function (observable entity)	partial	missing maintaining			broader than				Yes	This would be under changing position.						
d415	Maintaining a body position	Staying in the same body position as required, such as remaining seated or remaining standing for work or school.	Inclusions: maintaining a lying, squatting, kneeling, sitting and standing position		249868004	ability to maintain a position (observable entity)	similar				Exact match			No								

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4150	Maintaining a lying position	Staying in a lying position for some time as required, such as remaining in a prone position in a bed.	Inclusions : staying in a prone (face down or prostrate), supine (face upwards) or side-lying position			No match	partial	missing maintaining			No match		ability to maintain a position (observable entity)		Yes	Fits under ability to maintain a position (observable entity)						
d4151	Maintaining a squatting position	Staying in a squatting position for some time as required, such as when sitting on the floor without a seat.				No match	No match				No match		ability to maintain a position (observable entity)		Yes	Fits under ability to maintain a position (observable entity)						
d4152	Maintaining a kneeling position	Staying in a kneeling position where the body is supported by the knees with legs bent for some time as required, such as during prayers in church.			282979005	ability to kneel (observable entity)	partial	missing maintaining			narrower than		ability to maintain a position (observable entity), 249868004		Yes	Fits under ability to maintain a position (observable entity)						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4153	Maintaining a sitting position	Staying in a seated position, on a seat or the floor, for some time as required, such as when sitting at a desk or table.	Inclusions : staying in a sitting position with straight legs or cross-legged, with feet supported or unsupported		282858006	ability to maintain a sitting position (observable entity)	similar				Exact match		ability to maintain a position (observable entity), 249868004		No							
d4154	Maintaining a standing position	Staying in a standing position for some time as required, such as when standing in a queue.	Inclusions : staying in a standing position on a slope, on slippery or hard surfaces		282852007	ability to maintain a standing position (observable entity)	similar				Exact match		ability to maintain a position (observable entity), 249868004		No							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d420	Transferring oneself	Moving from one surface to another, such as sliding along a bench or moving from a bed to a chair, without changing body position.	Inclusion: transferring oneself while sitting or lying	Exclusion: changing basic body position (d410)	364666007	ability to transfer location (observable entity)	similar				Exact match		ability to transfer location (observable entity), 364666007		No							ability to change position has inconsistent children in the domain. Has able to transfer and a high level but then under transferring to wheelchair to chair, there is able to transfer from....
d4200	Transferring oneself while sitting	Moving from a sitting position on one seat to another seat on the same or a different level, such as moving from a chair to a bed.	Inclusions : moving from a chair to another seat, such as a toilet seat; moving from a wheelchair to a car seat	Exclusion: changing basic body position (d410)	364666007	ability to transfer location (observable entity)	partial	missing "while sitting"			broader than		ability to transfer location (observable entity), 364666007		Yes	Fits under ability to transfer location (observable entity), 364666007.						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4201	Transferring oneself while lying	Moving from one lying position to another on the same or a different level, such as moving from one bed to another.		Exclusion: changing basic body position (d410)	364666007	ability to transfer location (observable entity)	partial	missing "while lying"			broader than		ability to transfer location (observable entity), 364666007		Yes	Fits under ability to transfer location (observable entity), 364666007.						
d430	Lifting and carrying objects	Raising up an object or taking something from one place to another, such as when lifting a cup or carrying a child from one room to another.	Inclusions : lifting, carrying in the hands or arms, or on shoulders, hip, back or head; putting down		288330002, 288342007	ability to lift (observable entity); ability to carry (observable entity)	partial				narrower than				Yes	Precoordinated ICF concept would not be created in SNOMED CT.						
d4300	Lifting	Raising up an object in order to move it from a lower to a higher level, such as when lifting a glass from the table.			288330002	ability to lift (observable entity)	similar				Exact match				No							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4301	Carrying in the hands	Taking or transporting an object from one place to another using the hands, such as when carrying a drinking glass or a suitcase.			288342007	ability to carry (observable entity)	partial	missing "the hands"					ability to carry (observable entity), 288342007		Yes	Fits under ability to carry (observable entity), 288342007						
d4302	Carrying in the arms	Taking or transporting an object from one place to another using the arms and hands, such as when carrying a child.			288342007	ability to carry (observable entity)	partial	missing "the arms"					ability to carry (observable entity), 288342007		Yes	Fits under ability to carry (observable entity), 288342007						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4303	Carrying on shoulders, hip and back	Taking or transporting an object from one place to another using the shoulders, hip or back, or some combination of these, such as when carrying a large parcel.			288342007	ability to carry (observable entity)	partial	missing "the shoulders, hips and back"					ability to carry (observable entity), 288342007		Yes	Fits under ability to carry (observable entity), 288342007						
d4304	Carrying on the head	Taking or transporting an object from one place to another using the head, such when as carrying a container of water on the head.			288342007	ability to carry (observable entity)	partial	missing "the head"					ability to carry (observable entity), 288342007		Yes	Fits under ability to carry (observable entity), 288342007						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4305	Putting down objects	Using hands, arms or other parts of the body to place an object down on a surface or place, such as when lowering a container of water to the ground.					No match				No match				Yes	Fits under ability to perform general purpose physical activities (observable entity)						
d430-d449	Carrying, moving and handling objects						No match				No match		ability to manipulate objects (observable entity), 284311007		Yes	See Hierarchical comment						
d435	Moving objects with lower extremities	Performing coordinated actions aimed at moving an object by using the legs and feet, such as kicking a ball or pushing pedals on a bicycle.	Inclusions : pushing with lower extremities; kicking				No match				No match		ability to manipulate objects (observable entity), 284311007		Yes	See Hierarchical comment						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4350	Pushing with lower extremities	Using the legs and feet to exert a force on an object to move it away, such as pushing a chair away with a foot.				No match	No match				No match		ability to push (observable entity), 303361009		Yes	See Hierarchical comment						
d4351	Kicking	Using the legs and feet to propel something away, such as kicking a ball.			284167005	ability to kick (observable entity)	similar				Exact match		ability to move (observable entity), 301998005		No							
d440	Fine hand use	Performing the coordinated actions of handling objects, picking up, manipulating and releasing them using one's hand, fingers and thumb, such as required to lift coins off a table or turn a dial or knob.	Inclusions : picking up, grasping, manipulating and releasing	Exclusion: lifting and carrying objects (d430)	284364006	hand functions (observable entity)	similar				broader than		ability to move (observable entity), 301998005		Yes	See Hierarchical comment						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4400	Picking up	Lifting or taking up a small object with hands and fingers, such as when picking up a pencil.			284364006	hand functions (observable entity)	No match								Yes	See Hierarchical comment						
d4401	Grasping	Using one or both hands to seize and hold something, such as when grasping a tool or a door knob.			284364006	hand functions (observable entity)	No match								Yes	See Hierarchical comment						
d4402	Manipulating	Using fingers and hands to exert control over, direct or guide something, such as when handling coins or other small objects.			284311007	ability to manipulate objects (observable entity)	No match								Yes	See Hierarchical comment						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4403	Releasing	Using fingers and hands to let go or set free something so that it falls or changes position, such as when dropping an item of clothing.					No match				No match		hand functions (observable entity), 284364006		Yes	See Hierarchical comment						
d445	Hand and arm use	performing the coordinated actions required to move objects or to manipulate them by using hands and arms, such as when turning door handles or throwing or catching an object	Inclusions : pulling or pushing objects; reaching; turning or twisting the hands or arms; throwing; catching	Exclusion: fine hand use (d440)			No match				No match				Yes	Precoordinated ICF concept would not be created in SNOMED CT.					Note that the "Ability to move" domain in Snomed does not separate between upper and lower body.	

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4450	Pulling	Using fingers, hands and arms to bring an object towards oneself, or to move it from place to place, such as when pulling a door closed.			303362002	ability to pull (observable entity)	similar						ability to move (observable entity), 301998005		No							
d4451	Pushing	Using fingers, hands and arms to move something from oneself, or to move it from place to place, such as when pushing an animal away.			303361009	ability to push (observable entity)	similar						ability to move (observable entity), 301998005		No							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4452	Reaching	Using the hands and arms to extend outwards and touch and grasp something, such as when reaching across a table or desk for a book.			282676001	ability to reach (observable entity)	similar				exact match		ability to move (observable entity), 301998005		No							
d4453	Turning or twisting the hands or arms	Using fingers, hands and arms to rotate, turn or bend an object, such as is required to use tools or utensils.			282984004	ability to turn (observable entity)	partial	does not specify body location			broad er than	does not specify body location	ability to move (observable entity), 301998005		Yes	See Hierarchical comment						active hand movements (regime/therapy) - found this but don't feel like it is a match since it is a regime or therapy.
d4454	Throwing	Using fingers, hands and arms to lift something and propel it with some force through the air, such as when tossing a ball.			282663007	ability to throw (observable entity)	similar				Exact match		ability to move (observable entity), 301998005		No							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4455	Catching	Using fingers, hands and arms to grasp a moving object in order to bring it to a stop and hold it, such as when catching a ball.			282670007	ability to catch (observable entity)	similar						ability to move (observable entity), 301998005		No							
d450	Walking	Moving along a surface on foot, step by step, so that one foot is always on the ground, such as when strolling, sauntering, walking forwards, backwards, or sideways.	Inclusions : walking short or long distances; walking on different surfaces; walking around obstacles	Exclusions: transferring oneself (d420); moving around (d455)	282097004	ability to walk (observable entity)	similar						ability to move (observable entity), 301998005		No							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4500	Walking short distances	Walking for less than a kilometre, such as walking around rooms or hallways, within a building or for short distances outside.			165263003	walking distance (observable entity)	partial	missing "short distances"					musculo skeletal measure (observable entity), 364580005		Yes	See Hierarchical comment						Snomed has exact distance PLUS time which is only done for one minute. Suggest removing time and post-coordinating.
d4501	Walking long distances	Walking for more than a kilometre, such as across a village or town, between villages or across open areas.			165263003	walking distance (observable entity)	partial	missing "long distances"					musculo skeletal measure (observable entity), 364580005		Yes	See Hierarchical comment						
d4502	Walking on different surfaces	Walking on sloping, uneven, or moving surfaces, such as on grass, gravel or ice and snow, or walking aboard a ship, train or other vehicle.			165263003	walking distance (observable entity)	partial	SNOMED Has ability to walk, hill, slope, flat, step but not "different surfaces"					ability to walk (observable entity), 282097004		Yes	See Hierarchical comment						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4503	Walking around obstacles	Walking in ways required to avoid moving and immobile objects, people, animals, and vehicles, such as walking around a marketplace or shop, around or through traffic or other crowded areas.			282097004	ability to walk (observable entity)	partial	missing "around obstacles"					ability to walk (observable entity), 282097004		Yes	See Hierarchical comment						
d450-d469	Walking and moving				282097004	ability to walk (observable entity)	partial	should not contain"AND"					ability to move (observable entity), 301998005		Yes	See Hierarchical comment						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d455	Moving around	Moving the whole body from one place to another by means other than walking, such as climbing over a rock or running down a street, skipping, scampering, jumping, somersaulting or running around obstacles.	Inclusions : crawling, climbing, running, jogging, jumping, and swimming	Exclusions: transferring oneself (d420); walking (d450)	301438001	ability to mobilize (observable entity)	No match	synonym "ability to move" similar but not FSN	Ability to move	synonym "ability to move" similar but not FSN	broad er than		ability to move (observable entity), 301998005		Yes	See Hierarchical comment						
d4550	Crawling	Moving the whole body in a prone position from one place to another on hands, or hands and arms, and knees.			282606002	ability to crawl (observable entity)	similar				Exact match		self-propelled locomotion activity (observable entity), 418305009		No							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4551	Climbing	Moving the whole body upwards or downwards, over surfaces or objects, such as climbing steps, rocks, ladders or stairs, curbs or other objects.			284094007	ability to climb (observable entity)	similar				Exact match		self-propelled locomotion activity (observable entity), 418305009		No							
d4552	Running	Moving with quick steps so that both feet may be simultaneously off the ground.			282462008	ability to run (observable entity)	similar				Exact match		active movement (observable entity), 35897007		No							
d4553	Jumping	Moving up off the ground by bending and extending the legs, such as jumping on one foot, hopping, skipping and jumping or diving into water.			282599005	ability to jump (observable entity)	similar				Exact match		active movement (observable entity), 35897007		No							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4554	Swimming	Propelling the whole body through water by means of limb and body movements without taking support from the ground underneath.					No match				No match		active movement (observable entity), 35897007		Yes	See Hierarchical comment						
d460	Moving around in different locations	Walking and moving around in various places and situations, such as walking between rooms in a house, within a building, or down the street of a town.	Inclusions : moving around within the home, crawling or climbing within the home; walking or moving within buildings other than the home, and outside the home and other buildings				No match				No match		??		Yes	ICF concept unclear.						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4600	Moving around within the home	Walking and moving around in one's home, within a room, between rooms, and around the whole residence or living area.	Inclusions : moving from floor to floor, on an attached balcony, courtyard, porch or garden			no match	No match						ability to move (observable entity), 301998005		Yes	See Hierarchical comment						
d4601	Moving around within buildings other than home	Walking and moving around within buildings other than one's residence, such as moving around other people's homes, other private buildings, community and private or public buildings and enclosed areas.	Inclusions : moving throughout all parts of buildings and enclosed areas, between floors, inside, outside and around buildings, both public and private			no match	No match						ability to move (observable entity), 301998005		Yes	See Hierarchical comment						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4602	Moving around outside the home and other buildings	Walking and moving around close to or far from one's home and other buildings, without the use of transportation, public or private, such as walking for short or long distances around a town or village.	Inclusions : walking or moving down streets in the neighbourhood, town, village or city; moving between cities and further distances, without using transportation				No match				No match			ability to move (observable entity), 301998005	Yes	See Hierarchical comment						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d465	Moving around using equipment	Moving the whole body from place to place, on any surface or space, by using specific devices designed to facilitate moving or create other ways of moving around, such as with skates, skis, or scuba equipment, or moving down the street in a wheelchair or a walker.		Exclusions: transferring oneself (d420); walking (d450); moving around (d455); using transportation (d470); driving (d475)		no match	No match				No match		moving in the environment (observable entity), 301439009		Yes	See Hierarchical comment					uses equipment (attribute) (unapproved attribute, no children)

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d470	Using transportation	Using transportation to move around as a passenger, such as being driven in a car or on a bus, rickshaw, jitney, animal-powered vehicle, or private or public taxi, bus, train, tram, subway, boat or aircraft.	Inclusions : using human-powered transportation; using private motorized or public transportation	Exclusions: moving around using equipment (d465); driving (d475)	300619007	ability to use transport (observable entity)	similar															
d4700	Using human-powered vehicles	Being transported as a passenger by a mode of transportation powered by one or more people, such as riding in a rickshaw or rowboat.			300633007	ability to drive a car (observable entity)	partial	missing "human powered vehicle"														

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4701	Using private motorized transportation	Being transported as a passenger by private motorized vehicle over land, sea or air, such as by a taxi or privately owned aircraft or boat.			300633007	ability to drive a car (observable entity)	No match	missing "private motorized transportation"					ability to perform travelling activities (observable entity), 300606008		Yes	See Hierarchical comment						Snomed divides this category into private and public and not motorized, non-motorized.
d4702	Using public motorized transportation	Being transported as a passenger by a motorized vehicle over land, sea or air designed for public transportation, such as being a passenger on a bus, train, subway or aircraft.			300620001	ability to use public transport (observable entity)	similar						ability to perform travelling activities (observable entity), 300606008		Yes	See Hierarchical comment						
d470-d489	Moving around using transportation				300620001	ability to use public transport (observable entity)	partial						ability to use transport (observable entity), 300619007		Yes	See Hierarchical comment						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d475	Driving	Being in control of and moving a vehicle or the animal that draws it, travelling under one's own direction or having at one's disposal any form of transportation, such as a car, bicycle, boat or animal-powered vehicle.	Inclusions : driving human-powered transportation, motorized vehicles, animal-powered vehicles	Exclusions: moving around using equipment (d465); using transportation (d470)	300633007	ability to drive a car (observable entity)	similar						ability to perform travelling activities (observable entity), 300606008		Yes	See Hierarchical comment						
d4750	Driving human-powered transportation	Driving a human-powered vehicle, such as a bicycle, tricycle, or rowboat.			300633007	ability to drive a car (observable entity)	partial	missing "human powered transportation"					ability to perform travelling activities (observable entity), 300606008		Yes	See Hierarchical comment						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d4751	Driving motorized vehicles	Driving a vehicle with a motor, such as an automobile, motorcycle, motorboat or aircraft.			300633007	ability to drive a car (observable entity)	No match								Yes	See Hierarchical comment						
d4752	Driving animal-powered vehicles	Driving a vehicle powered by an animal, such as a horse-drawn cart or carriage.				No match	No match				No match				Yes	See Hierarchical comment						JH: An activity limitation associated with not being able to "drive animal-powered vehicles" is an example of needless conceptual exhaustiveness that generally renders ICF less useful than idealized.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d480	Riding animals for transportati on	travelling on the back of an animal, such as a horse, ox, camel or elephant		Exclusions: driving (d475); recreation and leisure (d920)		No match	No match				No match		ability to perform travelling activities (observable entity), 300606008		Yes	See Hierarchical comment						JH: d480 has often been mentioned as a candidate for excision in any forthcoming revision of ICF; its capability to describe a genuine activity limitation not otherwise describable in terms of body functions and structures is limited.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d5	CHAPTER 5 SELF-CARE	This chapter is about caring for oneself, washing and drying oneself, caring for one's body and body parts, dressing, eating and drinking, and looking after one's health.			285592006, 284773001	Personal care activity (observable entity), Ability to perform personal care activity (observable entity)	yes	maps to synonym "self-care status" and "self-care ability"	personal care	?	no	unclearly about the difference between the two SCT concepts, both are subsumed by 364665006 Ability to perform function / activity (observable entity) . The "ability" concept maps to capacity qualifier.	no	ADL model in SNOMED CT?	yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d510	Washing oneself	Washing and drying one's whole body, or body parts, using water and appropriate cleaning and drying materials or methods, such as bathing, showering, washing hands and feet, face and hair, and drying with a towel.	Inclusions : washing body parts, the whole body; and drying oneself	Exclusions: caring for body parts (d520); toileting (d530)	286852005, 284785009	Washing self, function (observable entity), Ability to wash self (observable entity)	yes				no	see d5	no		yes							
d5100	Washing body parts	Applying water, soap and other substances to body parts, such as hands, face, feet, hair or nails, in order to clean them.					no		no		no	Descendants of both concepts for d510 does not include anything like the ICF category. There is a narrower concept 258154008 Washing hands, function (observable entity)	no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d5101	Washing whole body	Applying water, soap and other substances to the whole body in order to clean oneself, such as taking a bath or shower.					no		no		no	see d5100	no		yes							
d5102	Drying oneself	Using a towel or other means for drying some part or parts of one's body, or the whole body, such as after washing.			284827006	Ability to dry self (observable entity)	yes				no	There is no corresponding "function" concept as in the earlier cases.	no		yes							
d520	Caring for body parts	Looking after those parts of the body, such as skin, face, teeth, scalp, nails and genitals, that require more than washing and drying.	Inclusions : caring for skin, teeth, hair, finger and toe nails	Exclusions: washing oneself (d510); toileting (d530)			no			no			no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d5200	Caring for skin	Looking after the texture and hydration of one's skin, such as by removing calluses or corns and using moisturizing lotions or cosmetics.			364534008	Skin hygiene (observable entity)	yes	Lexical query finds procedure concept	Yes-no?	hygiene~care?	no		no		yes							
d5201	Caring for teeth	Looking after dental hygiene, such as by brushing teeth, flossing, and taking care of a dental prosthesis or orthosis.			288470005	Ability to perform mouthcare activities (observable entity)	no		yes		no	maps to capacity qualifier	no		yes							
d5202	Caring for hair	Looking after the hair on the head and face, such as by combing, styling, shaving, or trimming.			286854006, 288471009	Hair care activities, function (observable entity), Ability to perform hair care activities (observable entity)	yes		no		no	see d5	no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d5203	Caring for fingernails	Cleaning, trimming or polishing the nails of the fingers.			284881009	Ability to cut own fingernails (observable entity)	no		no		no	SNOMED CT narrower than ICF	no		yes							
d5204	Caring for toenails	Cleaning, trimming or polishing the nails of the toes.			284875001	Ability to cut own toenails (observable entity)	no		no		no	SNOMED CT narrower than ICF	no		yes							
d530	Toileting	Planning and carrying out the elimination of human waste (menstruation, urination and defecation), and cleaning oneself afterwards.	Inclusions: regulating urination, defecation and menstrual care	Exclusions: washing oneself (d510); caring for body parts (d520)	129004006, 284899001	Toileting (observable entity), Ability to perform toileting activities (observable entity)	yes		no		see d5	SNOMED CT narrower than ICF	no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d5300	Regulating urination	Coordinating and managing urination, such as by indicating need, getting into the proper position, choosing and getting to an appropriate place for urination, manipulating clothing before and after urination, and cleaning oneself after urination.			364196001	Micturition feature (observable entity)	no	“regulating” not in SNOMED CT	no		no	SNOMED CT broader than ICF, includes e.g. urine flow	no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d5301	Regulating defecation	Coordinating and managing defecation such as by indicating need, getting into the proper position, choosing and getting to an appropriate place for defecation, manipulating clothing before and after defecation, and cleaning oneself after defecation.			364171004	Defecation observable (observable entity)	no	“regulating” not in SNOMED CT	no		no	SNOMED CT broader than ICF, includes e.g. Time of last bowel movement	no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d5302	Menstrual care	Coordinating, planning and caring for menstruation, such as by anticipating menstruation and using sanitary towels and napkins.			284955009	Ability to manage menstrual hygiene (observable entity)			yes	hygiene~care?	no	maps to capacity qualifier	no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d540	Dressing	Carrying out the coordinated actions and tasks of putting on and taking off clothes and footwear in sequence and in keeping with climatic and social conditions, such as by putting on, adjusting and removing shirts, skirts, blouses, pants, undergarments, saris, kimono, tights, hats, gloves, coats, shoes, boots, sandals and slippers.	Inclusions : putting on or taking off clothes and footwear and choosing appropriate clothing		129003000, 284967006	Dressing (observable entity), Ability to perform dressing activity (observable entity)	yes		no		no	see d5. On the activity side there is no distinction of putting on or taking off clothes	no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d5400	Putting on clothes	Carrying out the coordinated tasks of putting clothes on various parts of the body, such as putting clothes on over the head, over the arms and shoulders, and on the lower and upper halves of the body; putting on gloves and headgear.					no		no				no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d5401	Taking off clothes	Carrying out the coordinated tasks of taking clothes off various parts of the body, such as pulling clothes off and over the head, off the arms and shoulders, and off the lower and upper halves of the body; taking off gloves and headgear.			284984000	Ability to undress (observable entity)	no		yes	undress	no	maps to capacity qualifier	no		yes							
d5402	Putting on footwear	Carrying out the coordinated tasks of putting on socks, stockings and footwear.			284978003	Ability to put on footwear (observable entity)	yes		no		no	maps to capacity qualifier	no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d5403	Taking off footwear	Carrying out the coordinated tasks of taking off socks, stockings and footwear.			284990001	Ability to take off footwear (observable entity)	yes		no		no	maps to capacity qualifier	no		yes							
d5404	Choosing appropriate clothing	Following implicit or explicit dress codes and conventions of one's society or culture and dressing in keeping with climatic conditions.					no		no		no	nothing found	no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d550	Eating	Carrying out the coordinated tasks and actions of eating food that has been served, bringing it to the mouth and consuming it in culturally acceptable ways, cutting or breaking food into pieces, opening bottles and cans, using eating implements, having meals, feasting or dining.		Exclusion: drinking (d560)	288883002, 288843005	Ability to eat (observable entity), Eating abilities (observable entity)	yes		no		no	Specifics of ICF description seems not to match SNOMED CT meaning. E.g. to open bottles would be subsumed by 288399004 Ability to open and close containers (observable entity)	no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d560	Drinking	Taking hold of a drink, bringing it to the mouth, and consuming the drink in culturally acceptable ways, mixing, stirring and pouring liquids for drinking, opening bottles and cans, drinking through a straw or drinking running water such as from a tap or a spring; feeding from the breast.		Exclusion: eating (d550)	30953006, 288852001	Drinking (observable entity), Ability to drink (observable entity)	yes					See d550	no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d570	Looking after one's health	Ensuring physical comfort, health and physical and mental well-being, such as by maintaining a balanced diet, and an appropriate level of physical activity, keeping warm or cool, avoiding harms to health, following safe sex practices, including using condoms, getting immunizations and regular physical examinations.	Inclusions : ensuring one's physical comfort; managing diet and fitness; maintaining one's health		406211006	Personal health management behavior (observable entity)	no		personal health mgmt		no	behaviour close to ICF meaning, still, as the SNOMED CT concept is an observable, what is the intended "question"?	no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d5700	Ensuring one's physical comfort	Caring for oneself by being aware that one needs to ensure, and ensuring, that one's body is in a comfortable position, that one is not feeling too hot or cold, and that one has adequate lighting.					no		no		no		no		yes							
d5701	Managing diet and fitness	Caring for oneself by being aware of the need and by selecting and consuming nutritious foods and maintaining physical fitness.					no		no		no	The union of some of the children of Personal health management behavior (observable entity): 439066001 Healthy diet adherence behavior (observable entity) and 405155000 Physical fitness behavior (observable entity)	no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d5702	Maintaining one's health	Caring for oneself by being aware of the need and doing what is required to look after one's health, both to respond to risks to health and to prevent ill-health, such as by seeking professional assistance; following medical and other health advice; and avoiding risks to health such as physical injury, communicable diseases, drug-taking and sexually transmitted diseases.					no		no		no	unclear (to me) difference compared to d570	no		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6	CHAPTER 6 DOMESTIC LIFE	This chapter is about carrying out domestic and everyday actions and tasks. Areas of domestic life include acquiring a place to live, food, clothing and other necessities, household cleaning and repairing, caring for personal and other household objects, and assisting others.			None	None	No Lexical Match	SCT utilizes the adjective "domestic" for a wide variety of concepts, including "domestic longhaired cat" and "domestic vegetable garden," but not "domestic" as in the ICF concept of being home-based. Therefore, no lexical matching.	No Synonym Match	There are no synonymic matches on the two words "domestic" and "life" or their combination.	No Semantic Match	No Match	No Hierarchical Match	There does not appear to be any hierarchical ordering in SCT referring to "domestic" or "domesticity" or "domestic life" as in home life, and as in acquiring and preparing (furnishing) a place to live as ICF-oriented Activities.	Yes Gap	There is a gap in SCT, but that is not to suggest that ICF does not contribute to that gap. The concept of "domestic" does not align well in SCT as a health term or even an adjective related to the home, and it is not operationalized in ICF satisfactorily.	No Lexical Match No Synonym Match No Semantic Match No Hierarchical Match	There is a gap.	Yes Flag	Both IHTSDO and WHO should re-examine the concepts of "domestic," "domesticity," "domestic life," and their parallel or antagonist concepts such as being away from the home in the outside world.	SCT Gap at the first-level heading of an ICF concept. {The first-level of ICF coding involves one letter and 1 digit.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d610	Acquiring a place to live	Buying, renting, furnishing and arranging a house, apartment or other dwelling.	Inclusions : buying or renting a place to live and furnishing a place to live	Exclusions: acquisition of goods and services (d620); caring for household objects (d650)	None	None	No Lexical Match	There are no matches on "acquiring" or "acquisition." These terms might have different meanings in different cultures or even at the atomistic level of a family, namely, acquiring can mean purchasing or renting or receiving as inheritance for example. Therefore no lexical matching.	No Synonym Match	There are no synonymic matches.	No Semantic Match	No Match.	No Hierarchical Match	There appears to be no hierarchical ordering for the concept of "acquiring" or "acquisition" in SCT.	Yes Gap	There is a gap in SCT, but that is not to suggest that ICF does not contribute to that gap. The concept of "acquiring" does not align well in SCT, and it is not operationalized in ICF.	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match .	There is a gap.	Yes Flag	Both IHTSDO and WHO should re-examine the concepts of "acquiring," "acquire," "a place," "to live," and "place to live."	SCT Gap at the second-level heading of an ICF concept. {The second-level of ICF coding involves one letter and 3 digits.}
d6100	Buying a place to live	Acquiring ownership of a house, apartment or other dwelling.			None	None	No Lexical Match	"Buying" appears in SCT but in reference to "buying drugs" and "compulsive buying," not the purchase of a domicile. As noted in the next subsequent columns, there is no match in SCT for "place to live."	No Synonym Match	There are no synonymic matches.	No Semantic Match	No Match. The concept of "buying" is represented in the following partially-semantic matched words: 1) 228443009 Buying drugs (finding) 2) 2541004 Compulsive buying (finding)	No Hierarchical Match	There does not appear to be any hierarchical ordering in SCT related to "buying" or "purchasing," much less any ordering related to "place to live" or "a place."	Yes Gap	There is a gap in SCT, but that is not to suggest that ICF does not contribute to that gap. The concept of "buying" does not align well in SCT, and "purchasing" is used as an adjective (e.g., "Purchasing agent.")	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match .	There is a gap.	Yes Flag	Both IHTSDO and WHO should re-examine the concepts of "buying," "buy," "purchasing," "a place," "to live," and "place to live."	SCT Gap at the third-level heading of an ICF concept. {The third-level of ICF coding involves one letter and 4 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6101	Renting a place to live	Acquiring the use of a house, apartment or other dwelling belonging to another in exchange for payment.			None	None	No Lexical Match	No match on "renting," "a place," "place to live," therefore there is no lexical matching.	No Synonym Match	No matches on "renting" or "rent," therefore no synonymic matches.	No Semantic Match	No Match	No Hierarchical Match	The hierarchical ordering in ICF is present although it is unsatisfactory, focusing on economic or goods-and-services characteristics of procuring shelter. There does not appear to be any hierarchical ordering in SCT on these concepts.	Yes Gap	There is a gap in SCT, but that is not to suggest that ICF does not contribute to that gap. "Renting" is an economic concept, not a health concept. Renting requires certain cultural and legal conventions to be in place; it is not a generic activity around the world or for people of all ages.	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	There is a gap.	Yes Flag	Both IHTSDO and WHO should re-examine the concepts of "renting," "rent," "a place," "to live," and "place to live."	SCT Gap at the third-level heading of an ICF concept. {The third-level of ICF coding involves one letter and 4 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6102	Furnishing a place to live	Equipping and arranging a living space with furniture, fixtures and other fittings and decorating rooms.			None	None	No Lexical Match	There are no matches on "furnishing" or "place to live" although probably such concepts as home, domicile, apartment, etcetera, are accommodated in SCT.	No Synonym Match	There are no matches on the individual words, therefore no synonymic matches.	No Semantic Match	No Match. There is nothing in ICF that operationalizes "a place" therefore it will be difficult to match semantically.	No Hierarchical Match	The hierarchy in ICF is clear: different types of places to live and different types of Activities to be Performed by persons involved in procuring shelter. But there is no apparent hierarchical ordering in SCT referring to types of places to lives or those such Activities, much less any hierarchical matching between SCT and ICF.	Yes Gap	There is a gap in SCT, but that is not to say that ICF does not contribute to that gap. The concept of "furnishing" is non-specific and therefore problematic; furnishings are different in different cultures and climates, too. Acquiring furnishings is different from arranging or utilizing furnishings. "Place" for "place to live" is also undefined in ICF. Therefore the gap is mutually between SCT and ICF.	No Lexical Match. No Synonym Match. No Semantic Match. No Hierarchical Match.	There is a gap, and inherently there is no alignment.	Yes Flag	Both IHTSDO and WHO should re-examine the concepts of "furnishing," "a place," "to live," and "place to live."	SCT Gap at the third-level heading of an ICF concept. {The third-level of ICF coding involves one letter and 4 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d610-d629	Acquisition of necessities				None	None	No Lexical Match	"Necessities" is not operationalized in ICF. "Necessities" in SCT appears to be more related to food than other articles. Therefore no lexical matches because the words are not the same or similar, regardless of meaning.	No Synonym Match	No matches satisfactorily approach the level of being synonymic.	Partial Semantic Match	SCT is Narrower Than ICF. SCT refers to the idea of "acquisition" in the context of income and affordability of those articles being acquired, rather than the Activity of "acquiring." 1) 424739004 Income sufficient to buy only necessities (finding) 2) 423656007 Income insufficient to buy necessities (finding) 3) 424739004 Income sufficient to buy only necessities (finding)	No Hierarchical Match	There appears to be no hierarchical ordering around the concept of "necessities" except in expressions of income and affordability of those necessities.	Yes Gap	There is a gap in SCT, although SCT accommodates the idea of "necessities" without operationalizing it. Does "necessity" refer to a food article, or clothing or housing? Very problematic in both SCT and ICF.	No Lexical Match. No Synonym Match. Partial Semantic Match. No Hierarchical Match.	There is a gap, but there is gap in operationalizing "necessities" rather than the term or concept not appearing in both SCT and ICF.	Yes Flag	Both IHTSDO and WHO should re-examine the concepts of "acquiring" or "acquisition" as well as "necessities," separating the latter from such articles as food or clothing.	SCT Gap at the second-level heading of an ICF concept. {The second-level of ICF coding involves one letter and 3 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d620	Acquisition of goods and services	Selecting, procuring and transporting all goods and services required for daily living, such as selecting, procuring, transporting and storing food, drink, clothing, cleaning materials, fuel, household items, utensils, cooking ware, domestic appliances and tools; procuring utilities and other household services.	Inclusions: shopping and gathering daily necessities	Exclusion: acquiring a place to live (d610)	None	None	No Lexical Match	"Acquisition" appears in SCT but in context of hematology and management of body fluid levels, rather than acquiring objects in a market or for one's home or family. Apparently nothing matches on "goods and services." Therefore no lexical matching.	No Synonym Match	No synonymic matches.	No Semantic Match	No Match	No Hierarchical Match	There appears to be no hierarchical ordering in SCT that accommodates the very problematic non-specific combined term "goods and services." Poor hierarchical ordering in ICF as well.	Yes Gap	There is a gap in SCT for "goods and services" and for acquiring them. But that is not to say that ICF does not contribute to the gap with the conjunction "and" joining "goods and services," which is more of a term for a Classification in Economics than Health.	No Lexical Match. No Synonym Match. No Semantic Match. No Hierarchical Match.	There is a gap.	Yes Flag	Both IHTSDO and WHO need to re-examine the concept of "goods and services" and to operationalize the acquiring or acquisition of those things. Very problematic, almost unusable code in ICF.	SCT Gap at the second-level heading of an ICF concept. {The second-level of ICF coding involves one letter and 3 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6200	Shopping	Obtainin g, in exchange for money, goods and services required for daily living (including instructi ng and supervisi ng an intermed iary to do the shopping), such as selecting food, drink, cleaning materials , household items or clothing in a shop or market; comparin g quality and price of the items required, negotiati ng and paying for selected goods or services, and transport ing goods.			1) 129011005 2) 300721009 3) 300723007 4) 300719004 5) 300722002 6) 300720005 7) 365365006	1) 129011005 Shopping (observable entity) 2) 300721009 Does perform shopping activities (finding) 3) 300723007 Difficulty performing shopping activities (finding) 4) 300719004 Able to perform shopping activities (finding) 5) 300722002 Does not perform shopping activities (finding) 6) 300720005 Unable to perform shopping activities (finding) 7) 365365006 Finding related to ability to perform shopping activities (finding)	Partial Lexical Match	Lexical matching on Observable Entity "Shopping" but partial lexical matching on the Findings related to shopping.	Yes Synonym Match	Yes synonymic match on the Observable Entity "Shopping."	Yes Sema ntic Match	Exact Match on the Observable Entity "Shopping."	Yes Hierarc hical Match	The concept appears to be positione d in a hierarchi cal ordering in SCT that imitates that in ICF, with shopping being among a set of Observa ble Entities associate d with Instrume ntal Activitie s of Daily Living.	No Gap	No gap on the Observa ble Entity "Shoppin g."	Partial Lexical Match . Yes Synon ym Match . Yes Sema ntic Match . Yes Hierar chical Match .	There is not a gap.	Yes Flag	WHO should re-examine the concept of "shopping" in context of the degree of independe nce that a person exhibits in their Performan ce of the shopping Activity.	SCT Gap at the third-level heading of an ICF concept. {The third-level of ICF coding involves one letter and 4 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6201	Gathering daily necessities	Obtaining, without exchange of money, goods and services required for daily living (including instructing and supervising an intermediate to gather daily necessities), such as by harvesting vegetables and fruits and getting water and fuel.			None	None	No Lexical Match	No matches whatsoever. The concept of "necessities" in ICF is very problematic. "Gathering" is a difficult concept lexically.	No Synonym Match	No matches, therefore no synonymic matches.	No Semantic Match	No Match	No Hierarchical Match	There does not appear to be any hierarchical accommodation for "gathering" or "necessities" in either SCT or ICF.	Yes Gap	The gap appears to be in SCT, but that is not to say that ICF does not contribute to the gap with these non-specific concepts such as "gathering" and "necessities."	No Lexical Match. No Synonym Match. No Semantic Match. No Hierarchical Match.	There is a gap.	Yes Flag	IHTSDO would primarily address this gap, but WHO should re-examine the suitability of "gathering," which might mean an Activity utilizing one's hands arms and upper body, or a mental function in which one plans how they will gather those necessities in their home before leaving for the day. Both would need to operationalize "necessities," too.	SCT Gap at the third-level heading of an ICF concept. {The third-level of ICF coding involves one letter and 4 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d630	Preparing meals	Planning, organizing, cooking and serving simple and complex meals for oneself and others, such as by making a menu, selecting edible food and drink, getting together ingredients for preparing meals, cooking with heat and preparing cold foods and drinks, and serving the food.	Inclusions: preparing simple and complex meals	Exclusions: eating (d550); drinking (d560); acquisition of goods and services (d620); doing house work (d640); caring for household objects (d650); caring for others (d660)	1) 129012003 2) 129057007 3) 129068007 4) 129030005	1) 129012003 Preparing meals (observable entity) 2) 129057007 Preparing meals assisted (finding) 3) 129068007 Preparing meals dependent (finding) 4) 129030005 Preparing meals independent (finding)	Partial Lexical Match	Partial Lexical Match. Exact match on "Preparing meals" as an Observable Entity, but the various Findings pertain to level of a person's independence in preparing any types of meals.	Yes Synonym Match	The first (Observable Entity) of the 4 listed codes exhibits a synonymic match.	Yes Semantic Match	Exact match on the Observable Entity "Preparing meals."	No Hierarchical Match	There appears to be almost a hierarchical "mismatch" because the concepts in the SCT hierarchy are related to the person's own level of independence, not a hierarchical ordering of the degree of complexity of a meal being prepared.	No Gap	There appears to be no gap for the Observable Entity "Preparing meals," although as reported in Column O the lack of hierarchical ordering matching suggests there might be a partial gap.	Partial Lexical Match . Yes Synonym Match . Yes Semantic Match . No Hierarchical Match .	One-to-one	No Flag	Despite the observation that "level of complexity" needs to be addressed at the third-level of ICF coding, for "Preparing meals" at the second-level of ICF coding, there is little reason for either IHTSDO or WHO to amend this code.	SCT Gap at the second-level heading of an ICF concept. {The second-level of ICF coding involves one letter and 3 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6300	Preparing simple meals	Organizing, cooking and serving meals with a small number of ingredients that require easy methods of preparation and serving, such as making a snack or small meal, and transforming food ingredients by cutting and stirring, boiling and heating food such as rice or potatoes.			None	None	Partial Lexical Match	SCT refers to the concept of "preparing meals" in context of a person's level of independence, not the degree of complexity of the meal itself. Therefore partial lexical matches on "preparing meals" because those words are the same or similar, regardless of meaning, but nothing related to "complex meals."	Partial Synonym Match	"Preparing" and "meals" means exactly the same thing, but "simple" is not synonymized.	Partial Semantic Match	SCT is Narrower Than ICF on the concept of "preparing meals," but there is no match on "complexity" or "simplicity."	No Hierarchical Match	There appears to be almost a hierarchical "mismatch" because the concepts in the SCT hierarchy are related to the person's own level of independence, not a hierarchical ordering of the degree of complexity of a meal being prepared.	Yes Gap	[Is there a gap in SNOMED CT where this ICF concept should fit (or vice versa)? Yes or No]	Partial Lexical Match Partial Synonym Match Partial Semantic Match Partial Hierarchical Match	There is a gap, therefore inherently there is no alignment.	Yes Flag	Both IHTSDO and WHO need to re-examine the concepts of "complexity level" in meals versus the levels of independence or assistance a person exhibits when preparing a meal of any level of complexity.	SCT Gap at the third-level heading of an ICF concept. {The third-level of ICF coding involves one letter and 4 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6301	Preparing complex meals	Planning, organizing, cooking and serving meals with a large number of ingredients that require complex methods of preparation and serving, such as planning a meal with several dishes, and transforming food ingredients by combined actions of peeling, slicing, mixing, kneading, stirring, presenting and serving food in a manner appropriate to the occasion and culture.		Exclusion: using household appliances (d6403)	None	None	Partial Lexical Match	SCT refers to the concept of "preparing meals" in context of a person's level of independence, not the degree of complexity of the meal itself. Therefore partial lexical matches on "preparing meals" because those words are the same or similar, regardless of meaning, but nothing related to "complex meals."	Partial Synonym Match	"Preparing" and "meals" means exactly the same thing, but "complex" is not synonymized.	Partial Semantic Match	SCT is Narrower Than ICF on the concept of "preparing meals," but there is no match on "complexity."	No Hierarchical Match	There appears to be almost a hierarchical "mismatch" because the concepts in the SCT hierarchy are related to the person's own level of independence, not a hierarchical ordering of the degree of complexity of a meal being prepared.	Yes Gap	There is probably a gap in SCT for "complexity of meal" concepts, but that's not to say that ICF is not also contributing to the gap, by apparently equating the type or volume of food with the idea that a person can prepare it independently or with or without assistance, the latter set of concepts being much more related to Performance of the Activity called in ICF "Preparing [complexity level] meals."	Partial Lexical Match Partial Synonym Match Partial Semantic Match Partial Hierarchical Match	There is a gap, therefore inherently there is no alignment.	Yes Flag	Both IHTSDO and WHO need to re-examine the concepts of "complexity level" in meals versus the levels of independence or assistance a person exhibits when preparing a meal of any level of complexity.	SCT Gap at the third-level heading of an ICF concept. {The third-level of ICF coding involves one letter and 4 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d630-d649	Household tasks				None	None	No Lexical Match	No matches on "household tasks," many mentions of "household" but not in the context of a set of tasks or chores, but rather such ideas as "household garbage." Therefore no lexical matching.	No Synonym Match	There are no matches, therefore no synonyms.	No Semantic Match	There is No Match between SCT and ICF.	No Hierarchical Match	There does not appear to be any logical hierarchical ordering involving "household" in SCT that is similar to that within ICF.	Yes Gap	There is a big gap. It appears that SCT has a gap referring to "chores" or "tasks" as a group although as individual task-concepts such as cooking and cleaning, there are multiple SCT codes in place and hierarchically ordered.	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match .	There is a gap, therefore, no alignment by default.	Yes Flag	IHTSDO should recognize "tasks" or "chores" as a set of concepts approached in the household, without necessarily reducing them to their lowest conceptual level.	SCT Gap at the second-level heading of an ICF concept. {The second-level of ICF coding involves one letter and 3 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
		Managing a household by cleaning the house, washing clothes, using household appliances, storing food and disposing of garbage, such as by sweeping, mopping, washing counters, walls and other surfaces; collecting and disposing of household garbage; tidying rooms, closets and drawers; collecting, washing, drying, folding and ironing clothes; cleaning footwear; using brooms, brushes and vacuum cleaners;	Inclusions: washing and drying clothes and garments; cleaning cooking area and utensils; cleaning living area; using household appliances;	Exclusions: acquiring a place to live (d610); acquisition of goods and services (d620); preparing meals (d630); caring for household	129014002	129014002 Doing housework (observable entity)	Yes Lexical Match	Exact match, with inherent lexical matching.	Yes Synonym Match	Exact match, with inherent synonymic matching. Apparently one and only one such term in SCT.	Yes Semantic Match	Exact Match	Yes Hierarchical Match	"Doing housework" in SCT is on par with "Preparing meals" as a "Domestic activity," which is somewhat similar to the hierarchical ordering in ICF of what would be called Instrumental Activities of Daily Living.	No Gap	There seems to be good alignment on this concept between SCT and ICF.	Yes Lexical Match . Yes Synonym Match . Yes Semantic Match . Yes Hierarchical Match .	One-to-one	No Flag	Apparently this ICF code is aligned and in good harmonization with SCT.	Good alignment.

ICF_code	ICF_term	ICF_Definition	Inclusions	Exclusions	SNOMED_CT_code	SNOMED_CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6400	Washing and drying clothes and hanging them out to dry in	Washing clothes and garments by hand and hanging them out to dry in			None	None	No Lexical Match	This ICF code is very problematic, with two "and" conjunctions combining at least three concepts that SCT would separate into constituent parts. No matches on "garments." Possibly lexical match on "drying clothes" but no matches on "washing and drying clothes."	No Synonym Match	There are no synonymic matches because SCT separates the concepts of washing and drying, whereas in this ICF code the concepts are combined.	Partial Semantic Match	SCT is Broader Than ICF. Very poor match, almost no match. However, there are semantic overlaps with five SCT codes related to "drying clothes": 1) 285901003 Does use clothes drying equipment (finding) 2) 285903000 Difficulty using clothes drying equipment (finding) 3) 285899007 Able to use clothes drying equipment (finding) 4) 285898004 Ability to use clothes drying equipment (observable entity) 5) 365274005 Finding related to ability to use clothes drying equipment	No Hierarchical Match	Very poor hierarchical orderings in both SCT and ICF.	Yes Gap	The gap affects both SCT and ICF. This ICF code is much too broad, with three concepts rolled into one combination. The corresponding SCT codes are very narrow, with many Findings or Observable Entities covering the same concepts.	No Lexical Match . No Synonym Match . Partial Semantic Match . No Hierarchical Match	No alignment	Yes Flag	Both IHTSDO and WHO would need to work on this set of concepts and determine if it represents one combined code or multiple reductionistic codes.	SCT Gap at the third-level heading of an ICF concept. {The third-level of ICF coding involves one letter and 4 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6401	Cleaning cooking area and utensils	Cleaning up after cooking, such as by washing dishes, pans, pots and cooking utensils, and cleaning tables and floors around cooking and eating area.			None	None	No Lexical Match	There are references to "cooking utensils" in SCT but not to the combination of words "cooking area and utensils" and certainly not "cleaning" that area and utensils. Therefore there is no Lexical Match.	No Synonym Match	No, there are no synonymic matches because the words do not mean exactly the same thing.	Partial Semantic Match	SCT is Narrower Than ICF. The closest analogues are nonetheless very poor semantic matches: 285895001 Does use cooking utensils (finding), and 285892003 Ability to use cooking utensils (observable entity). Nearly no alignment.	No Hierarchical Match	No hierarchical ordering similarities between SCT and ICF whatsoever.	Yes Gap	There is a gap in SCT, for although there are many narrower "utensils"-oriented terms, there is no combination of the "cooking area" and "[cooking] utensils," which makes moderately logical sense in a classification or harmonization.	No Lexical Match. No Synonym Match. Partial Semantic Match. No Hierarchical Match.	No alignment	Yes Flag	IHTSDO should orient the "cooking" codes more logically, such as combining "cooking area" and "cooking utensils" into a "cleaning" code or set of codes.	SCT Gap at the third-level heading of an ICF concept. {The third-level of ICF coding involves one letter and 4 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6402	Cleaning living area	Cleaning the living areas of the household, such as by tidying and dusting, sweeping, swabbing, mopping floors, cleaning windows and walls, cleaning bathrooms and toilets, cleaning household furnishings.			None	None	No Lexical Match	The potentially matching words are not the same or similar regardless of meaning, therefore, there is no Lexical Matching. SCT appears to equate "living area" with "living quarters." It is difficult to discern whether ICF "living area" is a portion of a domicile (such as a "living room") or the entire domicile. SCT refers to such areas or quarters, but not to "cleaning" such areas or quarters.	No Synonym Match	The potentially matching words are not synonyms, because they do not mean exactly the same thing.	No Semantic Match	SCT is Broader Than ICF. The meaning of the potentially matching words can be interpreted to be the same, e.g., "living place" or "living quarters," but the concepts are much broader in SCT than in ICF. Potentially matching terms: 1) 60585007 Slum area living (finding) 2) 424415008 Dirty living conditions (finding) 3) 20733006 Living place (observable entity) 4) 74397004 Living quarters (observable entity)	No Hierarchical Match	There does not appear to be a unified hierarchical ordering for the "living quarters" codes in SCT. No hierarchical matching.	Yes Gap	It appears that the Gap is in SCT, rather than ICF. Cleaning one's living quarters would seem to be an important activity, which if limited in performance can be detrimental to the person; although SCT incorporates "cleaning" and "living" as gerund adjectives, there does not appear to be any equating of those concepts with the ICF concept of cleaning one's living area.	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	No alignment	Yes Flag	IHTSDO should consider preparing a more transparent hierarchical ordering of terms related to cleaning and maintaining one's own living quarters.	SCT Gap at the third-level heading of an ICF concept. {The third-level of ICF coding involves one letter and 4 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
					None	None	No Lexical Match	In any of the potential matches, the words are not the same or similar regardless of meaning, therefore there is no Lexical Match. SCT does not utilize the text string "using household appliances," although there are SCT codes associated with household appliances.	No Synonym Match	The words in any of the potential SCT matches are not synonyms; they do not mean exactly the same thing.	Partial Semantic Match	SCT is Broader Than ICF. The meaning of the term "household appliances" is relatively clear, but there can be some conceptual overlap between household appliances and "personal care appliances" or assistive devices that are also often referred to as appliances. But the meaning of the words are partially similar. For example: 1) 242509002 Burning due to contact with hot household appliances (event) 2) 218026000 Accidents caused by powered household appliances and implements (event) 3) 286137001	No Hierarchical Match	The concept "household appliances" appears in several SCT locations. Therefore there is no similarity between the hierarchical orderings in SCT and ICF.	Yes Gap	There is a gap in SCT, not as much on the concept of "household appliances" but on the ICF gerund verb "using." In SCT, "using" appears to involve "cleaning (household appliances)," which is broader than "using" such appliances.	No Lexical Match. No Synonym Match. Partial Semantic Match. No Hierarchical Match.	ICF to SCT: One-to-Multiple.	Yes Flag	Yes, it appears that IHTSDO needs to reconsider the hierarchical ordering of "cleaning appliances," as opposed to its existing rendering of "Does clean," "Ability to clean," and "Difficulty cleaning" such appliances. "Cleaning" is not an equivalent concept to "using" such appliances.	SCT Gap at the third-level heading of an ICF concept. {The third-level of ICF coding involves one letter and 4 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6404	Storing daily necessities	Storing food, drinks, clothes and other household goods required for daily living; preparing food for conservation by canning, salting or refrigerating, keeping food fresh and out of the reach of animals.			1) 286083005 2) 286543005	1) 286083005 Difficulty storing laundry (Finding) 2) 286543005 Difficulty storing food hygienically (Finding)	No Lexical Match	"Storing" in SCT appears to refer more to occupations that involve storing, such as "transportation/moving/storing" and "foreman - materials moving/storing," rather than to storing household items or "necessities." These SCT terms referring to laundry and hygienically storing food appear to be the only terms not referring to occupations. No Lexical Match.	No Synonym Match	The words do not mean exactly the same thing. "Laundry" is not necessarily an ICF-oriented "necessity."	Partial Semantic Match	SCT is Narrower Than ICF. The meaning of the SCT words "laundry" and "storing food hygienically" would appear to be on the right path toward alignment with ICF "daily necessities," but obviously an incomplete set, therefore only a partial semantic or conceptual match.	No Hierarchical Match	Partial alignment, although "storing" in SCT pertains mainly to some kind of hierarchy of occupations.	Yes Gap	Apparently there is a gap in SCT, rather than a gap in ICF.	No Lexical Match. No Synonym Match. Partial Semantic Match. No Hierarchical Match.	One-to-multiple, although strictly speaking there is almost No Alignment.	Yes Flag	Yes, it appears that IHTSDO should re-examine this concept.	SCT Gap at the third-level heading of an ICF concept. {The third-level of ICF coding involves one letter and 4 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
		Disposing of household garbage such as by collecting trash and rubbish around the house, preparing garbage for disposal, using garbage			Difficulty storing laundry (Finding)	1) 413350009 Finding related to ability to perform domestic cleaning (Finding with Explicit Context)	Yes Lexical Match	The words are the same or similar, regardless of meaning.	Yes Synonym Match	The words are synonyms, i.e. meaning exactly the same thing. "Garbage" is "garbage" is "household garbage."	Yes Semantic Match	Exact Match.	No Hierarchical Match	The SCT and ICF hierarchies appear to be aligned at the point of this concept.	No Gap	Apparently the hierarchical coverage of "difficulty disposing of garbage" in SCT is appropriate, although it is a subset of overall "household cleaning" rather than ICF "doing housework." Overall though it appears that there is No Gap.	Yes Lexical Match . Yes Synonym Match . Yes Semantic Match . No Hierarchical Match .	One-to-one match has been found, therefore No Gap.	No Flag	Good Match, it appears that there is no need for re-examination at this time. Apparently No Gap.	Nearly an Exact Match.
						2) 246090004 Finding related to ability to dispose of household garbage (Associated Finding)		Number (3), 286097002, Difficulty disposing of household garbage, is lexically similar to ICF "Disposing of garbage."													
						3) 286097002 Difficulty disposing of household garbage (Finding)															
						4) 286092008 Able to dispose of household garbage (Finding)															
						5) 286095005 Does dispose of household garbage (Finding)															
						6) 286096006 Does not dispose of household garbage (Finding)															
						7) 286093003															

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d650	Caring for household objects	Maintaining and repairing household and other personal objects, including house and contents, clothes, vehicles and assistive devices, and caring for plants and animals, such as painting or wallpapering rooms, fixing furniture, repairing plumbing, ensuring the proper working order of vehicles, watering plants, grooming and feeding pets and domestic animals.	Inclusions : making and repairing clothes; maintaining dwelling, furnishing and domestic appliances; maintaining vehicles; maintaining assistive devices; taking care of plants (indoor and outdoor) and animals	Exclusions: acquiring a place to live (d610); acquisition of goods and services (d620); doing house work (d640); caring for others (d660); remunerative employment (d850)		No Match	No Lexical Match	The configuration of words related to "caring for" with those related to "household objects" does not appear in SCT. There are no words that are the same or similar, regardless of meaning.	No Synonym Match	Nearest possible matches appear in SCT series "Caring for . . ." That series includes "caring for the dying," "difficulty caring for pet," "caring for personal hygiene," "caring for nasogastric tube," and "caring for personal appearance," but not "household objects."	No Semantic Match	No Match. The meaning of the SCT words in the "Caring for" series are clear, but not related to household objects. Therefore, there is no semantic matching available.	No Hierarchical Match	No hierarchical matching because the SCT hierarchy within the "Caring for. . ." series does not exhibit a logical sequence ; instead, terms in the series appear to have been added without regard to hierarchy . The ICF hierarchy is unique.	Yes Gap	There is a Gap in SCT. In SCT, the concept of "household objects" for which a person might provide care or maintenance is not manifested. "Household" matches on such terms as 68685003 "Household robot" and 224168007 "Household income," that is, very little would refer to ICF-oriented "household objects."	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match .	There is No Alignment.	Yes Flag	Both IHTSDO and WHO need to work together on "Caring for. . ." and "household objects," as separate concepts that are united in this ICF code. There are gaps and deficiencies in SCT, but the concept of "household objects" is poorly defined in ICF, too.	SCT Gap at the second-level heading of an ICF concept. {The second-level of ICF coding involves one letter and 3 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6500	Making and repairing clothes	Making and repairing clothes, such as by sewing, producing or mending clothes; reattaching buttons and fasteners; ironing clothes, fixing and polishing footwear.		Exclusion: using household appliances (d6403)	2) 286543005	No Match	No Lexical match.	SCT matches for "Making" are literally all over the map, from "making love" to "decision making" to "difficulty making a fist." Nothing matches on making clothes. Very poor matches in SCT for "Repairing," including at best the Finding of an occupation at 159921002 "Making/repairing excluding metal/electrical." Very poor matches in SCT for "Clothes," including Finding at 248055002 "Neglect of clothes," Finding at 286036008 "Does take care of clothes," Finding at 286038009 "Difficulty taking care of clothes," and Finding at 286034006 "Able to take care of clothes."	No Synonym Match	No synonymic overlap.	No Semantic Match	Narrower Than: SCT is narrower than ICF. Concepts of "making and repairing clothes" are more suitably related in SCT to taking care of clothing or refraining from neglecting clothing, rather than repairing clothing.	No Hierarchical Match	No hierarchical similarities between SCT and ICF.	Yes Gap	There is a Gap in SCT.	No Lexical Match. No Synonym Match. No Semantic Match. No Hierarchical Match.	There is No Alignment.	Yes Flag	Both IHTSDO and WHO should engage in reconfiguring their characterizations of the Activity of "making and repairing clothes." This might have to invoke differences among international users, as those in contemporary industrialized nations are not as frequently involved in "making clothes" as those in less-resourced countries.	SCT Gap at the third-level heading of an ICF concept. {The third-level of ICF coding involves one letter and 4 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6501	Maintaining dwelling and furnishings	Repairing and taking care of dwelling, its exterior, interior and contents, such as by painting, repairing fixtures and furniture, and using required tools for repair work.			Difficulty storing food hygienically (Finding)	No Match	No Lexical Match	No Lexical analogues to "maintaining dwelling" in SCT. Many (n=24) SCT terms involve "maintaining" but none appear to be related to domestic life or household objects.	No Synonym Match	SCT uses 264362003 "Home" (Environment) as its best analogue for a personal dwelling place. Most SCT terms (n=24) involving "dwelling" are Events, referring mainly to types of accidents in dwellings, rather than maintenance of dwellings.	No Semantic Match	Narrower Than: SCT is narrower than ICF. SCT uses "furniture" as its best analogue for "furnishings," but most (n=35) codes involving "furniture" are Findings related to a patient's ability to transfer into and out of selected items of furniture in a home.	No Hierarchical Match	No hierarchical similarities.	Yes Gap	There is a Gap in SCT. However, SCT accommodates some similar concepts in words such as "home" and "furniture." ICF is insufficiently clear as well, both semantically and hierarchically.	No Lexical Match. No Synonym Match. No Semantic Match. No Hierarchical Match.	There is No Alignment.	Yes Flag	Both IHTSDO and WHO need to re-examine the concepts behind "Maintaining dwelling and furnishings" as well as adopt harmonized terms to describe those concepts. ICF can "borrow" SCT words "home" and "furniture" to enable such harmonization.	SCT Gap at the third-level of an ICF concept.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
		Repairing and taking care of all domestic appliances for cooking, cleaning and repairing, such as by oiling and			1) 286137001 2) 286139003 3) 286135009 4) 286138006 5) 286136005 6) 286134008 7) 285970003	1) 286137001 Does clean domestic appliances (Finding) 2) 286139003 Difficulty cleaning domestic appliances (Finding) 3) 286135009 Able to clean domestic appliances (Finding) 4) 286138006 Does not clean domestic appliances (Finding) 5) 286136005 Unable to clean domestic appliances (Finding) 6) 286134008 Ability to clean domestic appliances (Observable Entity) 7) 285970003 Ability to control domestic appliances (Observable Entity)	Partial Lexical Match . No Synonym Match Partial Semantic Match . No Hierarchical Match	Some Lexical matching on "appliances." SCT appears to not utilize "maintaining" to refer to domestic objects. Instead, "maintaining" refers to characteristics of a treatment regimen or standing and sitting abilities, rather than to upkeep and repair.	No Synonym Match	SCT uses "appliances" not to refer to cooking or cleaning appliances, or home comfort appliances, but rather to assistive devices.	Partial Semantic Match	Broader Than: SCT is broader than ICF. SCT is broader in the sense that "cleaning" is a set of activities achievable by many more persons than "maintaining," the latter of which might involve specialized mechanical skills.	No Hierarchical Match	No apparent hierarchical similarities.	Yes Gap	There is a Gap in both SCT and ICF. SCT needs to accommodate "maintaining" as an activity often conducted by a person utilizing a range of different types of appliances. ICF needs to accommodate "appliances" as involving even prosthetic devices, coded separately in ICF Environmental Factors needing repair by specialists, rather than conceptualizing "appliances" as household cooking or cleaning appliances needing repair	Partial Lexical Match . No Synonym Match . Partial Semantic Match . No Hierarchical Match	There is a Gap, demonstrating poor alignment.	Yes Flag	Both IHTSDO and WHO need to collaborate on harmonizing "maintaining" and "appliances."	SCT Gap at the third-level of an ICF concept.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d650		Repairing and taking care of motorized and non-motorized vehicles for personal use, including bicycles, carts, automob			No Match	No Match	No Lexical Match	Problems with SCT's use of "maintaining" are observed in Rows 24 and 25.	No Synonym Match	SCT refers to "vehicle" more specifically as an agent or mode of transmission within the human body, rather than an automobile. Note that ICF would refer to a motorized wheelchair or scooter as an assistive device, not a vehicle, therefore maintenance of such large assistive devices would be covered at d6504 Row 27 rather than d6503 Row 26.	No Semantic Match	Broader Than: SCT is broader than ICF. For the singular word "vehicle," and among those SCT terms not referring to a mode of transmission in the human body but rather to a mode of or device for transportation, SCT utilizes a large number of types of such vehicles. For example, ICF separates out "animal-powered vehicles" but SCT incorporates such vehicles as part of a much broader list.	No Hierarchical Match	There are no apparent hierarchical similarities.	Yes Gap	There is a Gap in ICF. SCT easily accommodates many different types of "vehicles" that need to be maintained. ICF only refers to vehicles that transport people. The distinction between a motorized wheelchair as a "vehicle" versus an "assistive device" is artificial or synthetic in ICF; by extension of ICF's logic, it's difficult to determine why an automobile would not be considered both a "vehicle" and an "assistiv	No Lexical Match. No Synonym Match. No Semantic Match. No Hierarchical Match.	There is a Gap, which illustrates overall poor alignment.	Yes Flag	Both IHTSDO and WHO need to rectify their respective conceptual interpretations of "vehicle(s)".	SCT Gap at the third-level of an ICF concept.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6504	Maintaining assistive devices	Repairing and taking care of assistive devices, such as prostheses, orthoses and specialized tools and aids for housekeeping and personal care; maintaining and repairing aids for personal mobility such as canes, walkers, wheelchairs and scooters; and maintaining communication and recreational aids.				370876003 Assistive device provision management (Procedure)	Partial Lexical Match	In SCT, the character string "assistive device" invokes education about using assistive devices, participation in therapy involving assistive devices, but not the concept of "maintaining" except in the string "[assistive device] provision management."	Yes Synonym Match	Yes, the words "assistive device" appear to have the same meaning in both SCT and ICF. In ICF Environmental Factors, ICF distinguishes between "assistive devices" individualized for specific patients, and "general devices" which might be assistive but are for the general population rather than a specific patient. SCT does not make that distinction.	Partial Semantic Match	Exact Match on "assistive device(s), but no matching on "maintaining."	No Hierarchical Match	There appear to be no hierarchical similarities.	Yes Gap	There is a Gap in SCT. SCT would want to accommodate the dichotomization in ICF between "assistive devices" and "general devices" of which the latter can also be assistive.	Partial Lexical Match . Yes Synonym Match . Partial Semantic Match . No Hierarchical Match .	There is a Gap, although the concept "assistive device" appears to be Synonymically aligned between SCT and ICF.	Yes Flag	Both IHTSDO and WHO should distinguish better between "assistive devices" as conceptualized correctly in both, and "general devices" which might be assistive in nature, but which are only described in ICF Environmental Factors domain.	SCT Gap at the third-level of an ICF concept.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d6505	Taking care of plants, indoors and outdoors	Taking care of plants inside and outside the house, such as by planting, watering and fertilizing plants; gardening and growing foods for personal use.			No Match	No Match	No Lexical Match															
d6506	Taking care of animals	Taking care of domestic animals and pets, such as by feeding, cleaning, grooming and exercising pets; watching over the health of animals or pets; planning for the care of animals or pets in one's absence.																				
d650-d669	Caring for household objects and assisting others																					

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d660	Assisting others	Assisting household members and others with their learning, communicating, self-care, movement, within the house or outside; being concerned about the well-being of household members and others.	Inclusions : assisting others with self-care, movement, communication, interpersonal relations, nutrition and health maintenance	Exclusion: remunerative employment (d850)	119265000	Assisting (Procedure)	Partial match . It will represent a Gap that there is no SCT lexical matching term for the second-level ICF code (i.e., this code d660) but there might be lexical matches at the ICF third-level codes (i.e., d6600 through d6605).	119265000 Assisting - action (Qualifier Value) seems to impart the lexical meaning of "assisting others."	"Assisting" is not necessarily a Synonym of "Assisting Others."	Partial Synonym Match. SCT has many "Assisting with . . ." Procedures, but the preposition "with" is essential in each of them. None of the SCT Procedures seems to reflect toward "others."	Partial Semantic Match	Broader Than: SCT is broader than ICF	Yes Hierarchical Match	The concept in ICF is very well organized hierarchically. Similar concepts in SCT do not have lexical matches with the ICF concepts, but they are very well organized hierarchically.	Yes Gap	There is a Gap in SCT. The ICF concept is not only in the Activities & Participation Domain, it is also one of those ICF Activities (i.e., by analogy, individual functioning) that overlaps with Participation (i.e., by analogy, social functioning). The Gap is in SCT, not ICF.	Partial Lexical Match ; Partial Synonym Match ; Partial Semantic Match ; Yes Hierarchical Match	Generally, there are "Multiple-SCT-to-One-ICF" matches . Poor Alignment.	Yes Flag	Yes, IHTSDO should re-examine the concept of "assisting" to invoke the Activity that is involved with assisting or taking care of other people, such as one's children or elderly parents.	SCT Gap at the second-level heading of an ICF concept. {The second-level of ICF coding involves one letter and 3 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6600	Assisting others with self-care	Assisting household members and others in performing self-care, including helping others with eating, bathing and dressing; taking care of children or members of the household who are sick or have difficulties with basic self-care; helping others with their toileting.			1) 282260003 2) 304560004 3) 225964003 4) 386420003 5) 439325005	1) 282260003 Activity of daily living procedures and interventions (Procedure) 2) 304560004 Assisting with activity of daily living (Procedure) 3) 225964003 Assisting with personal hygiene (Procedure) 4) 386420003 Self-care assistance: bathing/hygiene (Procedure) 5) 439325005 Escort to toilet (Procedure)	No Lexical Match	The ICF concept "self-care," often referred to in predominant models of disability as "ADLs: Activities of Daily Living," are separated into discrete Procedures in SCT, including "Assisting with ADLs," and "personal hygiene" and "bathing/hygiene." Some of the SCT words are similar to ICF words, but not as similar in meaning.	No Synonym Match	The SCT words are not synonyms of ICF words; they do not mean exactly the same thing.	Partial Semantic Match	Narrower Than: SCT is narrower than ICF. This "narrower than" relationship pertains to SCT terms associated with "Assisting others with ADLs," rather than SCT terms being narrower than ICF terms associated with the ADLs themselves.	No Hierarchical Match	The SCT hierarchy on "assisting (others) with ADLs" is not linear. ICF hierarchy is more appropriate at this, the third level of coding in ICF {one letter, 4 digits}.	Yes Gap	There is a Gap in SCT. This particular third-level ICF code, d6600, is very well-represented in SCT, but the adjacent third-level ICF codes through d6605 are very poorly-represented in SCT. This comparatively minor Gap at d6660 does not outweigh the very large Gaps in the other third-level ICF codes.	No Lexical Match; No Synonym Match; Partial Semantic Match; No Hierarchical Match	Generally, there are "One-SCT-to-Multiple-ICF" matches. Poor Alignment.	Yes Flag	Yes, IHTSDO should re-examine the concept of "assisting others with ADLs" to reduce reliance on the term "ADLs," which are never invoked within ICF. Instead "self-care" is the preferred term in ICF.	SCT Gap at the third-level heading of an ICF concept. This particular third-level concept at d6600 is comparatively well-represented in SCT versus the degree of representation of the remaining third-level concepts here under second-level heading d60. {The third-level of ICF coding involves one letter and 4 digits.}

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6601	Assisting others in movement	Assisting household members and others in movements and in moving outside the home, such as in the neighbourhood or city, to or from school, place of employment or other destination.			1) 406182002 2) 60955009	1) 406182002 Self-Care Assistance: Transfer (Procedure) (Associated Procedure of 363589002 Assisting with activity of daily living) 2) 60955009 Assisting exercise (Procedure) (Associated Procedure of 363589002 Assisting with activity of daily living)	No Lexical Match	SCT does not include a term "movement" as a component of "Assisting with." There are no words in the set that are the same or similar, regardless of meaning. Semantic matches more possible than Lexical matches.	No Synonym Match	No Synonyms. SCT includes "Assisting with"-terms that logically would include "movement," such as "dressing" and "undressing," "toileting" as in getting to and from the toilet, and "therapy" which might or might not involve movement. The words do not mean exactly the same thing.	Partial Semantic Match	Narrower Than: SCT is narrower than ICF. At Self-Care Assistance: Transfer, and Assisting Exercise, SCT might accommodate "movement" in a partial Semantic match, but very poorly.	No Hierarchical Match	The position of "Assisting with" in SCT has poor analogues in the ICF hierarchy to begin with, and the hierarchical positioning of various types of "movement" in SCT bears no resemblance to the positioning of "Assisting others in movement" at the third-level of ICF coding.	Yes Gap	There is a Gap in SCT. Various types of "movement" are useful for the individual patient, but if the functioning that is being observed is that patient's capacity to perform ICF-oriented Activities associated with "Assisting other in movement," those individual patient-level types of "movement" represent a Gap.	No Lexical Match; No Synonym Match; Partial Semantic Match; No Hierarchical Match	There is No Alignment.	Yes Flag	Yes, IHTSDO should consider adding a concept ID associated with the activities performed when one person assists another person in movement, including moving around and mobility as delineated by ICF.	SCT Gap at the third-level heading of an ICF concept.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6602	Assisting others in communication	Assisting household members and others with their communication, such as by helping with speaking, writing or reading.			No Match	No Match	No Lexical Match	Under "Assisting with . . ." (Procedure), surprisingly there are no Lexical analogues to "communication." There are apparently no words between SCT and ICF that are the same or similar, regardless of meaning, in reference to "communication."	No Synonym Match	There are apparently no Synonyms available in the current list of SCT "Assisting with . . ." Procedures or Associated Procedures .	No Semantic Match	No Match. By distant-stretching of the analogy to "Assisting others in communication," one potential Semantic match is found in SCT 67142005 "Assisting Physician with Procedure." Presumably that Associated Procedure could involve something Semantically similar to ICF-oriented "communication," but only in a narrow context.	No Hierarchical Match	There is no alignment between the SCT and ICF hierarchies on this "communication" concept.	Yes Gap	There is a Gap in SCT. SCT could accommodate "Assisting with . . . 'communication'" as an Associated Procedure similar to the manner SCT already treats "therapy," "exercise," or one of the ADLs or IADLs.	No Lexical Match; No Synonym Match; No Semantic Match; No Hierarchical Match	There is No Alignment.	Yes Flag	Yes, IHTSDO should consider adding a concept ID associated with the activities performed when one person assists another person in communication, at least communicating with a physician or caregiver.	SCT Gap at the third-level heading of an ICF concept.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
		Assisting household members and others with their interpersonal interactions, such as by helping them to initiate			No Match	No Match	No Lexical Match	There are apparently no words under the ". ." set of SCT Procedures that are the same or similar as the ICF concept "interpersonal relations."	No Synonym Match	There are no Synonyms in the pertinent set of SCT Procedures that refer to ICF-oriented "interpersonal relations."	No Semantic Match	No Match. There is a potential analogue involved with 67142005 "Assisting Physician with Procedure," but only if a Reviewer were to consider any and all physician encounters in which assistance can be provided by a patient to be the same Semantic idea as ICF-oriented "interpersonal relations." It is a very difficult analogy to make.	No Hierarchical Match	There is apparently no alignment between the SCT and ICF hierarchies on this "interpersonal relations" ICF concept.	Yes Gap	There is a Gap in SCT. SCT could accommodate the ICF-oriented "interpersonal relations" concept within SCT's set of "Assisting with . ." codes. This is also important Semantically or as a Gap for consideration because the "Assisting with . ." or "Helping with . ." series in ICF Activities & Participation domain is extremely important as developmental milestones among children, as classified using ICF-CY	No Lexical Match; No Synonym Match; No Semantic Match; No Hierarchical Match	There is No Alignment.	Yes Flag	Yes, IHTSDO can consider accommodating the "interpersonal relations" concept from ICF possibly as an Associated Procedure within the SCT "Assisting with . ." series.	SCT Gap at the third-level heading of an ICF concept. Please note the particular relevance of the "Helping with . ." series of codes added to ICF-CY (2007) which do not appear in ICF (2001). These include the following codes which only appear in ICF-CY (2007): d632 Helping prepare meals; d642 Helping to do housework; d652 Helping to care for household objects; and d662 Helping

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6604	Assisting others in	Assisting household members and others with their nutrition, such as by helping them to prepare and eat			No Match	No Match	No Lexical Match	There are apparently no Lexical matches between terms in SCT and ICF pertaining to "assisting others in nutrition."	No Synonym Match	Under the set of SCT Procedures beginning with "Assisting with . . ." there are no Synonyms pertaining to such assistance for others in "nutrition."	No Semantic Match	Narrower Than: SCT is narrower than ICF. The only potential analogues for "Assisting others in nutrition" actually refer to assisting others with the ADL of eating, or, within the SCT Procedure concept of "feeding." Potential Semantic analogues might include the following SCT Associated Procedures: 1) 386421004 Self-care assistance: feeding 2) 226010006 Assisting with eating and drinking 3) 113148007 Fluid intake encouragement 4) 49704005 Food intake encouragement 5) 25877005 Mealtime	No Hierarchical Match	There is apparently no hierarchical alignment between SCT and ICF on the concept of "assisting others in nutrition."	Yes Gap	There is a Gap in SCT. SCT could accommodate the ICF-oriented concepts related to "nutrition" without referring to clinical encouragement to intake food and fluids.	No Lexical Match ; No Synonym Match ; No Semantic Match ; No Hierarchical Match	There is No Alignment.	Yes Flag	Yes, IHTSDO should accommodate the ICF concept of "assisting others in nutrition" in a manner that does not refer to clinical problems associated with feeding.	SCT Gap at the third-level heading of an ICF concept.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d6605	Assisting others in health maintenance	Assisting household members and others with formal and informal health care, such as by ensuring that a child gets regular medical check-ups, or that an elderly relative takes required medication.			No Match	No Match	No Lexical Match	Partial Lexical Matches on "assisting with" and "health maintenance," but there is no lexical connection between the two ideas.	183648002 is a SCT Procedure Qualifier Value for "assisting - action - long-term assistance."	No Synonym Match.	No Semantic Match	No Match. Very hard for SCT to deliver a Semantic match. "Health maintenance" in ICF is considered "formal and informal health care," much too broad for SCT to capture. In some western countries, "health maintenance" also implies a system of health care financing and reimbursement under capitation, as in "health maintenance organization," such that even the use of this term in ICF renders confusion.	No Hierarchical Match	There is apparently no hierarchical alignment between SCT and ICF on the concept of "assisting others in health maintenance."	Yes Gap	There is a Gap in SCT. Nevertheless, the term "health maintenance" can be considered poorly-defined in ICF, therefore resolving this Gap could be difficult. "Maintaining [one's] [another person's] health" is a very difficult concept to parse as a Procedure or Finding, for example. Both IHTSDO and WHO would have to be involved in resolving this Gap.	No Lexical Match; No Synonym Match; No Semantic Match; No Hierarchical Match	There is No Alignment.	Yes Flag	Both IHTSDO and WHO need to be involved in resolving the Gap associated with the concept "health maintenance." There are multiple interpretations in the ICF usage that must be consolidated if SCT were to accommodate this ICF concept.	Assisting (Procedure) = 119265000. Ineffective Health Maintenance (Finding) = 414487007. 14 SCT Procedures and 7 Regime/Therapy codes include text words "Assisting with," such as "assisting with transfer."

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d7	CHAPTER 7 PERSONAL INTERACTIONS AND RELATIONSHIPS	This chapter is about carrying out the actions and tasks required for basic and complex interactions with people (strangers, friends, relatives, family members and lovers) in a contextually and socially appropriate manner.			NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d710	Basic interpersonal interactions	Interacting with people in a contextually and socially appropriate manner, such as by showing consideration and esteem when appropriate, or responding to the feelings of others.	Inclusions : showing respect, warmth, appreciation, and tolerance in relationships; responding to criticism and social cues in relationships; and using appropriate physical contact in relationships		None	None	No Lexical Match	There are no lexical matches on either the 3-word sequence or on free-standing word "basic." On "interpersonal," "interactions," and "interpersonal interactions," there are very poor lexical matches, as also concurrently reported on Rows 10 and 11 for similar sequences "general interpersonal interactions" and "complex interpersonal interactions." SCT poorly accommodates "interpersonal" and "interactions."	No Synonym Match	No synonymic relationships on this 3-word sequence, although as concurrently reported in Rows 10 and 11, there might be synonymic relationships on "interpersonal" and "interactions."	No Semantic Match	No Match	No Hierarchical Match	This Reviewer is unable to discern any hierarchical orderings in either SCT or ICF that satisfactorily accommodate the concepts behind "basic interpersonal interactions."	Yes Gap	There is a large gap in SCT for "basic" as well as for "interpersonal" and "interactions," as concurrently reported on Rows 10 and 11.	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	[If there is NOT a Gap, what type(s) of match(s) has/have been found?] [One-to-one; one-to-multiple; No alignment]	Yes Flag	Both IHTSDO and WHO should re-examine the concepts associated with the adjective "basic" as it juxtaposes against "general" and "complex" in ICF, and then re-examine the concepts for the 3-word sequence "basic interpersonal interactions."	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d7100	Respect and warmth in relationships	Showing and responding to consideration and esteem, in a contextually and socially appropriate manner.			1) 225350005 2) 225839002 3) 286714004	1) 225350005 Showing the client respect (procedure) 2) 225839002 Finding relating to showing respect (finding) 3) 286714004 Character trait finding of emotional warmth (finding)	Partial Lexical Match	There might be lexical matches on "respect" and "warmth" but there are no matches on the 5-word sequence "respect and warmth in relationships."	Partial Synonym Match	"Warmth" and "Respect" are probably in synonymic relationships, but the entire 5-word sequence does not have any synonyms in SCT.	Partial Semantic Match	SCT is Broader Than ICF. Respect for clients and a "character trait" of warmth are broader interpretations of these two terms than in d7100 in which respect and warmth pertain only to relationships. As frequently observed in rows below in this spreadsheet, SCT poorly accommodates the concept of "in relationships."	No Hierarchical Match	This Reviewer is unable to discern any hierarchical orderings for comparison in either SCT or ICF on either the 5-word sequence or even the individual words "respect" and/or "warmth."	Yes Gap	There is a very large gap in SCT pertaining to "in relationships," although the semantic coverage in this case for "respect" and "warmth" in SCT appears satisfactory. Combining satisfactory coverage with unsatisfactory coverage would be required to solve the gap in SCT for the 5-word sequence "respect and warmth in relationships."	Partial Lexical Match Partial Synonym Match Partial Semantic Match No Hierarchical Match	As ICF is to SCT, so there is a One-to-Multiple relationship between the free-standing concepts of "respect" and "warmth," but there is No Alignment on the 5-word sequence.		[Should an organization re-examine this concept for improvement / to address some issue? If so, whom? IHTSDO (SNOMED CT)? WHO (ICF)? NLM (MetaThesaurus)?]	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d7101	Appreciation in relationships	Showing and responding to satisfaction and gratitude, in a contextually and socially appropriate manner.			None	None	No Lexical Match	There are literally no matches in SCT on not only the 3-word sequence "appreciation in relationships," but also even on the single word "appreciation." Therefore there are not lexical matches.	No Synonym Match	There are no synonymic relationships, as neither "appreciation" nor "appreciate" arise in SCT.	No Semantic Match	No Match	No Hierarchical Match	This Reviewer cannot discern any hierarchical orderings for the word "appreciation" in SCT, and the ordering in ICF is simply as a third-level code within the second-level code heading for General Interpersonal Interactions.	Yes Gap	There is a very large gap in SCT pertaining to the concept of "appreciation" or in verb form "[to] appreciate." ICF invokes "satisfaction and gratitude" as components of "appreciation."	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	No Alignment	Yes Flag	Both IHTSDO and WHO should re-examine the concept of "appreciation" in order for there to be some kind of alignment between SCT and ICF.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d7102	Tolerance in relationships	Showing and responding to understanding and acceptance of behaviour, in a contextually and socially appropriate manner.			None	None	No Lexical Match	In SCT, "tolerance" arises only in reference to physical or biochemical types of tolerance, or specific health conditions (e.g., Impaired Glucose Tolerance (disorder) and Intravenous Tolerance Test, Intravenous (procedure)), rather than referring to "tolerance" or "toleration" between and among humans. Therefore, there are no lexical matches.	No Synonym Match	There are no synonymic relationships. SCT invokes the verb "tolerate" and the noun "toleration" but not in contexts pertaining to tolerance between humans.	No Semantic Match	No Match	No Hierarchical Match	This Reviewer is unable to discern any hierarchical orderings in either SCT or ICF that could be compared in order to determine if such hierarchies are aligned.	Yes Gap	There is a very large gap in SCT pertaining to "tolerance" or "toleration" between and among humans. The ICF gap is not unimportant, though: "showing and responding" and "understanding and acceptance of" are not Descriptive Note word sequences that provide an ICF user with much guidance on applying d7102 in any real-life situations.	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	No Alignment	Yes Flag	Both IHTSDO and WHO should re-examine the concepts of "toleration" and "tolerance" as they pertain to humans, and as mentioned repeatedly in subsequent rows in this spreadsheet, both IHTSDO and WHO should re-examine the concepts of "relationships."	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d7103	Criticism in relationships	Providing and responding to implicit and explicit differences of opinion or disagreement, in a contextually and socially appropriate manner.			1) 286846009 2) 286829006	1) 286846009 Tends to be sensitive to criticism (finding) 2) 286829006 Tends to appear indifferent to praise or criticism (finding)	Partial Lexical Match	There might be a partial lexical match simply involving "criticism" rather than the 3-word sequence "criticism in relationships." Even if a partial match arises, it is a poor and indistinct match.	Partial Synonym Match	There might be a partial synonymic relationship between SCT and ICF on "criticism," but there is not a synonymic relationship between SCT and ICF on the 3-word sequence "criticism in relationships."	Partial Semantic Match	SCT is Broader Than ICF. "Criticism" in SCT appears to be related to "sensitivity" or "indifference" about criticism, rather than the ICF emphasizes on "providing and responding" and "implicit and explicit" differences. This represents a broader interpretation of "criticism" than just in relationships.	No Hierarchical Match	There do not appear to be any hierarchical orderings in either SCT or ICF on which to compare "criticism in relationships."	Yes Gap	There is probably a large gap in SCT for accommodating the 3-word sequence "criticism in relationships," and even the single word "criticism" is poorly accommodated in SCT.	Partial Lexical Match Partial Synonym Match Partial Semantic Match No Hierarchical Match	No Alignment	Yes Flag	Both IHTSDO and WHO should re-examine both the concept of "criticism," and then the 3-word sequence "criticism in relationships."	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment			
d7104	Social cues in relationships	Giving and reacting appropriately to signs and hints that occur in social interactions.			None	None	No Lexical Match	There are no matches on the 4-word sequence "social cues in relationships." Several possible matches arise simply on the 1-word term "social," for example "Social interaction finding (finding)," and at least one possible match involving "cues" (445048001 Observation of nonverbal communication cues (regime/therapy)). Otherwise, there are no lexical matches.	No Synonym Match	There appear to be no synonymic relationships. Characteristics of social interactions can arise in a search of SCT terms matching on "social" but not on any of the other 3 words in the 4-word sequence.	No Semantic Match	No Match	No Hierarchical Match	This Reviewer is unable to discern any hierarchical orderings in either SCT or ICF that would accommodate the 4-word sequence, and even the 2-word sequence "social cues" apparently cannot be accommodated.	Yes Gap	There appears to be a large gap in SCT pertaining to "cues" and "social cues" that are not necessarily also forms of communication.	No Lexical Match	No Synonym Match	No Semantic Match	No Hierarchical Match	No Alignment	Yes Flag	Both IHTSDO and WHO need to re-examine the concepts associated with "social cues" and "relationships," the latter of which appears in Column U as a "Flag Comment" for nearly all Rows involving ICF terms incorporating "relationships." The large gap in SCT exhibits a lack of coverage for the concept of "social cues."	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d7105	Physical contact in relationships	Making and responding to bodily contact with others, in a contextually and socially appropriate manner.			None	None	No Lexical Match	There are no matches in SCT for the 4-word sequence "physical contact in relationships." There are a few SCT terms involving the 2-word sequence "physical contact," but these are Findings pertaining to physical contact in sports, or accidental physical contact with animals whether ridden or not. Therefore, there are no lexical matches.	No Synonym Match	At best, there might be synonymic relationships between SCT and ICF on the 2-word sequence "physical contact," but in SCT the concepts associated with "physical contact" do not involve human relationships or ICF's idea of "making and responding to bodily contact with others." Very large gap. Therefore, no synonymic relationships.	No Semantic Match	No Match	No Hierarchical Match	There do not appear to be any hierarchical orderings in either SCT or ICF that accommodate the 4-word sequence, and very poor hierarchical orderings for the 2-word sequence "physical contact."	Yes Gap	There is probably a large gap in SCT on this 4-word sequence, but there is also a very large gap in SCT represented by its lack of depth on the 2-word sequence "physical contact" as that ICF Activity would pertain to "making and responding" to bodily contact.	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	No Alignment	Yes Flag	Both IHTSDO and WHO should re-examine the concepts associated with both the 4-word sequence "physical contact in relationships" as well as the 2-word sequence "physical contact," because for now the 2-word sequence only matches on concepts that pertain to sports or animals, not intimate relationships.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d710-d729	General interpersonal interactions				None	None	No Lexical Match	As reported below on Row 11 for ICF "complex interpersonal interactions," SCT very poorly accommodates any matches with these ICF words in either their native 3-word sequence "general interpersonal interactions," or in attempts to discern matches on the individual words. Therefore, there are no lexical matches, although as reported below on Row 11, occasionally "partial matches" might arise on the adjective "interpersonal" and the noun "interactions."	No Synonym Match	There are possible synonymic relationships arising around SCT and ICF presentations of the words "interpersonal" and "interactions," and even the 2-word combination "interpersonal interactions," but this Reviewer generally votes for "no synonymic relationships" here. It would be difficult to have the same meaning for an adjective such as "general" in both SCT and ICF.	No Semantic Match	No Match	No Hierarchical Match	[Is the concept positioned in a similar hierarchy in SNOMED CT as it is in ICF? For example, compare the parents, siblings, children, ancestors, and descendants.]	Yes Gap	There is a large gap in SCT for accommodating the concept of "general interpersonal interactions," but this might not be a shortcoming in SCT; instead it might represent a "gap-inducing" or "gap-inviting" problem created by ICF itself.	No	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	No Alignment	Yes Flag	Both IHTSDO and WHO should re-examine the individual concepts of "general," "interpersonal" and "interactions," as well as the 3-word sequential combination. This re-examination should be in concert with similar re-examinations for Row 11 "complex interpersonal interactions" as well.	If any gap in ICF exists, it could be expanded at the third level of coding (1 letter and 4 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d720	Complex interpersonal interactions	Maintaining and managing interactions with other people, in a contextually and socially appropriate manner, such as by regulating emotions and impulses, controlling verbal and physical aggression, acting independently in social interactions, and acting in accordance with social rules and conventions.	Inclusions : forming and terminating relationships; regulating behaviours within interactions; interacting according to social rules; and maintaining social space		1) 304879008 2) 304880006 3) 286723001 4) 286724007 5) 225706007 6) 67564005	1) 304879008 Recording interpersonal interactions (procedure) 2) 304880006 Recording quality of interpersonal interactions (procedure) 3) 286723001 Tends to avoid group social interactions (finding) 4) 286724007 Tends to avoid one to one social interactions (finding) 5) 225706007 Interpersonal relationship finding (finding) 6) 67564005 Social maladjustment (finding)	Partial Lexical Match	Very poor caliber and volume of lexical matches, but a few do arise. The 3-word sequence "complex interpersonal interactions" does not appear in SCT, but analogues arise with matches for "interpersonal" and "interpersonal interactions" as SCT Procedures. There are a few similar words, regardless of meaning, therefore there are partial lexical matches.	Partial Synonym Match	There are synonymic relationships for ICF words "interpersonal" and "interactions," but adjective "complex" generally returns SCT terms that are associated with biochemistry.	Partial Semantic Match	SCT is Broader Than ICF. In SCT, "interpersonal interactions" includes a wide range of Findings, for example involving group and one-on-one social interactions, all of which might be either "complex" or in this Reviewer's word "simple." Very poor semantic matches throughout.	No Hierarchical Match	This Reviewer is unable to discern any hierarchical orderings in either SCT or ICF that can be compared on this set of terms.	Yes Gap	There is a very large gap in SCT for referring to "complex interpersonal interactions," but this second-level ICF code heading is in itself imprecise and "gap-inducing."	Partial Lexical Match Partial Synonym Match Partial Semantic Match No Hierarchical Match	No Alignment	Yes Flag	Both IHTSDO and WHO should re-examine the concepts involved in the separate terms "complex," "interpersonal," and "interactions," as well as the 3-word sequence, because gaps exist in both resources, conceptually and hierarchically.	If any gap in ICF exists, it could be expanded at the third level of coding (1 letter and 4 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
		Beginning and maintaining interactions with others for a short or long period of time, in a contextually and socially appropriate manner, such as by introducing oneself, finding and establishing friendships and professional relationships, starting a relationship that			None	None	No Lexical Match	This Reviewer is unable to discern any matches in SCT for these terms from ICF. As reported below on many rows involving the term "Relationships" from ICF d740 through d770, SCT only reports a minimal (5) number of matches on "relationships," all without alignment. In this case, the ICF gerund "Forming" is also poorly represented in SCT: "forming" is often part of a compound term for a Substance or Organism, such as "Succinate-CoA ligase (GDP-forming) (substance)" or "Gram-positive spore-forming bacillus (organism)." Therefore, there are no lexical matches.	No Synonym Match	This Reviewer has been unable to discern any matches in SCT for "Forming Relationships," therefore, there are no synonymic matches.	No Semantic Match	No Match	No Hierarchical Match	Given the frequently-observed lack of depth in SCT on the concept of "relationships," there does not appear to be any hierarchical ordering in SCT that can be compared to this series in ICF.	Yes Gap	There is a gap in SCT. Nevertheless, this "gap" is created by the presence of a not-precise set of terms in ICF itself. The idea of "forming relationships" is important but very difficult to grasp as a discrete Activity or, when considered in a social context, as Participation. Many relationships, such as with family members, do not really have a "forming" period. Therefore, this Reviewer almost points to a "false gap" in SCT; nevertheless, this	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	No Alignment	Yes Flag	Both IHTSDO and WHO should re-examine both concepts separately, namely "forming" and "relationships," and then as a combined Activity in "forming relationships." The concepts are important but it is a "shared gap" between both SCT and ICF.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
		Bringing interactions to a close in a contextually and socially appropriate manner, such as by ending temporary relationships at the end of a visit, ending long-term relationships with friends when moving to a new town or ending relationships with work colleagues, professional colleagues and service			None	None	No Lexical Match	SCT does not reveal any terms involving the gerund "Terminating" other than 288681003 Difficulty terminating conversation (finding); that would actually refer more to ICF d3502 Ending a Conversation. There are no better matches with "relationships" than those already shown in this spreadsheet for ICF d740 through d770. Therefore, there are no lexical matches.	No Synonym Match	This Reviewer cannot discern any matches for "Terminating Relationships," therefore there are not synonymic matches.	No Semantic Match	No Match	No Hierarchical Match	This Reviewer cannot discern any matches, therefore there are no hierarchical orderings on which to compare ICF vs. SCT.	Yes Gap	There is most likely a gap in SCT, as reported several times in rows below, pertaining to its lack of depth and breadth on the term "Relationships." But in actuality, human relationships change but rarely actually "terminate" except by mortality of course; what is "terminating a relationship" actually? ICF refers to it as similar to "ending a visit," but that seems to be a conceptual mismatch. Therefore, this Reviewer	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	No Alignment	Yes Flag	Both IHTSDO and WHO need to re-examine the concepts associated with both "terminating" and "relationships," and subsequently, to determine if "ending a visit" or "ending relationships with work colleagues" is the conceptual essence of "terminating relationships," as this entire series of concepts seems poorly fixed in both ICF and SCT.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment			
					1) 247972009	1) 247972009 Inability to resist compulsive behaviors (finding)	No Lexical Match	The ICF character string "regulating behaviors within interactions" simply do not appear in SCT. Character strings "regulating behaviors" and "interactions" deliver very poor results in comparisons. Character string "Behaviors" yields more than 1,100 SCT terms. The idea of regulating behaviors is not apparent in SCT. Therefore, although there are a few identical words, these words do not have the same or similar character strings nor meanings.[The words are the same or similar, regardless of meaning.]	No Synonym Match	The SCT selected terms that pertain to "abusive behavior" and "defiant behavior" do not exhibit synonymic matches with ICF words; they do not mean exactly the same thing.	No Semantic Match	SCT is Broader Than ICF. There is an enormous variety of "behaviors" in SCT that could be interpreted as behaviors that can arise within human interactions and that can and possibly should be regulated. But SCT does not refer to regulating such behaviors, rather SCT itemizes these behaviors as Findings and Observable Entities. Therefore, no semantic matching.	No Hierarchical Match	There are no apparent hierarchical orderings in SCT for the ICF concepts incorporated in "regulating behaviors within interactions." Such ideas as anger or defiant behaviors are presented in SCT but not necessarily in context of being regulated by one person or another especially in any human interactions.	Yes Gap	There is a very large gap in SCT that needs to accommodate the concept not only of "behaviors" but also self-regulation of such behaviors.	No Lexical Match	No Synonym Match	No Semantic Match	No Hierarchical Match	No Alignment	Yes Flag	IHTSDO should re-examine SCT's treatment of human behaviors that require or ordinarily invoke self-regulation. ICF's Descriptive Note in helpful because it presents "physical aggression" and "verbal aggression" as examples of the types of behaviors within interactions that ought to be self-regulated, but SCT does not share this conceptual set of examples.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).
					2) 112082005	2) 112082005 Inappropriate behavior (finding)																		
					3) 225481000	3) 225481000 Abusive behavior (finding)																		
					4) 248004009	4) 248004009 Physical aggression (finding)																		
					5) 248039009	5) 248039009 Defiant behavior (finding)																		
					6) 25786006	6) 25786006 Abnormal behavior (finding)																		
					7) 76991007	7) 76991007 Asocial behavior (finding)																		
					8) 79351003	8) 79351003 Hostile behavior (finding)																		
					9) 24199005	9) 24199005 Feeling agitated (finding)																		
					10) 284510009	10) 284510009																		
		Regulating emotions and impulses, verbal aggression and physical aggression			11) 225857001	11) 225857001																		

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d7203	Interacting according to social rules	Acting independently in social interactions and complying with social conventions governing one's role, position or other social status in interactions with others.			1) 228348001 2) 225852007 3) 225853002 4) 225856005 5) 225597007 6) 365997002 7) 225598002	1) 228348001 Makes rules about drinking (finding) 2) 225852007 Aware of rules and boundaries (finding) 3) 225853002 Unaware of rules and boundaries (finding) 4) 225856005 Adheres to rules and boundaries (finding) 5) 225597007 Ability to interact with others (observable entity) 6) 365997002 Finding related to ability to interact with others (finding) 7) 225598002 Interaction with others (observable entity)	No Lexical Match		No Synonym Match	The SCT character strings "interacting with" ("interact with") and "rules" or "rules and boundaries" are not synonymic with the ICF character string; they do not necessarily mean the exact same thing.	No Semantic Match	SCT is Broader Thank ICF. The degree of semantic overlap is moderate, on the premise that "rules" is a good semantic substitute for "social rules." Generally though, it is probably more accurate to report that there is No Match.	No Hierarchical Match	ICF "social rules" do not appear to be hierarchically ordered under second-level code heading d720. The presence of the character strings "interacting with" and "rules" in SCT also do not appear to be hierarchically ordered. Therefore, no hierarchical matching.	Yes Gap	There appears to be more of a gap in SCT than ICF on the concept of a set of spoken or unspoken (known or unknown) "social rules" that are present to govern interactions between and among persons. "Social rules" are not necessarily "rules and boundaries."	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	No Alignment	Yes Flag	Both IHTSDO and WHO should re-examine the ICF concept of "social rules." Such rules might be commonly known or perceived, but they interpretations of them and ICF Activities characterized by them certainly vary among individual persons; they might be social rules but they are not necessarily shared rules or shared social rules.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d7204	Maintaining social space	Being aware of and maintaining a distance between oneself and others that is contextually, socially and culturally appropriate.			247981003	247981003 Invades others' personal space (finding)	No Lexical Match	SCT does not accommodate the character strings "Maintaining social space" or "social space." There is an SCT analogue for "personal space," presumptively similar to "social space." The words are not the same or similar, regardless of meaning, therefore there is no lexical matching.	No Synonym Match	"Space" appears in SCT in more than 900 instances, generally involving Findings about specific spaces on the human body, e.g., "thumb space" between the thumb and forefinger. "Maintaining" is probably synonymic, but the types of maintenance involved in SCT are usually physiological maintenances. Therefore, the words are not synonyms because they do not mean exactly the same thing.	No Semantic Match	No Match. There might be a plausible juxtaposition and alignment of the concept "space" between both SCT and ICF, but it is difficult to refer to it as exact, broader than, or narrower than the ICF concept for "space" or "social space."	No Hierarchical Match	There is no apparent hierarchical ordering in ICF for "social space" except as one of the ICF's types of complex interpersonal interactions; note that interactions are not necessarily relationships, too. Because utilization of the specific words in SCT invokes several contexts, there does not appear to be any hierarchical ordering within SCT at the location of this term.	Yes Gap	There are apparently gaps within both SCT and ICF, or more correctly, d7204 in ICF lacks sufficient clarity except insofar as "personal distance" is involved, and that concept is not shared in SCT.	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	No Alignment	Yes Flag	IHTSDO should re-examine the use in SCT of the concept "space" as it involves "personal space" and in ICF's terms, "social space." Accommodating a suitable distance between oneself and another person is an ordinary Activity; it does not always involve an "invasion" of that space, therefore even SCT's current accommodation for "invades others' personal space" is quite inadequate.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d730	Relating with strangers	Engaging in temporary contacts and links with strangers for specific purposes, such as when asking for directions or making a purchase.			1) 34652008 2) 228306008 3) 248084006	1) 34652008 Xenophobia (finding) 2) 228306008 Drinks with strangers (finding) 3) 248084006 Not aware of danger from strangers (finding)	No Lexical Match	SCT does not incorporate the ICF character string "Relating with strangers." SCT includes at least 3 Findings that incorporate the term "strangers," but in contexts that are difficult to presume as relevant to the ICF concept of "relating to [such strangers]." Therefore the words are not the same or similar, regardless of meaning.	No Synonym Match	"Strangers" probably has the same meaning in both SCT and ICF, but SCT "fear of strangers" (i.e., Xenophobia) and SCT "drinking with strangers" cannot be considered as synonymic with ICF "Relating with strangers."	No Semantic Match	SCT is Broader Than ICF, given that forms of relating with strangers in SCT are very specific, such as fearing such strangers or drinking with such strangers.	No Hierarchical Match	Second-level code heading d730 is free-standing without any subsequent, hierarchically-ordered third-level codes in ICF. SCT does not appear to have any hierarchical ordering associated with the 3 Findings that include the word "strangers."	Yes Gap	There are apparent gaps in both SCT and ICF. SCT needs to accommodate the ICF idea of "relating with" not just at d730 but also at the third-level codes under both d740 and d750.	No	No Alignment	Yes Flag	Both IHTSDO and WHO should re-examine the concept of "strangers," toward acknowledging that ICF Activities and Participation already invokes relationships with strangers.	If any gap in ICF exists, it could be expanded at the third level of coding (1 letter and 4 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d730-d779	Particular interpersonal relationships				1) 82309004 2) 443730003 3) 225706007 4) 113381000 119100 5) 304879008 6) 422517004 7) 67564005	1) 82309004 Interpersonal intervention (regime/therapy) 2) 443730003 Interpersonal psychotherapy (regime/therapy) 3) 225706007 Interpersonal relationship finding (finding) 4) 113381000 119100 Codependency (finding) 5) 304879008 Recording interpersonal interactions (procedure) 6) 422517004 Inadequate interpersonal communication skills (finding) 7) 67564005 Social maladjustment (finding)	No Lexical Match	Although SCT accommodates "interpersonal relationships" with several relevant codes, this heading involving the adjective "particular" does not exhibit any matches in SCT. The words are not the same or similar, regardless of meaning, therefore no lexical matching.	No Synonym Match	ICF adjective "interpersonal" is probably identical to SCT "interpersonal," but the SCT codes utilizing that adjective refer mainly to Findings or Regime/Therapies, not to ICF-oriented types of relationships whether formal or informal. Therefore the terms are not synonyms, because they do not mean exactly the same thing.	No Semantic Match	No Match	No Hierarchical Match	This section heading serves as a category divider in ICF. The range of codes indicated is exhibited in d730, d740 and d750 et seq. Therefore there is no hierarchical ordering at this point in ICF Chapter 7, and therefore no hierarchical similarities with SCT.	Yes Gap	There are gaps for this category divider in both ICF and SCT, but specific types of "particular interpersonal relationships" can be captured within the subsequent second-level code headings following this category divider.	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	No Alignment	Yes Flag	IHTSDO should re-examine utilizing the adjective "particular" to designate a specific set of types of relationships, in order to be in alignment with ICF. "Interpersonal" also needs clarification in SCT.	This category divider leads to the dichotomization in ICF between "Formal" and "Informal."

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
					SCT utilization of "Relationships": 1) 272151006 2) 228589004 3) 424573006 4) 423238001 5) 406542000 SCT utilization of "Formal": 6) 224294005 7) 12955000 8) 405792009 9) 186051000 10) 224288002	SCT utilization of "Relationships": 1) 272151006 Relationships (qualifier value) 2) 228589004 Sibling relationships training (procedure) 3) 424573006 Difficulty maintaining relationships (finding) 4) 423238001 Difficulty establishing relationships (finding) 5) 406542000 Improvement in friendships and/or relationships (finding) SCT utilization of "Formal": 6) 224294005 No formal education (finding) 7) 12955000 Waiter, formal service	No Lexical Match	Both ICF and SCT utilize the adjective "formal" and the noun "relationships," but SCT does not refer to "formal relationships." Moreover, SCT does not distinguish "formal" from "informal" relationships, as ICF does between d740 and d750. Therefore, the words are not the same or similar, regardless of meaning.	No Synonym Match	Although used within both ICF and SCT, the words "formal" and "relationships" are never sequenced in SCT, and bear several definitions with none in common. Therefore, the words are not synonyms, because they do not mean exactly the same thing.	No Semantic Match	SCT is Broader Than ICF, but here for d740 only insofar as the types of relationship-oriented SCT codes go beyond "formality" per se. It would also be accurate to refer to "No Match."	No Hierarchical Match	The ICF dichotomy between "formal" and "informal" relationships seem sensible, but SCT makes no such distinction. Given that the ICF hierarchical ordering depends on this dichotomy, there is no hierarchical matching between ICF and SCT on this concept.	Yes Gap	There is a gap in SCT. Adjective "Formal" and plural noun "Relationships" are not reproduced satisfactorily in SCT.	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	As ICF is to SCT, there are One-to-Multiple matches, strictly on the adjective "formal" and the plural noun "relationships."	Yes Flag	IHTSDO should re-examine the concepts of "formal" and "relationships" separately and then potentially combine them for an exact match on "Formal Relationships." This would likely require similar amendments for a new SCT code on "informal relationships," too.	If any gap in ICF exists, it could be expanded at the third level of coding (1 letter and 4 digits), although d740, as the second-level code heading, is already expanded upon by the third-level codes described below in this spreadsheet.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d7400	Relating with persons in authority	Creating and maintaining formal relations with people in positions of power or of a higher rank or prestige relative to one's own social position, such as an employer.			1) 247842002 2) 162219004 3) 224391004 4) 365545000 5) 224392006 6) 224393001	1) 247842002 Fear of speaking to people in authority (finding) 2) 162219004 Tends to resent authority (finding) 3) 224391004 Acceptance of authority at work (observable entity) 4) 365545000 Finding of acceptance of authority at work (finding) 5) 224392006 Good acceptance of authority at work (finding) 6) 224393001 Poor acceptance of authority at work (finding)	Partial Lexical Match	SCT does not accommodate character strings "Relating with" or "persons in authority," but it does accommodate "authority." In many cases, this utilization of "authority" pertains to a governing relationship of one person over another, and in that context there is partial lexical matching between SCT and ICF. In most other cases, however, SCT utilizes "authority" to describe a controlling entity such as a health authority. This means there is partial lexical matching, because some (one) of the ICF words is the same or similar to the word(s) in SCT, regardless of meaning.	Partial Synonym Match	In character strings involving the word "authority," occasionally there is synonymic matching between SCT and ICF; sometimes "authority" means exactly the same type of tiered relationship between 2 people in both SCT and ICF. But because SCT also utilizes "authority" to refer to a controlling entity, say within a government or through an ordinance, the degree of synonymity is modest.	Partial Semantic Match	Insofar as "authority" can be partially semantically matched, SCT is narrower than ICF. SCT accommodates both semantic interpretations of "authority" but ICF only accommodates one interpretation.	No Hierarchical Match	There is no hierarchical ordering in common between SCT and ICF.	Yes Gap	There are gaps in both SCT and ICF. The larger or more prominent gap is in SCT, where it is apparently not possible to accommodate the idea of a "relationship with" or "relating with" persons in authority, even though SCT accommodates broader ideas about authority, such as "acceptance of" authority at work or "resentment of" authority as forms of "relating with authority."	Partial Lexical Match Partial Synonym Match Partial Semantic Match No Hierarchical Match	Probably No Alignment, although SCT accommodates several relevant concepts stemming from "authority."	Yes Flag	IHTSDO should re-examine the concept of "authority" as a characteristic of specific human individuals about whom another individual's behavior might change. "Authority" as it pertains to a government or other controlling entity is probably too generic; "health department" might be more recognizable than "health authority" in most parts of the world in the first place.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment		
d7401	Relating with subordinates	Creating and maintaining formal relations with people in positions of lower rank or prestige relative to one's own social position, such as an employee or servant.			None	None	No Lexical Match	There is no lexical overlap. SCT does not accommodate the character strings "Relating with," "with subordinates," or "subordinates." The idea of a formal relationship with persons who are subordinate to the primary individual is apparently not covered lexically and possibly not semantically either in SCT. Therefore, the words are not the same or similar, regardless of meaning.	No Synonym Match	The ICF words "Relating with subordinates" do not have synonyms in SCT, apparently. This Reviewer is unable to discern any SCT terms that are parallel to the plural noun "subordinates."	No Semantic Match	No Match. SCT does not accommodate the idea of "subordinates," or persons who are not peers or equals to the primary individual.	No Hierarchical Match	SCT lacks accommodation for "subordinates" therefore it is highly unlikely we can find any hierarchical ordering for that concept in SCT. The hierarchical ordering in ICF is explicit, though poorly constructed for this purpose: merely the distinction between "Formal" and "Informal" relationships separated at the second-level of ICF coding (i.e., d740 vs. d750).	Yes Gap	There is an enormous gap in SCT covering any concepts closely approximating "relating with [relationships with] subordinates."	No Lexical Match	No Synonym Match	No Semantic Match	No Hierarchical Match	Yes Flag	IHTSDO needs to re-examine the concepts associated with the character strings "relating with" and also "subordinates." On another hand, WHO could elicit re-examination of ICF words and concepts "subordinates" and whether "relating with" should always pertain to some kind of "relationship."	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d7402	Relating with equals	Creating and maintaining formal relations with people in the same position of authority, rank or prestige relative to one's own social position.			None	None	No Lexical Match	There is no lexical overlap. SCT does not accommodate the character strings "Relating with," "Relating equals," "with equals," or "Relating with equals." When SCT does accommodate the word "relating," it is almost entirely a construct of the words describing a Finding or an Observable Entity, namely for example, "Finding relating to crying." Therefore the words are neither the same nor similar, regardless of meaning.	No Synonym Match	The words that might be found possibly in common do not represent synonyms. Here, "equals" might be more accurately represented by the noun "peers," but as noted below on Row 28, SCT does not accommodate "informal relationships with peers" (d7504) because SCT cannot accommodate "peers." The words are not synonyms because they do not mean exactly the same thing.	No Semantic Match	No Match. SCT poorly accommodates the separate elements of the character string: "relating" is utilized very differently throughout SCT as part of a compound description within a term; "equals" is hardly mentioned and not in relation to "peers" or others with similar social standing.	No Hierarchical Match	There is almost no hierarchical ordering for the concept "relating with equals" in SCT, whether depicted as either a Formal or Informal relationship type. The only hierarchical ordering in ICF pertains to that artificial split between Formal and Informal, a poor ordering for any matches with SCT terms.	Yes Gap	There is almost certainly a gap in SCT. The idea of "relating" is very poorly explained, though. ICF does not enable the user to make a conceptual jump from "relating with" types of persons to "relationships" whether Formal or Informal. Therefore an additive gap in ICF could be observed on the idea or concept of "relating with."	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	No Alignment	Yes Flag	both organizations need to engage in reconsideration. IHTSDO needs to reevaluate the absence of "relating" as it pertains to the core of "relationships." IHTSDO should reevaluate "equals" in the context of "peer" or similar social standing. WHO should reevaluate the character string "relating with" because the words can invoke relationships between and among words and semantic concepts, rather than only between and among humans.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d750	Informal social relationships	Entering into relationships with others, such as casual relationships with people living in the same community or residence, or with co-workers, students, playmates or people with similar backgrounds or professions.	Inclusions : informal relationships with friends, neighbours, acquaintances, co-inhabitants and peers		1) 272151006 2) 228589004 3) 424573006 4) 423238001 5) 406542000	1) 272151006 Relationships (qualifier value) 2) 228589004 Sibling relationships training (procedure) 3) 424573006 Difficulty maintaining relationships (finding) 4) 423238001 Difficulty establishing relationships (finding) 5) 406542000 Improvement in friendships and/or relationships (finding)	No Lexical Match	There is almost no lexical overlap between ICF second-level heading d750 and SCT. As indicated below for the third-level codes under d750, SCT neither accommodates the character string "Informal relationships" nor "Social relationships." SCT does accommodate "relationships." However, the words in ICF are not the same or similar as those in SCT, regardless of meaning.	No Synonym Match	There is almost no synonymic overlap between the ICF and SCT terms referring to "informal social relationships."	No Semantic Match	No Match. SCT could be considered Slightly Broader Than ICF on this set of concepts, but overall, there is no alignment between the specific types of relationship itemized in SCT versus the general types indicated by ICF at this second-level heading.	No Hierarchical Match	There appears to be no hierarchical alignment between ICF and SCT on these concepts.	Yes Gap	The gap apparently is within SCT, for lack of capacity to cover the concept of "Informal social relationships." More specificity in the types of relationships mentioned in SCT does not necessarily diminish the conceptual gap.	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	No Alignment	Yes Flag	IHTSDO should re-examine the lack of coverage for the ICF concept "Informal social relationships," and in fact, IHTSDO needs to reconsider both "Social relationships" and "Informal relationships" separately and additively.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
					1) 113163005	1) 113163005 Friend (person)	Partial Lexical Match	There is a measured degree of lexical overlap between ICF and SCT on "Friend" and "Friends." The words are essentially the same or similar, and generally exhibit the same meaning.	Partial Synonym Match	There are synonymic relationships between ICF and SCT	Partial Semantic Match	SCT is Broader Than ICF. SCT exhibits many more types of situations or observations involving "friends" than ICF at this d750 portion of the hierarchy in ICF, but SCT does not exhibit any parallels to "Informal relationships."	No Hierarchical Match	There is apparently very little commonality in the hierarchical placements of "friends" and "informal relationships" in ICF and SCT.	Yes Gap	There are gaps in both SCT and ICF. The greater gap is exhibited by SCT in that it cannot accommodate ICF concepts of "informal relationships," although the degree of the gap related to "friends" is not as severe in SCT.	Partial Lexical Match	As ICF is to SCT, there are One-to-Multiple matches, strictly on the concept of "friend" or "friends."	Yes Flag	IHTSDO should re-examine the overall concept of "Informal relationships" and then generalize some of the extremely-specific types of encounters or relationships already exhibited in SCT referring to friends, namely, "drinks with friends" can be more general to refer to an informal social relationship between or among friends.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).
				2) 444199001	2) 444199001 Friend of subject (person)																
				3) 224132002	3) 224132002 Lives with friend (finding)																
				4) 224131009	4) 224131009 Lives with friends (finding)																
				5) 228302005	5) 228302005 Drinks with friends (finding)																
				6) 224232006	6) 224232006 Sleeping at home (finding)																
				7) 406542000	7) 406542000 Improvement in friendships and/or relationships (finding)																
				8) 183436007	8) 183436007 Care from friends (regime/therapy)																
				9) 224485002	9) 224485002 Cares for a friend (finding)																
				10) 224479009																	
				11) 406542000																	

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d7501	Informal relationships with neighbours	Creating and maintaining informal relationships with people who live in nearby dwelling areas.			1) 105513000 2) 224154000 3) 224154000 4) 365504008 5) 287991000119107	1) 105513000 Problem with neighbors (finding) 2) 224154000 Relationship with neighbors (observable entity) 3) 224154000 Cared for by neighbors (finding) 4) 365504008 Finding of relationship with neighbors (finding) 5) 287991000119107 Discord with neighbors, lodgers and landlord (finding)	Partial Lexical Match	SCT accommodates the ICF concept of "neighbours" (and American English spelling "neighbors"), even providing 224154000 Relationship with neighbors (observable entity), and 365504008 Finding of relationship with neighbors (finding). The relationships are not described by degree of formality, though. Therefore there are some words that are the same or similar, regardless of meaning. [This should include normalization of the terms; i.e. a. Removal of genitives (i.e. -'s) b. Removal of stop words (i.e. NOS) c. Removal of capital letters d. Removal of all punctuation e. Removal of inflection (i.e. plurality) f. Discontinue consideration of word order, while maintaining awareness that in some situations word order may be important.]	Partial Synonym Match	The ICF word "neighbors" ("neighbours") is apparently accommodated in a synonymic relationship with the corresponding SCT terms related to "neighbors." Here, the term "neighbors" apparently means the same thing in both ICF and SCT.	Partial Semantic Match	SCT is Slightly Broader Than ICF. Although there is apparently little or no semantic overlap between ICF "Informal relationships" and related terms in SCT, there is at least a good measure of semantic overlap between ICF and SCT uses of the term "neighbors."	No Hierarchical Match	The hierarchical relationships surrounding "neighbors" do not appear to be in alignment between ICF and SCT.	Yes Gap	Because SCT apparently lacks accommodation for the overall ICF concept of "Informal relationships," with anyone or any type of other person, it would appear that the gap is in SCT, not ICF.	Partial Lexical Match Partial Synonym Match Partial Semantic Match No Hierarchical Match	No Alignment	Yes Flag	Yes, IHTSDO should re-examine the concept of "Informal relationships," but there appears to be relatively modest alignment between SCT and ICF on "neighbors."	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d7502	Informal relationships with acquaintances	Creating and maintaining informal relationships with people whom one knows but who are not close friends.			1) 228305007 2) 48385004 3) 25692008	1) 228305007 Drinks with acquaintances (finding) 2) 48385004 Acquaintance (person) 3) 25692008 Murder of acquaintance (event)	No Lexical Match	SCT does not accommodate the character string "Informal relationships" and utilizes the adjective "Informal" mainly to describe informal caregivers (carers). SCT poorly accommodates the concept of "acquaintance(s)." Therefore the words between ICF d7502 and SCT are neither the same nor similar, regardless of meaning. [This should include normalization of the terms; i.e. a. Removal of genitives (i.e. -'s) b. Removal of stop words (i.e. NOS) c. Removal of capital letters d. Removal of all punctuation e. Removal of inflection (i.e. plurality) f. Discontinue consideration of word order, while maintaining awareness that in some situations word order may be important.]	No Synonym Match	The words "Informal relationships" from ICF apparently do not appear in SCT. "Acquaintance" is accommodated in SCT but not in a manner consistent with informal relationships. Therefore the words are not synonyms.	No Semantic Match	No Match. There is almost no semantic similarity between the ICF concepts "Informal relationships" and "acquaintances" and any such terms in SCT.	No Hierarchical Match	The ICF concept of "Informal relationships" apparently does not appear in any SCT hierarchical ordering. Similarly, SCT does not easily accommodate the concept of "acquaintances" in any apparent hierarchy.	Yes Gap	There are probably gaps exhibited by both ICF and SCT, but the "larger" or more meaningful gap is definitely within SCT. SCT needs to expand in order to accommodate the ICF concept of "Informal relationships" across the board and in alignment with ICF second-level heading d750.	No Lexical Match No Synonym Match No Semantic Match No Hierarchical Match	No Alignment	Yes Flag	IHTSDO should be considering a re-examination of the ICF idea of "Informal relationships," particularly in context of second-level heading d750 focusing on "Informal Social Relationships."	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits). More likely, though, SCT exhibits the greater gap and would need multiple expansions and a more ordered hierarchy.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d7503	Informal relationships with co-inhabitants	Creating and maintaining informal relationships with people who are co-inhabitants of a house or other dwelling, privately or publicly run, for any purpose.			None	None	No Lexical Match	There are apparently no matches nor even any overlapping concepts reflecting the ICF term "co-inhabitants," much less whether any informal relationships exist among such co-inhabitants. Therefore, there are no words that are the same or similar, regardless of meaning. [This should include normalization of the terms; i.e. a. Removal of genitives (i.e. -'s) b. Removal of stop words (i.e. NOS) c. Removal of capital letters d. Removal of all punctuation e. Removal of inflection (i.e. plurality) f. Discontinue consideration of word order, while maintaining awareness that in some situations word order may be important.]	No Synonym Match	There are no synonyms stemming from d7503.	No Semantic Match	No Match. ICF concept "co-inhabitants" in a house or other dwelling simply does not appear to have any parallel terms in SCT. Closest SCT parallel concept is apparently 287991000119107 Discord with neighbors, lodgers and landlord (finding).	No Hierarchical Match	The absence of terms in SCT referring to "co-inhabitants" of a house or dwelling would seem to indicate there is also no hierarchical ordering of such terms available in SCT, therefore there is no hierarchical matching between ICF and SCT.	Yes Gap	There is an enormous gap in SCT pertaining to the ICF concept of "co-inhabitants," even when spelled and considered as the more common English term "cohabitant." This Reviewer cannot discern any related terms that might be accommodating in SCT referring to another (unrelated) person living in one's own house or dwelling.	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	No Alignment	Yes Flag	Both IHTSDO and WHO should re-examine the concept of "co-inhabitant" or "cohabitant" as it pertains to an unrelated person also dwelling in one's own house or residence. The idea of informal relationships also would need refinement in SCT.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits). More likely, though, SCT exhibits the greater gap and would need multiple expansions and a more ordered hierarchy.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d7504	Informal relationships with peers	Creating and maintaining informal relationships with people who share the same age, interest or other common feature.			1) 225807009 2) 52381000119109	1) 225807009 Pressured by peers (finding) 2) 52381000119109 Peer problem (finding)	No Lexical Match	There is almost no lexical matching or overlap between ICF d7504 and SCT. The words "Informal relationships with peers" are not reproduced in SCT. In fact, the only lexical matching involves the noun "peer" in singular form.	No Synonym Match	The ICF words "Informal relationships with peers" do not have the same meanings as such SCT words as "peer review" and "peer problem." Therefore the words are not synonyms.	No Semantic Match	No Match. There is almost no conceptual overlap between the kind of "informal relationships with peers" described in ICF and any related terms in SCT, of which there are remarkably few.	No Hierarchical Match	The ICF concept "Informal relationships with peers" is not matched in any hierarchy in SCT observable by this Reviewer.	Yes Gap	There are likely gaps in both ICF and SCT. In particular, SCT exhibits a gap pertaining to the concept of "peer relationships" whether informal or not. ICF Descriptive Note at d7504 terms include "same age, interest, or other common feature," but these terms are not duplicated in SCT, therefore, the greater gap is likely within SCT.	No Lexical Match . No Synonym Match . No Semantic Match . No Hierarchical Match	No Alignment	Yes Flag	Both IHTSDO and WHO should work toward aligning the concepts at d7504. The greater accommodation needs to be invested by IHTSDO on SCT.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits). More likely, though, SCT exhibits the greater gap and would need multiple expansions and a more ordered hierarchy.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment		
					1) 160825002	1) 160825002 Poor family relationship (finding)	No Lexical Match	There is very poor lexical alignment between ICF second-level heading d760 "Family relationship" and counterparts concepts in SCT. SCT accommodates multiple types of Family-related situations, but most SCT terms involving the word "Family" invoke a family's medical history. Therefore, the words are neither the same nor similar, regardless of meaning.	No Synonym Match	The ICF words "Family relationships" have few or no synonyms involved in the SCT selections. More often than not, there is no overlapping meaning between ICF and SCT on this concept.	No Semantic Match	SCT is Broader Than ICF on the concept of "Family relationships." SCT features many different types of situations and findings, and at least one Assessment Scale, but not many terms for describing specific types of family relationships, as the Descriptive Note in ICF d760 does.	No Hierarchical Match	There is very poor alignment between ICF and SCT on their respective hierarchies surrounding terms associated with "Family relationships." Literally the SCT terms are all-over-the-map, without hierarchical ordering that pertains strictly to types of relationships within families.	Yes Gap	There is more likely a gap in ICF, given the breadth of types of family-situations that can be accommodated in SCT. On the other hand, more is not necessarily better or more descriptive: the relationships in families referred to by ICF are simply not showing up in "family"-related terms in SCT.	No Lexical Match	No Synonym Match	No Semantic Match	No Hierarchical Match	Yes Flag	Both IHTSDO and WHO should consider amendments to concepts at ICF d760, particularly in the context that a more logical hierarchical ordering of "family"-related concepts or types of relationships would enable a greater degree of alignment with ICF.	If any gap in ICF exists, it could be expanded at the third level of coding (1 letter and 4 digits), although second-level heading d760 is already quite well accommodated by the 6 third-level codes that are nested within it.
					2) 304725007	2) 304725007 Family relations test (assessment scale)																	
					3) 160825002	3) 160825002 Poor family relationship (finding)																	
					4) 160757006	4) 160757006 Elderly relative lives with family (finding)																	
					5) 22032002	5) 22032002 Family-related social factor (finding)																	
					6) 405206001	6) 405206001 Family resiliency capacity (observable entity)																	
					7) 224108009	7) 224108009 Member of reconstituted family (finding)																	
					8) 160888002	8) 160888002 Family member on protection register (situation)																	
		Creating and maintaining kinship relationships, such as with members of the nuclear family, extended family, foster and adopted family and step-relationships, more distant	Inclusions : parent-child and child-parent					[This should include normalization of the terms; i.e. a. Removal of genitives (i.e. -'s) b. Removal of stop words (i.e. NOS) c. Removal of capital letters d. Removal of all punctuation e. Removal of inflection (i.e. plurality) f. Discontinue consideration of word order, while maintaining awareness that in some situations word order may be important.]															

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
		Becoming and being a parent, both natural and adoptive, such as by having a child and relating to it as a parent or creating and maintaining a parental relationship with an adoptive child, and providing physical, intellectual and emotional nurture.			1) 160827005 2) 74128007 3) 38312007 4) 160503002 5) 9306000 6) 266943008 7) 90921004 8) 13646006 9) 83408003 10) 41953004 et al., with more than 50 remaining "Parent" codes.	1) 160827005 Parent relationship problem (finding) 2) 74128007 Step parent (person) 3) 38312007 Grand-parent (person) 4) 160503002 Parent of (observable entity) 5) 9306000 Legal parent (person) 6) 266943008 Single parent (person) 7) 90921004 Foster parent (person) 8) 13646006 Natural parent (person) 9) 83408003 Working parent (person) 10) 41953004 Adoptive parent (person)	Partial Lexical Match	The ICF words and word order "Parent-child" are not repeated in SCT. SCT utilizes types of parental relationships to describe "Parent-child relationships." Nevertheless the word "Parent" is paramount in both ICF and SCT, regardless of meaning.	No Synonym Match	The ICF words "Parent-child relationships" and SCT words referring to statuses or types of parents in their roles with children are not the same, and they do not mean exactly the same thing.	Partial Semantic Match	SCT is Much Broader Than ICF. SCT accommodates multiple types or roles for the concept of "Parent," whether or not the person or observable entity is in any particular relationship with a child. The degree of match is very slight.	No Hierarchical Match	The concept of types or roles of Parents is hierarchically arranged well in SCT, owing mainly to more than 60 such types or roles identified in discrete codes. In ICF, d7600 at the third-level of coding is hierarchically arranged correctly, but not in a way that matches SCT.	Yes Gap	The gap is more likely in ICF, as SCT accommodates more than 60 types of Parent roles or situations. On the other hand, SCT might exhibit the gap, because the main idea of ICF "Parent-child relationships" in contrast to d7601 "Child-parent relationships" is not reproduced in SCT; instead, it is only atomized and reduced to granular types of relationships.	Partial Lexical Match . No Synonym Match . Partial Semantic Match . No Hierarchical Match	The matches are, at best, described as SCT-to-ICF Multiple-to-One, but that characterization is not accurate. SCT accommodates many types of Parent roles, but not necessarily any or many types of Parent-child relationships. Therefore it is equally correct to observe that there is No Alignment.	Yes Flag	Both IHTSDO and WHO should consider amendments and additions to align the concept behind d7600 "Parent-child relationships."	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
		Creating and maintaining relationships with one's parent, such as a young child			1) 160830003 2) 102904004 3) 301057000 4) 302181007 5) 301057000 6) 161064007 7) 266954003 8) 397837008 9) 129699007	1) 160830003 Child relationship problem (finding) 2) 102904004 Abusive emotional relationship with child (finding) 3) 301057000 Position of child in relation to adult (finding) 4) 302181007 Legal history relating to child (observable entity) 5) 301057000 Position of child in relation to adult (finding) 6) 161064007 Child/parent violence (finding) 7) 266954003 Child deserted by parents (finding) 8) 397837008 Child held on parent's lap	Partial Lexical Match	Some of the words are the same, such as "child," "relating[ionship]" and "parent." The meanings are both the same and different, though. [This should include normalization of the terms; i.e. a. Removal of genitives (i.e. -'s) b. Removal of stop words (i.e. NOS) c. Removal of capital letters d. Removal of all punctuation e. Removal of inflection (i.e. plurality) f. Discontinue consideration of word order, while maintaining awareness that in some situations word order may be important.]	Partial Synonym Match	The words "child" and "parent" essentially mean the same thing, but SCT does not conjoin (hyphenate) the two words to exhibit an adjectival construction about the type and ordering of a specific set of relationships. SCT does not utilize the conjoined term "Child-Parent."	No Semantic Match	SCT is Much Broader Than ICF. There might be conceptual matches among the SCT and ICF concepts, but SCT has detailed descriptions of many different kinds of child-parent relationships even if they are described using different words in SCT.	No Hierarchical Match	No hierarchical similarities, apparently, between SCT and ICF.	Yes Gap	There is probably a gap in ICF rather than SCT, but the sheer number of additional "child-parent" concepts in SCT does not suggest that SCT covers the full range of concepts successfully.	Partial Lexical Match Partial Synonym Match No Semantic Match No Hierarchical Match	SCT has multiple-to-one sets of matches with ICF on the "child-parent" concept.	Yes Flag	IHTSDO should re-examine its concepts related to the types of relationships between and among children and parents.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
					1) 228589004	1) 228589004 Sibling relationship	Partial Lexical Match	The word "sibling" or plural "siblings" appears to represent the same concept in both SCT and ICF. Moreover the words are the same or similar, too, regardless of meaning. But the interpretations are about problems with siblings in SCT, instead of a category of sibling relationships within ICF d7602.	Partial Synonym Match	There is partial overlap in meaning between ICF "Sibling" and SCT various "Siblings." Adjectival use in ICF; noun and adjectival uses in SCT.	Partial Semantic Match	SCT is Broader Than ICF. SCT incorporates components of discrete types of relationships between siblings, almost based on each sibling's own behavior toward the other.	No Hierarchical Match	The "sibling" concepts in SCT appear to be expressed in several different hierarchies. Poor hierarchical alignment between SCT and ICF.	Yes Gap	There is more likely a gap in ICF, considering the broader range of types of sibling relationships expressed in SCT. But it can be safely assumed that SCT also exhibits a big gap, too.	Partial Lexical Match	Very poor alignment.	Yes Flag	IHSTDO should reexamine the concepts associated with general "siblings," to inquire whether general relationships among siblings should be itemized rather than specific types of relationships among siblings based on each other's behaviors.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).
					2) 681000119 101	2) 681000119 101 Sibling relationship (procedure)															
					3) 224095004	2) 681000119 101 Sibling relationship															
					4) 248029003	problem (finding)															
					5) 224098002	3) 224095004															
					6) 375005	Number of siblings (observable entity)															
					7) 21093007																
					8) 88510002	4) 248029003 Stealing from siblings (finding)															
					9) 11286003			[This should include normalization of the terms; i.e. a. Removal of genitives (i.e. -'s) b. Removal of stop words (i.e. NOS) c. Removal of capital letters d. Removal of all punctuation e. Removal of inflection (i.e. plurality) f. Discontinue consideration of word order, while maintaining awareness that in some situations word order may be important.]													
					10) 13157002	5) 224098002 et al., with 26 remaining "Sibling" codes															
						6) 375005 Sibling (person)															
						7) 21093007 Half-sibling (person)															
						8) 88510002 Step sibling (person)															
						9) 11286003 Twin sibling (person)															
						10) 13157002															
		Creating and maintaining a brotherly or sisterly relationship with a person who																			

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d7603	Extended family relationships	Creating and maintaining a family relationship with members of one's extended family, such as with cousins, aunts and uncles and grandparents.			1) 394568007 2) 50160009 3) 224102005 4) 160825002	1) 394568007 Extended family member (person) 2) 50160009 Extended family therapy (regime/therapy) 3) 224102005 Member of extended family (finding) Has an extended family network (finding) 4) 160825002 Poor family relationship (finding)	Partial Lexical Match	There are partial similarities between SCT words "Extended Family" and "Family Relationship" and ICF words "Extended Family Relationships," but there is very little commonality in the meanings of the two sets of words.	Partial Synonym Match	The words "family relationship" are probably safely considered as synonymic, meaning exactly the same thing. However, even in SCT's "Extended family therapy" code, there are several overlapping meanings laden in the noun "family."	Partial Semantic Match	SCT is Narrower Than ICF. The meaning of the word combinations can be considered similar, having to do with families, but the type of relationship described in SCT is different from that in ICF.	No Hierarchical Match	Very poor hierarchical arrangement in SCT; moderately better third-level coding hierarchy in ICF.	Yes Gap	There are likely gaps in both SCT and ICF on this "family relationship" concept, but at face value the more immediate gap is in SCT.	Partial Lexical Match Partial Synonym Match Partial Semantic Match No Hierarchical Match	Virtually No Alignment.	Yes Flag	It seems most advantageous for both IHTSDO and WHO to consider bolstering or adding new discrete codes for the concept(s) related to "family relationship." "Family" in itself is a linguistic term heavy-laden with many alternative meanings or interpretations.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d770	Intimate relationships	Creating and maintaining close or romantic relationships between individuals, such as husband and wife, lovers or sexual partners.	Inclusions : romantic, spousal and sexual relationships		1) 84074000 2) 424145001	1) 84074000 Intimate (qualifier value) 2) 424145001 Difficulty expressing intimacy (finding) [Interprets 228465009 Sexual relationship details (observable entity)]	No Lexical Match	The words in SCT and ICF are not the same, regardless of meaning. ICF adjective "Intimate" is not found in SCT, although noun "Intimacy" is found in SCT, as a finding related to the difficulty expressing intimacy.	No Synonym Match	The words ICF "Intimate" and SCT "Intimacy" are not synonyms because they do not mean exactly the same thing.	No Semantic Match	There is No Match. There is no analogue in SCT for ICF adjective "Intimate."	No Hierarchical Match	There appears to be little or no hierarchical ordering of "intimacy" in SCT; moderate hierarchical ordering in ICF d770 as the 2nd-level code heading.	Yes Gap	There is more likely a gap in SCT than ICF, but the lack of alignment of the noun and adjective renderings of the concept of "intimacy" suggests there are gaps in both SCT and ICF.	No	No alignment.	Yes Flag	More likely, IHTSDO should consider amending SCT to accommodate the concept of adjectival "intimacy" as a hierarchical form of relationships, similar to the hierarchical rendering of several types of relationships in ICF.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits), although d770, as the second-level code heading, is already expanded upon by the third-level codes described below in this spreadsheet.

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
d7700	Romantic relationships	Creating and maintaining a relationship based on emotional and physical attraction, potentially leading to long-term intimate relationships.			105416005	105416005 Breakup of romance (finding)	No Lexical Match	The ICF adjective "Romantic" is not matched in meaning by the SCT noun "Romance." No lexical match because the words are actually not similar despite 5 alphabetic letters in common.	No Synonym Match	The words "Romantic" and "Romance" are not synonyms; they do not mean exactly the same thing.	No Semantic Match	SCT is Narrower Than ICF. The words have several alphabetic letters in common, and refer to the same types of human emotions or functioning, but the meaning of the words is different, mainly because they are used as different parts of speech.	No Hierarchical Match	The concept "romance" is not positioned in similar hierarchies in SCT or ICF.	Yes Gap	There is a gap in SCT, where "creating and maintaining an intimate relationship of a legal nature" can be accommodated. There is also a gap in ICF, which currently cannot accommodate the concept of "breaking up" or ending such a relationship.	No Lexical Match	Almost No Alignment	Yes Flag	[Should an organization re-examine this concept for improvement / to address some issue? If so, whom? IHTSDO (SNOMED CT)? WHO (ICF)? NLM (MetaThesaurus)?]	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
		Creating and maintaining an intimate relationship of a legal nature with another person, such as in a legal marriage, including becoming and			1) 78077007 2) 266971002 3) 160802003 4) 160861007 5) 160948006 6) 133939006 7) 183042002 8) 95931009 9) 275113000 10) 276112003 et al., with 31 remaining "Spouse" codes	1) 78077007 Battered spouse syndrome (finding) 2) 266971002 Spouse unwell (situation) 3) 160802003 Violent spouse (finding) 4) 160861007 Spouse arrested (situation) 5) 160948006 Spouse is handicapped (situation) 6) 133939006 Alcoholic spouse (finding) 7) 183042002 Spouse reassured (situation) 8) 95931009 Neglected spouse (finding) 9) 275113000 Spouse hemophilic (situation) 10) 276112003 Spouse	Partial Lexical Match	Difference between adjectives: ICF "Spousal" vs. SCT "Spouse." SCT has both Findings and "Situations" related to "Spouse." The words are similar, but do not necessarily have the same meaning.	Yes Synonym Match	The words might be synonyms, i.e., "spouse" and "spousal" could be considered alike or identical for practical purposes. But "relationships" in ICF is intentionally broad, while SCT presents various kinds of situations that arise in such relationships among spouses.	Partial Semantic Match	SCT is Broader Than ICF. The meanings of ICF "spousal" and SCT "spouse" are probably the same, but SCT features much more detail in the characteristics of such relationships.	No Hierarchical Match	The hierarchy is a little clearer in SCT although the types of "spouse relationships" appear as a laundry list rather than hierarchically ordered conceptually. Minimal hierarchical ordering in ICF.	Yes Gap	There is a gap in ICF representing the breadth in types of spousal relationships, which are itemized discretely in SCT.	Partial Lexical Match . Yes Synonym Match . Partial Semantic Match . No Hierarchical Match	Multiple-to-one matches between SCT-to-ICF. Some alignment.	Yes Flag	WHO should consider reexamining the adjective "Spousal" in favor of SCT's "Spouse."	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
					1) 228467001 2) 102950001 3) 228465009 4) 192523000 5) 228469003 6) 228473000 7) 228466005 8) 228470002 9) 422461009 10) 102952009 11) 417876002 12) 365957000 13) 102951002 14) 102953004 15) 365959002 16) 365960007 17) 420180008 18) 418150003 19) 419951006	1) 228467001 Casual sexual relationship (finding) (Primitive) 2) 102950001 Abusive sexual relationship (finding) (Primitive) 3) 228465009 Sexual relationship details (observable entity) (Primitive) 4) 192523000 Sexual relationship disorder (disorder) (Primitive) 5) 228469003 Committed sexual relationship (finding) (Primitive) 6) 228473000 Duration of sexual relationship (observable entity) (Primitive) 7) 228466005 Commitment to sexual relationship (observable entity) (Primitive)	Yes Lexical Match	Many of the words and concepts pertaining to Sexual Relationships are expanded upon in SCT.	Yes Synonym Match	Yes, the words are synonyms and mean exactly the same thing. "Orientation" appears to pertain to parlance heterosexual or homosexual orientation, not presented in ICF.	Yes Semantic Match	SCT is Broader Than ICF.	No Hierarchical Match	The hierarchy in SCT is much more detailed than that in ICF. The ICF hierarchy involving "Intimate, Romantic, Spousal and Sexual" relationships is much more restrictive than that in SCT.	No Gap	No gap, because SCT is very robust in covering many different types of Sexual Relationships. If any gap exists, it would be within ICF pertaining to comparative lack of detail.	Yes Lexical Match . Yes Synonym Match . Yes Semantic Match . No Hierarchical Match	Multiple-to-One matches have been found; multiple SCT matches to "one" ICF match. Relatively good alignment.	No Flag	WHO might consider expanding the concept of Sexual Relationships to be similar to those in SCT.	If any gap in ICF exists, it could be expanded at the fourth level of coding (1 letter and 5 digits).

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d8	CHAPTER 8 MAJOR LIFE AREAS	This chapter is about carrying out the tasks and actions required to engage in education, work and employment and to conduct economic transactions.																				
d810	Informal education	Learning at home or in some other non-institutional setting, such as learning crafts and other skills from parents or family members, or home schooling.					no match	tried "self education", "self learned" etc. Receiving home tuition (finding)	no match		no match	SNOMED CT does not distinguish education activities on different levels. Also, SNOMED CT contains many more specific details, e.g. duration, achievement, attendance, age	no match		yes					IHT SDO, WHO	A SCT finding = a result of the interaction of a person performing the activity/participating in an activity and the environment	

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d810-d839	Education				301466009, 224285004	Education and training activity (observable entity), Education and schooling detail (observable entity)	yes	409073007 Education (procedure) exists, however, procedures in SNOMED CT are always what is done to patients, not what people do themselves. 365458002 Education and/or schooling finding (finding) also exists. Tried "training", "school(ing)", "teaching"	no match		no match	Ability and activity are fused in SNOMED CT	no match	nothing like "major life areas" in SNOMED CT	yes							Management of differences between hierarchies should be considered, cf. ICD-11 project

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d815	Preschool education	Learning at an initial level of organized instruction, designed primarily to introduce a child to the school-type environment and prepare it for compulsory education, such as by acquiring skills in a day-care or similar setting as preparation for advancement to school.					yes	161116001 Pre-school (environment) Provision of pre-school play group (procedure) (312619007) Pre-school child health examination (procedure) (171417004) Provision of pre-school age home teacher (procedure) (312620001) Pre-school diphtheria and tetanus double vaccination (procedure) (275841003)...	no match		no match		no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment
		Gaining admission to school, engaging in all school-related responsibilities and privileges, and learning the course material, subjects and other curriculum requirements in a primary or secondary education programme, including attending school regularly, working cooperatively with other students, taking direction from teachers, organizing, studying and completing assigned tasks and projects, and advancing to						Only received primary school education (finding) (224295006) Received													

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d825	Vocational training	Engaging in all activities of a vocational program and learning the curriculum material in preparation for employment in a trade, job or profession.					yes	tried "work", "practical", "further" Vocational training (procedure) (54106008) Received vocational training (finding) (440586004)	no match		no match	In SNOMED CT, a procedure means that healthcare/ some organization performs the activity for the patient/person while in ICF it is the person which performs/participates in the activity	no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d830	Higher education	Engaging in the activities of advanced educational programmes in universities, colleges and professional schools and learning all aspects of the curriculum required for degrees, diplomas, certificates and other accreditations, such as completing a university bachelor's or master's course of study, medical school or other professional school.					yes	161122005 Higher education (finding)	no match		no match	A finding and not an activity. Could match an ICF qualifier though.	no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d840	Apprenticeship (work preparation)	Engaging in programmes related to preparation for employment, such as performing the tasks required of an apprenticeship, internship, articling and in-service training.		Exclusion: vocational training (d825)			no match	Looked for synonyms in thesaurus, no match Commencement of employment (observable entity) (160894005)? Or this maybe part of the next, acquiring a job? See also On work experience (finding)(224367008)	no match		no match		no match		yes							
d840-d859	Work and employment				261041009	Working, function (observable entity)	yes	364703007 Employment detail (observable entity) also a candidate Performance at work (observable entity) (364704001)	no match		no match	Ability and activity are fused in SNOMED CT	no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d845	Acquiring, keeping and terminating a job	Seeking, finding and choosing employment, being hired and accepting employment, maintaining and advancing through a job, trade, occupation or profession, and leaving a job in an appropriate manner.	Inclusions : seeking employment; preparing a resume or curriculum vitae; contacting employer and preparing interviews; maintaining a job; monitoring one's own work performance; giving notice; and terminating a job				no match	“job”, “work”	no match		no match	Similar to education above, SNOMED CT contains several more specific details, however, no activities	no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d8450	Seeking employment	Locating and choosing a job, in a trade, profession or other form of employment, and performing the required tasks to get hired, such as showing up at the place of employment or participating in a job interview.					yes	79079000 New worker seeking employment (occupation)	no match		no match	224381005 Seeking work (finding) found, but finding not activity	no match		yes							
d8451	Maintaining a job	Performing job-related tasks to keep an occupation, trade, profession or other form of employment, and obtaining promotion and other advancements in employment.					no match	“keep”, “employment”	no match		no match		no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d8452	Terminating a job	Leaving or quitting a job in the appropriate manner.					no match	“leaving” Stopped work (finding)(160895006) Leaving job (finding)(224472000)	no match		no match	A finding and not an activity. Could match a qualified ICF term.	no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d850	Remunerative employment	Engaging in all aspects of work, as an occupation, trade, profession or other form of employment, for payment, as an employee, full or part time, or self-employed, such as seeking employment and getting a job, doing the required tasks of the job, attending work on time as required, supervising other workers or being supervised, and performing required tasks alone or in groups.	Inclusions : self-employment, part-time and full-time employment				no match	In paid employment (finding)(406156006)	no match		no match	A finding and not an activity. Could match a qualified ICF term.	no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d8500	Self-employment	Engaging in remunerative work sought or generated by the individual, or contracted from others without a formal employment relationship, such as migratory agricultural work, working as a freelance writer or consultant, short-term contract work, working as an artist or crafts person, owning and running a shop or other business.		Exclusions: part-time and full-time employment (d8501, d8502)			no match	Self-employed (finding)(160906004)	no match		no match	A finding and not an activity. Could match a qualified ICF term.	no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d8501	Part-time employment	Engaging in all aspects of work for payment on a part-time basis, as an employee, such as seeking employment and getting a job, doing the tasks required of the job, attending work on time as required, supervising other workers or being supervised, and performing required tasks alone or in groups.					yes	160904001 Part-time employment (finding) found			no match	A finding and not an activity. Could match a qualified ICF term.	no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d8502	Full-time employment	Engaging in all aspects of work for payment on a full-time basis, as an employee, such as seeking employment and getting a job, doing the required tasks of the job, attending work on time as required, supervising other workers or being supervised, and performing required tasks alone or in groups.					yes	160903007 Full-time employment (finding)			no match	A finding and not an activity. Could match a qualified ICF term.	no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d860	Basic economic transactions	Engaging in any form of simple economic transaction, such as using money to purchase food or bartering, exchanging goods or services; or saving money.					no match				no match	Levels of economic transactions are not in SNOMED CT	no match		yes							
d860-d879	Economic life						no match		no match	224164009 [Financial circumstances (observable entity)] found but not the same meaning(?)	no match		no match		yes				ICF	The terms does not seem to be interpretable as activities, rather a property or aspect		

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d865	Complex economic transactions	Engaging in any form of complex economic transaction that involves the exchange of capital or property, and the creation of profit or economic value, such as buying a business, factory, or equipment, maintaining a bank account, or trading in commodities.					no match				no match	Levels of economic transactions are not in SNOMED CT	no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d870	Economic self-sufficiency	Having command over economic resources, from private or public sources, in order to ensure economic security for present and future needs.	Inclusions : personal economic resources and public economic entitlements		224189003	Sufficiency of income for needs (observable entity)	no match				?	yes/no: I would say is having command over... more like in Management of financial affairs (observable entity) (224200006)			no match	yes			ICF		The terms does not seem to be interpretable as activities, rather a property or aspect. "Having..." indicates that it's not an activity	
d8700	Personal economic resources	Having command over personal or private economic resources, in order to ensure economic security for present and future needs.					no match				Partly?	Is this an issue in ICF, as these three deviates from (most?) other A&P terms? Partly matches 224173001 Individual income (observable entity) or Management of own financial affairs (observable entity) (364705000) . There is nothing in SNOMED CT related to financial fortune/capital			no match	yes			ICF		The terms does not seem to be interpretable as activities, rather a property or aspect	

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d8701	Public economic entitlements	Having command over public economic resources, in order to ensure economic security for present and future needs.					no match				?	Is this an issue in ICF, as these three deviates from (most?) other A&P terms?	no match		yes				ICF		The terms does not seem to be interpretable as activities, rather a property or aspect	
d9	CHAPTER 9 COMMUNITY, SOCIAL AND CIVIC LIFE	This chapter is about the actions and tasks required to engage in organized social life outside the family, in community, social and civic areas of life.					no match		no match		no match		no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d910	Community life	Engaging in all aspects of community social life, such as engaging in charitable organizations, service clubs or professional social organizations.	Inclusions : informal and formal associations; ceremonies	Exclusions: non-remunerative employment (d855); recreation and leisure (d920); religion and spirituality (d930); political life and citizenship (d950)	300599000	Ability to perform community living activities (observable entity)	no match	Values (community) (finding) 394839000 Social interaction finding (finding)(129874008)	no match		no match	Matches capacity qualifier	no match		yes							
d9100	Informal associations	Engaging in social or community associations organized by people with common interests, such as local social clubs or ethnic groups.					no match		no match		no match		no match		yes	nothing matching in SNOMED CT						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d9101	Formal associations	Engaging in professional or other exclusive social groups, such as associations of lawyers, physicians or academics.					no match	Social group 1 - professional (finding)(160482007)	no match		no match		no match		yes	nothing matching in SNOMED CT						
d9102	Ceremonies	Engaging in non-religious rites or social ceremonies, such as marriages, funerals or initiation ceremonies.					no match		no match		no match		no match		yes	nothing matching in SNOMED CT						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d920	Recreation and leisure	Engaging in any form of play, recreational or leisure activity, such as informal or organized play and sports, programmes of physical fitness, relaxation, amusement or diversion, going to art galleries, museums, cinemas or theatres; engaging in crafts or hobbies, reading for enjoyment, playing musical instruments; sightseeing, tourism and travelling for pleasure.	Inclusions : play, sports, arts and culture, crafts, hobbies and socializing	Exclusions: riding animals for transportation (d480); remunerative and non-remunerative work (d850 and d855); religion and spirituality (d930); political life and citizenship (d950)	300737003	Ability to participate in leisure activities (observable entity)	yes		no match		no match	Matches capacity qualifier	no match		yes	no matching grouper in SNOMED CT						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment		
d9200	Play	Engaging in games with rules or unstructured or unorganized games and spontaneous recreation, such as playing chess or cards or children's play.			300773005	Ability to play (observable entity)	yes					300737003 Ability to participate in leisure activities (observable entity)		There is no "leisure activity" concept in SNOMED CT	no match	Matches capacity qualifier	no match						
d9201	Sports	Engaging in competitive and informal or formally organized games or athletic events, performed alone or in a group, such as bowling, gymnastics or soccer.			14468000, 300797001	Sports activity (observable entity), Ability to participate in sporting activities (observable entity)	yes					4751000 Leisure physical activity (observable entity) ??			no match	Matches capacity qualifier. General problem of indistinction between abilities and activities	no match						

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d9202	Arts and culture	Engaging in, or appreciating, fine arts or cultural events, such as going to the theatre, cinema, museum or art gallery, or acting in a play, reading for enjoyment or playing a musical instrument.					no match		no match		no match		no match		yes	nothing matching in SNOMED CT						
d9203	Crafts	Engaging in handicrafts, such as pottery or knitting.					no match	Ability to perform creative activity (observable entity)(300761005)	no match		no match		no match		yes	nothing matching in SNOMED CT						
d9204	Hobbies	Engaging in pastimes such as collecting stamps, coins or antiques.			300755007	Ability to engage in a hobby (observable entity)	yes				no match	Matches capacity qualifier	no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d9205	Socializing	Engaging in informal or casual gatherings with others, such as visiting friends or relatives or meeting informally in public places.			225598002	Interaction with others (observable entity)	no match		yes		no match	The concept is a "Characteristic of psychosocial functioning" in SNOMED CT, not an activity	no match		yes							
d930	Religion and spirituality	h	Inclusions : organized religion and spirituality				no match		no match		no match		no match		yes	no matching grouper in SNOMED CT						
d9300	Organized religion	Engaging in organized religious ceremonies, activities and events.					no match	Ability to pursue religious activities (observable entity)(300803002)	no match		no match	There are probably aspects of this in e.g. 408892004 Finding related to expression of religious beliefs (finding) , 300803002 Ability to pursue religious activities (observable entity)	no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d9301	Spirituality	Engaging in spiritual activities or events, outside an organized religion.					yes	E.g. 105569009 Spiritual health of patient (observable entity) , 129886006 Spiritual finding (finding)	no match		no match	The spiritual health could be an enabler of participating in spiritual activities?	no match		yes							

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
d940	Human rights	Enjoying all nationally and internationally recognized rights that are accorded to people by virtue of their humanity alone, such as human rights as recognized by the United Nations Universal Declaration of Human Rights (1948) and the United Nations Standard Rules for the Equalization of Opportunities for Persons with Disabilities (1993); the right to self-determination or autonomy; and the right to control over one's destiny.		Exclusion: Political life and citizenship (d950)			no match		no match		no match		no match		yes	nothing matching in SNOMED CT						290

ICF_code	ICF_term	ICF Definition	Inclusions	Exclusions	SNOMED CT_code	SNOMED CT_term	Lexical	Lexical Comment	Synonym	Synonym Comment	Semantic	Semantic Comment	Hierarchical	Hierarchical Comment	Gap	Gap Comment	Type	Type Comment	Flag	Flag Comment	GENERAL Comment	
		Engaging in the social, political and governmental life of a citizen, having legal status as a citizen and enjoying the rights, protections, privileges and duties associated with that role, such as the right to vote and run for political office, to form political associations; enjoying the rights and freedoms associated with citizenship (e.g. the rights of freedom of speech, association, religion, protection against unreasonable search and																				

