Poster Booklet

WHO-FIC Network Annual Meeting

06-11 October 2019

WHO-FIC

2019

Health Information meets Health Informatics

Topic Sections

ID No.	WHOFIC Topic
101 – 111	Committees & Reference Groups
201 – 218	WHO Collaborating Centres
301 – 329	ICD-11
401 – 424	ICF
501 – 503	ICHI
601 – 607	Other Topic Areas

WHO-FIC 2019 CANADA

Health Information meets Health Informatics

Committees & Reference Group Annual Reports

101-109

ID	Poster Title and Authors
101	Report from the WHO-FIC Network Advisory Council *Lynn Bracewell, Donna Pickett*
102	Classification and Statistics Advisory Committee (CSAC) annual report *Frattura L., Hargreaves J., Tonel P., Forrester A*
103	2019 Education and Implementation Committee Annual Report *Sharon Baker, Vera Dimitriopoulos, Filippa Pretty, Nenad Kostanjsek*
104	FDC Annual Report 2018-2019 *Soraya Maart, Andrea Martinuzzi, Coen van Gool, Robert Jakob*
105	Informatics and Terminology Committee (ITC) - Annual Report 2019 *Jun Nakaya, Cassandra Linton, Anupama Ginige, Can Celik*
106	Report from the Medical and Scientific Advisory Committee *Christopher Chute, Rolf-Detlef Treede, Lori Moskal*
107	MRG Annual Report, 2018-2019 *Kaori Nakayama, Donna L Hoyert, F Robert N. Anderson*
108	Morbidity Reference Group Annual Report *W.Ghali, O.Steinum, K.Mabon*
109	Functioning as a key summary indicator of health in all WHO Classifications: FDRG Annual Report 2018-2019 *Matilde Leonardi, Hae-Jung Lee, Olaf Kraus de Camargo*
110	The Quality & Safety Group *Danielle A Southern, Hude Quan, Harold A Pincus, William A Ghali for the Q&S Group*
111	Activities of WHO-FIC Asia-Pacific Network *Wansa Paoin[1], Maliwan Yuenyongsuwan[2], Yukiko Yokobori[3], Sukil Kim[4], Hiroyoshi Endo[5]*

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Report from the WHO-FIC Network Advisory Council 2019

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101

Abstract The functions of the Council are 1) to develop a Strategic Work Plan for the Network, which is presented at the annual WHO-FIC Network meeting, 2) to monitor and follow-up progress of the Strategic Work Plan, 3) to establish and revise, as needed procedures for the conduct of annual meetings of the Network, 4) to participate in planning the annual meetings, and 5) to review action items from each meeting and address new action items that arise. This poster summarizes the work of the Council and its Small Executive Group during 2018-2019.

Introduction

The WHO-FIC Network Advisory Council was established in 2007 to accommodate the need for broader participation in the core-decision-making processes of the WHO-FIC Network. In 2013 the role of the Advisory Council was confirmed in the Network's 'Conduct of the WHO Family of International Classifications network'. The Network Advisory Council has two co-chairs, who are WHO-FIC Collaborating Centre Heads elected at the Network annual meetings in odd-numbered years.

Members of the Council include Heads of CCs (designated and under designation) and Co-Chairs of Network Committees and Reference Groups. Heads of WHO Classification, Terminology and Standards (CTS) CCs and representatives of relevant Non-Government Organisations (NGO) in official relations with the WHO are invited to participate as non-voting members, as can be those in classification development leadership positions with WHO. The Council Small Executive Group (SEG) was established in 2008 to prepare recommendations and identify issues for discussion and decision by the Council. The SEG includes the Co-Chairs of the Council, two additional committee or reference group Co-Chairs, currently Wansa Paoin and Kaori Nakayama, a network member as nominated by the WHO and WHO Headquarters staff.

Meetings during the last year

The Council convened twice during the annual WHO-FIC Network meeting in Seoul, South Korea in Oct-2018. During the period Nov-2018 to Sep-2019 the Council conducted 3 telephone conference calls in Feb, May and Sep-2019. The SEG met at the annual meeting and held 6 telephone conferences between Nov-2018 to Sep-2019 including 1 call with Committee & Reference Group Co-Chairs to organise mid-year meetings. The focus of SEG meetings includes organisation of the work of the Network, oversight of the Strategic Work Plans of the Network Committees and Reference Groups between the Network and the WHO. Meeting notes are available at https://sites.google.com/site/whoficcouncil/teleconferences

Conduct of the Network Paper

The Council and SEG update the Conduct of the WHO Family of International Classifications to reflect agreed changes to the network and improvements to ways of working. Following the WHO-FIC Advisory Council approval at the network meeting the Conduct paper was updated and published on the WHO website to incorporate generic changes that reflect the requirement for all Committee and Reference Groups Terms of Reference to:

- create and maintain productive working relationships with other WHO-FIC Network Committees and reference groups.
- prepare strategic work plans for the Committee and annual reports to the Network on the activities of the Committee.

This can be found at: https://www.who.int/classifications/ConductoftheWHOFICNetworkupdated20181029.pdf?ua=1

Annual meeting format

The Council agreed there was further work to raise greater awareness within the network of the purpose and opportunity of the face to face Committee and Reference Groups meetings; encourage contribution from country leads/experts to fully participate in the strategic workplan and strengthen contribution in areas that have lower participation but need in next stages of ICD-11 implementation.

The Council and SEG have been working with WHO towards a Strategic framework and updated Work Plan to reflect WHO strategic priorities including the change in focus from ICD-10 to ICD-11.

The Strategic Framework has been published at: https://www.who.int/classifications/network/FrameworkfortheWHOFICNetworkStrategicPlan20182023.pdf?ua=1

The workplan will be regularly reviewed and updated by the Committee and Reference Groups to reflect the progress of their work activities.

ICD transition

The Council and SEG continued to provide advice to the WHO on the strategic framework and workplan with emphasis on cross-cutting work to support the transition from ICD-10 to ICD-11 - one of the strategic pillars in the framework.

At the 2018 annual meeting the ICD-11 MMS Joint Task Force achieved a significant milestone completing their work and handing over to the network Committee and Reference Groups.

In May 2019 the development of ICD-11 culminated in the WHO HQ team submission to the WHO Executive Board and World Health Assembly for the adoption of ICD-11.

The final resolution is available at: http://apps.who.int/gb/ebwha/pdf_files/WHA72/A72_R15-en.pdf

With this in mind WHO will look to the network to assist with next stages of ICD-11 implementation.

Reports from WHO

WHO continued to provide reports to the Council and SEG on:

- Updating and publication of foundational documents that support the network e.g. Conduct paper, Strategic workplan.
- WHO work planned or in progress on updating ICF and further development of ICHI
- Status tracker of designation and re-designation of WHO-FIC Collaborating Centres within the network
- Plans for the annual meeting in Banff, Canada in 2019.

Acknowledgements or Notes

The Council and SEG members are thanked for their valuable contributions to the Council work and acknowledge the secretariat support by the WHO.

WHO-FIC Advisory Council Co-Chairs

The Council Co-Chairs serve a two year terms and may be re-elected for one additional term. Donna Picket was appointed in Oct-2017. Lynn Bracewell, appointed in Oct-2015, is serving a second term which will end in Oct-2019. Elections will be held for the Co-Chair at the 2019 annual meeting

Health Information meets Health Informatics

Classification and Statistics Advisory Committee (CSAC) annual report

Frattura L.[1], Hargreaves J.[2], Tonel P.[3], Forrester A.[4]

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102

Abstract This poster includes an outline of the purpose and main activities of the Classification and Statistics Advisory Committee and presents a preliminary report of the work of the Committee during 2018-2019.

Introduction

The purpose of the CSAC is to provide strategic and technical advice to WHO in keeping its Family of International Classifications up to date in line with current knowledge and relevant to the purpose for which they were designed. The functions of the CSAC include maintenance policy and maintenance work of CSAC (1).

Methods

The CSAC work is mainly conducted through the update platform for ICF and the maintenance platform for ICD-11, which are workflow engines designed to facilitate communication within expert workgroups and ensure transparency of the processes (2,3). Work and communications are also carried out via e-mail, conference calls and meetings, including an annual meeting during the WHO-FIC annual meeting. Activities of CSAC are carried out according to the WHO-FIC Strategic Work Plan.

Results

ICF updates 2018: At the 2018 WHO-FIC Network annual meeting held in Seoul, the CSAC ratified 47 recommendations for updating the ICF. Minutes of the CSAC ICF session were prepared and circulated among the CSAC members and WHO. The annual update documents for the ICF updates to be implemented in 2019 were prepared and delivered to WHO (Figure 1).

Figure 1 – Screenshot from the ICF annual update document - 2019

Proposal ID & update type	Affected Code	Original version	Update version
ID # 289 Major: Addition of an inclusion, addition of exclusions, addition of a new code at third level	d660 Assisting others b6603 Lactation	**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)* ... **d6604 Assisting others in nutrition** Assisting household members and others with their nutrition, such as by helping them to prepare and eat meals. **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. **b6603 Lactation** Functions involved in producing milk and making it available to the child.	**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; breastfeeding* *Exclusion: remunerative employment (d850)* ... **d6604 Assisting others in nutrition** Assisting household members and others with their nutrition, such as by helping them to prepare and eat meals. *Exclusion: breastfeeding infants and children (d6607)* **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. **d6607 Breastfeeding infants and children** Feeding an infant or child with milk directly from the breast. **b6603 Lactation** Functions involved in producing milk and making it available to the child. *Exclusion: breastfeeding infants and children (d6607)*

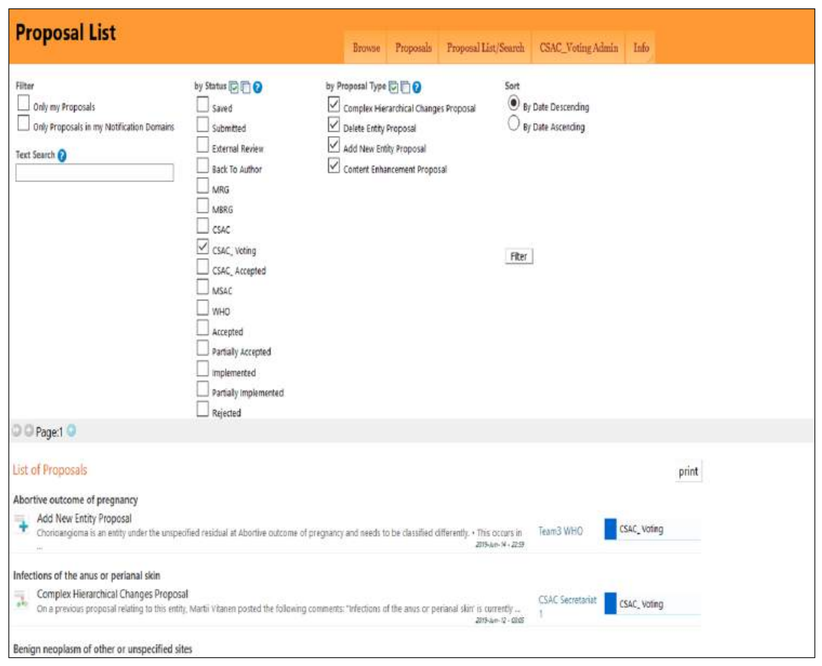
ICF update process for 2019: In the period 2018-2019, the work on updating ICF was mainly done keeping in mind the release of a new ICF version. The aim is to have a version as much complete and correct as possible. A great number of new update ICF proposals were submitted (4). Most of new update proposals were submitted in order to include codes coming from ICF-CY into ICF, and a joint work of the CSAC Co-Chair for ICF and Secretariat with the Functioning and Disability Reference Group (FDRG) was conducted in this regard. In total, 39 new update proposals were submitted on the update platform. A first check on new update proposals was performed by the CSAC secretariat. After a review by the IRG and FDRG members, these were discussed together with other 32 update proposals that had been held over from last year. Of all update proposals for 2019, 67 have been put to vote by the CSAC members. The update proposals to be discussed and voted in 2019 include: 1) proposals coming from ICF-CY; 2) proposals aiming at removing impairments from the inclusions of the Body Functions (BF) categories and at adding a remark with examples of health conditions in which impairments listed in the inclusions may occur; 3) proposals aiming at having the titles in a verbal form in categories of the chapters 7, 8, and 9 of Activity and Participation (A&P); 4) proposals on Environmental Factors; and 5) others. In April 2019, the CSAC Co-Chair for ICF and CSAC secretariat also participated via teleconference in the 2019 FDRG mid-year meeting in Kuwait City. A presentation was given on 2019 ICF update process focusing in particular on re-submitting codes coming from ICF-CY, deleting impairments in BF categories, and using verbal form in the titles of the A&P categories. Modernizing ICF update environment and need to update other parts of ICF other than the tabular list were also discussed.

ICD-11 updates 2018: At the 2018 WHO-FIC Network annual meeting held in Seoul, the CSAC considered and took decisions on 3 items for finalising the ICD-11 for presentation to the World Health Assembly in May 2019.

ICD-11 update process for 2019: The CSAC Secretariat together with WHO and a small CSAC subgroup had a face to face meeting in Geneva in February 2019 to discuss ICD-11 update process and to work on update proposals on the maintenance platform. In particular 3 groups of proposals were considered: Outstanding proposals submitted prior to April 2017, Outstanding proposals received between April 2017 and May 2018 not already triaged, and Outstanding proposals received between June and October 2018. Proposals were triaged in the following manner: back to author, sent to MSAC, MRG, MbRG or other committees and groups as necessary, or moved to 'CSAC voting'. A total of 268 proposals were reviewed. A second face to face meeting of the CSAC secretariat, WHO and the small CSAC subgroup was held in Geneva in June 2019. The group conducted further work on previously reviewed proposals, and on 21 additional proposals to correct potential mistakes. Of the 105 (approximately) proposals remaining in 'CSAC voting', a recommendation to accept, accept with modification, or reject was added. Improvements regarding the maintenance platform and the update process in general were also considered.

A teleconference was held in June between CSAC Co-Chair for ICD-11, CSAC secretariat, and WHO to discuss timing of voting rounds and other issues. Approximately 103 ICD-11 update proposals were put to vote for 2019 (Figure 2). The first voting round was opened on 26 June 2019 and closed on 23 August 2019. A second round will be held in September, in advance of the annual meeting.

Figure 2 – Screenshot from the ICD-11 maintenance platform



Acknowledgements

The achievements of the Committee are made possible by the generous efforts of CSAC members and relative institutions. Special thanks to Linda Best and Lori Moskal for their collaboration and support with ICD-11.

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WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

6-11 October 2019

Banff, Canada

2019 Education and Implementation Committee Annual Report

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Poster ID

103

Abstract

The 2019 WHO-FIC EIC mid-year meeting was held between 5-7 April in Malmo, Sweden, with a joint meeting of the EIC and the Morbidity Reference Group (MbRG) held on the afternoon of the 5 April. Work undertaken in 2019 includes ICD-11 Flyer development; information sheets being updated, retired, and created; review of the WHO-FIC classifications and EIC websites; discussions regarding the Implementation Database; provision of terms sets for ICD-11 ICD Fit ; Establishment of gold standards for ICD-11 ICD Fit and education materials.

Mid-Year Meeting

The 2019 WHO-FIC EIC mid-year meeting was held between 5-7 April in Malmo, Sweden, with a joint meeting of the EIC and the Morbidity Reference Group (MbRG) held on the afternoon of the 5 April.

During the joint meeting, participants discussed how best to proceed with working together to garner MbRG feedback on education materials being developed.

The WHO priority for education materials required is firstly for the ICD-11 for Mortality and Morbidity Statistics (MMS) which was approved by the World Health Assembly (WHA) in May 2019.

Secondly, the International Classification of Health Interventions (ICHI) is in its final stages of development and requires education materials to facilitate field trials to be undertaken during June and July 2019.

It is anticipated that work on ICHI will be concluded by the Annual WHO-FIC Network Meeting in October 2019 and will be submitted by WHO to the WHA for approval in May 2020.

Outcomes of the mid-year meeting

During the EIC meeting between 6-7 April 2019, participants were very productive with the following work undertaken:

- Review of the WHO-FIC classifications website with recommendations to be made to WHO for updating and improvement of its functionality and usability
- Review of the current EIC website including how best to provide up-to-date education related information on the WHO-FIC to the public and the acquisition of an EIC website platform to progress the EICs background work
- Determination of a 'gold standard' for WHO-FIC education materials
- Review of a draft ICD-11 Flyer with feedback to be provided to WHO
- Coding of disease term sets using ICD-11 and agreement from participants to provide country specific disease term sets to WHO for improving the indexing in ICD-11
- Discussion focusing on ICHI and education materials developed to date with a view to developing an ICHI electronic training tool, once ICHI has been finalized. The tool would be developed on the same platform used in the development of the ICD-11 electronic training tool.
- Creation of an updated draft of the EIC Terms of Reference.
- Discussion around the modernization and simplification of the WHO-FIC Implementation Database

It is planned that the EIC work listed above be further progressed for finalization at the EIC meeting to be held as part of the annual WHO-FIC Network meetings in Banff, Canada between 5-11 October 2019.

Summary of SWP

The EIC Strategic Work plan includes the following items:

EIC 01
- Revision of WHO Family of International Classifications Website
- Update website for currency and consistency across all WHO classifications

EIC 02
- Development of an ICD-11 Flyer to showcase ICD-11 value/benefits over ICD-10 (4 page folding booklet)

EIC 03
- Development and coding of term sets in ICD-11 for ICDFit

EIC 04
- Validation of gold standard for ICDFit

EIC 05
- Testing/Review of ICD-11 electronic training tool (developed outside of EIC)

EIC 06
- Review and Finalise ICD-11 transition/implementation guide and materials

EIC 07
- WHO-FIC Implementation Database review

EIC 08
- Review outdated WHO-FIC classifications information sheets

EIC 09
- Review and update International assessment strategies

EIC 10
- ICHI Education and Implementation

EIC 11
- Routine EIC tasks

The EIC Priority for 2019 has been around the education and implementation processes for ICD-11

Achievements for October 2019 Annual Meeting

- ICD-11 Flyer development
- Existing information sheets reviewed, updated or retired, and new ones created where needed
- Continuation of review and updating of the WHO-FIC classifications and EIC websites
- Continuation of review and discussions regarding the Implementation Database
- Provision of terms sets from multiple countries for ICD-11 ICD Fit
- Establishment of gold standard answers to the term sets of ICD-11 ICD Fit
- Establishment of gold standard criteria for education materials

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

FDC Annual Report 2018-2019

6-11 October 2019
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104

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Abstract The Family Development Committee (FDC) aims to develop the World Health Organization's Family of International Classifications (WHO-FIC) as an integrated and comprehensive suite of classifications. It also aims to ensure that the WHO-FIC has a logical structure so that the classifications needed for each component and setting within the health system can be identified. This poster presents a summary of FDC activities from October 2018 to October 2019.

Introduction

The tasks of the Family Development Committee (FDC) detailed in the Strategic Work Plan (SWP) have been addressed along the year with special emphasis on items falling within some of the FDC Terms of Reference mandates:

1. To keep under review, and update as necessary, the structure and content of the WHO- FIC
2. To identify and prioritize gaps in the WHO-FIC.
3. To oversee work on development or application of WHO-FIC as requested by the Network.
4. To serve as a focal point for the Network for the Development of ICHI:
5. To create and maintain productive working relationships with other WHO-FIC Network Committees and reference groups.
6. To prepare strategic workplans for the Committee and annual reports to the Network on the activities of the Committee.

Materials & Methods

The activities have been developed through three modalities:

- Regular teleconferences among co-chairs and secretariat
- Periodic teleconferences among the FDC membership
- Dedicated small working groups
- Mid-year meeting (Conegliano, Italy, April 9-10 2019)

SWP 1: Assist WHO in the development of ICHI

FDC is the focal point connecting WHO-FIC network to the ICHI development task force. In the last year three major milestones have been reached:

1) Stabilization and completion of ICHI beta, that was released for official testing
2) Definition of the testing paradigms
3) Development of the informatic testing platform
4) Definition of the timing of the testing process
5) Delineation of the further steps to be taken towards ICHI final presentation for approval

SWP 2: Alignment of WHO-FIC Content Models

It has been acknowledged that the development of a harmonized ICD, ICF and ICHI content model and foundation would be a major step forward easing both use and maintenance/development of the WHO-FIC reference classifications. The task however requires long term commitment and expertise crossing several WHO-FIC committees and reference groups.

To probe the feasibility of this major endeavour two groups have been formed within the FDC:

- one dedicated to the analysis of the needs and methods to proceed in the alignment of the content sitting in the foundation
- A second dedicated to the study of the content model

The preliminary results of the work by the two groups are presented in separate posters.

SWP 3: Develop WHO-FIC Primary Health Care linearization

A key work area of the Family Development Committee (FDC) is to develop the WHO-FIC as an integrated and comprehensive suite of classifications, including in its application. Answering to this task it is envisaged that there should be a set of elements of classifications that comes as a package that can assist a health professional record the burden of disease, functioning loss and interventions needed or performed – integrally and universally applicable.

This set of elements of the reference, derived and related classifications then should be of benefit in areas where the full versions of the classifications are unfit for use, or unavailable, or areas where elements of the different classifications complement each other.

One such area might be Primary Health Care (PHC), including domains such as (but not limited to) antenatal care, physiotherapy, school nursing, and dental care.

The work so far has focused on determining an approach, defining PHC, describing the use case, and discussing specifications of the output.

The progress of the work by the working group is presented in a separate poster (WHO-FIC Primary Health Care – a report on process and progress).

SWP 4: WHO-FIC support for UHC and SDG's

The assessment of relevant indicators such as those listed in the "100 core health indicators" recently reviewed is a way in which achievements within the SDGs and more specifically in SDG3 and the health sensitive topics across the other SDGs can be monitored. Universal Health Coverage (UHC) is an essential part of SDGs, and its progression should also be monitored.

The WHO-FIC reference classifications can provide a useful framework to gather and analyse the needed data. A systematic mapping of the health indicators on specific codes of the three reference WHO classifications has been tested by a small group of FDC members, first by defining the relevant classification where the information could be retrieved, then by identifying within the selected classification the appropriate code(s) containing the information. A detailed description of the process and the results will be provided in the dedicated poster.

SWP 5: Family paper

The finalized Family Paper presented at the Seoul WHO-FIC annual meeting has been delivered to WHO for public exposure.

Conclusions & Acknowledgement

FDC work is at the core of the WHO-FIC network providing interconnection among the various WHO FIC products. It benefits primarily from the contribution of the FDC members and the WHO liaison, but also from the invaluable input from other committees and reference group members.

The FDC co-chairs thank the FDC members for their contributions to the FDC work plan activities during the year, and La Nostra Famiglia Associazione for hosting the 2019 FDC mid-year meeting in Conegliano.

Informatics And Terminology Committee (ITC) Annual Report 2019

Jun Nakaya[1] , Cassandra Linton[2], Anupama Ginige[3], Can Celik[4]

[1] Japan Collaborating Centre, [2] North American Collaborating Centre, [3] Australian Collaborating Centre and [4] WHO Headquarters

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105

Abstract This poster presents the annual report of the Informatics and Terminology Committee (ITC), including highlights of: Classification and Revision Platform and APIs (Application Program Interface), Content Model development work, Classification Mapping, ICD FiT and ICHI, and iCOS universalisation on ISO standards. Also the highlights of the mid-year meeting of ITC are reported here.

Introduction

The Informatics and Terminology Committee (ITC) was established in 2010, combining the Electronic Tools Committee and the Terminology Reference Group into one WHO-FIC committee.
Over the past 9 years, the ITC has continued managing and supporting the design and development of software tools used inside WHO-FIC, and work related to the linkage between WHO classifications and other terminologies.

Classification Platforms and API

WHO headquarters and collaborating centres work to enable standardized maintenance, and update of WHO classifications. Work has continued on platforms to support this work, including following tools and technologies:

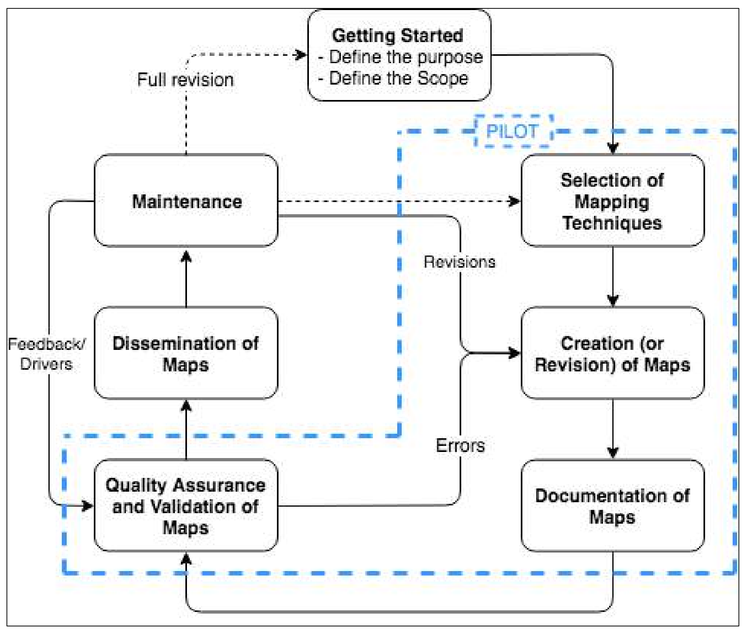
- **ICD-11 Browser:** Since the 2018 annual meeting, the ICD-11 browser has been further developed to include other languages. Currently, it is available in English and Spanish. Work has commenced to translated into other languages such as German and French.
  The ICD-11 Browser can now be embedded into a web application. Presently this feature is only available in the orange version of the browser (blue browser in progress).
- **Coding Tool**: This tool enables searching ICD-11 Mortality and Morbidity codes using natural language expressions. Now the coding tool can be deployed in a local setting where there are technological constraints (e.g. limited internet access.

- **ICD API:** We have released the 2nd version of the Application Program Interface (API), where post coordination formation is now available from the ICD-API directly. The new API also works with various languages. For more information on these additional features and see which functionalities are now there, visit https://icd.who.int/icdapi

Mapping Work

During the Mexico WHO-FIC meeting, a workgroup was formed to develop a white paper to summarise processes, demonstrate use cases, elucidate methodologies, and best practices.

The first draft of the white paper has been shared with WHO-FIC council, ITC, and other committees. Based on the feedback received, the paper was further updated, and is now in its final stages. The image below highlights the overall mapping process featured in the white paper.



Overall Process of Clinical Classification/ Terminology Mapping

iCOS on ISO Standards

The ITC will continue to prepare for the new web services for omics including genomics.

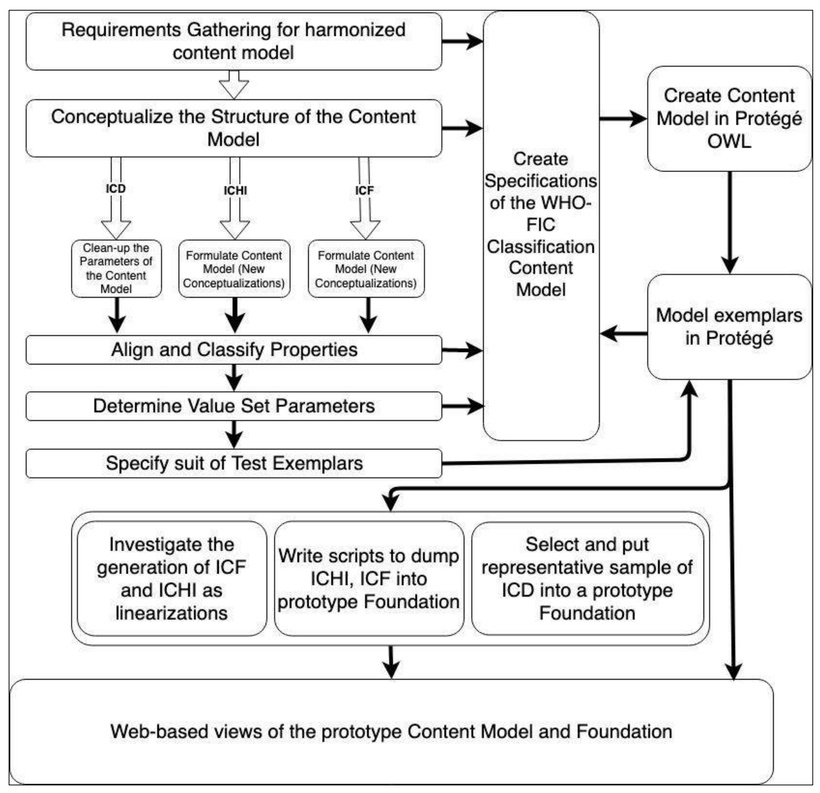
OML (Omics Markup Language), GSVML (Genomic Sequence Variation Markup Language), and WGML (Whole Genome sequence Markup Language) which are core parts of iCOS (Clinical Omics Sub information model for ICD-11) passed the 2nd international standardization ballot in ISO and are going into the final standardization phase. The final formation of omics and related standards are targeted to be completed by 2025. In this formation, OML will be the base framework for all kinds of molecular medicine. Other omics categories such as Proteomics and Phenomics will be introduced as add-ons.

ICD FiT and ICHI

ICD-11 coding exercises tool (ICD-FiT) and ICHI update will be reported including migration to the WHO cloud and its web services.

Content Model Development

To harmonize WHO-FIC classifications (ICD-11, ICHI and ICF) Dr Samson Tu has been leading a workgroup on harmonized content model development. A harmonized content model will help to build a single foundation from which different versions of ICD, ICF and ICHI can be generated. As part of this work, the overall process of the content model development was conceptualised, as shown in the image below:



Identified Process Steps in the Development of the the Harmonized Content Model

Implementation of the new harmonised content model in Protégée (an open source repository used in ontology projects) will take place in the coming months.

ITC Mid-Year Meeting Report

ITC mid-year meeting was held on 28th June 2019 via teleconference. The action items of the meeting are listed below:

- Update on Mapping paper and Journal publication
- Update on Classification platforms and associated technologies
- Update on content model development work
- Update on mapping work (ACHI/ICHI and ICHI/ICD-9CM-Vol3)
- Update on iCOS from ISO

Acknowledgements or Notes

We would like to thank all collaborating centres and ITC members who has contributed to ITC related activities.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Report from the Medical and Scientific Advisory Committee

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Banff, Canada
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106

Abstract The Medical and Scientific Advisory Committee (MSAC) provides medical and scientific advice on changes or enhancements to the ICD-11, particularly in response to proposals received or requests from the Classifications and Statistics Advisory Committee (CSAC) and associated reference groups. MSAC may also recommend changes or enhancements to ICD-11 based on scientific advances or other new information.

Introduction

The MSAC was launched at the Revision Conference in 2016 and is comprised of 19 experts selected by WHO, some of whom were drawn from the Topic Advisory Groups. The primary role of the MSAC is to advise WHO on scientific updates to ICD-11. The advice by this committee will accelerate the advice less dependent of national experts, and allow inclusion of important scientific innovations in a timely fashion.

Meetings during the last year

The MSAC met face to face during the annual WHO-FIC Network meeting in Seoul, South Korea in October 2018. During the period November 2018 to September 2019, the MSAC has met nine times via videoconference. The main focus of MSAC meetings has been on proposals submitted via the ICD-11 maintenance platform.

Methods

The MSAC reviews the scientific evidence of proposals to add a new entity into the foundation, or to delete an entity.
The MSAC will also evaluate proposals related to the descriptions and may be asked to participate in the review of changes to a coding rule. Proposals are assigned to a specific MSAC member first by specialty. If the topic is related to a specialty not represented on MSAC, members may consult with colleagues to assist in the review.

Proposals referred in 2019	
Total	102
Reviewed	22
Decided	7

Other issues discussed

MSAC members provide medical and scientific expertise to existing issues and new concepts. This includes considerations on approaches to enrich the foundation with concepts and multiple parenting. Under discussion are two potential ways of increasing the content of the foundation, in addition to the user needs identified in proposals for updates:

- Direct collaboration with credible ontology institutions in the foundation
- Linking or relationships with other ontological terminologies (e.g. Human phenotype ontology, Monarch Disease Ontology)

Resources are required to maintain the knowledge base, and WHO content must be clearly identified.

The MSAC has also reviewed the extension codes for anatomy. Originally based on needs for the ICD-11, a project that is currently underway is the identification of a source for regional anatomy that could be adapted for use in the ICD.

The recommendation to retain obsolete terms in the ICD was made by the Update and Revision Committee for ICD-10. This recommendation still stands for ICD-11, but the MSAC has been pursuing the potential to have these obsolete terms identifiable as such by means of a status flag. Ideally, the user should be able to decide to include or not include obsolete terms in a search of the classification.

A proposal to improve the classification of peripheral vascular disease in the ICD by incorporating either the Fontaine or the Rutherford classification of the clinical presentation of peripheral arterial disease was also discussed. While the Rutherford is newer and typically used by vascular surgeons, the Fontaine classification is also still in use. The MSAC recommended that both classifications should be included in the foundation. A recommendation how to best to incorporate both is still outstanding.

Future considerations

MSAC members recognize the significant workload in reviewing the proposals assigned to them this year and acknowledge that proposals continue to be submitted. With approximately 80 proposals still to be reviewed in time for the next CSAC votes, discussions are taking place to establish a process to ensure an MSAC recommendation is reached in a timely fashion.

MSAC recommendations are added to the proposal platform to ensure transparency of the maintenance process, and to inform CSAC members. Certain topics receive considerable attention from advocacy groups despite decisions attained regarding whether or not to add an entity to the ICD-11.

Acknowledgements

MSAC members are thanked for their valuable contributions to the ongoing development and maintenance of the ICD-11.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

MRG ANNUAL REPORT 2018-2019

Authors: Kaori Nakayama[1], Donna L. Hoyert[2], Robert N. Anderson[2]
1) ICD Office, MHLW, Japan; 2) NCHS, USA

6-11 October 2019
Banff, Canada
Poster ID
107

Abstract The MRG is a component of the International Classification of Diseases (ICD) updating process. Comprised of members from Collaborating Centres and regional offices, the MRG reviews problems faced in the application of ICD to mortality. In its 21st year, the MRG focused on clarifying mortality rules in the transition from ICD-10 to ICD-11, while taking into consideration future updates and making the most of the enhancements made in the ICD-11 revision.

Introduction

This is the 21st annual report of the Mortality Reference Group (MRG), established at the 1997 meeting of the Centre Heads as part of an updating mechanism for ICD-10.

While countries continue to use ICD-10 in their daily coding and production of mortality statistics, ICD-11 was released in June 2018 and adopted at WHA in May 2019. Due to its limited resources, the MRG shifted its focus to ICD-11 in 2018 with an understanding that deliberation about ICD-11 will give advise to issues found in implementation of ICD-10 as well.

This report describes the background of the MRG and its activities in the 21st year.

Methods & Materials

Provisions for the MRG are described in the conduct paper of the WHO-FIC network(http://www.who.int/classifications/network/EN_WHOFICNetworkConductPaper.pdf?ua=1)* where its objective is set to improve international comparability of mortality data by establishing standardized application of the ICD. The MRG was one of the first groups WHO – working with the Centre Heads - established for updating ICD-10 and continues its role with ICD-11. The MRG discusses issues raised in the Mortality Forum or those referred from other sources including the Centre Heads and WHO. The MRG can make decisions regarding the application and interpretation of ICD to mortality and submit a subset as recommendations to the CSAC for a vote on ICD updates and changes.

* See also WHO long-term strategy document (WHO/HST/ICD/ C/97.39) and the Centre Heads' Report for 1997 (WHO/HST/ICD/C/97.65).

2019 Mid-year Meeting

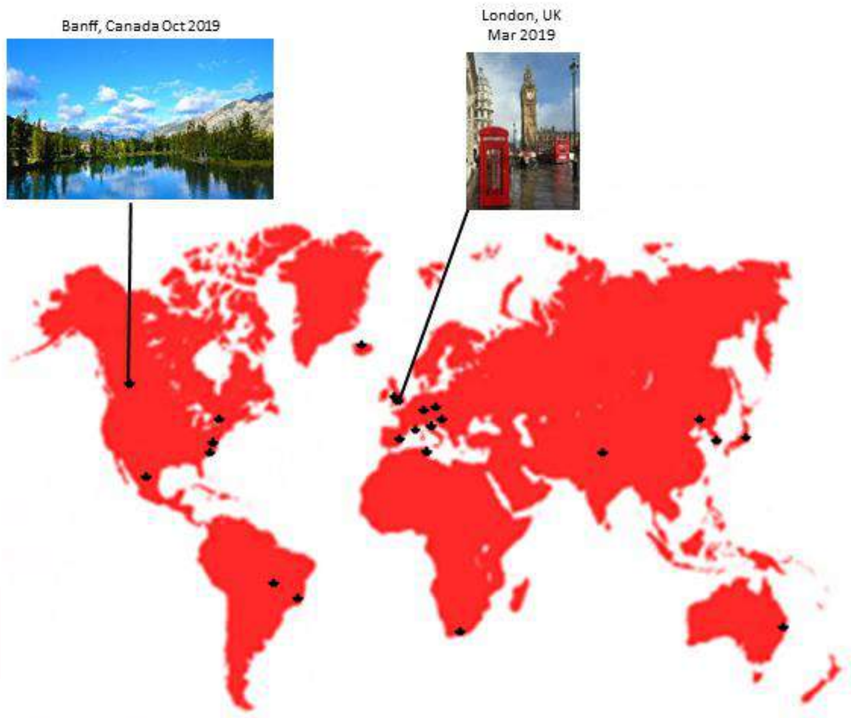
The MRG met in London, UK on March 11-14. The MRG discussed progress in the development of ICD-11 with focus on the Reference Guide and a number of conditions that are handled much differently in ICD-11 than ICD-10. The MRG revisited many other existing issues to assess if they would still be a concern in ICD-11, and discussed a future vision of mortality statistics.

Before and after adoption of ICD-11

In 2018-2019, which was a celebratory period with the adoption of ICD-11 by WHA in May 2019, the major activity of the MRG was to review the mortality coding rules in the ICD-11 Reference Guide. Special focus was given to issues requiring refinement before countries start mortality coding by ICD-11.

Major topics discussed in MRG

- ✓ Linkage rules: Transition of the rules into ICD-11 has progressed much.
- ✓ Priority ranking of nature-of-injury code list: Transition to ICD-11 is progressing.
- ✓ Neoplasms: The instruction was modified to better reflect the new structure in the classification.
- ✓ Maternal mortality: Though discussion has not matured enough, drafting of rules to standardize coding is ongoing.
- ✓ Road traffic accidents: Definitions and coding especially on light transport vehicles is under review.
- ✓ Future vision: Members shared ideas and plans based on the more electronically friendly ICD-11 including harmonization of mortality data with other health information.



MRG Meeting Locations, 1998-2019

Facilitating online discussions

The MRG holds a face to face meeting biannually, uses emails, and shares & stores documents using the SharePoint workspace. However, the vast workload to finalize the ICD-11 Reference Guide required additional channels to communicate. The MRG formed a small group for editing and started to use online document sharing tools to manage and discuss specific topics. This method was effective when working on a short term project with several devoted people who were able to regularly check the document. This expedited the review. However, this approach still depends a lot on members' commitment. While utilizing existing methods, a better way to nudge people into the work should be pursued continuously.

Next milestones

The next milestones for MRG are 2022 when ICD-11 comes into effect and the following couple of years when Member States will start mortality coding based on ICD-11. From previous experiences, we know that the adoption is not the end of the revision. Intensive discussion in the coming few years followed by continuous refinement is expected to be necessary in the mortality area.

Conclusions

Historically, the MRG dealt with many issues related to updating and clarifying ICD-10 as it applies to mortality classification and coding. Such work will continue in discussions on ICD-11. So far, attention has focused on transition topics such as the content of the Reference Guide. The CSAC proposal system is also in a transition period, and the MRG only worked on a few proposals for the CSAC.

Acknowledgements

The MRG work could not be achieved without dedicated contributions from the MRG members or without support from the Collaborating Centres kindly hosting the meetings. The MRG especially thanks the ONS of UK and the Calgary CC for hosting the MRG meetings in 2019.

Morbidity Reference Group Annual Report

Authors: W.Ghali, O.Steinum, K.Mabon
University of Calgary CC, Nordic CC, NACC-Canada

6-11 October 2019
Banff, Canada
Poster ID
108

Abstract This poster presents an annual report of the work of the Morbidity Reference Group, highlighting activities undertaken by this committee.

Introduction

The Morbidity Reference Group (MbRG) is a working group committee. This committee supports WHO and WHO-FIC Network by providing input and advice for development and use of the ICD-11 for morbidity purposes, to support the collection of internationally comparable morbidity data.
The MbRG is also engaged in developing education materials in cooperation with the Education and Implementation Committee (EIC),in Quality & Safety issues and in discussions with other WHO-FIC classifications.

Methods & Materials

The MbRG's work is conducted via email and in face-to-face meetings.

October 2018 - Annual WHO-FIC meeting in Seoul, South Korea

WHO conducted election of MbRG co-chairs for the coming two year period and Olafr Steinum (Nordic CC) and William Ghali (University of Calgary CC) were re-elected. Kristy Mabon (NACC-Canada) is the MbRG Secretariat

The MbRG had three working sessions at the meeting.
The main topics presented and discussed were the development of Morbidity reporting rules for the ICD-11 Reference Guide, to make a repository of education materials in cooperation with EIC and future priorities:
(1) Coding algorithms for crosswalk between ICD-10 and 11
(2) contribute to CSAC review of proposals to ICD-11
(3) Educational materials and
(4) Implications for casemix

April 2019 - Mid-year meeting in Malmö, Sweden

35 delegates attended the Mid-year meeting in Malmö, Sweden. Several decisions were reached to support enhancements to ICD-11, particularly were twelve topics referred from CSAC to MbRG for discussion and recommendation. The meeting could agree on recommendations back to CSAC.

Morbidity coding rules for the ICD-11 Reference Guide referring to
(1) Adverse effects of drugs and to
(2) Coding rules for delivery
were discussed.

Function and disability concepts in ICD-11 ("V-codes") were discussed and a small Task Force will propose coding scenarios.

There was given an update on Quality & Safety aspects of the classification.

Crosswalks from national procedure classifications to ICHI were briefly discussed.

Conclusions

We are at an exciting time in the history of WHO-FIC. The recent release of ICD-11, and the transition now to country-level planning for implementation in coming years brings both opportunity and challenges.

The MbRG is committed to being a resource within the WHO-FIC network for ongoing review of ICD-11 content, coding rules, reference guide content, training materials, and related aspects.

Going forward, the MbRG will continue to contribute to exploring and refining innovative uses of ICD-11 and other WHO-FIC classifications (ICHI and ICF). In this regard, the functioning and disability content of ICD-11, and the health care quality and safety content of ICD-11 present opportunities for innovation of health system information systems.

The future of health information is here, and WHO-FIC classifications are at an exciting time in their history. The MbRG is committed to supporting the WHO in the important work that lies ahead.

Acknowledgements

The co-chairs wish to acknowledge the work of the MbRG members and collaborating centres for their contributions over the past year.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

6-11 October 2019

Banff, Canada

Poster ID

109

Functioning as key summary indicator of health in all WHO Classifications: FDRG annual report 2018-2019

Authors: Matilde Leonardi[1], Haejung Lee[2], Olaf Kraus de Camargo[3]

[1] Istituto Neurologico Carlo Besta, [2] Silla University, [3] McMaster University

Abstract FDRG has been meeting in Korea for the WHO FIC 2018 as well in Kuwait during the FDRG mid-year meeting. The update process of ICF underwent major work with the goal to have a complete integration of the ICF-CY into a lifespan-covering **ICF 2020.** For the international requests and for global discussion of questions relate to the use of ICF and related instruments such as WHODAS 2.0, FDRG is setting up a Functioning Forum. The FDRG also explored further development of a WHO DAS 2.0 version for assessment of disability and functioning in children and youth.

FDRG Meetings

FDRG has been meeting in Korea for the WHO FIC 2018 as well in Kuwait during the FDRG mid-year meeting. Every month a Secretariat conference including WHO is held to discuss the items arising by the intense work on ICF and other relevant WHO FIC Classifications. The full FDRG Conferences provide a clear insight of the progresses of the work and all CC actively contribute to the advancement of FDRG as well as of WHO FIC classifications.

Functioning properties

During this period the work of FDRG has been impacted by the transformations occurring within WHO Classifications and Terminology Unit. The introduction of Functioning Properties as well as of Disability and Functioning Assessments, WHO DAS 2.0 and MDS, into ICD 11 provides the opportunity for coders and clinicians to add information as well as to familiarized with the functioning domains of health problems. FDRG members have been commenting on the addition of functioning domains into the ICD 11, and while this seems a good first step that might help the further use of ICF for those who need a deeper knowledge of functioning, the understanding however is that the connections between ICD, ICF and ICHI need to become stronger in the future. This might become possible only if all the Classifications of the Family will be available into a common electronic platform. This is one of the next essential steps for ICF to be linked to ICD 11 as well as to the next new WHO Classification on Health Interventions: ICHI

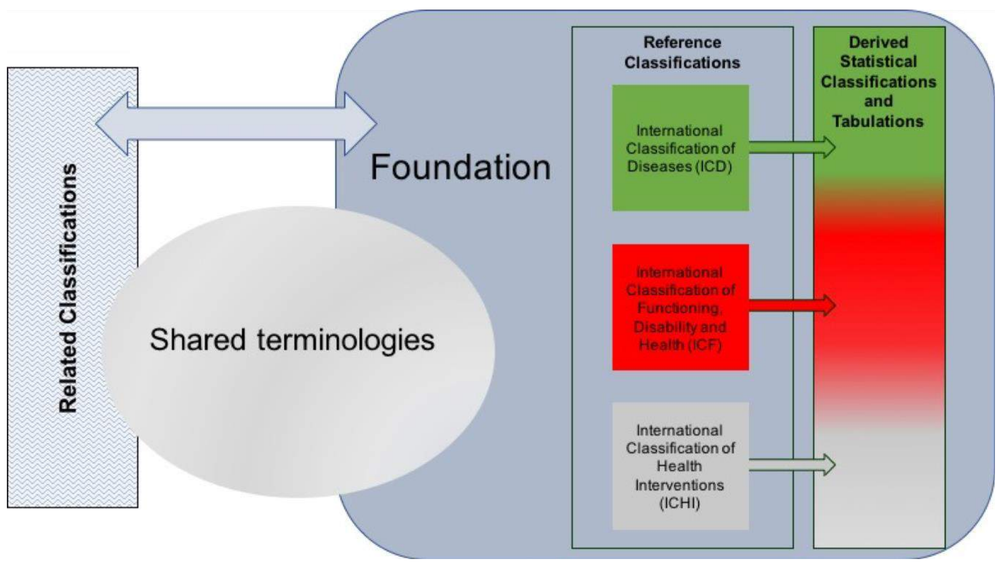


Fig.1 The Third Generation of Classifications, WHO

ICF Updates towards ICF 2020

The update process of ICF underwent major work with the goal to have a complete integration of the ICF-CY into a lifespan-covering **ICF 2020**. Over 60 items were reviewed, discussed and are waiting to be voted on by the delegates.

The ICF based Children Functioning and Disability Assessment

Following the adoption of ICD11 and of its novelty in the functioning chapter WHO has been requesting FDRG members and ICF experts to develop an assessment of disability and functioning in children and youth that could complement WHO DAS 2.0 and MDS into the ICD11 so as to cover the full age range. An ICF based assessment instrument able to capture functioning is worldwide requested and needed and those that are around do not cover the full spectrum that is required for education, rehabilitation, as well as responding to children and caregivers' need. Following WHO request a working group was established in order to develop a research plan and pathway towards an international tool to address the underreporting of childhood functioning and disability around the world.

Functioning Forum

For the international requests and for global discussion of questions relates to the documentation and coding of functioning data using ICF and derived measurement instruments such as WHODAS 2.0, the FDRG is setting up a Functioning Forum.

Quality & Safety Group

6-11 October 2019
Banff, Canada
Poster ID
110

Authors: Danielle A Southern, Hude Quan,
Harold A Pincus, William A Ghali *for the Quality & Safety Group*

Abstract

Quality and Patient Safety Group was charged with reviewing ICD-10, ICD-10CM and progressive drafts of ICD-11 to inform the development of the ICD-11, focusing on identifying practical modifications for ICD 11 drafts that would enable better measurement of quality and safety. Ultimately, an enhanced classification system will permit expanded use of coded health data for large-scale quality and safety surveillance in health care systems internationally.

Tasks

Horizontally crossing all ICD-11 chapters to advise on optimizing entire classification's content, structure & coding rules for enhanced application in both existing.
Developing an inventory of existing quality of care & patient safety indicators and potentially novel quality and safety indicators.
Assessing potential uses of ICD-11 for health services, quality & patient-centered outcomes research.
Reviewing and critiquing the ICD-11 beta draft from the perspective of the quality and safety use case.
Reviewing & critiquing Reference Guide work from the perspective of quality and safety use case.
Designing field trials for the beta version of ICD-11.
Producing knowledge translation around ICD-11

Activities

Meetings: New York in January, funded by AHRQ (large conference grant).
Topics:

- *full scale field trials* to further test the concepts developed by the Q & S Group to allow for refinement of ICD-11 drafts before the new classification system was to be sent to WHA
- *dissemination and implementation* of the innovations to capture quality and safety data through ICD-11 as well as stakeholder engagement (i.e., coders, ontologists/ classification experts, hospital administrators, health services researchers, etc.).

Activities (cont.)

Dissemination and implementation:

Emphasis of meetings activities focused on strengthening stakeholder & user engagement. As part of a broader dissemination strategy, the Q&S Group's published a series of academic articles in the *International Journal for Quality in Health Care* (and new scholarly writing by several Group-members is currently actively under way):

ICD-11 for Quality and Safety:

- Overview of the WHO Quality and Safety Group
- How many secondary diagnosis fields are necessary to capture patient safety events in administrative hospital data?
- Findings and Recommendations from the ICD-11 Quality & Safety Group on International Variation in the Definition of 'Main Condition' in ICD Coded Health Data;
- The "present on admission" flag for diagnosis timing in coded hospital discharge data. Results from the World Health Organization ICD-11 Revision Topic Advisory Group on Quality & Safety
- Enhanced capture of healthcare-related harms and injuries in the 11th revision of the International Classification of Diseases (ICD-11);
- Opportunities and challenges for quality and safety applications in ICD-11: an international survey of users of coded health data.
- A World Health Organization field trial assessing a proposed ICD-11 framework for classifying patient safety events; in addition:
- Deriving ICD-10 Codes for Patient Safety Indicators for Large-scale Surveillance Using Administrative Hospital Data.

Conclusions

The Quality & Safety Group has applied for funding from various sources for future meetings

Field trial work for testing ICD-11 is completed and will be used to recommend reference guide edits as well as training materials.

Acknowledgements or Notes

UNIVERSITY OF CALGARY
CUMMING SCHOOL OF MEDICINE

UNIVERSITY OF CALGARY
O'Brien Institute for Public Health

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Health Information meets Health Informatics

Activities of WHO-FIC Asia-Pacific Network

Wansa Paoin[1], Maliwan Yuenyongsuwan[2], Yukiko Yokobori[3], Sukil Kim[4], Hiroyoshi Endo[5]

[1] Thai CC, [2] Thai CC, [3] Japan CC, [4] Korean CC, [5] Japan CC

6-11 October 2019

Banff, Canada

Poster ID

111

Abstract The WHO-FIC Asia-Pacific Network (APN) was formed in 2006 with the objective of promoting ICD implementation in the Asia-Pacific region. There have been ten annual network meetings so far, in addition, at the WHO-FIC Network Annual Meeting, APN sessions have been held every year since 2014.
As the ICD-10 APN simplified version was integrated as the Startup Index and the ICD-11 was endorsed by WHO in May 2019, APN is moving on to a new phase and drawing up the work plans. The poster reports on the APN's activities that took place after the WHO-FIC Network Annual Meeting in Seoul in October 2018, including Strategic Workplan, updates on introducing ICD in Cambodia, the development of mobile application tool, and the key activities that are applicable in supporting ICD implementation to make it more global.

Introduction

Established in Tunis, Tunisia, in 2006, to promote ICD implementation in the Asia-Pacific, WHO-FIC Asia-Pacific Network (APN) has organized ten annual meetings and five working meetings, and provided many workshops in Asia-Pacific region so far. In addition, APN sessions have been held since 2014, taking the opportunity of the WHO-FIC Network Annual Meeting. This is the summary of the APN activities since the 2018 WHO-FIC meeting in Seoul, Korea.

	Year	Venue	Participant
1st	2006	Tunis (Tunisia)	11 countries
2nd	2007	Kyoto (Japan)	13 countries
3rd	2008	Delhi (India)	10 countries
4th	2009	Hamamatsu (Japan)	9 countries
5th	2010	Tokyo (Japan)	6 countries
6th	2013	Bangkok (Thailand)	9 countries
7th	2015	Siem Reap (Cambodia)	9 countries
8th	2016	Bangkok (Thailand)	10 countries
9th	2017	Kuala Lumpur (Malaysia)	16 countries
10th	2018	Sydney (Australia)	7 countries

APN session and workshop in Seoul

On 23rd October, 2018, the WHO-FIC APN meeting was held in Seoul, with 37 participants from 14 countries and officers from WHO Headquarters and Regional offices. The activities in Cambodia and Lao PDR, progress status of the Startup Index (integrated version of the ICD-10 APN simplified version and WHO Simplified List of Code of Deaths), current status of the mobile application for the Startup Index were shared, and the APN's future plan was discussed.

On the same day, APN workshop was also held, where questionnaire survey on ICD implementation was conducted among 13 countries. Presentations on the topic of "applying morbidity and mortality statistics in Cambodia" and "Training on Mobile Applications for Startup Index" were also provided.

ICD implementation in Cambodia

After introducing ICD-10 Startup Index in 10 hospitals in Cambodia, the country plans to expand the use of the Startup Index to all public hospitals for both mortality and morbidity coding in 2019, and further to outpatient primary care coding in every healthcare center in 2020. Two physicians from Cambodia took a six-week training from Dr. Wansa and Ms. Yuenyongsuwan in Thailand, then went to their countries to train other physicians and ICD coders using the Startup Index. Cambodia is planning to move on to the full version of ICD-10 in the next three years, is a good model for use of the Startup Index in launching ICD implementation and then transitioning to the full version of ICD-10 after building sufficient capacity.

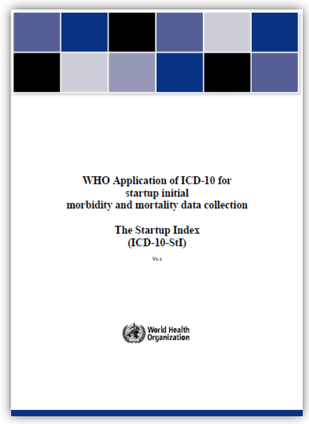
Activities in Lao PDR

Two-week training on mortality coding in Laos to 25 physicians and coders in September 2019 was requested by Lao PDR. The training will comprise death certificate documentation, use of the full ICD-10, and mortality coding rules. Thailand will provide ICD-10 Thai Modification (ICD-10-TM) in the book format, and funding for the training will come from WHO. Guidelines have been prepared, as in the case of Cambodia, for death certificate documentation and selection of main conditions in accordance with the situation in each country.

Startup Index

To finalize the Startup Index, Dr. Wansa had a meeting with Dr. Robert Jakob of WHO in December 2018.

The June 2019 version is the latest official version. WHO agreed to publish the Startup Index on WHO website sometime in 2019. To develop ICD-11 Startup Index, a mapping table was provided by WHO.



Mobile Application

The mobile application of the Startup Index was developed by Dr. Ming Yu. In addition to the English, Thai language version is now available. User manual has also been updated. New features include the language switch feature, translation feature, and a page on frequently asked questions.

APN Core Group Meeting In Tokyo (July 2019)

The 11th WHO-FIC APN meeting was planned in July in Hanoi, Vietnam, however, it was canceled due to unforeseen circumstances.
On 1st July, APN core group meeting was held in Tokyo to discuss the APN's future direction and next phase. An agreement was made that APN should give more focus on ICD implementation activities in countries and suspending annual APN meetings.

To discuss future plans and direction of APN, a strategy meeting with SEARO and WPRO will be planned in 2019.

APN website

The APN website hosted by Korean CC will be released once the URL is arranged. APN related information will be available on the website.

Collaborating Centres

201-211

ID	Poster Title and Authors
201	Annual Report from the Argentine WHO-FIC CC (CACE) 2018/2019 *Argentine Centre for Classification of Diseases (CACE)*
202	Australian Collaborating Centre Annual Report 2019 *Jenny Hargreaves, Mardi Ellis, Anita Forrester*
203	Annual Report from the WHO-FIC Collaborating Center in China, 2018-2019 *Meng Zhang, Yi Wang, Yipeng Wang*
204	Main activities of the CECUCE in the period 2018-2019 *Bess S, Martinez MA, Alonso I, Perez ME, Nistal LM*
205	French WHO-FIC Collaborating Center Annual Report 2018-2019 *Claire Morgand, Marie Cuenot, Nicole Melin, Yasmine Mokkadem*
206	Report from the German Collaborating Centre *DIMDI and ICF Research Branch Germany and Switzerland*
207	Italian WHO-FIC CC annual report: July 2018-July 2019 *Frattura L, on behalf of the Italian WHO-FIC CC's research network*
208	Activity Report from WHO-FIC CC in Japan *MITSUHASHI Yasuyuki, MORI Kei, MIYUSHIMA Hiroshi, et al*
209	Annual Report from the WHO-FIC Collaborating Centre in Korea *Sang-Youn Oh, Jinwoo Kim, Sunmi Cha, et al*
210	Annual Report from the Mexican WHO-FIC Collaborating Centre (CEMECE) *Yanez M, Alanis R, Vazquez B, Perez M, Andrade C, et al*
211	Annual report 2018-2019 WHO-FIC Collaborating Centre in the Netherlands *CH van Gool, LM Harmans, H ten Napel*

Collaborating Centres

212-218

ID	Poster Title and Authors
212	Annual Report from the Nordic WHO-FIC Collaborating Centre *Solvejg Bang, Lars Berg*
213	WHO-FIC Collaborating Centre for North America *Donna Pickett, Keith Denny, Patricia Wood*
214	WHO-FIC Collaborating Centre in South Africa: 2019 Report *Lyn Hanmer, Debbie Bradshaw, Stefanus Snyman, Soraya Maart*
215	Barcelona Collaborating Centre (Spain) for WHO-FIC: Annual Report 2019 *Maria-Dolors Estrada, Mireia Espallargues, Jaume Canela, Cesar Velasco for CC-BCN*
216	UK WHO-FIC Collaborating Centre Annual Report 2019 *Lynn Bracewell, Myer Glickman*
217	Calgary WHO CC for Classification, Terminology and Standards *Danielle A Southern, Nishan Sharma, Cathy A Eastwood, Hude Quan, William A Ghali*
218	Activities of the Stanford WHO Collaborating Centre *Samson W Tu, Csongor I Nyulus, Tania Tudorache. Mark A Musen.*

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Annual Report From The Argentine WHO-FIC Collaborating Centre (CACE) 2018/2019

6-11 October 2019
Banff, Canada
Poster ID
201

Argentinian Centre for Classification of Diseases (CACE)
Directorate of Statistics and Information in Health (DEIS),
Ministry of Health and Social Development- Buenos Aires, Argentina

Abstract The Argentinian Centre for Classification of Diseases (CACE) was re-designated in 2019 as WHO Collaborating Centre for the Family of International Classifications. CACE continues promoting the use of the Family of International Classifications in Argentina and in the Latin American Region, with the support and coordination of the Latin American and Caribbean Network for Strengthening Health Information Systems (RELACSIS) and PAHO/WHO. This poster briefly describes the main activities developed by the Centre during 2018/2019.

Introduction

Since its designation as Collaborating Centre in March 2015, CACE has developed multiple activities aimed at promoting the use of the Family of International Classifications both in Argentina and in Latin American countries. A number of projects have been implemented within the framework of RELACSIS and in collaboration with PAHO/WHO, involving training activities, participation in the implementation processes of the ICD-11, active cooperation with other reference centres, etc. The Centre has been redesignated in March 2019.This poster describes the main activities developed during the last year.

Activities

Activities related with ICD-11:

Collaborative translation
During 2019 and in coordination with other Collaborating Centers and countries of the Region, CACE continued collaborating actively with PAHO / WHO in the translation into Spanish of supporting documents for the transition to ICD 11 ("Transition Guide - Incentives for ICD 11" and the "Reference Guide"), and in the presentation of cases about resolution of coding Tumors with application of ICD – 11.

Participation in "VI Meeting of Collaborating Centers of PAHO/WHO for the Family of International Classifications and 2nd Regional Meeting on ICD-11"
Organized by PAHO / WHO in Santiago, Chile, February 5 and 6, 2019. CACE and other Collaborating Centers for the Family of International Classifications of WHO, representatives of WHO, PAHO and countries of the region, participated in the identification of needs and requirements for the transition to ICD-11, and in the identification of possibilities for strategic alliances.

Activities related to ICD-10:

Training on ICD-10. A virtual course for coders was elaborated in collaboration with CEMECE.

The proposal includes a progressive training model, with three levels: a Basic Course, an Intermediate and an Advanced Morbidity and Mortality Course. ICD-10 updates 2016-2018 were incorporated. The Intermediate Mortality Course was launched in July 2019. A total of 210 coders from 16 different countries participated in this course.

A new self-learning virtual course on basic ICD-10 use was developed and launched in June on the platform of the Secretary of Government of Health. A total of 200 students took the course. A new edition will be launched in October.

Training on ICD-10 in Argentina:
A training workshop on ICD-10 coding was held in the province of Salta.

Activities related to ICF:

Progress was made in the design of a minimum data set on Functioning based on ICF as a recommendation for the incorporation in electronic health records. This activity was carried out in coordination with the Rehabilitation Office and the Information Systems area of PAHO. This work process, which involved an articulation activity between PAHO and the National Institute of Health (NIH), was reflected in the generation of a recommendation document agreed with other regional experts and published in January 2019.

Definition of the contents of the self-administered online Basic Course on ICF to be offered by RELACSIS, in articulation with CEMECE-Mexico. This course is ready in its contents. It is expected to be launched in October 2019.

A course on ICF aimed at instructors will be held in Sucre, Bolivia, i n October 2019.

Activities related to ICHI:

CACE is participating in the field trials of ICHI with other Collaborating Centres of the region, under coordination of PAHO/WHO. The training of coders and other preparatory activities have started.

Other activities:

Participation in "First Regional Encounter of Coders of the WHO Family of International Classifications" (Mexico City, November 5 to 6, 2018). A presentation on "Virtual courses offered by RELACSIS" was made in conjunction with CEMECE. CACE participated also in various topics of the agenda.

Ibero-American Discussion Forum on the WHO-FCI, Dr. Roberto Becker: CACE continued to integrate the Collegiate group of the Forum, which is in charge of preparing answers to received consultations from coders of all the region.

Quality of vital statistics:
CACE participates actively in various research projects related with the quality of cause of death registration. An adaptation of the tool "National Survey for the Diagnosis on Maternal Mortality Information and Feasibility of implementing Deliberate Search and Reclassification of Maternal Deaths (BIRMM)", is being applied at the subnational level. A new study on underreporting of viral hepatitis as cause of death will start on september. Design of new materials on properly completing death certificates for Argentina: A new leaflet for medical doctors was prepared for awareness building on this topic.

Meetings and Conferences

WHO-FIC Network Annual Meeting (WHO-FIC 2018), Seoul, Korea**.**
II Workshop on Deliberate Search and Reclassification of Maternal Deaths (BIRMM), Mexico City, November 2018.
IX Meeting of Relacsis/PAHO, Buenos Aires, Argentina, August 2019.
Meeting of WHO Collaborating Centres of Argentina, OPS-Arg, Buenos Aires, August 2019.

Acknowledgements

CACE wishes to thank all staff members of RELACSIS, PAHO/WHO, and PAHO-Arg for their continued assistance and support to achieve its activities and also to WHO-FIC for its redesignation as Collaborating Centre.

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WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Australian Collaborating Centre Annual Report 2019

6-11 October 2019
Banff, Canada
Poster ID
202

Authors: Jenny Hargreaves[1], Mardi Ellis[2], Anita Forrester[2]
[1]*Australian Institute of Health and Welfare and Australian Collaborating Centre, Head*
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Abstract The Australian Collaborating Centre has continued its active involvement in the WHO-FIC Network Committees and Reference Groups, allowing Australia to contribute to products benefitting both the Australian and the international health information and statistical environments. In addition, Australia has built on participation in these activities to influence strategic planning and potential adoption of ICD-11 in Australia. This poster outlines some of those activities.

Introduction

The Australian Institute of Health and Welfare (AIHW) in Canberra, Australia, has hosted the Australian Collaborating Centre (ACC) since April 1991. The ACC has been redesignated for the period 2018-2022.
The ACC comprises a broad network of Australian and New Zealand experts and organisations with an interest and experience in health classifications.
The ACC meets biannually to disseminate information about the WHO-FIC and other health-related classifications, and the related work of the WHO and the Network to its members.
The Head of the ACC is Jenny Hargreaves, Senior Executive of the Data Governance Group at the AIHW.
This annual report summarises the activities of the ACC and its members during the period October 2018 and September 2019. The report incorporates information on specific activities of the ACC work plan, including that of its member organisations and experts relevant to the ACC Terms of Reference, as agreed with the WHO.

Contributions to the Network

The ACC provides active membership to every Network CRG as well as the ICHI Task Force and Network Advisory Council.
The ACC has provided chairperson and secretariat function to the Classification and Statistics Advisory Committee (CSAC)-ICD, the Education and Implementation Committee (EIC), the Informatics and Terminology Committee (ITC) and the ICHI Task Force. ACC members also have voting membership of the CSAC-ICD, EIC and ITC as well as the CSAC-ICF, Functioning and Disability Reference Group (FDRG), the Morbidity Reference Group (MRG), the Mortality Reference Group (MbRG) and the Family Development Committee (FDC).
The ACC also regularly collaborates with similar Collaborating Centres to support the work program of the Network.
ACC members were also active on the ICD-11 MMS Joint Task Force, which was retired in October 2018.

Australian National, Australian Aboriginal and Torres Strait Islander and New Zealand flags.

ICD

Mortality
The ACC actively participated in the work of the MRG to refine mortality rules and annexes in the ICD-11 Reference Guide, and considering key issues relating to the auto-coding software (Iris).
ACC member organisations the Australian Bureau of Statistics (ABS) and the Queensland University of Technology (QUT) jointly support the Australasian Vital Statistics Interest Group and are involved in the work of the Brisbane Accord Group, supporting improvements in health information systems in the Pacific.
QUT continues to moderate the Mortality Forum with colleagues on the MRG.

Morbidity
The ACC has contributed to the work of the MbRG through consideration of ICD-11 update proposals, development work on the ICD-11 Reference Guide and coding rules and development of and ICD-11 training package.
The Australian Consortium for Classification Development (ACCD) has developed the Eleventh Edition of the Australian Modification of ICD-10 for admitted patient activity, implemented from 1 July 2019.

ICD-11
ACC members continue to contribute to the WHO's work towards the preparation for implementation of ICD-11, collating information on international efforts toward implementation.
The ACC, through the AIHW, have undertaken work toward implementation planning in Australia, with a preliminary stakeholder consultation process in early 2019.

ICF

ACC members have continued to promote the use of ICF nationally and internationally. This included contributing to the development of the ICF Update process and maintenance platform, engagement with the CSAC-ICF in reviewing and voting on update proposals, and participating in discussions on including ICF in a common content model.
The ICF Australian Interest Group held a one day symposium on 25 June 2019, hosted by the National Centre for Classification in Health (NCCH), University of Sydney. The symposium included an update on the WHO-FIC family developments and heard from three international speakers on ICF and children's functioning and disability

ICHI

The ACC continues to lead and contribute to development of the International Classification of Health Interventions (ICHI).
An ICHI 2 Beta version was released in October 2018 and the ACC, through the NCCH and the ACCD, has contributed to the development of training and field testing material in preparation for the Phase 2 Field testing in the second half of 2019.
The ACC has also facilitated international collaboration on the development of ICHI, and maintained engagement with the CRGs keeping them informed of ICHI progress.
The University of Western Sydney led and conducted work, under the ITC, to undertake algorithmic mapping from the Australian Classification of Health Interventions to ICHI.

Acknowledgements

Thank you to all of the ACC members and organisations for the invaluable contributions to the ACC including the work plan activities during 2018-19. Many of the activities occur through in-kind support from these individuals and their organisations.

Annual Report from the WHO-FIC Collaborating Centre in China, 2018-2019

Authors: Meng Zhang, Yi Wang, Yipeng Wang
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6-11 October 2019
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203

Abstract Peking Union Medical College Hospital (PUMCH) has been dedicated to implementing and promoting WHO family of international classifications (WHO-FIC) since its first designation as the Collaborating Centre for the WHO-FIC in China in 1981. This poster presents the annual report of the centre, highlighting activities related to the preparation of ICD-11 implementation in China.

Introduction

Peking Union Medical College Hospital (PUMCH) has been designated as the Collaborating Centre for the WHO-FIC in China since 1981, and re-designated in March 2019.
ICD-11 was released in Jun 2018, and approved by the World Health Assembly in May 2019. China has the potential to become the early adopter for ICD-11. So preparation for ICD-11 implementation in China has been an important work of the centre.
We summarized ICD-11 related activities that we performed from Jun 2018 to Aug 2019.

ICD-11 Translation

The translation of ICD-11 MMS is of high priority in our work plan, so ICD-11 translation work was divided into 2 steps, firstly MMS and then the remnant foundation. A three-stage translation process was followed to ensure the quality of translation.
In the beginning, the translators did the translation on the multilingual platform, and an initial version of ICD-11 MMS Chinese translation was exported from the translation platform in May 2018. Two subsequent stages of offline crosscheck was undertaken. The exported file was separated mainly by chapters and disciplines if possible, and delivered to clinical experts from 22 medical departments within PUMCH. To achieve a consensus within the medical scientific societies, we got support from the National Health Commission of PR China and Chinese Medical Association Medical Terminology Committee, and conducted 19 meetings to review the translations in Nov 2018. A total of 129 clinical experts from 28 tertiary A level hospitals participated in the review. The translations after two-stage crosscheck were uploaded in March 2019.

Chart 2. Work meetings for the stage 3 review of ICD-11 translations.

The translation of the full foundation is in progress. The translators also contributed to the maintenance of ICD-11.
A draft version of Chinese translation of ICD-11 reference guide (version Dec 2018) has been completed in Mar 2019. The translation for reference guide will be updated after the English version is finalized.

ICD-11 Advocacy

In cooperation with the Medical Quality Management Commission of Chinese Hospital Association, the centre conducted an ICD-11 symposium on Oct 30 2018. Dr Robert Jakob was invited to introduce ICD-11 to the attendees. Officers from the National Health Commission and National Healthcare Security Administration as well as over 100 delegates from provincial centres for quality control of medical records attended the symposium.

Chart 3. Dr Robert Jakob presented ICD-11 introduction at ICD-11 symposium in Beijing, China.

Supported by the National Health Commission of China, Deputy Director of the centre Dr Yi Wang introduced ICD-11 in a teleconference with the heads of medical departments or the responsible presidents from 33000+ secondary and tertiary hospitals all over the country on March 12 2019.

Chart 4. Training material of ICD-11 used in the teleconference.

Other activities

1. ICHI beta-2 field testing
Five coders from PUMCH and 4 raters from the ICF branch has been participating in the testing since late July. The testing is expected to be completed in September.

2. WHO consultant
From Jan 14 to July 5 , two colleagues from the centre work as WHO consultant, helping with the ICD-10 to ICD-11 mapping and ICD-11 reference guide proofreading.

Chart 1. Three-stage translation process of ICD-11 MMS

Acknowledgements or Notes

We are grateful for the support of PUMCH and National Health Commission of PR China.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Main activities of the CECUCE in the period 2018-2019

6-11 October 2019
Banff, Canada
Poster ID
204

Authors: Bess S., Martínez MA., Alonso I., Pérez ME., Alonso I., Nistal LM.
Cuban Centre for Classification of Diseases, Cuba

Abstract The main activities developed by the Cuban Centre for Classification of Diseases (CECUCE) during the years 2018 and 2019 are displayed. Among them they are: Participation in the process of translation of ICD-11, participation in virtual meetings on progress of the ICD-11, as well as participation in the Second Regional Meeting on the 11th edition of the International Classification of Diseases (ICD-11)), among others.

Introduction

The Cuban centre for Classification of Diseases (CECUCE) was created in 1987, steadily carrying out training, research, publications and national and international consultants for promotion and proper use of the Family International Classifications (FIC). In October 2015 he was appointed as WHO/PAHO Collaborating Centre. In coordination with PAHO/WHO in the period 2018-2019 has participated in several projects for strengthening health information systems, both nationally and internationally and support knowledge and correct use of the International Family of Classifications in correspondence with the established terms of reference for the Collaborating Centre.The most important activities this year are listed below.

Participation in meetings

- Participation in virtual meetings held by PAHO / WHO for the coordination of work in solidarity translation and in development and steps for the implementation of ICD-11 (2018-2019).
- Participation in the Second Regional Meeting on the 11th International Classification of Diseases (ICD-11)) and VI Meeting of the Network of PAHO / WHO Collaborating centres for the Family of International Classifications, held in Chile (2019).

Participation in meetings

- Participation in webinar on the Presentation of the Spanish version of the 11th International Classification of Diseases.
- Participation in IX Meeting of the Latin American and Caribbean Network for the strengthening of Health Information Systems (RELACSIS), Argentina (2019).

Training

- National Training Workshop on the new program for automated information system and updating national mortality coders issues ICD-10. (Cuba, 2018).
- Training of residents of the specialty of Biostatistics in the codification of mortality and morbidity using ICD-10. (Havana, 2018 y 2019).
- Participation in the Basic course for coders in ICD-10 Edition 2018 with 19 students and a tutor.
- Participation in updating course for tutors of virtual courses of the ICD-10.
- Participation in the Intermediate course for coders in ICD-10 Edition 2019 with 20 students and a tutor.
- Provided training and updating workshops in Statistical Information Systems of National cancer registry and Surgery and anesthesia activities directed to National Subordination Units. (Havana, 2018 y 2019).

Research

- The study is in the preparation phase for field work: "Quality of maternal mortality statistics. Cuba 2017 and 2018". (RAMOS study modified), the sample is already selected and the necessary information is collected for the filling of the different forms in order to verify if there is any under-registration or misclassification of the report of the deaths maternal diseases.

Other tasks

- Participation in the process of joint translation of the ICD-11 to the Spanish language in the chapter: "Symptoms, signs and abnormal clinical and laboratory findings, not classified elsewhere" in conjunction with the centres of Venezuela and Chile. (2018)
- Design of an instrument based on the ICF to be applied by the family doctor.
- Nationally, participation was promoted in "Virtual course on correct completion of the death certificate," coursing the same doctors and coders. (2018-2019)
- Health Statistical Yearbook was compiled and Basic Health Indicators 2018. (2019)
- Implemented national discussion list on morbidity and mortality coding by ICD-10.
- Participation in the "Dr. Roberto A. Becker" discussion forum on codification of mobility and mortality by ICD-10, sponsored by RELACSIS.
- Nationally imparted videoconferences on Major changes introduced by ICD-11 with respect to ICD-10 and What is needed to implement ICD-11 in my country.
- Review and update of the Complementary Health Statistics Information System for 2019.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

6-11 October 2019
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205

French WHOFIC Collaborating centre Annual Report 2018-2019

Claire Morgand[1], Marie Cuenot[2], Nicole Melin[3], Yasmine Mokaddem[3]
[1] Co-head, CépiDc-Inserm; [2] Co-head, EHESP School of Public Health; [3] ATIH Technical Agency for Hospital information, France

Abstract This poster is a summary of the activities of the French Collaborating centre during 2018-2019 in relation to the different classifications of the WHO-FIC, mainly ICD-10, ICD-11, ICF and ICHI.

Introduction

Two main organizations, based in France, fulfill the missions of the French CC: the Inserm-CépiDc (French National Institute on Health and Medical Research, since 1967), working on the ICD and the EHESP (French National School of Public Health) working on the ICF.
Collaborations with the ATIH (French hospitalization data process agency) also allow important contributions to the work done on morbidity and ontology. This year, the centre continued its international collaborations and worked particularly on the translation of the ICD-11.
The French collaborating centre worked on an extension of its members. In fact, the Orphanet French Team and the National Health Insurance Agency will join the French CCOMS first as observers.

Here are the highlights of 2018-2019 activities.

ICD

ICD related activities mainly focused on ICD-11 French translation and ICD-10 volume 2 French translation. For ICD-10 vol. 2, the draft is on review by French coding experts.
The CépiDC organized work meeting with Polynesia during two weeks, in order to provide expertise to the team who will be in charge of coding in Polynesia.

- French translation of ICD-11:
After some exchanges with the WHO team, ATIH initiated the translation into French of the part equivalent to the alphabetical index of ICD-11. Ultimately, this work will complete the WHO translation platform.

- Participation in the:
  - CSAC-ICD related activities and teleconferences
  - MbRG, MSAC and VA sessions during the 2018 annual meeting.
- ICD 10 translation and introduction of the 2019 WHO updates.
- Exchange of several files with the Office of the WHO Representative in Cambodia to help them make progress on the French translation of ICD-10 Volume 3.
- Development of French training supports on the new coding rules of 2016:
  - General rules for coding
  - Rules dedicated to HIV
  - Rules dedicated to Diabetes
  - Rules dedicated to cancers
  - Rules dedicated to perinatal mortality
  - Rules dedicated to maternal causes of death
  - Rules dedicated to external causes

  All these supports are used for new French coders, and French coding teams formations.

ICHI

ICHI activities focused on the study of the possibility of transcoding between ICHI and the French classification of medical procedures (CCAM).
This work has been presented at the poster session of the annual WHO-FIC meeting in Seoul (2018).

Participation in the EIC and FDC sessions dedicated to ICHI and specific ICHI session organized during the annual meeting in 2018.

Participation in the ICHI mid-year meeting in Cologne (February 2019).

ICF

ICF related activities: the centre has mainly done translation works, review of updates proposals and ICF training activities. Participation in
-the CSAC-ICF activities, FDRG teleconferences and activities, EIC activities, 2018 annual meeting;

-the reviewing of the remaining ICF-CY related update proposals, and as member of the Initial Review Group.

-Translation of ICF implemented updates 2017-2018.
- Translation of the categories of the Supplementary Functioning chapter of the ICD-11.
-Finalization of the French translation of the e-learning tool.

-Participation in an Italian-French study using the WHODAS 2.0 on a sample of persons with visual impairments in the mountain border region.

-Courses on the ICF and conceptual models of disability (Master's programs in physical medicine and rehabilitation, public health, PT, OT, disability studies in French universities).

-Regular bibliographical watch on the ICF publications in French or published by French-speaking users.

Conclusion

The French WHO Collaborating centre participated in several meetings and teleconferences organized by WHO.
The ICD-11 transition process is one of the main activities at the moment.
The French Collaborating centre participation complies with this organisation. The French Collaborating centre had also translated the ICD-11 and the ICD-10 vol 2 translation is on finalization.

Acknowledgements

Acknowledgements to the German CC for the help on the ICF e-learning tool.

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WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Report from the German Collaborating Centre

DIMDI and ICF Research Branch
Germany and Switzerland

6-11 October 2019
Banff, Canada
Poster ID
206

Abstract The German Collaborating Centre is a designated WHO-FIC Collaborating Centre since 2003. The Centre is hosted by the German Institute of Medical Documentation and Information (DIMDI). It is supported by the ICF Research Branch. This poster reports on the activities that took place since the last WHO-FIC-Meeting in 2018.

Introduction

After its initial designation in 2003 the German Collaborating Centre (located at DIMDI) was again re-designated in 2016.
The ICF Research Branch has joined forces with DIMDI to facilitate the ICF work. Twice a year DIMDI and the ICF Research Branch meet to discuss the ongoing and planned work.

Work at DIMDI

ICD-10: In 2019 DIMDI worked on the adaptation of ICD-10-GM to react to the related national annual submission process. The 2020 GM release of ICD-10 is scheduled for the end of September together with the updated index. Its implementation is expected by 1st January 2020. Furthermore, DIMDI has released the German ICD-10-WHO Version 2019 (volumes I-III) for mortality coding in January 2019.

An annual training was conducted in January 2019 for mortality coders from Germany, Austria and Luxemburg, that will recur in January 2020.

In 2019 DIMDI supported WHO in the implementation of the 2017 to 2019 cumulated (major) updates into the international version of ICD-10 2019.

ICD-11: DIMDI assisted in the ICD Revision, specifically in the Joint Task Force, the Classification and Statistical Advisory Committee (CSAC) and the Morbidity TAG. Substantial contribution was provided for two small CSAC group meetings to process back lock of proposals on the ICD-11 submission platform of WHO.

Members of the ICD-11 working group of the National Board for Classification in Health Care further advised DIMDI on possible impacts on uses cases relevant for the evaluation process for implementing ICD-11 in Germany.

ICF: Together with the ICF Research Branch, DIMDI continued consultations with national and international users on futher ICF updates.

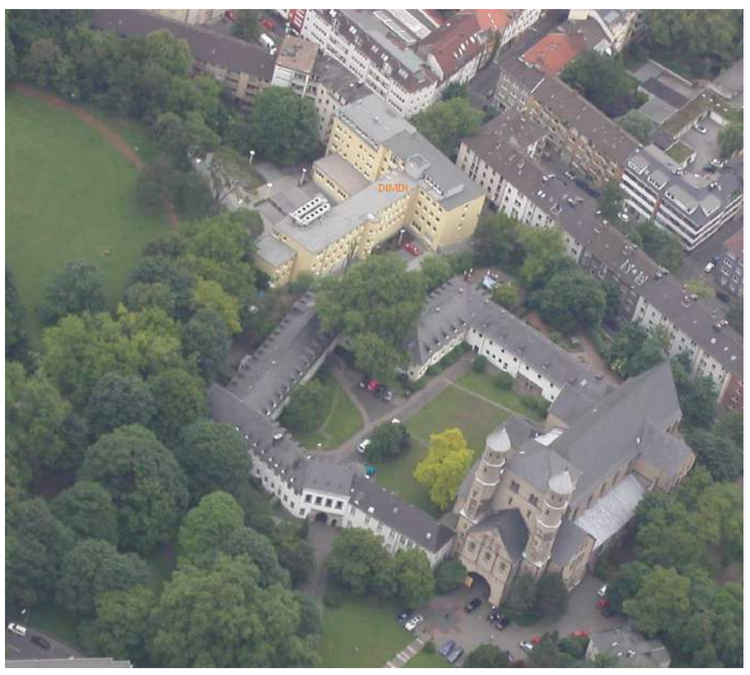
DIMDI plans to release an updated version of the ICF in fall 2019.

ClaML: The Standard was further developed, finalized and adopted by the relevant ISO committees as version ClaML 3.0. Discussion with WHO will continue on how to implement the new standard into the exchange format for ICD-11.

Results from this process will again be reported to ITC.

ICHI: In 2019 DIMDI proceeded with the medical review of the ICHI content. Lessons learnt from the German procedure classification and proposed changes were reported to the ICHI development team. DIMDI hosted another 5-day meeting of the ICHI Task Force in February 2019.

Committee work: DIMDI has actively participated in person or via phone in meetings of the MRG (and its Table Group), the FDC, the CSAC for ICF purposes, the ITC and other WHO-FIC groups. Stefanie Weber has chaired the ICD-11 Task Force until its final meeting in Seoul 2018.



Work at the ICF Research Branch

ICF Updates: Branch members participated in a collaborative ICF update workshop together with the Dutch WHO-FIC CC, during which ICF-CY proposals were reviewed and prepared for submission on the ICF update platform.

ICF e-learning Tool: The Branch continues to provide support on the translation process and dissemination of the tool. The German-language version of the tool is currently being reviewed–and will be finalized by Fall 2019. See extra poster on the ICF e-learning Tool. Also see the poster on work that has started on a short German-language online tutorial to inform stakeholders about the ICF. Once complete, translations into other languages are expected to follow.

WHODAS 2.0 Training: The Branch has initiated the development of an e-tutorial to inform about the WHO Disability Assessment Schedule 2.0. See separate poster.

Other Training Activities: English-language ICF Workshops were held in Belgium, Switzerland and Ukraine, incl. three Train-the-trainer workshops and a mini ICF workshop for decision-makers in Ukraine. Furthermore, 17 German-language workshops were held by the Branch training teams at Ludwig-Maximilians-University Munich and Medical School Hamburg. A min-ICF workshop was also held at the German ICF Users Conference.

ICF in Education: Support continues to be provided on implementing an ICF-based evaluation tool in the Swiss education system.

ICF Core Set Work: The Branch continues to advise on the development of an ICF Core Set for adults with cerebral palsy (Erasmus Univ.) and the Univ. of Erlangen PRO PRICARE project on overtreatment in primary care of older persons. The Branch supported Univ. of Oslo in the development of an ICF Set for manual medicine and recommendations for a corresponding assessment schedule. See separate poster.

Development and Implementation of Standardized ICF-based Tools: The Branch continues to coordinate the development of an ICF-based clinical tool based on the ICF Generic-30 Set in routine clinical practice in various countries as well as ICF-based tools for clinical quality management for rehabilitation. See separate poster.

German Participation Law: Branch members continue to support the implementation of this law, incl. the revision of the standardized needs assessments. See separate poster.

icfPROreha, a project that aims to establish an ICF-based prediction algorithm and tool to identify persons with severe musculoskeletal injuries and return-to-work problems, is progressing. Within this project, WHODAS 2.0 was used to assess persons with severe musculoskeletal injuries in inpatient rehabilitation at several time points. See separate poster.

Conclusions

With a strong focus on ICD-11 and multiple projects for ICF education and implementation the German Collaborating Centre with its existing collaboration of DIMDI and the ICF Research Branch proves to be well-suited for the successful fulfilment of the work plan as agreed with WHO.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

6-11 October 2019

Banff, Canada

Poster ID

207

Italian WHO-FIC CC annual report: July 2018-July 2019

Frattura L., on behalf of the Italian WHO-FIC CC's research network

Central Health Directorate, Classification Area, Friuli Venezia Giulia Region, Italy

Abstract The aim of this work is to present a summary of the activites carried out over the last year (July 2018-July 2019) by the the Italian WHO-FIC CC according to its workplan and the WHOFIC Network Strategic Work Plan.

Introduction

In July 2015, the Central Health Directorate – Classification Area – Friuli Venezia Giulia Region was redesignated for the third time as a WHO-FIC Collaborating Centre. After the first eight years of supporting WHO in developing, maintaining, and implementing the WHO-FIC, the new quadriennium started under redefined TORs (Table 1). Lucilla Frattura was confirmed as Center Head. Nenad Kostanjsek was confirmed as the responsible officer for WHO.

Methods & Materials

In its forth year of activity of the third quadriennium, the Italian WHO-FIC CC was mainly active on the center redesignation and five lines of work:

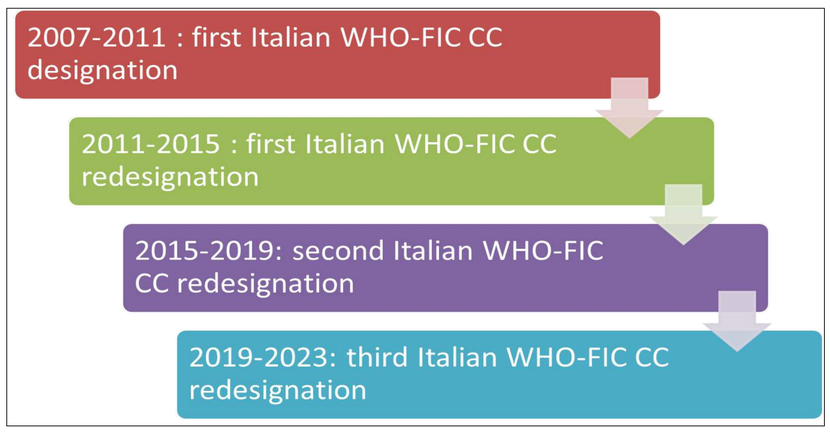
(i) Support WHO in the WHO-FIC Network;
(ii) management of the ICD-11 and ICF update process;
(iii) ICHI development;
(iv) IT and Ontological developments for WHO-FIC;
(v) national work on WHO-FIC.

Some main activities were presented.

Italian WHO FIC CC Redesignation: Tors 2019-2023
Starting date: 21 July 2019

TOR 1	Assisting WHO in developing, maintaining and revising the WHO Family of International Classifications, Terminologies and Standards (WHO-FIC), in particular the International Classification of Diseases (ICD), the International Classification of Functioning, Disability and Health (ICF), the International Classification of Health Interventions (ICHI), and relevant terminological and ontological aspects.
TOR 2	Supporting global work with active participation to Committees, as for Implementation & Education, Update & Revision, Electronic Tools & Terminology, and Family Development and Reference Groups, as for Mortality, Morbidity, Functioning & Disability that assist WHO in the development, testing, implementation, use, improvement, updating and revision of members of the WHO-FIC.
TOR 3	Collaborating with local and regional users of classifications by networking and providing support, disseminating information about the WHO-FIC and other health-related classifications, regarding the availability, suitability and applicability of the classifications for different purposes, as reporting and coding, availability of tools for implementation, data analysis, and interpretation, in coordination with WHO.
TOR 4	Promoting use of the WHO-FIC, developing, formulating and sharing teaching materials, organizing and conducting local, regional and global training courses and translating international WHO-FIC materials to the relevant language for local use, in coordination with WHO.
TOR 5	Improving the level and quality of implementation of WHO classifications, supporting quality assurance procedures of the WHO-FIC regarding mechanisms, norms and standards of classification use, data collection, and data analysis, in coordination with WHO.

Figure 1. Italian WHO-FIC CC is active since 2007



Results

Italian WHO FIC CC Redesignation 2019-2013: In July 2019, Central Health Directorate – Classification Area – Friuli Venezia Giulia Region ended the forth year of its third four-year periods and was redesignated for the forth time as a WHO-FIC Collaborating Centre. The new quadriennium started under the TORs shown in Table 1. Lucilla Frattura was confirmed as Center Head. Nenad Kostanjsek was confirmed as the responsible officer for WHO. **Support WHO in the WHOFIC Network activities:** In the last year, Italian CC experts served as Co-Chairs of CSAC-ICF (Lucilla Frattura, from Oct 2016, second term), FDRG (Matilde Leonardi, from Oct 2016, second term), FDC (Andrea Martinuzzi, from Oct 2016, second term), MRG (Francesco Grippo, second term ended in Oct 2018). The Italian Center also provided the CSAC Secretariat for ICD and ICF (Paula Tonel) and participated in the ICF and ICD update process with two voting members (Lucilla Frattura and Francesco Grippo). Italian experts are also members of CSAC, FDRG, MRG, ITC, MbRG, EIC and ICHI Task Force. (see at the specific committees reports for 2018 and 2019). **Management of the ICD-11 and ICF update process:** The functions of the CSAC include maintenance policy and maintenance work of CSAC. The CSAC work is mainly conducted through the update platform for ICF, and the maintenance platform for ICD-11. Activities of CSAC are carried out according to the WHO-FIC Strategic Work Plan. With regards to the ICF update process, see on the update platform at https://extranet.who.int/icfrevision/ **ICHI Development and ICHI Platform:** The Italian CC continued to work on the ICHI development (Andrea Martinuzzi is involved with the Functioning interventions) and on the ICHI Platform (Vincenzo Della Mea, University of Udine), with the Australian WHOFIC CC. The current version of the ICHI platform allows maintenance of the classification, including creation and modification of codes, and also management of multiple versions (including transition from one version to the other). The platform was used at the 2019 FDC mid-year meeting for working on the ICHI. To better follow ICHI advancements, Vincenzo Della Mea joined the ICHI Task Force. The ICHI platform is available at the address http://mitel.dimi.uniud.it/ichi/. **Harmonization of WHO-FIC Classification Content Model:** Vincenzo Della Mea, Andrea Martinuzzi and Lucilla Frattura participated in the new WHO-FIC Network working group born in 2019 inside the FDC, that supports a harmonized WHO-FIC Classification Content Model. Samson Tu (Stanford University) and Andrea Martinuzzi (Italian WHO-FIC CC) are the activities coordinators. **ICD-10 for Italian mortality statistics:** Official mortality statistics are produced in Italy by the National Institute of Statistics (Istat). In December 2018 Istat disseminated cause-of-death data for the reference data year 2016 using the 2016 version (fifth edition) of the ICD-10. A manual was produced in Italian including instructions derived from ICD-10 volume 2 as well as more detailed guidelines for multiple and underlying cause of death coding, examples and exercises. **ICD-10 Italian modification in the Italian case-mix system:** Under an agreement with the Italian Ministry of Health, Lucilla Frattura is responsible for the development of the first Italian modification of ICD-10 for national case-mix purposes. As of July 2019 a provisional version of ICD-10-IM was set up. New lists of ICD-10-IM health conditions for case mix were created useful to create new Italian DRGs. **ICF implementation for disability eligibility and school inclusion in Italy**: The Italian Ministry of Health leads a multi-stakeholders working group aiming at introducing ICF and ICD in a new process to assess disability in children and defining individualized plans based on an ICF functioning profile for school inclusion purposes. On July 2018 Lucilla Frattura was nominated by the Italian Ministry of Health as a member of this national working group with the aim of supporting the release of national guidelines on how to use ICF in the new eligibility process. **Web tools to support morbidity coding and functioning and disability assessent:** The three-year project 2017-2000 named SISCO.web (SYstem to Support COding) aims at developing a support system to code morbidity at hospital discharge using ICD-10. Lucilla Frattura was the project coordinator. Project partners were the National Research Council (CNR) and Bruno Kessler Foundation. A web tool named ACCEDI was also designed by the CC team for an ICF-based assessment under an agreement with the Italian Ministry of Health. I**CF in clinical pratice:** The team of the Besta Foundation led by Matilde Leonardi was active on the implementation of the ICF and WHODAS 2.0-based assessment tools in neurosurgical and neurological patients as well as in patients with chronic conditions and ageing.

References

1) Italian WHO-FIC CC annual report, August 2019
2) Posters in the 2018 and 2019 WHOFIC Network Annual meeting booklets on CSAC, FDC, FDRG, MRG and those written by the Italian CC experts as main authors and co-authors.

Acknowledgements

Friuli Venezia Giulia Regional Administration, and national and other regional institutions and authorities supporting the CC activities.

6-11 October 2019
Banff, Canada
Poster ID
208

Activity Report from WHO-FIC CC in Japan

Authors: MITSUHASHI Yasuyuki*, MORI Kei**, MIZUSHIMA Hiroshi, INOUE Takenobu, HIGASHI Takahiro, SHINYA Sachiko, TOMORI Hisaya, SUENAGA Hiroyuki, SATO Hiroshi for the WHO-FIC in Japan
*Head, **Previous Head

Abstract In order to commemorate the release of ICD-11 in June 2018, the Japanese Collaborating Centre held a joint symposium on the two major classifications ICD and ICF in November 2018, in our first attempt to discuss both classifications together.
We invited two key personnel from WHO in charge of ICD revision and ICF dissemination.
While sharing the image of the future of international statistical classifications between Japan and WHO, the expectation is to improve the quality of healthcare information by mutual linkage between ICD-11 and ICF.

Implementation of the joint forum between WHO and Japan

WHO published ICD-11 in June 2018.
It is the most major revision in about 30 years since the 10th revision of ICD (1990).
In response to this publication, we held the joint forum with WHO, titled "Opening the Door to the Era of Significant Use of ICD-11 and ICF," in November of the same year, for the purpose of promoting further utilization of the international statistical classifications.
In this forum, we summarized the history of the development so far and expressed our gratitude to the people concerned in Japan, and invited two officers in charge of the ICD revision and the ICF promotion from the WHO, who gave the lectures on the significance of ICD-11, expected goals and the effect on the joint use of ICD-11 and ICF.
Also we shared the future vision of international statistical classifications through an exchange of views between the speakers and the participants.

"History of Japan's contribution to the 11th revision of ICD"

◀Kick-off for 11th revision of ICD Press release in 2007

ICD-11 revision meeting held in Tokyo in 2016 ▶

◀ICD-11 domestic application review meeting held in 2017

WHO-Japan Forum held in 2018 ▶

In 2007, WHO issued a press release regarding the kickoff of the ICD revision in Tokyo. More than one hundred stakeholders from Japan were involved in this project.
The venue for the forum was United Nations University, where many memorable discussions were exchanged in the field of internal medicine.
On that day, despite it being a weekday, more than 300 people participated.
In the evening we held a social gathering with many people who were concerned with ICD-11 from various fields.
Also Dr. SHUTO Kenji, the current Vice Governor of Kanagawa Prefecture and the ex-director of the Japan ICD office who was involved in this activity at the early stage, joined.
The first joint forum with WHO came to a successfully conclusion.

Introduction of ICD-11

In August 2018, the "Ministry Liaison Conference" was established for the purpose of early implementation of ICD-11 in Japan. At this meeting, we will share the latest information on ICD-11 and consider various issues in the implementation of ICD-11, and will advance cooperation across the Ministry of Internal Affairs to aim for smooth implementation in Japan.

Correspondence to ICHI

WHO and the WHO-FIC Network have been developing the International Classification of Health Interventions (ICHI) since 2007.
ICHI covers all parts of the health system and contains a wide range of new materials not found in national classifications.
It describes health interventions using the three axes of Target, Action and Means.
Users may choose to record a range of additional information using extension codes.
We participated in the WHO-ICHI Taskforce 2018 meeting in Conegliano to discuss the whole concept of extension codes and the next field test of ICHI and ICHI-fit.
After this meeting, the granularity of ICHI codes will be the one of remaining topics to discuss.
Some countries have no classification of health interventions.
Others are wishing to redevelop their national classification using ICHI.
Regarding Japan, we have had domestic "K-codes" and "Stem seven codes" in Japan. The next steps we have to take may be to develop a compatible system between ICHI and prior Japanese code systems, before ICHI is finalized for implementation.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Annual Report from the WHO-FIC Collaborating Centre in Korea

6-11 October 2019
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Poster ID
209

Sang-Youn Oh[1], Jinwoo Kim[1], Sunmi Cha[1], Hee-teag Lim[2], Jae Soung Eom[2], Heejung Jung[2], Heewon Yoon[2], Huyna Sim[2], Dayoung Kim[2], Sukil Kim[3], Haejung Lee[4], JunHeum Yon[5], Eunjung Hwang[6], Seungkook Sohn[7], Hyeoun-Ae Park[8], Seo Harim[9]

[1]Ministry of Health and Welfare, [2]Social Security Information Service, [3]The Catholic University of Korea, [4]Shilla University, [5]Korean Medical Association, [6]Health Insurance Review and Assessment Service, [7]Yonsei University, [8]Seoul National University, [9]Korea Institute of Oriental Medicine, Republic of Korea

Abstract WHO-FIC Collaborating Centre in Korea is conducting the ICD-11 MMS translation into Korean, in preparation of ICD-11 coming into effect in 2022. The Centre also executes a field validation of WHODAS 2.0 Korean version and translation of its Manual into Korean, a project of mapping Korean EDI codes to ICHI, and ICHI Phase 2 formal testing in collaboration with Statistics Korea, Health Insurance Review & Assessment Service, National Rehabilitation Center and Korea Institute of Oriental Medicine.

Introduction

Social Security Information Service was designated as WHO-FIC Collaborating Centre of Korea in Dec. 2012 and re-designated in Dec. 2016.

The Korean Collaborating Centre(Korean CC) has ① developed and utilized WHO-FIC and ② developed and managed standard terminology of medicine.

WHO-FIC Development & Implementation

◆ International Classification of ases (ICD)

Korean CC has been preparing for the an translation of ICD-11 for almost 7 s and currently the translation of ICD- MMS titles is under process. The lation method is based on a language pendent concept model and about 95 % CD-11 titles has been translated. In to maintain the consistency of work, a lation guideline has been established e initial stage and translation has been ed out based on the XML structure re 1).

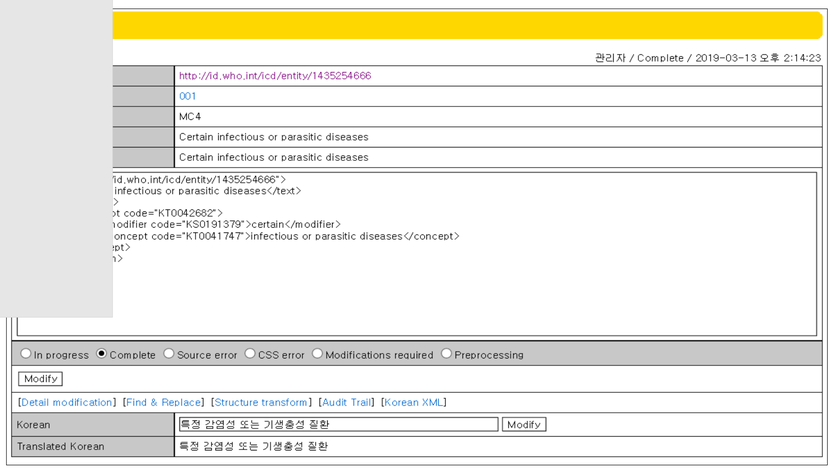

Figure 1.Example of XML representation for a title

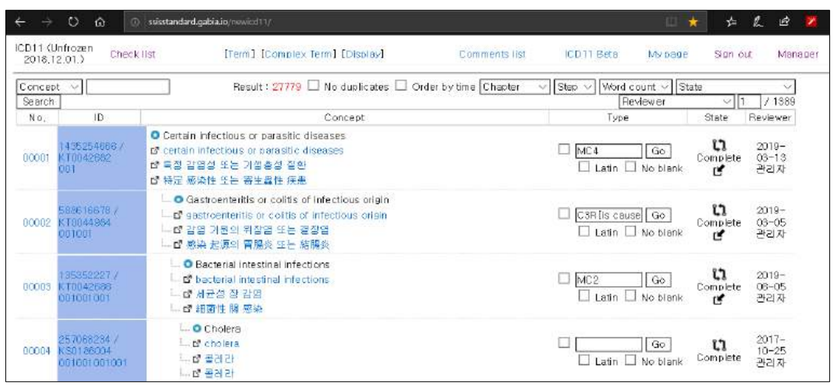

Figure 2. Collaborative web site for the Korean translation

There are 4 lines of text for each title (Figure 2). The first line is the original text of the title, the second one is a validation for the English expression, and the third one represents the title in Korean character (*Hangul*). The last line is same as the third line, but the Korean words in the third line are replaced with Chinese character when available.

Translation is still ongoing and the remaining titles are usually more difficult to model than the completed ones. When the work is finished, the result will be useful to identify concepts and terms with their relationships in ICD-11.

◆ International Classification of Functioning, Disability and Health (ICF)

The Korean CC, in collaboration with Shilla University, is conducting the 'Field Validation of WHODAS 2.0 Korean Version and Translation of its User Manual into Korean'. The Pre-final version of User Manual is completed currently and the Final version will serve as a guideline and training material for the Korean users and contribute to broadening the usability foundation of ICF in Korea.
Meanwhile, the validation of the Korean version of WHODAS 2.0 is being conducted by collecting and analyzing the clinical data of patients with neck or back pain. Currently we are colleting data from 440 patients in total, who are asked to complete WHODAS 2.0 questionnaire two times, at the beginning and at the end of treatment.

◆ International Classification of Health Intervention (ICHI)

The Korean CC has been studying ICHI since 2008 and mapped the EDI(Korean procedure codes for reimbursement) codes to ICHI for the first time in 2012. Mapping project between EDI and ICHI is ongoing through 2018 and 2019, in collaboration with Health Insurance Review and Assessment Service (HIRA) and Korean Medical Association(KMA).
HIRA mapped the colorectal surgical procedure codes for reimbursement to ICHI last year and expanded the scope of mapping to the Hepato-Biliary-Pancreatic Surgery specialty this year. We participated in Korean field trial of ICHI by mapping surgical procedures for reimbursement to ICHI. We mapped 61 surgical procedure codes related to Hepato-Biliary-Pancreatic Surgery to ICHI. A team of expert including a manager in classification department, a surgeon and a terminologist participated in the mapping.
The Korean CC is conducting the mapping project with KMA, in collaboration with HIRA, and the focus lies on the broad and narrow mapping, as they are required in the previous studies. For this purpose, the cluster coding was applied to the three-axes-only model. The target domain includes 500 surgical interventions of 5 specialty areas(colorectal surgery, hepato-biliary-pancreatic surgery, gastric cancer surgery, obstetric and gynecologic surgery, and urologic surgery). As a result, the current ICHI model has been equipped with extension codes and post-coordination, and its flexibility is highly enhanced compared to the initial three-axes-only model. More detailed results will be presented at the Banff Annual Meeting.

Table 1. Mapping and post-coordination examples according to ICHI coding guideline

Mapping type	Korean EDI code	ICHI mapping results
Narrow mapping	Q2680 intestinal anastomosis	1. KBK.LB.AA& XXKBP Anastomosis of small intestine, except duodenum & additional target: colon 2. KBP.LB.AA& XXKBK Anastomosis of colon & additional target: small intestine, except duodenum
		3. KBK.LB.AA / KBP.LB.AA Anastomosis of small intestine, except duodenum / Anastomosis of colon
Broad mapping	QA753 Re-Operation of Inguinal Hernia with Resection of Intestine, High Ligation	PAM.MK.AA&XB02.4 Repair of inguinal hernia& Re-operation

◆ International Classification of Traditional Medicine (ICTM) : Official Launching of the ICD-11 Traditional Medicine Chapter

In May 2019, WHO approved the ICD-11, which includes a chapter on traditional medicine for the first time. Korean CC held the meeting with Korea Institute of Oriental Medicine (KIOM) to discuss about the local implementation of TM Chapter.

Also, as the managing editor of ICTM project, KIOM will cooperate with relevant organizations and experts to prepare the local utilization, and discuss the application plan of ICTM through TMRG meetings.

Development and Maintenance of Standard Terminology of Medicine

◆ Notification and Implementation of Standard Terminology of Medicine

The Korean CC has been developing and managing the standard terminology of medicine since 2014, under the leadership of the government(Ministry of Health and Welfare), for special purposes(e.g. health data related projects, health information exchange, etc.).

In 2019, Korean CC has enhanced the usability of standard terminology of medicine by linking the medical examination terms to the national reimbursement codes.

Also, the standardization of terms and questionnaire templates used for the public health checkups is under progress with help of standard terminology of medicine.

Korean CC is applying the diagnostic and intervention terms of standard terminology of medicine in Health Information Exchange(HIE) System. HIE System has been implemented in about 1,000 medical institutions and is expected to cover more than 1,800 institutions by the end of 2019.

Acknowledgements

The Korean CC would like to gratefully acknowledge WHO-FIC international members for their active participation in the development of WHO-FIC.

We deeply appreciate the experts and relevant organizations supporting and cooperating with the WHO-FIC Collaborating Centre in Korea such as the Ministry of Health and Welfare, Statistics Korea, the National Rehabilitation Center, the Korea Institute of Oriental Medicine, the Health Insurance Review & Assessment Service, the Korean Medical Association and the Korean Medical Record Association.

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WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

ANNUAL REPORT FROM THE MEXICAN WHO-FIC COLLABORATING CENTRE CEMECE

6-11 October 2019
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Poster ID
210

Authors: Yañez, M.; Alanis, R.; Vazquez, B.; Pérez, M.; Andrade, C. et al.
MoH, Mexican WHO-FIC-CC

Abstract CEMECE is the Collaborating Center of the WHO-FIC in Mexico since 2008. Currently is in the third period of designation (2016-2020) and all its activities are related with training, advise, guide, encourage the use of WHO-FIC and generate health information in Mexico and support some countries of Latin America, according with the terms of reference established with PAHO and WHO. This poster shows briefly this activities during last year.

Results

The Mexican Center for the Classification of Diseases (CEMECE, for its acronym in Spanish), as a Collaborating Center of the WHO / PAHO, has maintained its participation in the development and translation of the ICD-11, through the Ibero-American Network for the WHO-FIC and in the platform that contains the Foundation of this classification. Especially in the chapters 06 Mental or behavioral disorders, 07 Sleep-wake disorders, 14 Diseases of the skin, 16 Diseases of the genitourinary system, 18 Pregnancy, childbirth or the puerperium and Histopathology in X Extension Codes. Also in the translation of the Reference Guide.

CEMECE has also been part of the field tests that have been carried out, focusing on bridge coding with the ICD-10 and the ICD-11 for medical diagnoses. As well as in the tests for morbidity. Thanks to this participation, we have managed to change the definition of the Main Condition, taking into account the need for information from the point of view of public health.

CEMECE, in collaboration with PAHO, is part of the group to review the definition and coding of maternal mortality, which will be included in the ICD-11. These works have also been shown at the meetings of the Mortality Reference Group (MRG).

In August 2018, CEMECE participated in the technical meeting for the development and translation of the ICD-11 that was held in Bogotá, Colombia and in which, together with PAHO, it reviewed and agreements were reached on translation and It is the final cover before the World Health Assembly in which the ICD-11 will be approved. Currently, feasibility has been explored for the implementation of the ICD-11 in Mexico.

In June, CEMECE was invited to the National Reference Center for the WHO-FIC of Chile as advisor and trainer in the updates of the ICD-10 2018 and the use of the International System for Codification of Causes of Death. The course was held in the City of Santiago from June 25 to 29 and after this course, the Ministry of Health of Chile implemented ICD-10, 2018 and the Automated Coding System to its mortality platforms.

Through the Latin American and Caribbean Network for the Strengthening of Health Information Systems (RELACSIS), CEMECE, in collaboration with the Argentine WHO-FIC CC, has coordinated Working Group (WG) 2, focused on the development, maintenance of the virtual course for the training of coders in the ICD-10.

Derived from the training needs of the countries, the courses were redesigned and between November 15 and December 15, 2018, the "First Basic Course of Codification of Medical Information with the ICD-10, Edition 2018" was held, and were selected coders from: Argentina, Bolivia, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Dominican Republic, Uruguay, Venezuela. In this course, 372 students were registered, 230 were completed and 196 were approved.

In November 2018, the coordination with PAHO, CEMECE hosted the First Encounter of Coders and Users for the WHO-FIC, where the participants were summoned from the Regional Coder Census, and included mainly personnel from the National Statistics Institutes, Social Security and the Ministries of Health; additionally, some of the most experienced ICD-10 instructors were invited, as well as the Directors of the WHO-FIC CC of Argentina, Cuba and Mexico.

CEMECE has sent to the heads of the Iris Institute, the observations on the operation of the Automated Coding System for Mortality, during its official use in Mexico for the processir and generation information on deaths.

Among the observations, the application of the steps for the selection of the basic cause of death is highlighted, among them the unlikely causes of death and the application of the step for the direct obvious cause, in addition to the Annexe Conditions that affect the process of swallowing, same as answered by those responsible for developing the decision tables.

Due to the official implementation of the ICD-10, 2018 and the Iris System in Mexico, CEMECE has been in constant communication with the resolution of cases and those that are resolved differently by manual coding in contrast to the automated coding. These observations have been considered and mentioned in the recently released version of the Iris System 5.6.0. at the beginning of 2019.

In October, CEMECE was represented at the Annual Meeting of the Network for the WHO-FIC that was held in Seoul, Korea. Where participated in the technical sessions of the Reference Groups and Committees (Mortality, Morbidity, Functioning and Disability, Education and Implementation, Development and Technologies). CEMECE collaborates closely with the CACE from Argentina and CECUCE from Cuba and others countries into the Region of Latin America.

Acknowledgements or Notes

All these activities were sponsored by PAHO / WHO and the Ministry of Health of Mexico.

Annual report 2018-2019

WHO collaborating centre for the Family of International Classifications in the Netherlands

Authors: C.H. van Gool, L.M. Harmans, H. ten Napel

WHO Collaborating Centre for the Family of International Classifications, National Institute for Public Health and the Environment, Bilthoven, The Netherlands

6-11 October 2019

Banff, Canada

Poster ID

211

Abstract The Dutch National Institute for Public Health and the Environment has hosted the WHO-FIC Collaborating Centre in the Netherlands since 1998. This poster summarizes the activities of the WHO-FIC Collaborating Centre in the Netherlands (Dutch WHO-FIC CC) that took place from October 2018 to October 2019 in relation to its Strategic Workplan.

Introduction

As early as 1989, WHO appointed a predecessor of the current Dutch WHO-FIC collaborating centre (CC) as a CC for the ICIDH. Since then the Dutch WHO-FIC CC has been re-designated multiple times as a CC for the Family of International Classifications. The last re-designation was late 2017, for the period 2017 – 2021.

Strategic Workplan

With its re-designation in 2017 a new Strategic Workplan was implemented. 2019 marks the second full year of this designation period.

This poster highlights the activities of the Dutch WHO-FIC CC that took place from October 2018 to October 2019 along the six key activities in the Strategic Workplan 2017 - 2021:

I Support revision and maintenance of International Statistical Classification of Diseases and Related Health Problems (ICD)

II International Classification of Functioning, Disability and Health (ICF) support, update work, guideline development and linking with ICD-11

III Supporting WHO-FIC related education and implementation work

IV Supporting WHO-FIC related informatics and terminology work

V Support the development of other WHO-FIC Classifications, including the International Classification of Health Interventions (ICHI)

VI Coordination and management of national WHO-FIC activities

I Support Revision of ICD

Now that ICD-11 has been adopted, the Dutch WHO-FIC CC is negotiating with multiple parties to discuss optimal and sustainable translation of ICD-11 MMS and the ICD-11 Foundation Component into Dutch. Also, the Dutch WHO-FIC CC is in consultations with the Dutch MoH regarding the extent of impact analysis that needs to be performed in order for ICD-11 MMS to be used in the Netherlands for morbidity statistics. Stakeholders that need to be involved in the transition from ICD-10 to ICD-11 include the national Health Care Authority, Statistics Netherlands, all hospitals, Dutch Hospital Data, and many more.

The Dutch WHO-FIC CC will publish a final version of ICD-10 in 2020, that can serve as an anchoring point for users when implementing ICD-11 in the future. All conversion tables ICD-10 to ICD-11 and vice versa in the Netherlands will use this final Dutch version of ICD-10.

II Support ICF

The Dutch WHO-FIC CC takes responsibility in the ICF update process by commenting on and voting for ICF update proposals. Also, one of the centre heads is member of the Initial Review Group (IRG).

End of 2018 there was a large amount of update proposals that needed to be processed by the members of the update platform. The Dutch WHO-FIC CC decided to organize an ICF updates workshop in Bilthoven the Netherlands in January 2019 to facilitate this work.

Furthermore, the Dutch WHO-FIC CC has received a fair amount of requests for using WHODAS , indicating an increased awareness of the ICF theoretical framework in the Netherlands.

III Support WHO-FIC Education & Implementation

Over the reporting period the Dutch WHO-FIC CC maintained the WHO-FIC implementation database.

III Support (cont'd)

At the Seoul WHO-FIC annual meeting it was discussed that maintenance of the WHO-FIC implementation database would be transferred to EIC secretariat. At the EIC midyear meeting in Malmö in April 2019 this idea had been let go. Therefore, the implementation database still needs new custodianship.

Regarding other EIC tasks, the Dutch WHO-FIC CC met the request to supply the national top 100 diagnostic terms with concording ICD-10 codes.

IV Support WHO-FIC Informatics & Terminology

Over the reporting period the Dutch WHO-FIC CC contributed in the conception of the mapping white paper: https://tinyurl.com/termmap

V Support Development of Other WHO-FIC Classifications

The Dutch WHO-FIC CC participates in the ICHI field trial as a field trial centre. Multiple institutions in the Netherlands have been asked to participate as field trial sites, such as Nictiz, Dutch Hospital Data, Statistics Netherlands.

The Dutch WHO-FIC CC also provides the FDC co-chair, thereby actively participating in the FDC strategic work plan.

The Dutch WHO-FIC CC is involved in the work on harmonizing the WHO-FIC content model (together with ITC) and in the work on the joint WHO-FIC primary care linearization.

VI (Inter-) National WHO-FIC Activities

End of 2018 the Dutch WHO-FIC CC published a new ICF version including all ICF updates up to 2018, including Flemish synonyms where applicable.

2018, November 6, Key-note at the KlasifiKon conference in Prague – concerning EIC work on the ICD-11 Implementation.

2019, March 7, Key-note at the ICF Anwendekonferenz, Stendahl, Germany – ICF-Schülungen: Möglichkeiten und Herausförderungen.

In April 2019, the Dutch WHO-FIC CC released the modernized version of the Newsletter on the WHO-FIC as an online publication.

The Dutch WHO-FIC CC supported the ICF-Facilitators Course performed by the South African WHO-FIC CC.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Annual Report from the Nordic WHO- FIC Collaborating Centre

Authors: Solvejg Bang, Lars Berg
Nordic WHO-FIC Collaborating Centre, Oslo, Norway

6-11 October 2019
Banff, Canada
Poster ID
212

Abstract The Nordic (Norway) Collaborating Centre for the WHO Family of International Classifications (Nordic CC) was redesignated by November 2016 for a new four-year period. The Centre contributes to the work in the WHO-FIC Network with members in all Committees and Reference Groups and participation in the ICHI development.

The Nordic/Norwegian WHO-FIC Collaborating Centre

The Nordic CC's work from October 2018 until September 2019 is described in this Poster. The Nordic CC is funded by the Health Authorities in four of the five Nordic Countries (Denmark, Iceland, Norway and Sweden).
It was established in 1987, initially hosted by Uppsala University, Uppsala, Sweden but was moved 2009 to Oslo, Norway hosted by the Norwegian Directorate of Health. Since December 2015 the Nordic CC has been hosted by the Norwegian Directorate of eHealth, Oslo, Norway.
Due to financial reasons Finland finished their collaboration with the Centre by December 31st, 2016.

The Nordic collaboration within health statistics continues as usual (incl. Finland) in:

- **The Nordic Casemix Centre** in Helsinki (www.nordcase.org)
- **NOMESCO** (Nordic Medico-Statistical Committee. (http://nowbase.org/)
- On **Mortality Coding** with the Classification Units/Statistical Departments and others in the Nordic and Baltic Countries:
  - Denmark
  - Iceland
  - Norway
  - Sweden
  - Finland
  - Estonia
  - Latvia
  - Lithuania

Figure 1: From the Regional Mortality Meeting in Trakai, Lithuania, June 2019. (Photo:Rūta Ustinavičienė)

Work in the centre:
Nordic Reference Group Meeting
• November 14, 2018, the Nordic CC had its annual meeting in Oslo, Norway summarizing and sharing what had happened and what was decided in the

Work during the period October 2018 - September 2019

different committees and working groups during the WHO-FIC annual meeting in Seoul, October 2018. Experts from the Centre and the Nordic Countries participated in the Annual WHO-FIC Meeting in Seoul October 2018.

CSAC (URC)
• Olafr Steinum and Martti Virtanen are voting members of the CSAC for update of ICD-10 and **ICD-11**.
• Thomas Maribo is the current moderator for the updates of **ICF** for FDRG. The Nordic Centre have allocated resources for this function.
• Solvejg Bang and Ann-Helene Almborg are voting members for ICF updates. Thomas Maribo, Lars Berg, Jaana Paltamaa and Heidi Anttila participated also in the Nordic ICF network for ICF updates.

MbRG
• The MbRG midyear meeting 2019 in Malmö, Sweden April 3-5 was arranged and sponsored by the Nordic CC. Olafr Steinum - one of the two co-chairs and seven other delegates from the Nordic Countries participated together with 28 international ICD-experts. Major task was work on ICD-11 Reference Guide.

EIC
• The EIC midyear meeting April 5-7 2019 was held in Malmö, Sweden, with 20 participants incl. Magdalena Fresk, Karin Nyqvist and Solvejg Bang. Nordic CC financed meeting catering.

ITC
• Ann-Helene Almborg participates in the committee including at the ITC mid-year Zoom meeting and has also contributed to the 'Mapping paper'.

FDC
• Ann-Helene Almborg (AHA) is a member of the **ICHI** Task Force Group and ICHI Development Team and a Nordic ICHI meeting was held November 2018. AHA is also coordinator for the field testing of ICHI in the Nordic Countries, planned to take place in late summer 2019.
• AHA and Martti Virtanen (MV) attended the ICHI meeting in Cologne, Germany, February 18-22 2019.
• AHA, Marie Vikdal and MV attended the FDC midyear meeting April 9-10, 2019 in Conegliano, Italy, where ICHI (and other topics) was on the agenda. AHA is also coordinator for the field testing of ICHI in the Nordic Countries.

FDRG
• Ann-Helene Almborg and Thomas Maribo attended the FDRG mid-year meeting in Kuwait City April 4-5 and reported about Nordic ICF-activities.

MRG
• Anne-Gro Pedersen, Norway and Eva Strand, Sweden participated in the WHO-FIC midyear meeting in London March 11-14, 2019.

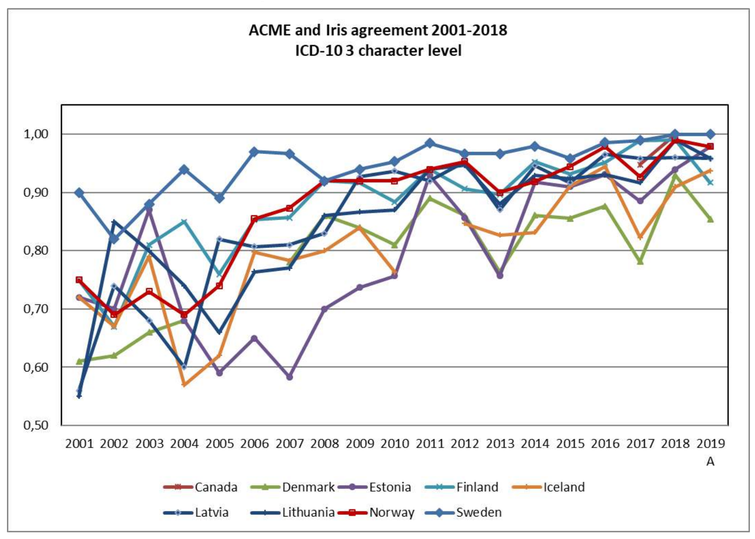

Figure 2: Coding comparison 2001-2018

Nordic-Baltic Mortality Meeting
• Experts from all eight Nordic-Baltic countries plus Francesco Grippo (FG), Italy and Patricia Woods (PW), Canada, participated in the meeting June 12-13, 2019 exemplary chaired by Sandra Mekšriūnaitė, Institute of Hygiene Health Information Centre, Vilnius, Lithuania. FG presented IRIS news and contributed with much valuable practical knowledge, among others by showing IRIS table views on his PC, which is a great help in mortality coding. PW showed updates of ICD-10 and examples of coding problems and disagreements for learning from the Nordic-Baltic coding comparisons in the past year. Anne-Gro and Eva Strand told about the work in MRG.

WEB site and contact

Web site of the Nordic WHO-FIC Collaborating Centre:
www.nordclass.org
Contact : Solvejg Bang, Chair of the Board of the Nordic Classification Centre and temporary Head of Centre (SMB@sundhedsdata.dk)

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

WHO-FIC Collaborating Centre for North America

6-11 October 2019
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Poster ID
213

Donna Pickett, Keith Denny, Patricia Wood

Abstract The North American Collaborating Centre (NACC) continues to contribute to the work on the development, dissemination, maintenance and use of the International Classification of Diseases (ICD) and the International Classification of Functioning, Disability and Health (ICF) to support national and international health information systems, statistics and evidence. Education, outreach and collaboration are major foci.

Introduction

The Collaborating Centre for the WHO Family of International Classifications (WHO-FIC) for North America was established in 1976 and was most recently re-designated for four years on March 21, 2016. The North American Collaborating Centre (NACC) is located at the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention, in the U.S. Department of Health and Human Services and together with the Canadian Institute for Health Information (CIHI) and Statistics Canada comprise the NACC.
http://www.cdc.gov/nchs/icd/nacc.htm

Mortality Data

NCHS and Statistics Canada promote the development and use of ICD-10 for mortality statistics in the U.S. and Canada through production of national data files and publication of reports.

- NCHS published 2017 U.S. mortality data in November 2018 and plans to publish final 2018 U.S. mortality data in the fall of 2019.
- Statistics Canada released 2016 Births and Stillbirths and 2016 Deaths in summer 2018; 2017 Births and Stillbirths in September 2018; and preliminary 2017 Deaths in November 2018 and plans to release 2018 Births and Stillbirths in August 2019; and revised 2017 Deaths and preliminary 2018 Deaths in November 2019.
- Work on Electronic Death Registration Systems (EDRS) in the U.S. continues to progress. When implemented, EDRS will require inputs from two sources – the funeral director and the physician.
- NCHS is working with the Iris Institute to reengineer its Mortality Medical Data System (MMDS) for auto-coding causes of death. The goal is to use as much of Iris as possible to build a system that will auto-code a larger percentage of records, while maintaining international comparability.

Morbidity Data

The U.S. and Canada both have developed and maintain clinical modifications of ICD-10 for morbidity applications in their respective countries.

Morbidity Data, cont.

- The U.S. implemented ICD-10-CM and ICD-10-PCS, effective October 1, 2015. ICD-10-CM and ICD-10-PCS, effective October 1, 2019 (FY 2020), were posted in June 2019. General Equivalence Maps between ICD-10-CM/PCS and ICD-9-CM, first published in 2011 and updated annually, are GEMs no longer maintained; the FY 2018 GEMs were the last update.
- Canada's V2018 of the ICD-10-CA and CCI classifications and National Coding Standards were implemented April 1 2018 in English and French.
- Canada's V2021 of the ICD-10-CA and CCI classifications and National Coding Standards are due for release April 1, 2021.

ICD-11

NACC members served on the Revision Steering Group and its Small Executive Group until both groups were sunsetted in October 2016. NACC members served on the Joint Task Force which was sunsetted in 2018. NACC members continue to serve on the Patient Quality and Safety TAG for the ICD-11 revision process. NACC representatives participate in relevant reference groups and committees in the development and review of the classification and the mortality and morbidity coding rules.

Education, Technical Assistance

- NCHS made a number of webinars and presentations between 2016 - 2019 on the transition to ICD-10 code sets (ICD-10-CM/PCS), focusing on impact and lessons learned, particularly for public health organizations.
- Statistics Canada continues to conduct ICD-10 underlying and multiple causes of death coding training as required for provincial and in-house mortality classification staff. An underlying cause of death coding course was conducted in May 2018 and CIM-10 cause of death coding training in French was planned for April 2019.

Education, Technical Assistance cont.

- CIHI offers ongoing education, both in online eLearning and webinar formats. Webinars are offered on a quarterly basis. These education offerings support accurate and consistent code assignment, are offered in both English and French, and may be found at www.cihi.ca.
- CIHI offers support to coders via the eQuery coding question service. Questions are typically responded to typically within 5 business days, and are maintained and accessible via a searchable database on the CIHI website.

Disability Data

NACC facilitates the implementation and use of ICF in both the U.S. and Canada. NACC has held 15 conferences on ICF since 1995 and has distributed a periodic ICF Newsletter, which is posted on the NACC website.
CIHI conducted a literature review of ICF use by Canadian researchers.

WHO-FIC Network

NACC has representatives on all WHO-FIC network Committees and Reference Groups.

- The Head of the NACC serves as one of the co-chairs of the WHO-FIC Network Council and serves on the Council Small Executive Group.
- NACC members serve on the Education and Implementation Committee, including as one of the co-chairs
- NACC members serve on the Mortality Reference Group (MRG), including as Secretariat, and on the ancillary MRG Table Group. The Group, co-chaired by a NACC member, is on hiatus during the transition to ICD-11.
- NACC members serve on the MbRG, including one as the secretariat.
- NACC members serve on the ICHI Task Force.
- NACC members serve on the FDRG and the secretariat is now based at McMaster University, Ontario, Canada
- NACC members serve on the Classifications and Statistics Advisory Committee (CSAC)
- NACC co-chairs the Informatics and Terminology Committee (ITC)
- NACC members contributed to the development of the WHO-FIC Classifications and Terminology Mapping White Paper

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Health Information meets Health Informatics

WHO-FIC Collaborating Centre in South Africa: 2019 Report

6-11 October 2019
Banff, Canada
Poster ID
214

Lyn Hanmer[1], Debbie Bradshaw[1], Stefanus Snyman[1], Soraya Maart[2]

[1]South African Medical Research Council and WHO-FIC Collaborating Centre in South Africa; [2]University of Cape Town, South Africa

Abstract Colleagues associated with the WHO-FIC collaborating centre in South Africa are continuing their activities in support of the development and maintenance of the WHO-FIC internationally; in WHO-FIC network structures; in the development, implementation and use of ICD, ICHI and ICF in Africa; and in support of strengthening civil registration and vital statistics (CRVS) in the WHO African region.

INTRODUCTION

As the only WHO-FIC collaborating centre in the WHO African region - hosted by the South African Medical Research Council in Cape Town - the centre supports the development, implementation and maintenance of the WHO-FIC across the region, and through the WHO-FIC network.

STRATEGIC WORKPLAN 2018-2020

We continue to implement our Strategic Workplan 2018-2020, which was developed after wide consultation and accepted by stakeholders.

Values: The WHO-FIC Regional Network for Africa shares the values of Equity, Excellence, Solidarity, Respect, Integrity, Ubuntu and Social responsibility.

Mission: To cooperate with the countries and other stakeholders in the WHO African region to develop and advance WHO-FIC.

Vision: Coordinate and share experiences, knowledge, and the production of scientific evidence on WHO-FIC to contribute to Universal Health Coverage and strong health information systems in the WHO African region.

KEY RESULTS 2018-2019

Build an effective WHO-FIC Network in WHO African region

- ✓ The database was grown to 400 persons and organisations.
- ✓ Two stakeholder meetings to report back on WHO-FIC 2018
- ✓ A meeting between WHO-FIC SA and colleagues from WHO African region took place in Nairobi, Kenya in August 2019. A schedule of monthly virtual meetings has been established.
- ✓ Regular newsletter. Join our database: www.whofic.org.za.

Build strong international links with international and other WHO-FIC regional networks

- ✓ Prof Soraya Maart (FDC Secretary and FDRG Voting member): Attended FDC midyear meeting (Conegliano, Italy), and meets regularly with the FDC co-chairs.
- ✓ Dr Stefanus Snyman (EIC voting member and FDRG member) attended the FDRG Midyear meeting in Kuwait and helped to organise 4th International Symposium: ICF Education.
- ✓ Dr Oluwatoyin Awotiwon (Gbabe): Attended the MRG mid-year meeting in the United Kingdom.
- ✓ Dr Warrick Sive and Ms Luisa Whitelaw: Attended FDC mid-year meeting in Conegliano, Italy.

Contribute to development and maintenance of member classifications of WHO-FIC aligned to needs of region

ICD-10 & ICD-11:

- ✓ The ongoing implementation and maintenance of ICD-10 for mortality and morbidity coding remain a core focus. Inputs to the further development of ICD-11 are essential to ensure that the classification meets regional needs.
- ✓ WHO organised a technical workshop for training and implementation preparation of ICD-11 in Tunis, Tunisia, in February 2019. Dr Lyn Hanmer formed part of the delegation from South Africa, with Ms Khabo Mahlangu of the South African National Department of Health.

ICHI:

- ✓ The successful development of ICHI is of relevance for South Africa, since the country does not currently have a national procedure coding standard. Accurate data on procedures are essential for the planned implementation of a National Health Insurance (NHI) system, which is currently under way.
- ✓ ICHI is identified as a potential coding tool in the report on the Presidential Health Summit Compact, published in July 2019.
- ✓ The Healthcare Coding Unit (University of Witwatersrand) has participated in testing aspects of ICHI during the preliminary testing phase.
- ✓ The collaborating centre has facilitated contact between National Department of Health, WHO and other WHO-FIC stakeholders, to provide information on ICHI and potential South African involvement in the planned testing of ICHI by WHO from 2019.
- ✓ The collaborating centre is responsible for the coordination of ICHI testing in South Africa on behalf of WHO, between August and September 2019. All stakeholders in public and private sectors have been invited to participate in the testing process.

ICF:

- ✓ We continued to participate in the ICF Update process
- ✓ Stefanus Snyman serves on the Board of ICFeducation.org
- ✓ As part of the mICF initiative, the FunctionMapper tool completed the indexing of ICF exclusion terms.

Deliver educational resources for ICD, ICF, ICHI and Cause of Death Certification

- ✓ An online Certification of Death course was developed and is in its proof of concept phase.
- ✓ In close collaboration with the WHO Regional Office for Africa we are discussing the development of a comprehensive CRVS training course
- ✓ The collaborating centre was one of the sponsors of a successful workshop on interprofessional collaboration to improve cause of death statistics which was conducted in Nairobi, Kenya.
- ✓ In partnership with the WHO-FIC Collaborating Centre in the Netherlands and ICanFunction Health (Pty) Ltd, a 3-month ICF Facilitator Training Course was conducted in Cape Town, Pretoria and Nairobi. The course comprises face-to-face meetings and online course work.
- ✓ ICF training workshop was conducted at the 2nd Interprofessional Education and Collaborative Practice for Africa conference in Nairobi
- ✓ A successful workshop was presented in Pretoria on how to use the ICF Update Platform
- ✓ The ICF Education.org website was updated by Nelson Mandela University with funding from the WHO-FIC Collaborating Centre in the Netherlands.

STAY INFORMED

www.whofic.org.za
Twitter: @WHOFICafrica
Facebook: WHOFICafrica

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Barcelona Collaborating Centre (Spain) for WHO-FIC: Annual Report 2019

6-11 October 2019
Banff, Canada
Poster ID
215

Maria-Dolors Estrada[1,2], Mireia Espallargues[1,3], Jaume Canela-Soler[4], Cesar Velasco[1] on behalf of the CC-BCN (Spain)*
[1]*Agency for Health Quality and Assessment of Catalonia (AQuAS), Spain*

Abstract The initiative to work in the area of the WHO Family International Classifications (FIC) (WHO-FIC Network) was promoted by the Health Department of the Catalan Government (2010). This poster summarizes main activities carried out for the CC-BCN (Spain) from October 2018 to August 2019.

Introduction

Barcelona Collaborating Centre (CC-BCN, Spain), under designation, is led by the Agency for Health Quality and Assessment of Catalonia (AQuAS).

AQuAS is a public governmental institution (1994) whose mission is to generate relevant knowledge through the evaluation and analysis of data for decision making in order to contribute to improving the health and sustainability of the public health system in Catalonia.

*Team

The small group of AQuAS staff that leads the project is supported by a stable group of volunteer expert collaborators, who participate individually or represent scientific societies and local and state entities.

Collaborators: Bernabeu M[5], Bustins M[6], Casanellas JM[7], Conejo C[8-10], Conesa A[11], de San Pedro M[12], Gallego C[12], Gelabert G[7,13], Hernández-Cortés A[14], Laxe S[5], López MJ[9], Lozano R[11], Martinez J[12], Mejón R[15], Paluzie G[13,16], Pastor-Duran X[11], Pirla J[9], Puigdefàbregas A[17], Rius A[12], Romero R[9,10,18], Rovira M[12,13], Serrano J[19], Tormos JM[5], Arcas M[1] (until 2017), García I[20], González A[9], Miquel M[21], Molina P17, Niqui O22, Salom M[23], Sánchez-Guerrero E[24], Sánchez-Jiménez F[24], Sarsanedas E[25].

[2]Consorcio de Investigación Biomédica de Epidemiología y Salud Pública (REDISSEC), [3]Red de Investigación en Servicios de Salud en Enfermedades Crónicas, [4]Universitat de Barcelona, [5]Institut Guttman (CIBERESP), [6]Servei Català de la Salut, [7]Hospital Sant oan de Déu (Barcelona), [8]Hospital Universitario Virgen de la Victoria (Málaga), [9]Sociedad Española de Documentación Médica (SEDOM), [10]*International Federation of Health Information Management Associations* (IFHIMA), [11]Hospital Clínic de Barcelona, [12]Fundació Tic Salut, [13]Societat Catalana de Documentació Mèdica (SEDOM), [14]Hospital de Bellvitge (Barcelona), [15]Hospital Vall Hebrón (Barcelona), [16]Corporació de Salut del Maresme i la Selva, [17]Departament de Salut (Catalunya),[18]Hospital Universitario Dr. Peset (Valencia), [19]Universal Doctor.com, [20]Hospital de Santa Creu i Sant Pau (Barcelona), [21]Hospital del Parc Taulí (Sabadell), [22]Grado en medicina, [23]Registro mortalidad de Illes Balears,[24]Universidad de Málaga, [25]Hospital del Mar (Barcelona).

Contact person: destrada@gencat.cat (AQuAS)

Revised work plan Horizon 2022

Activity 1: Participating in the WHO-FIC network meetings & dissemination of its activities among Spanish entities and health professionals.

Activity 2: Contributing the implementation of the International Classification Disease (ICD)-11-revision. Especially, the Spanish ICD11 revision.

Activity 3: Promoting the use of ICT and eHealth products related to the medical classification systems.

Activity 4: Disseminating medical classification systems and promoting the benefit of its use among Spanish health professionals.

Other activities under consideration:

- participation in the implementation of the ICHI beta-2 draft after the field tests;
- development of the Catalan translation of the ICD11;
- Contribution in bridge studies, double codification, with ICD10 and ICD11, for priority subjects of public health (mortality and/or morbidity data).

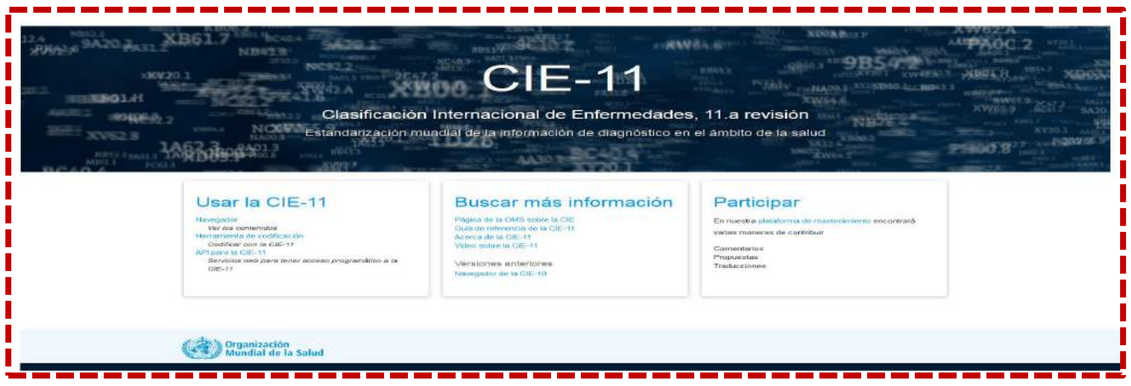
2019 main achievements

- Attendance at the online meetings of the WHO-FIC council and feedback on the aspects consulted by the committees and reference groups of the network.
- Active participation in 2019 meeting of the WHO-FIC in Banff with the assistance of two representatives and the presentation of three posters

  ID 23. Barcelona Collaborating Centre (Spain) for WHO-FIC: Annual Report 2019.

  ID 20: Establishing a relationship between ICD and SNOMED-CT clinical diagnosis codes using a "Bottom-Up" approach based on natural language processing.

  ID 77: WHO-FIC Network Meetings from Tokyo (Japan) 1996 to Seoul (Korea) 2018: Experiences of the 23 years working collaboratively in the Classifications of Diseases
- Progress on the mapping between SNOMED and ICD10 & ICD11 based on the natural language of professionals.
- Progress on the semantic interoperability project in the social field.
- AQuAS is developing procedures to facilitate the mining and exploitation of Real World Data in its Health Technology Assessments reports. In this field, the use of the ICD and others classifications and terminologies are key.
- Attendance at the online meetings of the Ibero-FIC Network focused on finalizing the translation of the Spanish version of the ICD-11 and starting the implementation plan. Currently, working on the revision of the guide for the transition to ICD-11 in Spanish.



- Updating the CC website as a promotion of FIC activities/projects in Spain.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

UK WHO-FIC Collaborating Centre Annual Report 2019

Authors: Lynn Bracewell, Myer Glickman
UK WHO-FIC Collaborating Centre

6-11 October 2019
Banff, Canada
Poster ID
216

Abstract NHS Digital was re-designated as a UK WHO-FIC Collaborating Centre in July 2018. This poster summarises the Collaborating Centre activities which have taken place between July 2018 and July 2019 relevant to the UK Centre Terms of Reference and workplan.

Introduction

NHS Digital in Leeds, England has hosted the UK WHO-FIC Collaborating Centre since 2014. NHS Digital perform this role working closely with the Office for National Statistics (ONS) to ensure the UK contributes to and is represented on WHO-FIC Network activities as per our 2018-2022 work plan, agreed with the WHO. The Head of the UK Centre is Lynn Bracewell, Head of Terminology and Classifications at NHS Digital. The Head of Centre has served for two terms as Co-Chair of the WHO-FIC Network Advisory Council and the Council Small Executive Group.

Provide and coordinate UK input and advice to the development and use of ICD-11

NHS Digital as the ICD-11 Field Trial Centre has coordinated 98 UK volunteers to complete a third round of ICD-11 field trials based on case scenarios from England's national training materials for morbidity coding. The field trials ran for 3 months starting on 31-Aug-2018 to 30-Nov-2018 and concluded with the completion of 4079 cases. We provided e-learning materials to support familiarisation with ICD-11 topics and a mechanism to raise questions, issues, concerns and errors relating to ICD-11.

Volunteers invited to participate	347
Participants who started the trial	98
Participants who completed all cases	27
No. of completed cases	4079
No. of organisations taking part	62
No. of different participant job titles	54

Coding experience of participants:

< 3 years' experience	6
3-5 years' experience	7
5-10 years' experience	31
10 > years' experience	54

During the year the outcome of the Third Round Field Trials were reported at the national Trainer Forums and Auditor Forums. Various presentations have been delivered to raise awareness about ICD-11.

Provision of ICD national clinical coding guidance, training support and advisory service

We continue to produce national clinical training materials, e-learning products, coding guidance and an annual update to national coding standards based on updates to ICD. We deliver the national Clinical Coding Trainer and Auditor programmes; currently 230 Approved Auditors and 113 Approved Trainers. Coding query and wider helpdesk services support the coding community. Relevant query resolutions are published and available to the NHS, for example on the Query Resolution Database hosted on the collaboration and information sharing platform, Delen: https://hscic.kahootz.com/connect.ti/t_c_home/groupHome

Contribute to the development and maintenance of ICD-11 (morbidity)

Morbidity coding activities were represented from NHS Digital as voting members/members of WHO-FIC expert committees and reference groups:

- Education and Implementation Committee (EIC)
- Informatics and Terminology Committee (ITC)
- Morbidity Reference Group (MbRG)
- Classifications and Statistics Advisory Committee (CSAC)
- Family Development Committee (FDC)

In 2018-2019 participation included:

- WHO-FIC Annual Network Meeting, South Korea October 2018
- Mid-year meeting of MbRG Malmo Sweden, April 2019
- Mid-year meeting of EIC, Malmo Sweden, April 2019
- Small Executive Group, Geneva August 2018
- Small executive (monthly teleconference calls)
- ITC Mapping sub-group (2 weekly teleconference calls) and meeting in September 2018.
- Completed triage of ICD-11 proposals for CSAC sub-group tasked with progressing during April/May in readiness for 2 rounds of member voting between Jun and Sep-2019.

Contribute to the development and maintenance of ICD-11 (mortality)

Mortality coding was represented by ONS as voting members/members of WHO-FIC expert committees and reference groups:

- Mortality Reference Group (MRG)
- Classifications and Statistics Advisory Committee (CSAC)

The ONS hosted the mid-year meetings of the WHO-FIC Mortality Reference Group, and IRIS Core Group at the ONS office in London 11-14 March 2019.
In 2018-2019 participation included:

- WHO-FIC Annual Network Meeting, South Korea October 2018 Mortality Reference Group, UK March 2019.

There was discussion of specific coding issues and updating text of the reference guide. The MRG also received an update on the progress of ICD-11 from WHO.
The MRG had a joint meeting with the IRIS Core Group, which manages the IRIS cause of death coding software. This meeting focussed on scoping development for ICD-11 and reviewing other technical development issues.
Regular activities for ICD-10 coding dictionary maintenance and improvement and IRIS testing (releases 5.5 to 5.7) have taken place throughout the year.
The international ICD-10 mortality coding dictionary has been updated inclusive of ICD-10 2016 series of amendments.

Develop and maintain International English coding dictionary for IRIS coding system (mortality)

Since April 2017 the UK Centre has been an active member of the IRIS Consortium and has participated in discussions to progress development of ICD-11 automated cause of death coding.
Technical problems with ONS mortality database have taken up expert resource, reducing ability to contribute to ICD-11 development work.

Contribute national expertise to WHO electronic tools development and links to clinical terminologies

NHS Digital provided a classifications and mapping expert on the ITC Mapping subgroup. The group were tasked with developing a white paper with the purpose of providing a summary of existing terminology mapping, processes and techniques employed in creation, the opportunities and limitations of mappings as well as highlighting areas of best practice. UK expert participated in working group initially held every two weeks via teleconference from the beginning of the work package and developed an appendix for the paper demonstrating UK SNOMED CT to ICD-10 mapping use case.

Other activities: ICHI

NHS Digital are conducting a mapping exercise from OPCS-4 (our national intervention classification) to ICHI to inform a gap analysis between the two classifications.
Work started in Apr-2019 defining the purpose, scope and methodology.
The mapping work started in Jun-2019 and will conclude with analysis and report by Mar-2020.

Other contributions to WHO and Network Committees

NHS Digital are developing a collaboration platform to support the work of the WHO-FIC Education and Implementation Committee working with the EIC Co-Chairs and WHO.

Acknowledgements or Notes

The activities of the UK Centre are reported to the four home countries at the NHS Digital UK Information Representation Services Strategy Board. The Board convenes the UK Classifications Technical Advisory Committee for morbidity coding representing classification experts from each of the home countries.
The continued collaboration between NHS Digital and Office of National Statistics is enabling the successful fulfilment of the UK WHO-FIC CC work plan for 2018-2022.
NHS Digital website: www.digital.nhs.uk
ONS website: www.ons.gov.uk/ons

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

6-11 October 2019

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217

Calgary WHO Collaborating Centre for Classification, Terminology and Standards

Authors: Danielle A Southern, Nishan Sharma, Cathy A Eastwood, Hude Quan, William A Ghali

O'Brien Institute for Public Health, University of Calgary, Canada

Abstract Canadian WHO Collaborating Centre for Classification, Terminology and Standards Update

Activities

1. **Support refinement and maintenance of ICD-11 Reference Guide and knowledge Base for other members of the WHO Family of International Classifications**
   - We have contributed to the refinement of the ICD-11 Reference Guide.
   - Enhanced reference guide sections related to Quality and Safety issues;
   - Collected information, synthesized literature to formulate rules and FAQs on ICD coding as input for Knowledge Base.
2. **Implementation, maintenance and pilot testing of Q&S use case**
   - Coding rule recommendations
   - Value added reports for ICD-11
     - Comparison with ICD-10
     - New use cases
   - Field testing of coding with ICD-11 focused on implementation recommendations
3. **Support the Quality and Safety work in the ICD-11 implementation and maintenance process**
   - We wrote grant proposals for monetary support strategies to hold meetings for Q&S TAG.
   - We provide operational support and content for meetings.
4. **Strengthen the research work on Classifications, Terminologies & Standards and its integration in the WHO FIC Network**
   - We are working on an ICD-algorithm dictionary through IMECCHI (International Methodology Consortium for Coded Health Information) which will be openly available to researchers.
   - We collaborate with Canadian Institute for Health Information (CIHI) through ICD-11 Field Trial work, Q&S TAG work, and with local research groups (APPROACH.org coronary definition validations).

Results

- We held 1 Q&S TAG meeting in NYC
- Attended Morbidity Reference Group mid-year meeting in Sweden & additional meeting in Calgary to work on reference guide
- We are promoting international linkage beyond WHO-CC (attendance at upcoming international data linkage (www.ihdl.org) in September 2018.

5. **Developing, refining, and validating ICD-11 based Q&S indicators**
   - ICD-11 Value Proposition Report with description of:
     - Improved PSIs;
     - Improved hospital-standardized mortality ratio indicator;
     - Ambulatory care sensitive conditions;
     - Clinical comorbidity coding definitions;
     - *de novo* indicators, drawing on multi-source digital data, unconstrained by the limitations of older classification systems.
   - Parallel work will use similar approaches to considering the value proposition surrounding other WHO-fic classifications – namely ICF and the new ICHI
6. **Deploying ICD-11 based ontologies and indicators in integrated surveillance platform systems**
   - Indicator methods;
   - Implementation of indicators
   - Partnerships
7. **Usability testing on the ICD-11 coding tool, web browser and ICDfit**
   - Provided recommendations to refine ICD-11 tooling environment and index with human factors analysis
   - Cost-effectiveness analysis on ICD-11 coder training

Results (cont.)

8. **Develop Computer-Assisted coding system for diagnosis/interventions codes using ICD-11 APIs and ICHI code sets**
   - develop a set of algorithms to abstract clinical information in EMR into diagnosis and interventions codes.
   - The computer-assisted coding system to transform coders' job duties to verifying and/or revising codes suggested by the software.
   - set of codes with high precision can be directly assigned without the need of human verification.
   - developed technology can be transferred to other data collection settings, such as the National Ambulatory Care Reporting System (NACRS).
9. **Hosted WHO-FIC Network Meeting 2019**

Future Work

- Collaborative work with AHRQ looking at structure of QSRS system compared to ICD-11 for capturing patient safety incidents
- Collaborative grant application to AHRQ investigating ICD-10-CM clustering and ICD-11 quality and safety use case
- Knowledge translation activities in collaboration with CIHI regarding implementation & use of ICD-11

Acknowledgements or Notes

Canadian WHO-CC for Classification, Terminology & Standards Head: Dr. Hude Quan

WHO-CC is based by the O'Brien Institute for Public Health at the University of Calgary

UNIVERSITY OF CALGARY
O'Brien Institute for Public Health

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CUMMING SCHOOL OF MEDICINE

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Activities of the Stanford University WHO Collaborating centre

6-11 October 2019
Banff, Canada
Poster ID
218

Samson W. Tu, Csongor I. Nyulas, Tania Tudorache, Mark A. Musen
Stanford University WHO Collaborating centre
Stanford centre for Biomedical Informatics Research, Stanford, CA, U.S.A

Abstract The Stanford WHO Collaborating centre (CC) has the mission to provide support for the development, maintenance, and implementation of the infrastructure to develop and manage WHO Classifications and the associated terminologies. In 2018-2019, the focus of the Stanford CC's work includes (1) hosting and maintaining the iCAT server on Stanford facilities; (2) enhancing the ICD-11 Content Model and iCAT; (3) coordinating the development and finalization of the white paper on terminology mapping; (4) developing a generalized Content Model that is applicable to ICD, ICF, and ICHI, (5) prototyping the representation of ICD Content Model in OWL 2 and Shapes Constraint Language (SHACL).

Introduction

The Stanford University WHO CC has the mission to provide support for the development, maintenance, and implementation of infrastructure to author and manage WHO classifications and their associated terminologies. To fulfill this mission our centre is working on the use of semantic web technologies to develop a common modeling framework and associated software tools for developing and maintaining WHO classifications. The modeling framework consists of a formal content model, specified in the Web Ontology Language (OWL), that defines the properties of entities in a classification and that drives the development of editing software tools, such as the web-based iCAT authoring tool. Our work promises that all WHO-FIC classifications can be modeled and maintained in a consistent framework, using the most up-to-date Semantic Web technology, where they share common content model parameters and value sets, where they use similar editing tools, and where any classification can use entities from other classifications as a source for value sets.

Methods & Materials

We continued to host and maintain the iCAT server for the curation of ICD-11. We enhanced the ICD-11 Content Model and iCAT as the requirements of ICD-11 evolves. We led the working groups to produce a white paper on the best practices of terminology mappings and to develop a harmonized WHO-FIC Content Model. We presented a new conceptualization of the Content Model at the 2019 FDC Mid-Year Meeting, started a email list and web forum for discussing Content Model issues, drafted a work plan, and deposited a prototype harmonized Content Model in a GitHub repository. We are using the GitHub issue tracker as an additional discussion forum and archive. After receiving comments on initial conceptualization of the harmonized WHO-FIC Content Model, we have developed a draft informal specification and will make it available at the Banff WHO-FIC Network Meeting.

Results

For the past year, we had made the following enhancements to iCAT:

- Enhancement of the Content Model and iCAT by updating the post-coordination axes related to the External causes chapter, making them consistent with their value sets.
- Extending the model and the iCat software so that iCat allows logical definitions using the *causing condition* and *has manifestation* properties.
- Enabling the selection of multiple severity scales for a single entity
- Extending the iCat API mechanism to support deep object insertion and upload of new entities into the classification

We presented the white paper on terminology mapping for comments at the 2018 WHO-FIC Network Meeting. Since then the white paper went through several revision cycles and is ready for external publication.

We have proposed a generalized conceptualization of a shared WHO-FIC Content Model for WHO-FIC classifications. In this conceptualization, we propose that the description of ICF in the Foundation be extended with *codable categories* composed of ICF domains and relevant qualifiers, in parallel with ICD's and ICHI's diseases and interventions. The prototype Content Model posits that all entities in WHO classifications have multilingual titles, definitions, fully specified names, synonyms, and index terms. They may have inclusions and exclusions and will be defined in a shared Foundation Component from which specific linearizations for different purposes will be generated. Details of the WHO-FIC Content Model work is reported in a separate poster ("Toward a Harmonized WHO-FIC Content Model").

We have continued to experiment with the representation of ICD Content Model OWL 2 Web Ontology Language and the Shape Constraint Language (SHACL). With the availability of SHACL editors and validators as Protégé plugins, we are able to experiment with sample ICD entities to verify that they satisfy the requirements of the Content Model formulated as SHACL constraints.

Discussion

The success of the ICD-11 revision process demonstrated that the modeling and editing infrastructure that the Stanford CC had provided is viable and can be the basis for extending the paradigm to other WHO classifications. At the same time, new semantic web standards, such as OWL 2 and SHACL, had been defined since the original implementation of the ICD-11 Content Model and the iCAT software. Migration to the new standards requires research into how the new standards can be applied to satisfy WHO requirements and how the current infrastructure can be upgraded.

The four-year work plan seeks to strike a balance between providing services and support for WHO's on-going activities to develop, revise, and publish standards for health information and engaging in research to develop the models and tools for the next-generation informatics infrastructure of WHO classifications. This work will require extensive collaboration from the WHO-FIC community as we solicit the requirements for the generalized Content Model and seek feedbacks for the early prototypes.

The unification of WHO classifications in a common modeling framework and a shared Foundation Component is the long-term vision of many in the WHO-FIC community. The work of the Stanford CC seeks to explore and prototype such a modeling framework. The goals of this work are to stimulate interest and discussion on this vision and to define a possible roadmap for future work. It will be up to the WHO-FIC community to adopt this vision as a goal and to marshal the necessary resources for its realization.

WHO-FIC 2019 CANADA

Health Information meets Digital Information

ICD-11

301-310

ID	Poster Title and Authors
301	ICD-11 transition and implementation in the Americas *Vilma Gawryszewski, Patricia Nilda Soliz, Fernando Lozano, et al.*
302	ICD-11 Implementation plan in the Czech Republic *Krejčová D, Daňková Š, Zvolský M*
303	Piloting integration and use of ICD-11 API in Rwandan EMRs *Mugisha Michael, Byiringiro Jean Baptiste, Uwase Melissa, et al*
304	Translating and evaluating ICD-11 in Germany: a status report *Ulrich Vogel, Stefanie Weber*
305	ICD-11 Review: toward implementation planning in Australia *Jennie Shepheard, Jenny Hargreaves, Mardi Ellis*
306	Canadian Stability Analysis: Comparison of ICD-10-CA and ICD-11 *Janice MacNeil, Sharon Baker*
307	Building an Effective Transition Strategy to ICD-11 *Jessica MacDougall*
308	The Path to Implementing ICD-11: Tools for Decision Making & Preparation *Sharhreen Khair, Catherine Eastwood, Chelseas Doktorchik et al*
309	Transition of automated coding systems for mortality to ICD11: logical rules and a preliminary prototype *Vincenzo Della Mea, Mihai H. Popescu, Friedrich Heuser*
310	Transition of automated coding systems for mortality to ICD11 *D De Rocchi, C Orsi, F Heuser, F Grippo*

WHO-FIC 2019

CANADA

Health Information meets Digital Information

ICD-11

311-320

ID	Poster Title and Authors
311	Allergy in the ICD-11: supporting implementation of allergy morbidity coding *Luciana Kase Tanno, Pascal Demoly*
312	Current limitations of ICD-11 post-coordination: the case of gouty tophi *Zavaroni C, Morasutto C, Nardo E, Bassi G, Frattura L*
313	ICD-11 and the state of the art of systematic nosological entities: and adequate benchmark for ICD-10 National classifications – the case of diabetes. *Zavaroni C, Bassi G, Morassutto C, Nardo E, Frattura L*
314	Towards using ICD-11 browser and coding tool for coding a short list of emergency nosological entities in Italy *Zavaroni C, Nardo E, Calci M, Frattura L*
315	Updated International Classification of Diseases for Oncology ICD-O-3.2 *Jitka Vašková, Miroslav Zvolsky*
316	A survey on the current clinical use of acupuncture and moxibustion following meridian and collateral patterns included in ICD-11 *SAITO Munenoro, MURASE Tomokazu, WATSUJI Tadashi*
317	Developing a Computer-Assisted Coding Program to Facilitate Hospital Discharge Abstract Administrative Data Generation *Elliot Martin, MingKai Peng, Zilong Zhang et al*
318	Development of an ICD-11 Electronic Training Tool *Vera Dimitropoulos and Filippa Pretty*
319	An evaluation of gold standards in line coding - ICD-11 field trial in Japan *Yoko Sato, Akemi Nishio, Eizen Kimura, et al*
320	Analysis of the problem in the coding at the ICD-11 beta version Field Test *Tetsu Tsukamoto, Makoto Anan, Yasuo Arai, et al*

WHO-FIC 2019

CANADA

Health Information meets Public Information

ICD-11

321-329

ID	Poster Title and Authors
321	Iris, International Coding System for Causes of Death vs Manual Coding: A Comparative Study in Mexico *Yañez M, Vazquez B, Alanis R, et al*
322	Webinar Series for International Coding System for Causes of Death Iris in Latin America *Ruiz P, Giusti A, Jiminez A, et al*
323	The Electronic Causes of Death Certificate *Wendy Loorbach-van Zutphen, Eva Krpelanova*
324	Methodology to request clarification of causes of death certificates in Cuba *Bess S, Martinez MA, Perez ME, et al*
325	A study on the basic data for patient survey <morbidity statistics> *Yukiko Yokobori, Makoto Anan, Yasuo Arai et al*
326	ICD-data collection features: an international survey *Lucia Otero Varela, Chelsea Doktorchik, Natali Wiebe et al*
327	Establishing a relationship between ICD and SNOMED-CT clinical diagnosis codes using a “Bottom up” approach based on natural language processing *Xavier Pastor, Artur Conesa, Raimundo Lozano, Elisa Asensio*
328	Improving the accuracy of ICD-10 coding of morbidity/mortality data through the introduction of an electronic diagnosis terminology tool for semi-automatic coding at the general hospitals in a lower middle income setting *Olawunmi Olagundoye, Kees van Boven, Olufunmilola Daramola, et.al.*
329	Visualizing the 11th International Classification of Diseases *Bon Adriel Aseniero, Søren Knudsen, William Ghali, Sheelagh Carpendale*

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

6-11 October 2019

Banff, Canada

ICD-11 transition and implementation in the Americas

Poster ID

301

Authors: (1) PAHO/WHO; (2) WHO-FIC Collaborating Center in Mexico (CEMECE); (3) PAHO/WHO-FIC Collaborating Center in Argentina (CACE); (4) Cuban Center for the Classification of Diseases (CECUCE) ; (5) National Reference Center in Chile; (6) Barcelona Collaborating Centre (CC-BCN, Spain); (7) Ministry of Public Health and Social Protection Colombia; (8) Ministry of Public Health Dominican Republic; (9) World Health Organization

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Abstract For the first time, countries of the Region of the Americas were able to contribute their experience at an early stage in the 11a. Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-11). This poster aims to present the main activities related to the preparation for the transition and implementation in the Americas. Among them are the launch of the Spanish version of ICD-11 browser and coding tool, regional meeting, update of the road map for ICD-11 transition and implementation, and activities towards early-adopters and pilot testing in countries.

Introduction

The **purpose** of the FIC program in the Region of the Americas is to **improve health for all** through scaling up the use of ICD and other FIC products in generating reliable, continuous and comparable health statistics and evidence for decision-making and monitoring health policies, programs and goals at all levels.

Main activities

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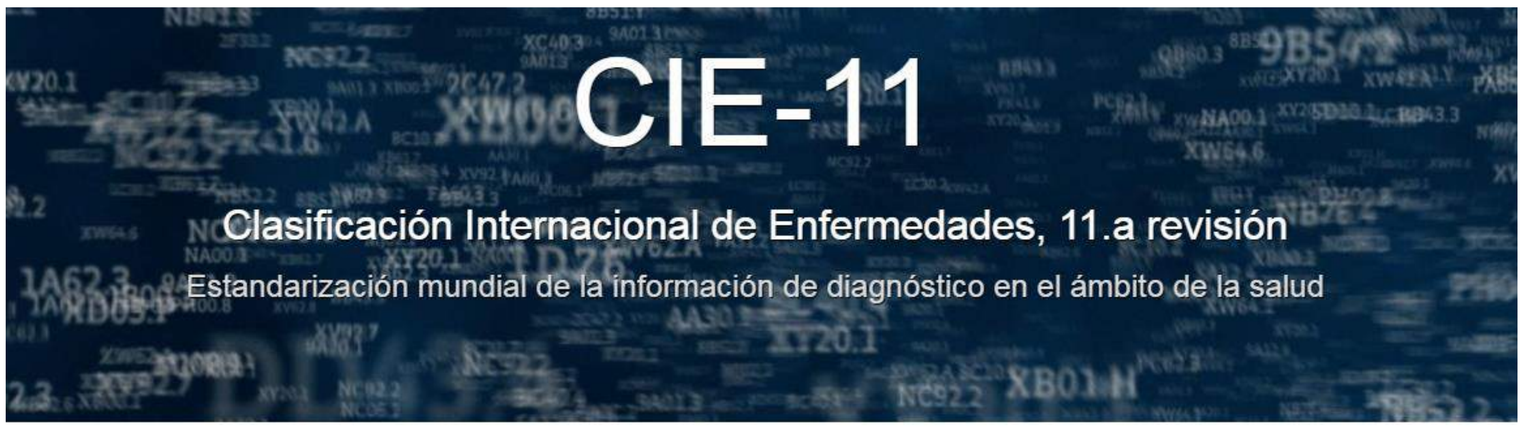
In 2015, the CCs, NRCs and Ministries of Health in Argentina (CACE), Chile, Colombia, Cuba (CECUCE), Dominican Republic, Mexico (CEMECE), Spain and Venezuela, and the National Institute of Psychiatry of Mexico have started the **collaborative translation of ICD-11 into Spanish** (*ad honorem*), under the coordination of PAHO/WHO.

In 2017, during the 1st Regional meeting on ICD-11, Colombia, a Regional road map for the transition and implementation was developed by countries Region to provide Member States with a planning tool to guide activities related to the transition and implementation of ICD-11.

In 2019 the **Spanish version of ICD-11** was released. It is available at https://icd.who.int/es



Meeting in Bogota, Colombia, 28-30 August 2018

To finalize the translation a meeting take place in Colombia (August 2018) with the participation of PAHO Translation team.

To count on a Spanish version of ICD-11 allow Spanish speaking countries to start planning a gradual and sustainable implementation.

- The MOH in Jamaica agreed to collaborate in field testing ICD-11 searching functionality in coding morbidity in electronic medical records environment. The MOH in Dominican Republic has expressed the same interest.
- The MOH in Bermuda asked for assisting in ICD-11 implementation.
- In Costa Rica an inter-institutional committee for ICD-11 transition was established.

The way forward

Transitioning to a new system comes with challenges and requires forward planning. There are benefits and implications for all users, Ministry of Health, PAHO programs, etc. This process can vary greatly from country to country depending on the complexity of their mortality and morbidity data systems. To provide support to Member States in implementing ICD-11, requested by the Health Assembly (Resolution A72/29 Add1), the following activities are planned:

- Release of the Spanish version of the Reference Guide.
- Generate regular reports on the status of the ICD-11 implementation.
- Make available the ICD-11 versions for implementation in the PAHO official languages.
- Develop technical materials for different audiences and use of social networks to communicate about the transition and benefits of the adoption of ICD-11.
- Assist earlier adopter countries on implementing activities recommended in the Transition Guide or Regional road map.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Health Information meets Health Informatics

ICD-11 IMPLEMENTATION PLAN IN THE CZECH REPUBLIC

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6-11 October 2019
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302

Abstract The Institute of Health Information and Statistics (IHIS) - The Department of Clinical Classifications (DCC) has been entrusted by the IHIS and the Ministry of Health of the Czech Republic (MoH CR) for preparation of implementation and translation of ICD-11 and is currently working on implementation plan including key points such as cost-benefit analysis for implementing the ICD-11 in different agendas in the Czech Republic, implementation project and related tasks.

Introduction

The Czech Republic as a non-English speaking country will have to translate the ICD-11 into the Czech language. It is also necessary to perform proper preparation of the implementation to make the use of the ICD-11 most beneficial. DCC has created initial implementation plan which will be completed with further steps and continuously updated. All steps and approval of the overall plan will require the approval of the Ministry of Health.

Methods & Materials

Two experts from IHIS attended the Training and Implementation preparation Workshop for AFR, EUR, SEAR and WPR countries in Tunis in February 2019 *(Picture 3)* to be well prepared for The Resolution of The 72nd Session of the World Health Organization's World Health Assembly and the official release of the ICD-11. Our experts were introduced into content, structure, changes and maintenance of the ICD-11 and were testing the ICD coding skills using the ICD-11 electronic tool. The workshop also provided recommendations, how to identify the technical requirements for the transition to ICD-11 and to formulate plans for preparing the implementation of the ICD-11. The experts passed on all the information and disseminate it in the Czech Republic. The DCC has also initiated the V4 (The Visegrad Group) Expert Meeting on the 11th Revision of International Classification of Diseases. This event is organized by IHIS, MoH CR and Czech WHO Office and will be held on the 21st October 2019 in Prague. The aim of the meeting is mutual collaboration with V4 countries, sharing information and experience on ICD-11 deployment options and plans and discussing avoiding problems in implementing ICD-11. The importance of the meeting is also to create a core of experts involved in the clinical classifications for closer communication.
The DCC set up the main goals *(Picture 2)* for the implementation which were submitted and approved by MoH CR and is

Picture 1: Czech Clinical Classifications

Results

- **pre-implementation cost-benefit analysis**
- **project for the implementation of ICD-11 and its timetable**
- **set technical and IT requirements**
- **assemble Implementation and Translation Team**
- **assemble experts for pilot testing**
- **analyze the implementation for individual agendas**
- **complete the first phase of the translation of ICD-11**

Picture 2: Main goals for implementation of the ICD-11 in the Czech Republic

now working on its fulfillments. The DCC is working on pre-implementation cost-benefit analysis, preparing a project for the implementation of ICD-11 and its timetable (Roadmap) and defining related tasks, setting technical and IT requirements in compliance with insurance companies and healthcare providers and assembling The Implementation and Translation Team due to the end of the 2019. The important steps will be to increase awareness of the existence of ICD-11 and communication with major health institutions, in particular health insurance companies and provider's representatives. The main obstacle will be modification of data interfaces and investment in SW, on the side of health insurance companies, other institutions collecting data in health care and especially on the side of health service providers. An important step will also be the decision to modify the legislation and methodologies mentioning the ICD-10 as yet. Further steps for the DCC are to assemble experts (coders) for subsequent pilot testing, analyze the possibilities of implementation of ICD-11 in the Czech Republic and decide on its realization for individual agendas and to complete the first phase of the translation of the Czech version of ICD-11.
Further key steps up to 2025 will have to be completed on the basis of the realized analysis.
In the context of The Resolution on the ICD-11, WHO activities related to the implementation of ICD-11 are being monitored, the possibilities of Member States' support for implementation by WHO are being mapped and contacts with WHO-FIC Network representatives are being maintained for closer collaboration and assistance with implementation.
The DCC has got an access to the Maintenance platform and created a branch for the Czech version.

The DCC has already translated the terms of the web interface and have tried to work on the translation of Foundation to estimate: the range of experts needed for translation, method of cooperation and the approximate amount of translation work.

Conclusions

The activities with preparation to ICD-11 implementation in the Czech Republic has started since organizing the „KlasifiKon" which is an annual conference on clinical classifications organized by IHIS. In 2018 the conference was focused on the ICD-11, its future implementation and related activities (with the participation of WHO experts).

Picture 3: KlasifiKon 2018 on ICD-11

In order to inform the professionals and general public about the preparations for the transition to ICD-11, the IHIS created and published an informative text on the websites of IHIS CR and MoH CR. This activity was provided by IHIS in cooperation with The Department of International Relations and the Czech WHO Office
In order to implement the project, it is necessary to ensure cooperation with the following organizations in particular:

- Ministry of Health
- Czech National eHealth Center
- Ministry of Labour and Social Affairs
- Czech Statistical Office
- Health insurance companies
- Associations of health service providers - especially hospitals associations
- Czech Medical Association of J. E. Purkyně

and other professional societies.

Acknowledgements or Notes

The Institute of Health Information and Statistics, specifically the Department of Clinical Classifications has been entrusted by the Ministry of Health to manage the implementation of the ICD-11 in the Czech Republic. The DCC has been currently trying to secure funds for ICD-11 implementation.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

6-11 October 2019

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Poster ID

303

Piloting integration and use of ICD-11 API in Rwandan Electronic Medical Records (EMR-OpenMRS): Findings from two district hospitals

Authors: Mugisha Michael[1], Byiringiro Jean Baptiste[2], Uwase Melissa[3], Abizeyimana Theophile[2], Ndikubwimana Berchmas[4], Tran Ngoc Candide[5], Kostanjsek Nenad[5], Celik Can[5] , Marc Donada[5,] Twizere Celestin[1], and Tumusiime David[1]

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Abstract WHO has updated the International Classification of Diseases to version 11 (ICD-11). In May 2019 ICD-11 was adopted by the 72nd World Health Assembly for use by Member States. We piloted integration and use of ICD-11 API in the Rwandan EMR (OpenMRS) in two health facilities. The findings indicated that integrating ICD11-API in EMR is easily feasible and useful. In total 56.5% of diagnosis were recorded (on a voluntary basis) using ICD-11 smart search as compared with 43.5% in ICD-10. Healthcare providers perceived ICD-11 as easy to learn and useful for coding of diagnosis and improving the reporting of data.

Introduction

The University of Rwanda in collaboration with World Health Organization, Ministry of Health's Rwanda Biomedical Center (RBC) and HLT technologies Research Center have integrated and piloted International Classification of Diseases version 11 Application Program Interface (ICD-11 API) search functionality in the Rwandan EMR (OpenMRS), which was previously using ICD-10. The aim was to ensure that healthcare providers can use ICD-11 in their departments to record patient diagnosis. This package was piloted in two district hospitals and we explored users perceptions and satisfaction on the ICD-11 usage in EMR. We reviewed ICD 11 codes recorded in EMR and gathered clinician's feedback to inform Rwanda and other countries on how best ICD-11 API can be integrated in local EMRs. The present poster describes integration and pilot process as well as clinicians feedback and experience of using ICD-11 in EMR.

Methods & Materials

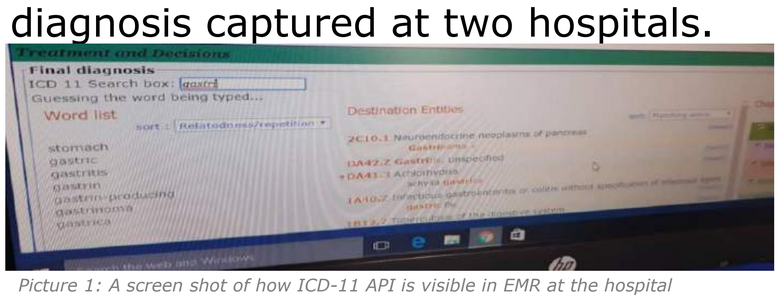
A team of researchers, IT, clinicians and WHO classification collaborated in the pilot. We used an iterative development and pilot testing that applied different approach. We used three different methods: idea generation and prototyping, non-participatory observations, user test interviews, and analysis of ICD-11 codes recorded in EMR.

Idea generation and prototyping: based on the already developed ICD-11 API, we brainstormed on how best it will be integrated in the Rwandan EMR to capture diagnosis and ensure data reporting effectively.

Non-participatory observations: We observed how clinicians used both ICD-10 and ICD-11 in EMR during clinic hours.

User test interviews: We interviewed clinicians to share their perceptions regarding usage of ICD-11 API in EMR.

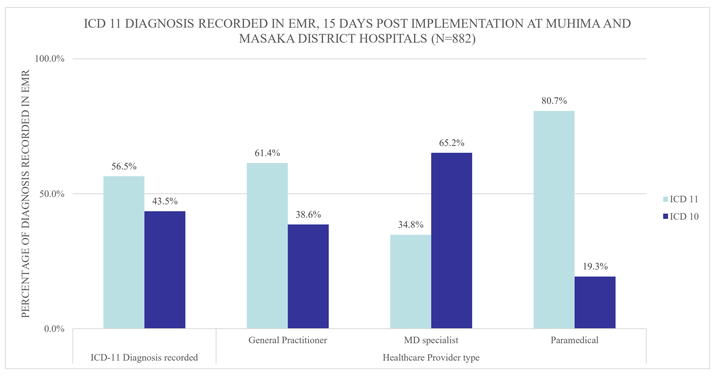
Analysis of ICD-11 codes captured: We run queries in EMR and extracted diagnosis captured at two hospitals.

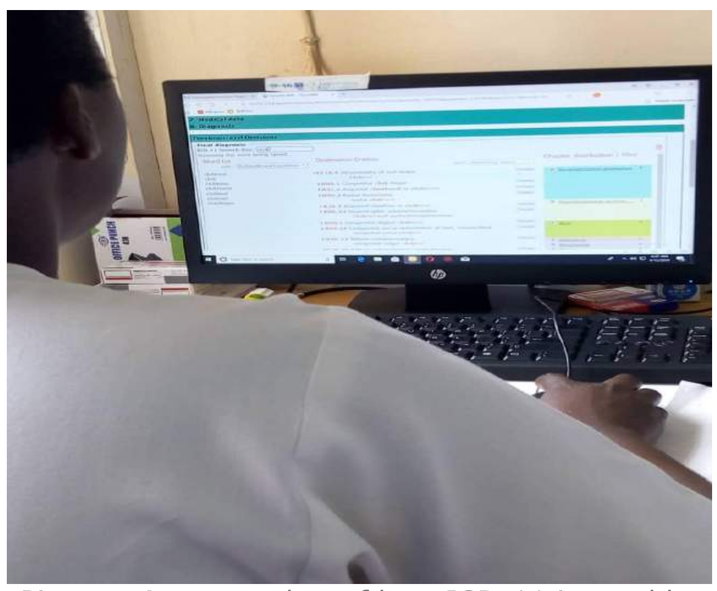


Picture 1: A screen shot of how ICD-11 API is visible in EMR at the hospital

Results

Chart: Percentage of cases voluntarily recorded in EMR by healthcare providers after integration of ICD-11 API in OpenMRS in Muhima and masaka hospitals in Kigali.





Picture: A screen shot of how ICD-11 is used by the doctor to search diagnosis in EMR at the hospital

Idea generation, prototyping and implementation; Programmers, clinicians and researchers brainstormed on how ICD-11 API will be integrated in EMR and guided by two WHO team of classification. They ended up developing a full prototype that was implemented on a test server for review and the final product was deployed to two hospitals after training of end users (service providers.

Observation and interviews on user experience of the updated EMR that uses the ICD-API and the embedded ICD-11 Coding Tool.

Our observation with the updated software that is based on ICD-11 API revealed that it was used during clinic hours with no any challenge. In interviewing participants they highlighted the following:

- Initial use of ICD-11 was simple and easy to learn in one to two hours.
- At any time during care when EMR is up, users could find ICD-11 to use for recording diagnosis.
- Users perceived ICD-11 as useful since it helps to standardise recording of diagnosis and data capture across providers and department.
- Users felt that ICD-11 was helpful and designed for clinicians. They think it could be used country wide.
- Most of challenges to use ICD-11 API was forgetting to check ICD-11 search icon and those related to EMR system in general not ICD-11 API itself.

Conclusions

In general, integration of ICD-11 API in the Rwandan electronic medical records (OpenMRS) was feasible with efforts of clinicians, IT, researchers and WHO experts. We learnt that it is useful to consider how codes will be recorded in the data base to ensure their usability for data reporting.

During clinic hours, using ICD-11 for searching diagnosis was easy and could not hamper routine care. Some of challenges observed were related to system use in general such as slowness of computer, weak network especially during busy working hours where everyone is using internet.

The usability of ICD-11 was tested by giving the health workers the option to code using either ICD-10 codes or the newly integrated ICD-11 after a short orientation session on the search functionality of the ICD-11. Over 50% of health workers chose to record diseases using ICD-11 at both hospitals within 15 days post implementation, which showed quick adoption of the latest version of the ICD after a brief training session. The main reasons for the use of ICD-11 by clinical workers included its user-friendliness, as the health workers were able to find all the codes they needed in ICD-11, which was not previously the case with ICD-10. Generally paramedical recorded more diagnosis using ICD-11 than others staff categories. However, specialist doctors who usually code in ICD-10 started coding with ICD-11 but at a lower level than paramedics. Overall, clinicians felt that ICD-11 API in EMR was easy to use at first, useful and helps to standardise diagnosis capture and reporting.

We recommend that ICD-11 API should be used in the country and a revision of HMIS monthly reports to match new capture of ICD-11 codes in EMR is required. This will help direct use of EMR data for monthly reports.

Acknowledgements

We acknowledge the Directorate of Health Information System at Rwanda Biomedical Center and the Hospitals of Muhima and Masaka especially IT personnel for collaboration to integrate and pilot ICD-11 API in the national electronic medical records (OpenMRS). We acknowledge WHO Classifications and Terminologies unit of for their technical guidance and support.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Translating and evaluating ICD-11 in Germany: a status report

Authors: Ulrich Vogel, Stefanie Weber
DIMDI, Germany

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304

Abstract: Supported by the German Federal Ministry of Health, the German Collaborating Center of WHO-FIC has started translating ICD-11 into German and is currently undertaking a first evaluation of a possible transition from ICD-10 to ICD-11 in Germany. This poster reports on settings and challenges of the both projects as well as on first results.

Introduction

In 2007 WHO launched the 11th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD). Main goals of the revision were updating ICD along new medical knowledge in a more flexible structure and suitable in modern medical information systems. In April 2019 WHO released the ICD-11 for Mortality and Morbidity Statistics (ICD-11 MMS) Version for preparing implementation. In Mai 2019 this version was adopted by the World Health Assembly for implementation in member states, starting from 2022 on. Transition periods are agreed in regard to use case related needs, e.g. when using the Iris software for automated mortality coding.
Following a recommendation of the National Board for Classification in Health Care (KKG), the translation of ICD-11 into German was started and a first transition analysis (TA) together with experts and stake holders from different morbidity related use cases is ongoing, financially supported by the German Federal Ministry of Health.
This poster gives an overview about settings, methods, challenges and status of related activities.

Translating ICD-11 into German

In early 2018 DIMDI started with first analysis on possible (semi-)automated methods of translating ICD-11 foundation entities (titles and related terms) into German. Some 8 % of entity titles matched 1:1 and could be translated automatically. Up to 25 % of MMS titles could be translated after manual post-processing.
In late 2018 DIMDI recruited two physicians for further manual translation of ICD-11. Initial translation MMS with all foundation entities and terms one by one revealed that it would take too long to get to a first German version of the MMS hierarchy this way. Translation work therefore focusses on ICD-11 MMS, to enable the evaluation of ICD-11 in Germany. End of August 2019 some 44% of MMS codes had been translated, which correlates with 15% of all foundation entities and terms. For quality assurance cooperation with medical societies is initiated and starts with ICD-11 chapter 6 and adjacent areas.
The goal is to have a quality assured version of the MMS codes (hierarchy) by end of 2020. It is expected that additional resources are needed to get to a fully translated ICD-11 foundation within the next 3 years. It needs to be considered that the German index includes much more terms than the English WHO index, which means adding (assigning) those terms to the foundation is necessary, too.
Translating ICD-11 MMS entities is often challenging due to terminology that is new and equivalent German expressions are not yet standardized or generally accepted or where English phrases can be translated in different meanings. German grammar is an additional challenge in many instances.
Translation of descriptions is not yet planed. It needs specific medical expertise and is time consuming, too. Thorough consideration is needed in setting-up a specific process. It seems obvious that this cannot be done without the experts from the field. It is expected that this task will take more time than to translate the MMS codes and foundation concepts and terms.

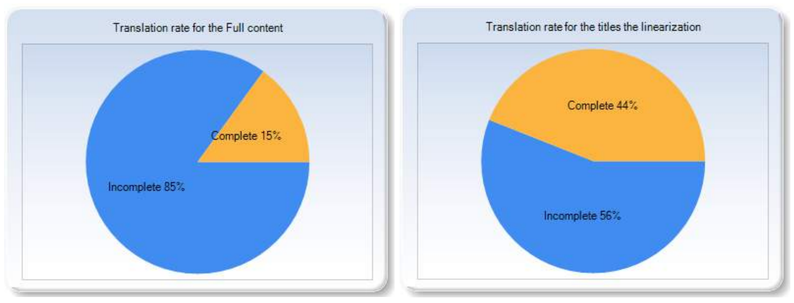

Chart 1: Raw completion rates from ICD-11 translation tool as of 2 September, 2019.

Evaluating ICD-11 in Germany

In 2018 the German Ministry of Health issued a project to analyse possible effects of introducing ICD-11 MMS in Germany. Results of the project should inform on further needs, steps and costs of ICD-11 implementation in Germany. Project coordination is by DIMDI but close cooperation with experts from the field and other stakeholders is envisaged and key. The project started in December 2018 and has a thirteen-month term. It consists of two parts: one is to build a crosswalk table from ICD-10-GM 2019 to ICD-11 and backwards. The other part is conducting four workshops with experts from different morbidity use cases in four different speciality related areas to capture a wide scope of application of ICD in Germany.
Building a crosswalk from ICD-10-GM 2019 to ICD-11 and backwards is essential for any further evaluation of ICD-11. It gives the opportunity to analyse possible shifts in grouping in e.g. case mix and reimbursement systems, quality and patient safety analysis or epidemiology. It is the starting point for any kind of adaptation of use case specific algorisms. The current ICD-11 MMS crosswalk of WHO still refers to the 2016 version of ICD-10, why we started with setting-up a database which allows to not only build a crosswalk on category/code level but on index entry level, too. This will also help to specifically analyse possible 1:n, n:1 or n:m mappings ‘under the hood’ and mapping to GM specific codes, too. First results revealed differences in mappings on index entry level compared to official one to one and one to many mappings between ICD-10 and ICD-11 of WHO. Still, further review is needed to conclude on the results or to suggest possible modifications of official mappings. It should also be considered, that updating official mappings along the last major update of ICD-10 for 2019 shall effect comparability here.
Though detailed planning for the four workshops is still ongoing we scheduled a first workshop for late October 2019 together with experts from ‘mental health’ (and adjacent areas). Further workshops are intended in the field of neoplasms (together with cancer registries), chronic pain (cross-sectional and multidisciplinary) and most-likely in outpatient care (with a focus on primary care).
We will report on the outcome of the workshops together with the experts from the various fields to the Ministry of Health. It is also planned to publish results to the interested public.

Conclusion & outlook

Both, translating ICD-11 into German and creating a specific crosswalk for a national modification (here the GM) is a necessity for evaluating the new classification (framework) in regard to possible effects on different morbidity related use cases. Both projects need sufficient resources with in-depth classificatory understanding and terminological expertise.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

5-11 October 2019

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Poster ID

305

Canadian Stability Analysis: Comparison of ICD-10-CA and ICD-11

Authors: Janice MacNeil, Sharon Baker

Canadian Institute for Health Information, Canada

Abstract

The World Health Organization (WHO) launched the development of ICD-11 in 2007, with the World Health Assembly formally adopting ICD-11 in May 2019. The Canadian Institute for Health Information (CIHI) is assessing the clinical, business and statistical implications of implementing ICD-11 for morbidity in Canada. The work focuses on its fitness for use and the impact of transitioning from ICD-10-CA to ICD-11 for Canada-specific codes and selected CIHI indicator codes.

Background

The International Statistical Classification of Diseases and Related Health Problems (ICD) is the foundation for identifying health trends and statistics worldwide. It contains thousands of unique codes for diseases, injuries and causes of death. Using ICD enables the capture of information from health encounters for research, policy and decision-making. Some WHO member states are currently using the base version of ICD-10 while others have created their own clinical modifications. The national standard used in Canada for reporting morbidity statistics is ICD-10-CA. CIHI developed ICD-10-CA in collaboration with an expert panel of physicians and external field reviewers to satisfy Canadian data needs.

Approach

All Canadian enhancements to ICD-10-CA (3,903 codes) and selected ICD-10-CA codes used in Canadian health indicator reporting (2,722 codes) were assessed for comparability with ICD-11 content. Using the ICD-11 Mortality and Morbidity Statistics coding tool, classification specialists mapped ICD-10-CA code titles to ICD-11 codes (stem and extension) and assigned outcome types (Table 1).

The outcome types included the following:

- An exact (or conceptual) match at ICD-11 stem code level (equivalent);
- An ICD-11 code less specific than an ICD-10-CA code at the stem code level;
- An ICD-11 code more specific than an ICD-10-CA code at the stem code level; and
- No match in ICD-11 (at single stem code level).

When an ICD-10-CA code was an exact or conceptual match to the target ICD-11 code, the result was recorded as an outcome type 1 — Conceptual match at ICD-11 stem code level (equivalent). If the ICD-10-CA code could not be identified in ICD-11, the outcome type was recorded as 4 — No match in ICD-11 (no map possible at single stem code level). If the comparison was not an exact match but the ICD-11 code was more specific, the outcome type was recorded as 3 — Greater specificity in ICD-11 at stem code level.

If the outcome type was not an exact match in ICD-11 and was less specific than the ICD-10-CA code title, the results were recorded as an outcome type 2 — Less specificity in ICD-11 at stem code level. For each outcome type 2, codes were assessed for post-coordination. This ICD-11 feature allows stem codes and extension codes to be combined to provide supplementary or additional descriptive detail. For outcome type 2 cases, classification specialists identified whether the addition of extension codes and/or additional stem codes could provide a partial or exact match of the ICD-10-CA and ICD-11 codes.

Reliability was tested through comparison of the outputs to WHO ICD-10/ICD-11 mapping tables available and through inter-rater reliability.

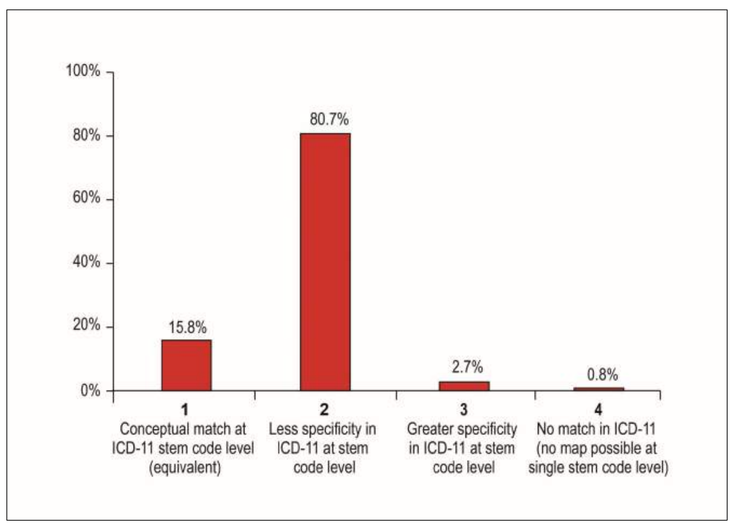
Results

Of the 6,625 codes assessed using the ICD-11 coding tool (June 2018 implementation version), 15.8% (n = 1,046) were found to be exact or conceptual matches between ICD-10-CA and ICD-11. For outcome type 3, 2.7% (n = 181) were more specific in ICD-11 than in ICD-10-CA. For outcome type 2, 80.7% (n = 5,346) were less specific, meaning some detail was lost (Figure 1).

Where ICD-11 was less specific, post-coordination — combining more than one code — enabled exact matches in 53.5% (n = 2,860) of codes assessed and partial matches in 24.7% (n = 1,321). A total of 18.0% (n = 1,165) were unmatched, meaning additional specificity could not be added. For those cases that were unmatched, the classification specialist could not identify extension codes to complete a partial or exact match of the ICD-10-CA code in ICD-11.

In 0.8% (n = 52) of cases, there was no match, meaning that no ICD-11 match could be found. During validation, it was clear that ICD-10-CA "other specified" codes were being mapped to outcome type 4. While some had no matches at all, some provided exact matches when searching the ICD-10-CA inclusion terms (Table 2). The majority of no matches were related to Canada-specific content modifications.

Figure 1 Percentage of total codes by outcome type



Limitations

These findings represent preliminary results, with further analysis and validation required after the release of the updates to the implementation browser. During the project, there were challenges with the assignment of outcome type, post-coordination and validation of the results related to ICD-11 implementation browser content updates. This was due to code pathways and structure changes. Future implementation browser updates will provide additional content, including inclusion and exclusion notes at the code level and post-coordination options at the code level. These updates will support accurate assignment of outcome type and post-coordination. CIHI will continue to collaborate with the WHO to support and provide feedback on content and functionality of the classification.

Conclusion

Overall, ICD-11 covers the content of ICD-10-CA, with 80% of codes identified as having less specificity at the ICD-11 stem code level. This is not an unexpected finding, given the new architecture of ICD-11. Additional research will be required to identify whether post-coordination provides enough specificity to adequately support all Canadian enhancements to ICD-10-CA and CIHI health indicator reporting, as well as to identify opportunities that ICD-11 presents for more specificity in reporting. This will include a review of the complexity of the post-coordination and partial and non-applicable post-coordination types that were identified during this project. Code utilization patterns across Canada will be used to assess pan-Canadian impact for this project's selected set of ICD-10-CA codes. The number of times an ICD-10-CA code has been assigned will be an important factor in determining the impact of less specificity or no-match situations and post-coordination complexity.

While no decision has been made regarding the implementation of ICD-11 for morbidity statistics in Canada, CIHI's ongoing assessment of fitness for use and the impact of transitioning from ICD-10-CA to ICD-11 will inform decision-making about ICD-11 implementation in Canada.

Table 1 Outcome types 1 to 4 (example)

Outcome type		ICD-10-CA code and code title	ICD-11 stem code and code title	Stem code with extension codes
1	**Conceptual match at ICD-11 stem code level (equivalent)**	F41.1 Generalized anxiety disorder	6B00 Generalised anxiety disorder	Not applicable
2	**Less specificity in ICD-11 at stem code level**	C67.2 Malignant neoplasm lateral wall bladder	2C94.Z Malignant neoplasms of bladder, unspecified	2C94.Z&XA3JA5 Lateral wall of bladder
3	**Greater specificity in ICD-11 at stem code level**	I25.13 Atherosclerotic heart disease of artery bypass graft	BA80.1 Coronary atherosclerosis of autologous bypass graft	Not applicable
4	**No match in ICD-11 (no map possible at single stem code level)**	F07.2 Postconcussional syndrome	No match	Not applicable

Table 2 Outcome type 4: Other specified ICD-10 code

No match ICD-10-CA code title to ICD-11 stem code, exact match ICD-11 stem with use of ICD-10 inclusion terms

Outcome type		ICD-10-CA code and code title	ICD-11 stem code and code title	Stem code with extension codes
4	**No match in ICD-11 (no map possible at single stem code level)**	C94.7 Other specified leukaemias	No match	Not applicable

Inclusion terms at C94.7 Other specified leukaemias: Acute basophilic leukaemia and Aggressive NK-cell leukaemia

Outcome type		ICD-10-CA code — Inclusion	ICD-11 stem code and code title	Stem code with extension codes
1	**Conceptual match at ICD-11 stem code level (equivalent)**	Acute basophilic leukaemia	2A60.37 Acute basophilic leukaemia	Not applicable
1	**Conceptual match at ICD-11 stem code level (equivalent)**	Aggressive NK-cell leukaemia	2A90.3 Aggressive NK cell leukaemia	Not applicable

Acknowledgements

We acknowledge CIHI classification specialists Kristy Mabon, Alicia Boxill, Geneviève Plante, Janice Rippey, Jillian Speckeen, Josée Migneault, Karen Coghlan, Lisa Burelle, Natalie Fay, Sanjin Sabljakovic and Margaret Penchoff for their contributions to this project.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

ICD-11 Review: toward implementation planning in Australia

6-11 October 2019
Banff, Canada
Poster ID
306

Authors: Jennie Shepheard[1], Jenny Hargreaves[2], Mardi Ellis[3]
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Abstract The Australian Collaborating Centre has undertaken a review of ICD-11 and its potential implementation in Australia. The review was informed by consultations with a wide range of stakeholders in Australia. This poster summarises the main findings of the review, with a focus on further work required to plan for implementation in a range of settings.

Introduction

The World Health Assembly voted in May 2019 to adopt ICD-11 for implementation by Member States from 1 January 2022.

In Australia, ICD-10 and ICD-10-AM are currently in use in vital statistics, hospital statistical reporting systems, and in Activity Based Funding arrangements.

A decision has not yet been made in Australia as to whether ICD-11 will be implemented to replace some or all of these arrangements.

AIHW Review Project

With the advice of the AIHW's Australian Health Classifications Advisory Committee (AHCAC), the AIHW has undertaken a review of the World Health Organization's ICD-11 and how it could be used in Australia, to inform decision making on potential implementation in Australia.

Stakeholder consultation

The Review commenced in 2018 with a stakeholder workshop to inform the consultation process. Twenty individual and group consultations were then conducted between January and April 2019, with representatives from Australian governments, the New Zealand Ministry of Health, the private health sector, the medical software industry and individuals with expertise in classification development and statistical reporting.

The consultation documentation is available on the AIHW website: https://https://www.aihw.gov.au/our-services/international-collaboration

Emerging themes

Six common themes emerged from these consultations: governance (national and international); workforce; health information infrastructure; resources, settings and timeframes; communication and education; and links to procedure/intervention classifications.

Key findings

An analysis of the information collated through the stakeholder consultation process revealed a number of key strengths and opportunities, as well as weaknesses and threats that need to be considered ahead of any decision on implementation.

Strengths and Opportunities

The AIHW's ICD-11 Review project showed that the strengths and opportunities of ICD-11 lie in its digital design and the specificity and currency of clinical codes. This creates a diverse and valuable tool kit for the codification of health information applicable to the spectrum of vital (mortality) and health statistical settings: capturing the patient journey through the health information system.

Threats and Weaknesses

The Review project also demonstrated that Australian stakeholders had limited knowledge of ICD-11 and that there are uncertainties as to how it could be implemented in Australia. Issues related to interoperability with clinical terminologies, the readiness of health information systems and infrastructure to incorporate the digital product, governance arrangements and workforce capacity and capability were raised as threats to implementation.

International context

An important aspect of the ICD-11 development and transition to implementation process is international cooperation and collaboration. The AIHW, as the Australian Collaborating Centre of the WHO-FIC Network. collated information on activities being undertaken by member states within the WHO-FIC Network as they prepare for decision making about implementation.

Australia's ICD-11 Review project and its findings are in keeping with international experience, including in England and Canada.

Proposed work program

The Review revealed a suite of work that could be undertaken to advance understanding to inform decision-making, and to facilitate transition to implementation following a decision to do so.

Based on the Review, the AIHW proposed four broad streams of work for national consideration. These are:

1. A comprehensive review of health information systems, to understand how ICD-10 and ICD-10-AM are currently used, and how ICD-11 could be used, in Australia.
2. The development of a national roadmap for classifications and terminologies, and how they will be used together within health information arrangements.
3. Strategic communications activities to ensure that decision-makers and their advisors can contribute to further work and decision-making regarding ICD-11 in Australia.
4. Continued planning for implementation in mortality data systems.

Next steps

These broad streams of work will be prioritised and further developed into a work plan with the support of the Australian Health Classifications Advisory Committee and the Commonwealth Department of Health. It is anticipated this work program would culminate in a recommendation on how and when to implement ICD-11 in Australian health and vital statistics information systems.

Acknowledgements

The Review was informed by a wide stakeholder consultation process, led by Ms Jennie Shepheard, from Shepheard Health Management Consultants. Ms Shepheard also led the preparation of the ICD-11 Review Stakeholder Consultation Report, with assistance from AIHW.
The Review report is available on request and will be published by AIHW later in 2019.

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307

Building an Effective Transition Strategy to ICD-11

Ms. Jessica MacDougall, BSc., BHIM, MHI, CHIM

Canadian College of Health Information Management, Canada

Abstract

Due to the advancement of clinical terminologies, the Canadian College of Health Information Management (CCHIM) is looking to strike a national advisory committee of experts to design a professional designation based on anticipated future job roles. The designation will not only transition current health information management (HIM®) professionals through upskilling, but also develop additional pathways into the field. This will ensure that a skilled workforce is available with the expertise to fulfill the need for quality health information to support community of interest needs within Canada.

Introduction

The adoption of the International Classification of Diseases and Related Health Problems (ICD) version 11 by the World Health Organization (WHO) in May 2019 means that Canada, as a member state, will be eligible to implement this updated revision, replacing the current standard, ICD-10-CA, as early as 2022. If Canada decides to move forward with ICD-11 implementation, an effective transition strategy must be ready to inform, educate, and support 5000+ Certified in Health Information Management (CHIM) professionals and those working within the practice of HIM across Canada.

Background

CCHIM has proudly defined the curricular competencies and learning outcomes for HIM programs in Canada that lead to the CHIM professional designation. This designation is nationally recognized for Classification and Coding Specialists. CCHIM-accredited HIM diploma programs champion the education of ICD-10-CA and CCI to HIM students.

To build upon the learning foundation taught within these programs, CCHIM has defined and developed a new designation that recognizes those individuals well-versed in ICD-10-CA rules and principles to ensure application of accurate and consistent codes. The Certified Classification Coding Specialist (CCCS) designation and exam, new to market in June 2019, evaluates the candidate's accuracy in ICD-10-CA and CCI classification and coding of complex scenarios found in acute care settings. The CCCS designation will be paired with the CHIM designation, providing industry with a clear distinction that the holder has advanced expertise in ICD-10-CA and CCI.

To ensure a viable HIM workforce is available and adequately prepared with the required skills, CCHIM underwent 15 months of in-depth discovery, beginning in May 2018, to identify the future of HIM® and the projected needs of industry.

As Canada transitions to ICD-11, platforms and technology will advance and a skilled workforce will be required within clinical terminologies, more specifically in classification and coding.

Project Goal

Current CCHIM academic requirements are insufficient to bridge the paradigm shift between terminologies and technology. National learning outcomes under key competency areas must be developed to ensure a defined pathway for new and current Classification and Coding Specialists using ICD-10-CA within the current tools and systems, to using ICD-11 in conjunction with advanced technologies like computer-assisted coding.

This creates an opportunity to define and develop national learning outcomes for the current CCCS designation. Transitioning to ICD-11 will require a focus on terminologies, mapping, technology, information curation, and quality assurance. This ensures education is timely and organized to encourage knowledge translation as terminologies and technologies advance. With the growing awareness and emphasis on the need for clean data to enable proper decision making, other roles across the HIM profession and practice would benefit from this learning, including decision support analysts, health information analysts, managers, terminology standards experts, and quality analysts.

Deliverables

- Strike a national advisory group that understands the needs of industry within the workforce across Canada for this transition
- Build out what the future of classification and coding might look like 10-15 years from now
- Identify key roles and responsibilities
- Define additional advantageous skills and experience needed to complement these future roles
- Map the competencies of the aforementioned roles
- Align these competencies to curricular content, to be covered within a specialization
- Identify pathways for new students and those within the practice of HIM to enter the profession
- Identify pathways for current HIM professionals (CHIMs) to advance their career
- Identify training materials, mechanisms for training, and interested academic partner(s) to offer training

Planned Outcomes

- An educational framework consisting of curricular competencies that will prepare graduates with the required skills for today and the future as roles and responsibilities evolve
- CCCS designation as the recognized Canadian standard required for acknowledging competency in ICD-11
- Pathways for the current workforce to bridge their knowledge and expertise to ICD-11

Summary

We anticipate that this work will be welcomed by industry. There will be a great loss of knowledge and expertise over the next 3-5 years through attrition as a large number of CHIMs working as classification and coding specialists retire. This, combined with the significant number of current vacant positions, has created workflow and productivity challenges for many organizations across Canada. Opening pathways to be more inclusive to train and upskill those already working within the practice of HIM, as well as second career and foreign trained professionals, will help alleviate some of these shortages while creating a more enabled and sustainable workforce. If interested in contributing or being part of the advisory committee, please contact jessica.macdougall@echima.ca.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

The Path to Implementing ICD-11: Tools for Decision Making and Preparation

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308

Authors: Shahreen Khair, Cathy A. Eastwood, Chelsea Doktorchik, Hude Quan, Jiawei Zhao, Mingshan Lu.

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Abstract The projects aim to develop the methodology to project the costs and benefits of ICD-11 transition in Canada. The objective of our studies is to provide the necessary tools to enable evidence-based decision making for the transition.

Introduction

Data is the new oil!

Higher quality data would fuel exemplary research and healthcare.

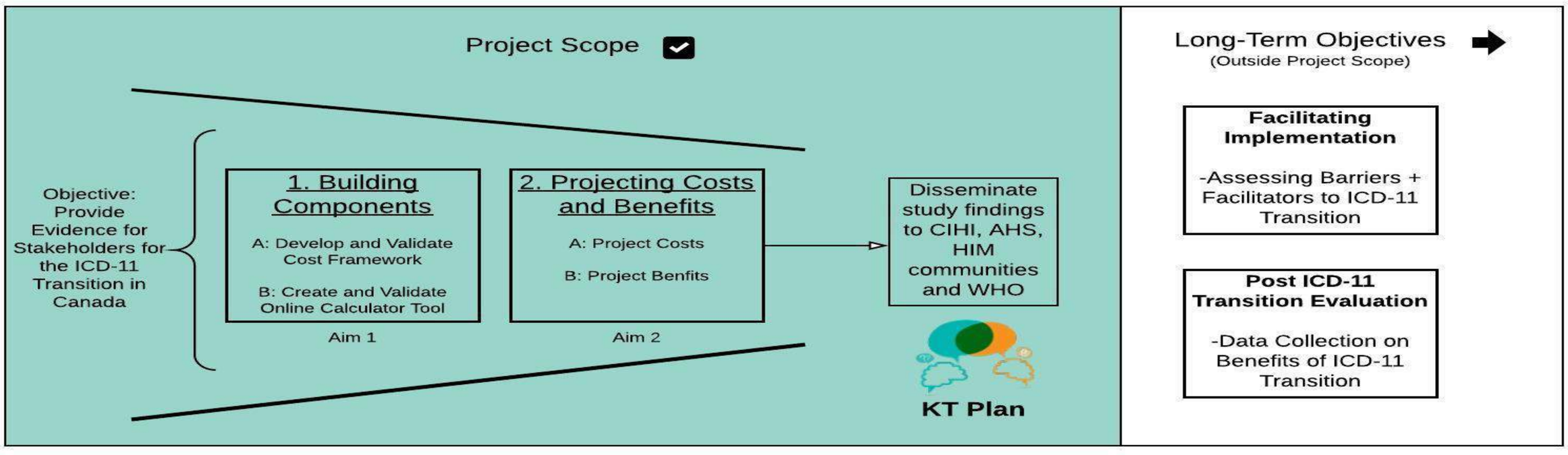
The ICD-11 coding system is expected to improve the quality of coded data.

At the same time, transition to ICD-11 might consume huge amounts of human and financial resources.

To inform decisions about ICD-11 adoption, and to plan for seamless transition, assessment of resources is required.

To conduct this assessment, a framework to project the costs and outcomes of the ICD-11 transition in Canada, has been developed.

Figure 1: Project Objectives



Outcomes

Specific outcomes for each study are as follows:

(2012). *Image collected from blog post.* . Retrieved from https://www.whichplm.com/guest-blog-from-ecvision-paving-the-way-for-supply-chain-collaboration/

a) **Paving the Way: A Cost and Outcome Evaluation Framework for the Transition from the 10th to the 11th Version of ICD**
This paper provides a framework for projecting the costs and outcomes for each province during ICD-11 transition, for decision-makers to be able to understand and compare whether ICD-11 adoption would be beneficial for their province.

(2019). *Image collected from blog post.* Retrieved from https://www.thebalance.com/health-care-inequality-facts-types-effect-solution-4174842

b) **Cost Estimation of Transitioning from ICD-10-CA to ICD-11 in Alberta, Canada**
This paper provides detailed analysis and projection of the costs for ICD-11 transition in Alberta, including sensitivity analysis and appropriate discounting.

(2019). *Image collected from Wikipedia.* Retrieved from https://en.wikipedia.org/wiki/Provinces_and_territories_of_Canada

c) **Estimating the Costs of ICD-11 Transition for Canada**

The cost categories for each province in Canada differ in some way. This study is expected to provide information for understanding the varied needs and resource allocations for different provinces.

Knowledge Translation

Enriched framework content: Interviews with stakeholders from WHO, CIHI, NCAC, CHIMA, HIM, provincial managers, directors and software vendors across all provinces and territories in Canada.

Bidirectional feedback: We plan to conduct regular meetings with our knowledge user, CIHI, to facilitate the process of a seamless ICD-11 transition as well as to receive concrete feedback.

Online cost calculator tool: An online calculator tool, made available to provinces for independent calculation of the ICD-11 transition potential costs; available for international use as well.

Affiliations: Our affiliations with the WHO-FIC Education and Implementation Committee and WHO-CC, will allow for greater dissemination of results.

Conclusion

Our study will provide provincial cost projection of ICD-11 transition in Canada, which includes tailored recommendations for possible resources, support, and implementation issues. In addition, the estimation methodology, tools and materials developed through this study is expected to form a baseline model for countries trying to understand the cost implications and preparing for ICD-11 transition.

Acknowledgement

We would like to thank AHS, CIHI and CHIMA for their valuable contribution and collaboration.

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309

Transition of automated coding systems for mortality to ICD11: logical rules and a preliminary prototype

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Abstract The core component of Iris is the Decision Tables, which are based on ICD10 codes. Hence, the need for an evaluation project that will evaluate the transition of Iris to ICD11. The present poster deals with the logical rules eventually needed for developing a support system to enable mortality rules experts in translating them to ICD-11.

Introduction

In mortality, ICD coding is performed with the use of automated coding systems, mainly Iris. The core component of Iris are the Decision Tables, which are based on ICD10 codes. Hence, the need for an evaluation project that will evaluate the transition of Iris to ICD11. The project has been led by DIMDI and Australian Bureau of Statistics with the participation of the University of Udine, and ISTAT, and involved the Iris Group. In summary, the University of Udine took care of:

- Evaluate the possibilities of ICD-11 tool integration into Iris.
- In an iterating process, evaluation of the possible transition of the rules that can be done automatically, based on the ICD-10 to ICD-11 mappings, test the success of the automatic transition and evaluate the amount of refinement needed. This poster presents results regarding the latter aim.

Methods & Materials

For the sake of clarity and relevance, the DUETO rule-type was decided to be used for the initial study of the transition. The relation of "due to" can shortly be described as:
Code A is "due to" relationship with respect to code B if B is an acceptable cause of A (according to ICD provisions), where A is the anchor code (also called codeDef) that is due to another code B (subcodeDef).

Given a rule, the basic idea is to verify whether a mapping exists between single codes for both codeDef and subcodeDef and of witch kind. A rule can be translated automatically if both sides can be translated automatically. In some cases, we could need to differ the translation of codes between codeDef and subcodeDef, since the consequences of the rule-type could be different.
The two main steps of this task were:

- Identification of logical rules for translation;
- Development of a prototype system based on such rules.

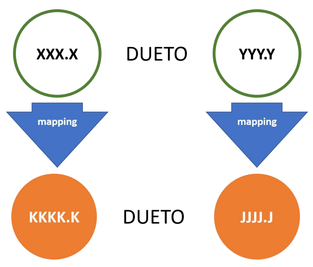
The sources used were:

- Iris mortality rules;
- WHO-released ICD-10 to ICD-11 mappings.

Results: logical rules

Here we present logical translation rules with a visual representation that may help their understanding.
Current ICD-10 mortality DUETO rules are represented this way:

A translated rule to ICD-11 (depitcted in orange) is as follows:

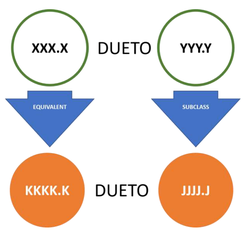


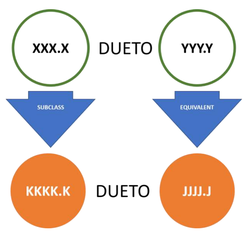
Where the mapping type, from WHO mappings, could be one of:

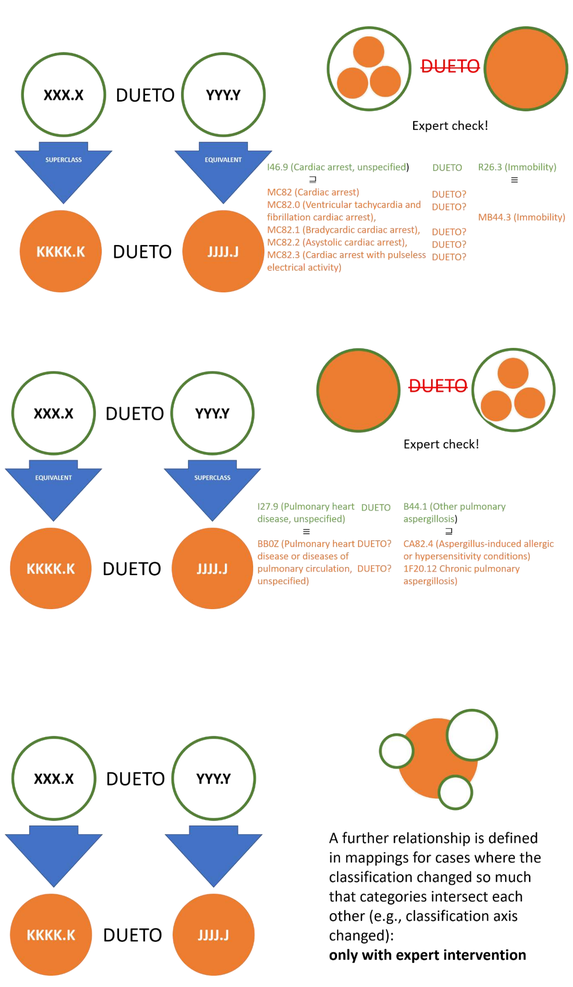
Equivalent: B81.0 (Anisakiasis) ≡ 1F61 (Anisakiasis)
Subclass:
A21.1 (Oculoglandular tularaemia)
A21.2 (Pulmonary tularaemia)
A21.3 (Gastrointestinal tularaemia)
⊑
1B94.Z (Tularaemia, unspecified)
Superclass:
A18.8 (Tuberculosis of other specified organs)
⊒
1B12.3 (Tuberculosis of endocrine glands)
1B12.7 (Tuberculosis of the digestive system)
1B12 (Tuberculosis of other systems and organs)

EQUIVALENT:
SUBCLASS:
SUPERCLASS:
INTERSECTS:

We developed the following translation rules, which depend on the mapping relationships on both sides, starting from the easy cases were automation is possible:

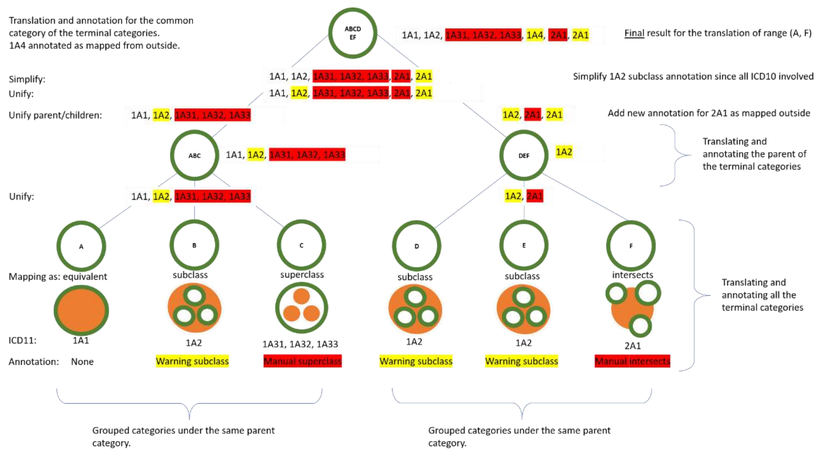






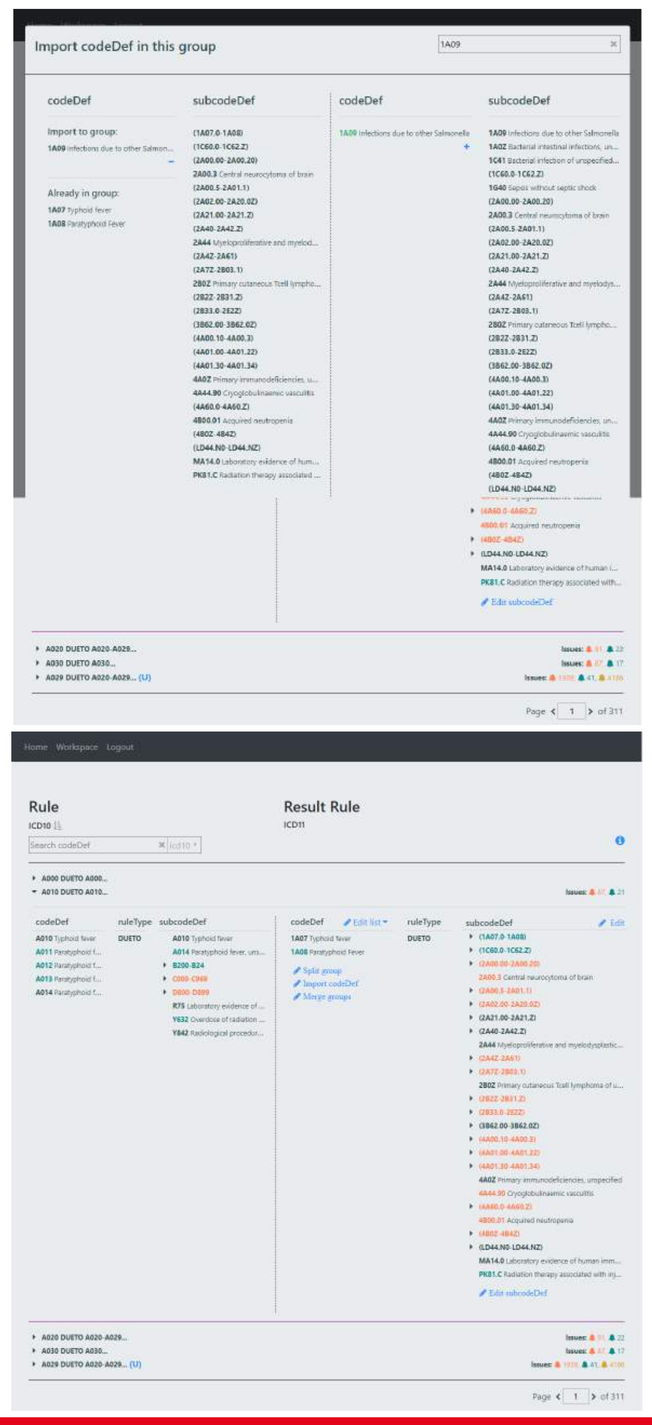
Results: groupings

Work has been also carried out to abstract results obtained at lower level, by aggregating themhigher in the classification hierarchy, as exemplified here:



Results: prototype

Below you can see screenshots of the prototype system for collaborative rule translation.



Conclusions

This pre-project identified the possible combinations for which automated translation, followed by expert validation, can be carried out and those for which a manual intervention is necessary. Basing on this, work is ongoing for quantitatively evaluate the effort needed for translation.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

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310

TRANSITION OF AUTOMATED CODING SYSTEMS FOR MORTALITY TO ICD11

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Abstract In mortality, coding is performed with the use of automated coding systems, mainly Iris. The core component of Iris are the decision tables, which currently consist in relations between ICD10 codes. In order to adapt Iris to ICD11, the needs for tables translation from ICD10 to ICD11 were assessed. In particular, the relations between ICD codes to be prioritized in the translation process and the major issues to be revised in the tables were identified.

Introduction

With its approval, ICD11 will become the new standard for coding disease and health problems. In mortality, the ICD coding is performed with the use of automated coding systems, mainly Iris. The core component of Iris are the decision tables, which are the knowledge base for the coding. They are the formalization of guidelines included in the ICD, and consist of about 30 million relations between pairs of ICD codes (rules). As an example, the most used rule contained in decision tables is the "due-to", consisting of a pair of codes in which the first one can be seen as an acceptable consequence of the second one. The tables are currently represented by ICD10 codes, it is therefore necessary to transit these relations using ICD11 codes. The poster presents the results of one of the task (undertaken by Istat) of a project aimed at assessing the priority for tables transition to ICD11, in particular the "due-to" rules.

Methods & Materials

Multiple cause of death data resulting from death certificates, coded using ICD10 by means of Iris, were analyzed. Data come from seven countries: Italy (IT), Hungary (HU), Mexico (MX), Spain (ES), South Africa (ZA), United Kingdom (UK), United States (US). In particular, for each pair of ICD10 codes, the direction of the causal order reported by physicians in part 1 of certificates was identified using chi-square statistic. The results were compared with the current version of decision tables, evaluating if they are in agreement with the information contained in the tables.
Moreover, a "rank of priority" for the translation was assigned to each pair, based on both the frequency of the pair on certificates and the number of countries reporting it.

Results

In total, 4,812,100 certificates were analyzed. On these certificates, 6,292 different codes were reported in part 1 (excluding Z codes). In part 1, 404,312 different pairs were found. The average number of codes reported on a certificate ranges from 1.7 (ZA) to 4.6 (HU), while the average number of codes reported in part 1 ranges from 1.6 (UK) to 3.4 (IT and HU). The average number of filled lines (part 1) ranges from 1.4 (UK) to 3.2 (HU). Chart 1 shows these result by country. The "rank of priority" for the translation attributed to each pair of codes reported in due-to ranges from 1 to 10,000. A lower rank of a pair of codes indicates an higher priority for the corresponding rule to be translated. More than half of pairs (205,109, 51%) have rank equal to 10,000, meaning that the pair was found only once on the certificates.
Chart 2 shows the 10 pairs with higher priority (lower rank).

Pair of codes	Rank	Countries
A162 due to B333	1	ZA
R628 due to F03	2	US
I219 due to I259	2.5	All
J969 due to J189	2.9	All
A419 due to J189	3.1	All
R628 due to G309	4	US
A099 due to B333	5	ZA
I509 due to I259	5.4	All
I219 due to I251	5.5	All
A419 due to N390	5.6	All

Chart 2: The 10 pairs of codes with lower rank

Chart 3 shows the cumulative frequency curve for pairs ordered by increasing frequency. The curve allows to estimate the percentage of completeness of translation if the translation is done starting from the most frequent pair reported. As an example, the chart shows that, when the first most frequent 60,000 pairs are translated, about 95% of all pairs of codes reported on death certificates are covered.

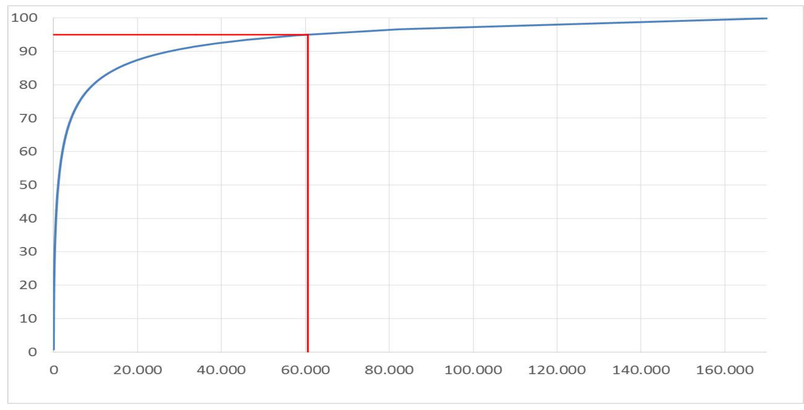

Chart 3: Cumulative frequency curve for pairs of codes ordered by increasing frequency.

In order to improve the quality of decision tables, the agreement between codes reported by physician on certificates in "due-to" position and the provision of the decision tables was analysed. Chart 4 shows the most relevant disagreements between relations reported on certificates and tables. Each red dot represents a pair of code where the code in *x* axis is reported as due-to the code in *y* axis, but this relation is not included in the decision tables.

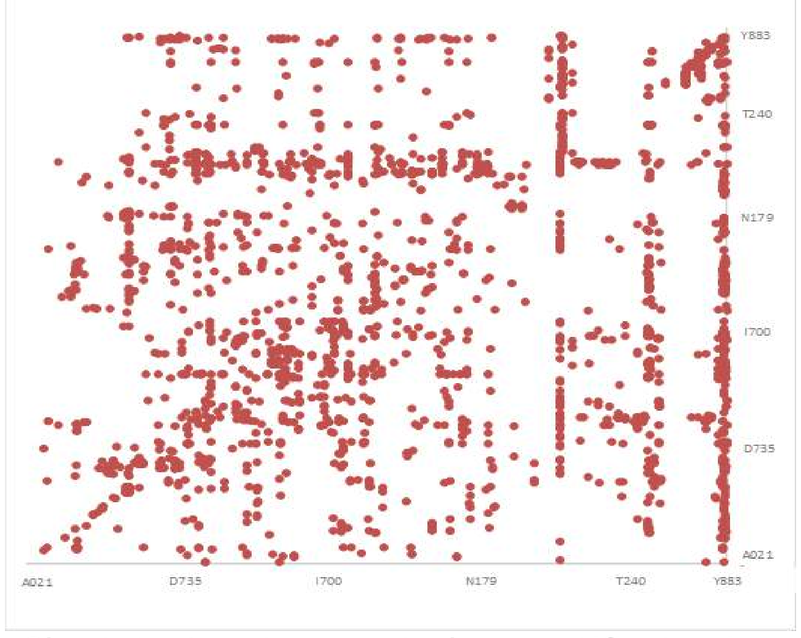

Chart 4: Due-to reported on certificates in disagreement with decision tables

Conclusions

The results are useful to formulate recommendations for the management of the transition of decision tables from ICD10 to ICD11 and their improvement. In particular, it could be possible to identify the relations between codes most frequently used during coding and major issues to be revised in the tables.

	IT	ZA	ES	MX	HU	UK	US
Death certificates	618,083	473,938	424,523	307,433	131,668	36,421	2,820,034
Different codes reported	4,029	3,170	3,577	2,539	3,204	1,405	5,553
Different codes reported in part 1	3,576	3,169	3,326	2,375	2,775	1,102	5,008
Average number of codes	4.4	1.7	3.7	2.9	4.6	2.7	3.2
Average number of codes in part 1	3.4	1.7	3.1	2.4	3.4	1.6	2.2
Average number of filled lines (part 1)	3.1	1.7	2.7	2.4	3.2	1.4	1.9
Different pairs in 'due to position'	172,897	62,057	127,779	51,501	58,012	6,577	272,555

Chart 1: Main characteristics of death certificates analysed

Acknowledgements or Notes

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WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Health Information meets Health Informatics

ALLERGY IN THE INTERNATIONAL CLASSIFICATION OF DISEASES (ICD)-11: SUPPORTING THE IMPLEMENTATION OF ALLERGY MORBIDITY CODING

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WHO Collaborating Centre on Scientific Classification Support (FRA 133)

ALLERGY in ICD-11 Coding it right!

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Abstract

Evidence-based data is provided to contribute to the implementation of the ICD-11 through a real-life application of morbidity coding based on the new "Allergic or hypersensitivity conditions" subsection

Introduction

- Allergies and hypersensitivity conditions are among the fastest growing group of disorders in the world. It is estimated that 50% of the EU population will be allergic in 2025. Therefore, these conditions are recognized **public health problems**.
- **Allergies and hypersensitivity conditions have never been well classified in the ICD framework.**
- **2012:** the ***ALLERGY in ICD-11 initiative*** was launched for a better representation of allergic and hypersensitive conditions in ICD-11
- All the actions of the ALLERGY in ICD-11 initiative have been documented by peer-review publications (>30 manuscripts) and acknowledged by the WHO ICD Team
- 2015: **first "Allergic and hypersensitivity conditions" section in the ICD-11** Beta draft, parented by the "Diseases of the Immune System" chapter
- 2018: **CHU Montpellier designated as WHO Collaborating Centre on Scientific Classification Support**
- 2019: ICD-11 has been presented to the World Health Assembly – the **ICD-11 has been adopted**!
- 2019-2022: Implementation process

Methods & Materials

- ✓ Field-testing methodology
- ✓ All the consecutive patients' files documented as allergies from the University Hospital of Montpellier electronic database
- ✓ Period: 1 year
- ✓ Clinically validation of the files as being allergic or hypersensitivity conditions
- ✓ Manually blind-coded under the English versions of ICD-10 (2016) and the ICD-11 MMS.
- ✓ Correspondence of coding and the impressions regarding sensitivity were evaluated.

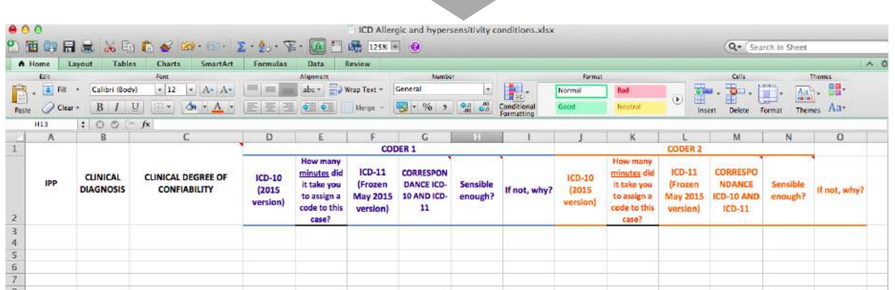
ICD-11 *ALLERGIC OR HYPERSENSITIVITY CONDITIONS* SECTION, under the IMMUNE SYSTEM DISORDERS CHAPTER	**4A80 Allergic or hypersensitivity disorders involving the respiratory tract (78 entities)**
	4A81 Allergic or hypersensitivity disorders involving the eye (8 entities)
	4A82 Allergic or hypersensitivity disorders involving skin or mucous membranes (203 entities)
	4A83 Allergic or hypersensitivity disorders involving the gastrointestinal tract (14 entities)
	4A84 Anaphylaxis (11 entities)
	4A85.Z Complex allergic and hypersensitivity conditions (Drug hypersensitivity: 50 entities, food hypersensitivity: 13 entities, insect allergy: 5 entities
	4B03 Eosinophilia (11 entities)

Results

TOTAL FILES RELATED TO ALLERGY OR HYPERSENSITIVITY: 2,318 FILES

ICD-10 CODES RELATED TO:
RESPIRATORY ALLERGIES: 880 FILES
OPHTALMOLOGIC ALLERGIES: 113 FILES
SKIN ALLERGIES: 225 FILES
GASTRO-INTESTINAL: 209 FILES
ANAPHYLAXIS: 673 FILES
COMPLEX ALLERGIC OR HYPERSENSITIVITY CONDITIONS: 218 FILES

CLINICALLY VALIDATED AS ALLERGIC OR HYPERSENSITIVITY CASES: 1,326 FILES (57%)



ICD-10 (2016 version) Cohen-Kappa: 0.63

ICD-11 MMS Browser and coding tool (2019 version) Cohen-Kappa: 0.75

Considerable increment in detailing conditions through post-coordination with ICD-11 Extension Codes.

Agreement between ICD-10 (2016 version) and ICD-11 related to allergic or hypersensitivity conditions

ALLERGIC OR HYPERSENSITIVITY CONDITIONS (N=1,326)	Cohen-Kappa
Allergic or hypersensitivity disorders involving the respiratory tract	0.90
Allergic or hypersensitivity disorders involving the eye	0.56
Allergic or hypersensitivity disorders involving skin or mucous membranes	0.86
Allergic or hypersensitivity disorders involving the gastrointestinal tract	0.51
Anaphylaxis	0.77
Complex allergic and hypersensitivity conditions	0.71

Conclusions

- Remarkable were the coding improvements when ICD-11 was used.
- First attempt of real-life application of the new ICD-11 "Allergy or hypersensitivity conditions" subsection.
- The ICD-11 "allergic and hypersensitivity conditions" section endorsed by the WHO = recognition as a real condition, able to be properly diagnosed and managed.
- Select simple, intermediate and complex cases in order to contribute to ICD and ICHI Fit.
- The presented outcomes may support the actions of the Montpellier WHO CC SSC on contributing to the implementation process and refinements of the ICD-11 Reference Guide.
- We intend to validate the results through an international academic network.

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Current limitations of ICD-11 postcoordination: the case of gouty tophi

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Abstract The current ICD-11 does not always include the necessary details for the appropriate classification of some nosological entities. Moreover, also postcoordination does not sometimes allow to fully break them up according to different classification axes.

Introduction

The Italian Collaborating Center for the Family of International Classifications is working on the Italian clinical modification of ICD-10 (ICD-10-IM) taking into account the classification currently used in Italy (ICD-9-CM) and looking at ICD-11 as well.
This methodology, used for the Italian clinical modification of ICD-10, has revealed some limitations of ICD-11. For some nosological entities, the current version of ICD-11 does not include the necessary details for their appropriate classification.
In particular, ICD-11 postcoordination does not always allow to fully break up some nosological entities according to different classification axes (for example, by anatomical site) and thus to describe them appropriately.
An example of the limitation of ICD-11 postcoordination is here presented.
Gout tophi are the cardinal feature of this advanced metabolic disease: they are often a result of untreated, uncontrolled or severe chronic gout.
Tophi are foreign body granuloma-like structures containing collections of monosodium urate crystals surrounded by inflammatory cells and connective tissue (1).
Tophi are usually painless but can inflame and become very painful. Particularly, in joints, their clinical and radiological presentation is similar to loose bodies.

Methods & Materials

The authors compared the classification of gouty tophi in ICD-9-CM, ICD-10 and ICD-11. The evaluation of ICD-10 and ICD-11 specificity about this nosological entity was carried out.
In order to understand the necessity for their greater granularity the prevalence of gouty tophi was calculated.
For this purpose, the authors analyzed the Italian Hospital Discharge Database from 2010 to 2013.

Table 1 - Gout tophi prevalence in main and secondary diagnoses in Italian hospital admissions (2010-2013)

		Year	2010	2011	2012	2013	2010÷2013
		N. hospital discharges	*11 294 891*	*10 652 621*	*10 162 194*	*9 843 991*	*41 953 697*
Main and secondary diagnoses (ICD-9-CM v. 24)	274.81 Gouty tophi of ear	N.	6	6	3	3	18
		%	0.00005%	0.00006%	0.00003%	0.00003%	0.00004%
	274.82 Gouty tophi of other sites	N.	123	92	129	109	453
		%	0.00109%	0.00086%	0.00127%	0.00111%	0.00108%

Table 2 - Gout tophi prevalence in main diagnoses in Italian hospital admissions (2010-2013)

		Year	2010	2011	2012	2013	2010÷2013
		N. hospital discharges	*11 294 891*	*10 652 621*	*10 162 194*	*9 843 991*	*41 953 697*
Main diagnosis (ICD-9-CM v. 24)	274.81 Gouty tophi of ear	N.	3	1	0	1	5
		%	0.00003%	0.00001%	0.00000%	0.00001%	0.00001%
	274.82 Gouty tophi of other sites	N.	66	54	78	61	259
		%	0.00058%	0.00051%	0.00077%	0.00062%	0.00062%

Results

The analysis of the Italian Hospital Discharge Database in the four-year period 2010-2013 showed that prevalence of gouty tophi is very low, but not marginal: out of 41 953 697 discharges the tophi represented 0.00112% of the main and secondary diagnoses (471 cases) (Table 1) and 0.00063% of the main diagnoses (264 cases) (Table 2). Based on the results of this analysis, the authors decided the level of granularity of ICD-10-IM gouty tophi classification and verified the limitation of ICD-11 (Table 3). Concerning gouty tophi, granularity of ICD-9 CM (2) and ICD-10 (3) allows to classify gouty tophi according to the main anatomical sites (Table 3).

In contrast, ICD-11 postcoordination (4) does not allow to classify in detail extra-joint gouty tophi, despite the fact that ICD-11 takes them into consideration and points out their importance as can be seen from the Description of
FA25.20 Tophaceous gout: "They present particularly in the skin and subcutaneous tissue. One of the more common sites for them is the helix of the ear". Postcoordination only allows the description of joints tophi according to two axes: anatomical site and number (XA4BF0 Monoarticular or XA4EJ6 Multiple Joints); it does not allow the classification of precipitates of monosodium urate in the helix of the ear, in the tendons and in the heart (Table 3).

Table 3 - Comparison of different classifications of gouty tophi localization

Tophi localization	*ICD-9-CM v. 24*	*ICD-10*	*ICD-11*	*ICD-10-IM*	*It.DRG*
Ear	274.81 Gouty tophi of ear	M10.0† Idiopathic gout H62.8* Other disorders of external ear in diseases classified elsewhere	FA25.20 Tophaceous gout	M10.0-† H62.8* Gouty tophi of ear	Other Ear, Nose, Mouth and Throat Diagnoses
Heart	274.82 Gouty tophi of other sites *Inclusion:* Gouty tophi of heart	M10.0† Idiopathic gout I43.8* Cardiomyopathy in other diseases classified elsewhere		M10.0-† I43.8* Urate tophus of heart	Other Circulatory System Diagnoses
Joints		M23.4 Loose body in knee		M23.40 Gouty tophi in knee M24.00- Gouty tophi in joint	Bone Diseases and Arthropathies
Other musculoskeletal sites		M24.0- Loose body in joint			
NOS		M10.0 Idiopathic gout		M10.0- Idiopathic gout	

Conclusions

The major specificity of ICD-9-CM, ICD-10 and ICD-10-IM is lost in ICD-11. New ICD-11 update proposals can be submitted to correct the postcoordination for gouty tophi and align it with the state of the art.

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313

ICD-11 and the state of the art of systemic nosological entities: an adequate benchmark for ICD-10 national classifications - the case of diabetes

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Abstract An improvement of ICD-11 postcoordination would allow to encode, in line with the state of the art, systemic nosological entities whose classification is rapidly evolving (e.g. diabetes), while providing suggestions for updating national clinical modifications of ICD-10.

Introduction

The Italian Collaborating Center for the Family of International Classifications took into consideration ICD-11 and those advances in medical research and clinical practice that provide the elements to develop and refine ICD for carrying out the Italian clinical modification of ICD-10. This procedure highlighted gaps and proposed changes in the ICD-11 classification of some systemic nosological entities that are rapidly evolving (diabetes, amyloidosis, etc.).
In this regard, for example, the authors analyzed scientific literature about specific or prevalent-type diabetes complications (1, 2), in particular diabetic dermopathy (3, 4, 5) and diabetic coma (6, 7, 8, 9).
More specifically, diabetic ketoacidosic coma (DKAC) and the hyperosmolar hyperglycemic coma (HHC) are serious acute decompensations of type 1 and 2 diabetes mellitus due to various degrees of insulin deficiency and increased levels of counterregulatory hormones. They are characterized by hyperglycemia and ketoacidosis in DKAC with major electrolyte imbalance, and by hyperglycemia and hyperosmolarity in HHC; both can co-exist. HHC occurs most commonly, but not exclusively, in elderly patients with type 2 diabetes and accompanying comorbidities (6). Precipitating factors include common precipitating infections such as pneumonia (40–60%) and urinary tract infections (5–16%), or other acute conditions such as stroke, myocardial infarction, or trauma (7). The risk of HHC increases owing to inadequate fluid intake due to altered thirst mechanisms with aging or inability to access fluids (7). Recent case reports and series suggest an increasing incidence of this disorder in children and adolescents with type 2 diabetes mellitus (7, 8). Precipitating factors in this age range include diseases of the circulatory, nervous, and genitourinary systems (8).
DKAC occurs in all patients with type 1 diabetes and many insulin-treated patients with type 2 diabetes. In particular, it has been described most commonly in young children and adolescents presenting with diabetic ketoacidosis. Most common precipitating factors are infection and insulin omission; other causes include newly diagnosed diabetes and alcohol- or drug-related problems (6). Rates of DKAC in pregnant women (0.04%) is lower than in non-pregnant women (9).

Table 1 - Potential of ICD-11 in encoding specific or prevalent-type diabetes complications with the introduction of alerts related to the type of diabetes selected and to other epidemiological discriminators (sex and age) - e.g. diabetic dermopathy

Diabetic dermopathies related primarily but not exclusively to a type of diabetes	*ICD-11 browser & coding tool*			*Improvement of postcoordination*		
	Code	*Title*	*Inclusion or narrower term or description*			
Acanthosis Nigricans	ED51.00	Benign acanthosis nigricans	Acanthosis nigricans associated with Type II diabetes and obesity	Add detail "Has causing condition" (code also type of diabetes)	and activate alert if not...	Type 2 diabetes mellitus and age 18÷64 and obesity
Bullosis Diabeticorum	ME63.3	Chronic blistering skin disorder	Unspecified bullous dermatosis			Type 1 diabetes mellitus and male and age 50÷69 (and peripheral neuropathy)
Eruptive Xanthoma	EB90.22	Eruptive xanthoma	Associated with uncontrolled diabetes mellitus			Type 2 diabetes mellitus (and uncontrolled)
Necrobiosis Lipoidica	EE80.1	Necrobiosis lipoidica	Diabetic necrobiosis lipoidica			Type 1 diabetes mellitus and female and age 20÷39
Sclererderma Diabeticorum	EE7Y	Other specified disorders of cutaneous connective tissue	Scleroedema diabeticorum			Type 2 diabetes mellitus and male and age 18÷64 and obesity
Xerosis	ED54	Xerosis cutis or asteatosis				Type 2 diabetes mellitus

Methods & Materials

Just as an example, the authors evaluated the ICD-11 classification of diabetes and its complications and connected them with international standards of medical care in diabetes.

Results

In most cases, ICD-11 postcoordination allows the complications of diabetes (1, 2) to be encoded using strings that combine clinical manifestation with type of diabetes.
However, although the ICD-11 browser is designed to imbricate the various clinical manifestations of the underlying disease, its current development does not allow and orient the codifier in the addition and correct selection of the type of diabetes most associated with each single diabetic dermopathy complication, as described at epidemiological level (Table 1).
Moreover, postcoordination is not sufficiently developed to support the correct coding of the different types of diabetic coma in relation to the different types of diabetes (Table 2).
The detailed analysis suggests interesting potential developments of postcoordination (Tables 1, 2). For diabetic dermopathy, the detail “Has causing condition” should be added to code the associated type of diabetes and an alert should be implemented and activated if the coder selects a type of diabetes not specific or prevalent for each complication (Table 1). For specific diabetic comas - DKAC and HHC – an alert should be implemented and activated if the coder selects a type of diabetes not specific or prevalent for each complication (since current postcoordination adds only detail of type of diabetes) (Table 2).

Conclusions

In our ageing society, diabetes imposes a significant burden in terms of numbers of people with diabetes, diabetes-related complications including disability, and health and social care expenditure (2). Therefore, a correct classification of the complications of this disease is fundamental. The current ICD-11 postcoordination allows a classification of diabetes in line with the state of the art (10), but it does not allow the selection of specific clinical manifestations of the different kinds of diabetes. Postcoordination could improve the correct coding of clinical complications by using IT constraints and alerts. The full development of postcoordination in line with scientific knowledge could make the ICD-11 browser a stellar tool.
Moreover, the international classification of diabetes can be successfully, but in a simplistic way (without alert), included in national clinical modifications of ICD-10 by extending the codes currently present in ICD-10.

Table 2 - Potential of ICD-11 in encoding diabetic hyperglycemic coma related primarily but not exclusively to a type of diabetes with the introduction of alerts, which are related to the type of diabetes selected and to other epidemiological and clinical discriminators

Diabetic hyperglycemic coma related primarily but not exclusively to a type of diabetes	*ICD-11 browser & coding tool*					*Improvement of postcoordination*	
	Code	*Title*	*Inclusion or narrower term or description*	*Current postcoordination (code also type of diabetes)*			
				Code	*Title*		
Diabetic ketoacidosic coma (DKAC)	5A22.3	Diabetic ketoacidosis with coma	DKA - [diabetic ketoacidosis] with coma	5A10	Type 1 diabetes mellitus	activate alert if not...	Type 1 diabetes mellitus OR Type 2 diabetes mellitus and insulin treatment OR Neonatal diabetes mellitus with diabetic ketoacidosis
				5A11	Type 2 diabetes mellitus		
				5A12	Malnutrition-related diabetes mellitus		
				5A13.-	Diabetes mellitus, other specified type		
				5A14	Diabetes mellitus, type unspecified		
				JA63.-	Diabetes mellitus in pregnancy		
				KB60.2-	Neonatal diabetes mellitus		
Hyperosmolar hyperglycemic coma (HHC)	5A20.1	Hyperosmolar hyperglycaemic state with coma		5A10	Type 1 diabetes mellitus	activate alert if not...	Type 2 diabetes mellitus and age ≥ 65
				5A11	Type 2 diabetes mellitus		
				5A12	Malnutrition-related diabetes mellitus		
				5A13.-	Diabetes mellitus, other specified type		
				5A14	Diabetes mellitus, type unspecified		

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314

Towards using ICD-11 browser and coding tool for coding a short list of emergency nosological entities in Italy

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Abstract In Italy, First Level Emergency Departments do not have to code diagnoses. The Italian Collaborating Center and the emergency expert of the Central Health Directorate considered the possibility of coding First Level Emergency Department diagnoses in ICD-11 instead of ICD-9-CM, which is mandatory in Italy for coding morbidity at hospital level.

Introduction

The versatility of ICD-11 provides classification categories at the highest level of specification (leaf codes) consistent with the first level diagnostic potentialities. At the same time, through postcoordination, the ICD-11 browser (1) allows the classification refinement of the different nosological entities by adding more detail according to different axes. ICD-11 postcoordination has been studied and developed to build a code string. These details are necessary for the coding of specialized nosological entities.
Coding in ICD-11 is more flexible and adaptable than coding in previous versions of ICD. In Italy, First Level Emergency Departments do not have to code diagnoses. A group of experts from the Friuli-Venezia Giulia region drew up a short list of the most frequent emergency diseases. The Italian Collaborating Center and the emergency expert of the Central Health Directorate considered the possibility of coding First Level Emergency Department diagnoses in ICD.

Methods & Materials

Just as an example, the authors compared the classification of the most frequent first level emergency nosological entities (of the short list) in ICD-9-CM v. 24, the official classification in Italy for morbidity coding (2), and in ICD-11. In particular, they completely processed the short list of the most frequent digestive diseases.

Table 1 - Coding of diagnostic formulations of First Level Emergency Departments: greater efficacy of ICD-11 leaf codes compared to ICD-9-CM - some evocative examples

Short list by experts panel from the Friuli-Venezia Giulia region		*ICD-9-CM Tabular List of Diseases (FY07)*		*ICD-11 browser & coding tool*	
		Code	*Title*	*Code*	*Title*
1	Dissection or aneurysm rupture of thoracoabdominal aorta	441.01	[Dissection of aorta] Thoracic	BD50.21	Descending aorta dissection and distal propagation with rupture *Narrower term:* dissection of thoracoabdominal aorta, ruptured
		441.02	[Dissection of aorta] Abdominal		
		441.03	[Dissection of aorta] Thoracoabdominal		
		441.1	Thoracic aneurysm, ruptured		
		441.3	Abdominal aneurysm, ruptured		
		441.6	Thoracoabdominal aneurysm, ruptured		
2	Pneumonia or bronchopneumonia	485	Bronchopneumonia, organism unspecified	CA40.Z	Pneumonia, organism unspecified *Narrower term:* bronchopneumonia
		486	Pneumonia, organism unspecified		
3	Purpura or ecchymosis	287.2	Other nonthrombocytopenic purpuras	EE40.32	Purpura or bruising due to vascular fragility
		459.89	[Other specified disorders of circulatory system], other		
4	Backache or lumbago or sciatia	724.5	Backache, unspecified	ME84.2Z	Low back pain, unspecified *Narrower term:* low backache
		724.2	Lumbago	ME84.20	Lumbago with sciatica
		724.3	Sciatia	ME84.3	Sciatica

Results

The granular structure of ICD-9-CM proposes nosological entities at the highest level of specification that conflict with the level and type of coding requested by first level emergency diagnostic formulations. The limited time and the limited laboratory and instrumental findings lead emergency clinicians to make brief and rough diagnoses pending subsequent investigations.
A first analysis of the short list of the most frequent emergency diseases demonstrates the greater efficacy of ICD-11 leaf codes in coding diagnostic formulations of First Level Emergency Departments compared to ICD-9-CM (Table 1 - diseases No. 1, 2 and 3 - and Table 2 - diseases No. 14 and 21 -). In these cases, the inclusions of the categories and the search for narrower terms on the coding tool provide indications for an economical use of appropriate categories, all-inclusive of the clinical pictures indicated in the short list.
Moreover, the hierarchical structure of ICD-11 postcoordination, the possibility of breaking up in a scalar way the general diagnostic concept according to different axes (extension codes) and at the same time the possibility of linking stem codes match the need to code broader diagnostic concepts according to the short list compiled by the experts (Table 2 - diseases No. 5, 8 and 25 -).
In some cases, ICD-11 unravels the skein of clinical pictures, distinguishing nosological entities characterized by symptoms or signs of various etiopathogenetic origins from nosological entities qualified by symptoms or signs that are clearly evocative of significant impairment of vital organs or systems fundamental to self-sufficiency (Table 1 - disease No. 4).
In two cases, ICD-11 (as ICD-9-CM) does not allow to disarticulate a nosological entity according to the clinical nuance identified by the panel of experts (Table 2 - diseases No. 15 and 16).

Table 2 - The most frequent digestive diseases in First Level Emergency Departments: coding from ICD-9-CM to ICD-11

Short list by experts panel from the Friuli-Venezia Giulia region		*ICD-9-CM Tabular List of Diseases (FY07)*		*ICD-11 browser & coding tool*		
		Code	*Title*	*Code or code string*	*Title*	*Inclusion or narrower term*
1	Dental caries or toothache	521.00	Dental caries, unspecified	DA08.0	Dental caries	
		525.9	Unspecified disorder of the teeth and supporting structures	DA0A.Y	Other specified disorders of teeth and supporting structures	- toothache NOS
2	Parotitis	527.2	Sialoadenitis	DA04.2	Sialoadenitis	- parotitis NOS
3	Diseases of the salivary glands	527.9	Unspecified disease of the salivary glands	DA04.Z	Diseases of salivary glands, unspecified	
4	Esophagitis	530.10	Esophagitis, unspecified	DA24.Z	Oesophagitis, unspecified	
5	Gastric or duodenal peptic ulcer with hemorrhage	531.4	Chronic or unspecified [gastric ulcer] with hemorrhage	DA7Y/ME24.5/ ME24.9Z	Other specified diseases of the stomach or the duodenum/Digestive system ulcer/Gastrointestinal bleeding, unspecified	
		532.4	Chronic or unspecified [duodenal ulcer] with hemorrhage			
6	Gastritis	535.5	Unspecified gastritis and gastroduodenitis	DA42.Z	Gastritis, unspecified	
7	Acute appendicitis	540.9	Acute appendicitis without mention of peritonitis	DB10.02	Acute appendicitis without localised or generalised peritonitis	- acute appendicitis NOS
8	Incisional hernia with complication	551.20	Ventral [hernia], unspecified, with gangrene	DD56/ME24	Incisional hernia/Clinical manifestations of the digestive system	
		552.20	Ventral, unspecified, [hernia] with obstruction			
9	Incisional hernia without complication	553.20	Ventral, unspecified [hernia without mention of obstruction or gangrene]	DD56	Incisional hernia	- incisional hernia NOS
10	Colitis, enteritis and gastroenteritis	558.9	Other and unspecified noninfectious gastroenteritis and colitis	1A40.0	Gastroenteritis or colitis without specification of origin	
11	Regional enteritis	555.9	[Regional enteritis of] unspecified site	DD70.Z	Crohn disease, unspecified site	
12	Ulcerative colitis	556.9	Ulcerative colitis, unspecified	DD71.Z	Ulcerative colitis, unspecified	
13	Functional disorder of colon	564.9	Unspecified functional disorder of intestine	DD91.Z	Irritable bowel syndrome or functional bowel disorders, unspecified	- functional intestinal disorders
14	Intestinal infarction or ischemia	557.0	Acute vascular insufficiency of intestine	DD30.Z	Acute vascular disorders of intestine, unspecified	- acute intestinal ischemia NOS - intestinal infarction - ischemic intestinal necrosis
		557.9	Unspecified vascular insufficiency of intestine			
15	Intestinal subocclusion	560.9	Unspecified intestinal obstruction	DB30.Y	Other specified obstruction of large intestine	- occlusion of colon or intestine NOS
16	Intestinal occlusion	560.9	Unspecified intestinal obstruction	DB30.Y	Other specified obstruction of large intestine	- occlusion of colon or intestine NOS
17	Diverticulitis	562.11	Diverticulitis of colon [without mention of hemorrhage]	DD00.Z	Diverticulitis of unspecified part of intestine without specification of presence or absence of complications	- diverticulitis NOS
18	Constipation	564.00	Constipation, unspecified	ME05.0	Constipation	- faecal impaction
19	Other disease of the digestive system	569.9	Unspecified disorder of intestine	DE2Y	Other specified diseases of the digestive system	
20	Other and unspecified abdominal pain	789.00	Abdominal pain, unspecified site	MD81.4	Other and unspecified abdominal pain	- abdominal pain NOS
21	Abscess, fistula or fissure of anal regions	565.0	Anal fissure	DB50.Z	Fissure or fistula of anal regions, unspecified	
		565.1	Anal fistula			
		566	Abscess of anal and rectal regions	DB70.0Z	Abscess of anal regions, unspecified	- abscess of anal and rectal regions with or without fistula
22	Peritonitis	567.9	Unspecified peritonitis	DC50.Z	Peritonitis, unspecified	
23	Rectorrhagia	569.3	Hemorrhage of rectum and anus	ME24.A1	Haemorrhage of anus and rectum	- rectorrhagia
24	Perforation of intestine	569.83	Perforation of intestine	ME24.3Z	Digestive system perforation, unspecified	
25	Acute hepatitis	570	Acute and subacute necrosis of liver	DB97.Z&XT5R	Inflammatory liver disease, unspecified & Acute	
26	Chronic hepatitis	571.40	Chronic hepatitis, unspecified	DB97.Z	Chronic hepatitis, not elsewhere classified	- chronic hepatitis, unspecified
27	Biliary colic	574.20	Calculus of gallbladder without mention of cholecystitis, without mention of obstruction	DC11.6	Calculus of bile duct without cholangitis or cholecystitis	- biliary colic
28	Cholecystitis	575.10	Cholecystitis, unspecified	DC12.Z	Cholecystitis, unspecified	
29	Acute cholangitis	576.1	Cholangitis	DC13	Cholangitis	- cholangitis NOS
30	Acute pancreatitis	577.0	Acute pancreatitis	DC31.Z	Acute pancreatitis, unspecified	- subacute pancreatitis
31	Hematemesis or melaena	578.0	Hematemesis	ME24.A5	Haematemesis	
		578.1	Blood in stool	ME24.A4	Melaena	
32	Intussusception of intestine	560.0	Intussusception	DA91.0	Intussusception of small intestine	- intussusception NOS

Conclusions

Since in Italy there is no obligation to code first level emergency diagnoses using a specific ICD version, the Italian Collaborating Center will support the clinicians in First Level Emergency Departments to code health conditions in ICD-11 using the ICD-11 browser (1) and coding tool (3).

References

1. https://icd.who.int/browse11/l-m/en
2. https://www.cms.gov/Medicare/Coding/ICD9ProviderDiagnosticCodes/Downloads/v24_icd9.zip
3. https://icd.who.int/ct11_2018/icd11_mms/en/release#/

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315

Updated International Classification of Diseases for Oncology ICD-O-3.2

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Abstract

International Agency for Research of Cancer (IARC) published an updated version of International Classification of Diseases for Oncology (ICD-O-3.2) in the first half of 2019 with use recommended from 2020. Institute of Health Information and Statistics of the Czech Republic (IHIS CR) published Czech translation of the original ICD-O-3 in 2004. IHIS CR has recently updated the Czech translation to ICD-O-3.2. In the updated version, 99 histopathology codes have been canceled and 139 codes have been newly introduced (or reintroduced in some cases). The code has been changed for 3 terms and the preferred name has been changed for 52 codes.

Introduction

IARC published an updated version of ICD-O (ICD-O-3.2) in april 2019 [http://www.iacr.com.fr/index.php?Itemid=577].
IHIS CR published Czech translation of the original ICD-O-3 in 2004 as a paper book (Picture 1) and PDF published on IHIS CR webpage. Since then, no ICD-O-3 update was implemented to the Czech translation (English 3.1 revision published by WHO in 2013). Czech translation of ICD-O-3 is used for coding cancer cases in the Czech National Cancer Registry.

There has been a need from Czech pathologist to use a revised version of ICD-O to keep the international interoperability in international comparison of cancer epidemiology statistics.

Picture 1: *Cover page of the original Czech tranlation of ICD-O-3*

Methods & Materials

The English version of ICD-O 3.2 changes are provided in the form of MS Excel files. The changes are only in the part of histopathologic codes and terms.

Due to time constraints only preferred terms of newly introduced codes were translated in the first phase.
After initial translation made by classification editor with medical background, all changes were consulted with expert Society of Czech Pathologists:

- Prof. MUDr. Václav Mandys, CSc., 3rd Faculty of Medicine of Charles University (editor of the original ICD-O-3 translation)
- Expert workgroup led by prof. MUDr. Pavel Dundr, Ph.D., Institute of Pathology, 1rd Faculty of Medicine of Charles University (chair of the Society)
- Changes of hematopoetic and lymphoid tumors, lymphomas and leukemias in the classification were consulted with doctors from the Department of Hematology, Faculty Hospital Brno

Results

A total of 293 changes were made for the Czech translation ICD-O-3.2 update. Most of the new codes have been added to the topographic area of hematology and to adenomas and adenocarcinomas.
Most of the changes were in the hematological topographic area for Mature T-and NK-cell Lymphomas (7 changes), Leukemias, NOS (13 changes), Myeloid Leukemias (11 changes) and Chronic Myeloproliferative Disorders (10 changes). (Table 1)

The histopathologic codes value set was changed in the Czech National Cancer Registry with the start of validity from July 2019.
We published the value set of updated codes and preferred names on the IHIS CR website [http://www.uzis.cz].

Number of changes by group	New codes	Canceled codes	Preferred term changes	Code changes
Hematologic (Leukemias, Lymphomas and related disorders)	54	5	9	0
Adenomas And Adenocarcinomas	20	29	10	1
Gliomas	12	2	0	0
Paragangliomas And Glomus tumors	5	8	2	1
Squamous Cell Neoplasms	7	3	1	0
Soft tissue Tumors And Sarcomas, NOS	8	4	8	1
Cystic, Mucinous And Serous Neoplasms	6	3	2	0
Other	27	45	20	0
Total changes	139	99	52	3

Table 1: *Examples of changes from different topographic areas*

The Czech translation of ICD-O-3.2 update will not be published in printed format, but the PDF version will be prepared for on-line publication in 2020. A complete table of histopathology terms (incl. synonyms) will be published on-line at the end of 2019 and included in the Czech ICD-10 browser.

Conclusions

IHIS CR started the update proces of the Czech translation of ICD-O-3 in 2019. The histopathology codes table with preferred terms was published online and the value set was updated in the Czech National Cancer Registry.

The complete table of histopathology terms will be published by the end of 2019. The collaboration with the expert society has been renewed to validate the complete translation of ICD-O-3 and histopathology extension codes of ICD-11 in the future.

Acknowledgements or Notes

IHIS CR will ensure future continuous updating of ICD-O (or ICD-11 histopathology extension codes) so that information in cancer registration in the Czech Republic will be in line with changes in WHO's classifications and up to date and cancer epidemiology data will be internationally comparable.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

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316

A survey on the current clinical use of acupuncture and moxibustion in Japan following meridian and collateral patterns included in ICD-11

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Abstract Objective: We conducted a pilot survey on the current clinical use of acupuncture and moxibustion following meridian and collateral patterns found in the ICD-11. Methods: The subjects were patients who could be classified to a MCP. Results: The responders were 213 acupuncturists and 2,617 subjects (900 men, 1717 women), with a mean age 54.9 years ± 19.5. The results included all MCP. Discussion: Clinical acupuncture and moxibustion require all MCP for disease classification.

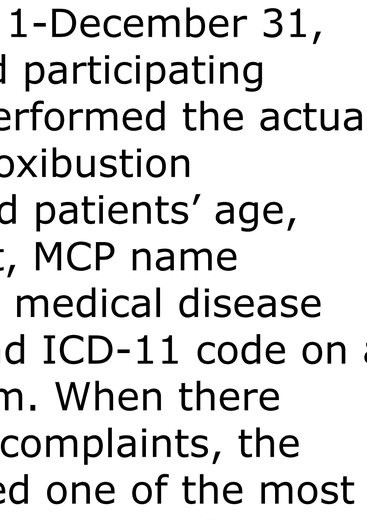
Introduction

The International Classification of Diseases 11th Revision (ICD-11) was published on June 18, 2018. Traditional medicine was introduced for the first time in this version, including meridian and collateral patterns (MCP). MCP is one of the important classifications for diseases in clinical acupuncture and moxibustion. We conducted a survey on the current clinical use of acupuncture and moxibustion following MCP.

Methods & Materials

We asked members of The Japan Society of Acupuncture and Moxibustion, The Japan Traditional Acupuncture and Moxibustion Society, Japan College Association of Oriental Medicine, Japan Acupuncture and Moxibustion Association, and All Nippon Acupuncture & Massage Association to investigate. Practitioners agreed and gave consent to the terms of the study via website (Google Form). Each practitioner obtained written(or verbal) consent from their patients. By the end of the study, the consent form was mailed. The survey period was October 1-December 31, 2018. We requested participating practitioners who performed the actual acupuncture and moxibustion treatments to record patients' age, sex, chief complaint, MCP name (required), Western medical disease name (optional), and ICD-11 code on a prepared online form. When there were multiple chief complaints, the practitioners selected one of the most debilitating symptoms. The MCP was selected by comparing the site of the main complaint with the flow of each abnormal meridian; multiple responses (listing) of abnormal meridians were allowed. Duplicate entries of the same complaint for each patient were not allowed.

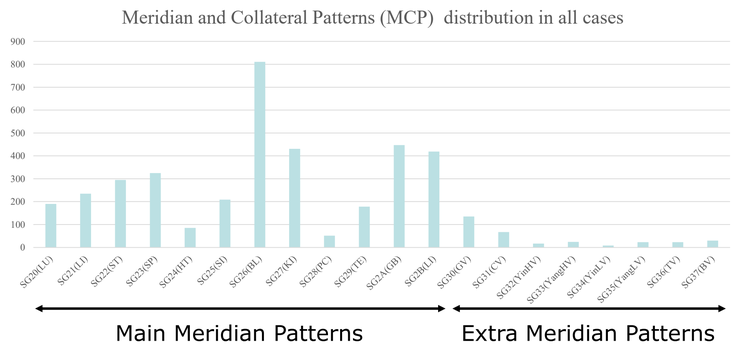
Chart 1: e.g. Meridian through the head and neck
***Back neck**:*
GV(SG30), KI(SG27), BL(SG26)
***Side neck**:*
SI(SG25), TE(SG29), GB(SG26), BI(SG21)
***Front neck**:*
ST(SG22), CV(SG31)



Results

The responders were 213 practitioners and 2,617 subjects (900 men, 1717 women), with an average age of 54.9 years ± 19.5, with an effective response rate of 100%.

Chart 2: MPC distribution: The number of SG26 bladder meridian pattern (TM1) is overwhelmingly large. The number of extra meridian patterns (TM1) are lower than the main meridian patterns (TM1).



There were 811 cases of bladder, 447 of gallbladder, 431 of kidney, 419 of liver, 325 of spleen, 295 of stomach, 235 of large intestine, 209 of small intestine, 190 of lung, 178 of triple energizer, 135 of governor, 85 of heart, 67 of conception vessel, 51 of pericardium, 30 of belt vessel, 24 of yang heel, 23 of yang link and thoroughfare vessel, 17 of yin link, 8 of heel (overlap was observed).

Chart 3: Status of chief complaint: The most common complaint was back with 447 cases (17.1%). The top 10 chief complaints (49.5%) were "pain" and "stiffness".

Rank	chief complaint	Number of cases	Percentage
1	Low back pain	447	17.1%
2	Knee pain	160	6.1%
3	Shoulder pain	143	5.5%
4	Stiff shoulder	135	5.2%
5	Headache	96	3.7%
6	Neck pain	82	3.1%
7	Leg pain	76	2.9%
8	low back and lower extremity pain	65	2.5%
9	Stiff neck shoulder	45	1.7%
10	Neck shoulder pain	45	1.7%

Chart 4: Medical names and codes from ICD-10 & ICD-11: The most common disease name was the low back pain with 124 cases (4.7%). The top 10 diseases belong to orthopedics.

	Disease name	ICD-10 code	ICD-11 code	ICD-11 Disease name	Number of cases	%
1	Low back pain	M5456	ME84.2Z	Low back pain, unspecified	124	4.7%
2	Osteoarthritis of knee	M179	FA01.Z	Osteoarthritis of knee, unspecified	90	3.4%
3	Stiff shoulder	M6281	FB32.Y	Other specified disorders of muscles	73	2.8%
4	Myofascial low back pain	M5456	ME84.2Z	Low back pain, unspecified	68	2.6%
5	Cervico-omo-brachial syndrome	M5312	*Not found	*Not found	67	2.6%
6	shoulder periarthritis	M750	FB53.0	Adhesive capsulitis of shoulder	65	2.5%
7	lumbar spondylosis deformans	M4786	FA8Z	Degenerative condition of spine, unspecified	59	2.3%
8	Sciatica	M5438	ME84.3	Sciatica	55	2.1%
9	Lumbar spinal canal stenosis	M4806	FA82	Spinal stenosis	48	1.8%
10	Spinal canal stenosis	M4809	FA82	Spinal stenosis	47	1.8%

Chart 5: Chief complaint and MPC: The most common MPC was SG26(bladder) with 315 cases of low back pain.

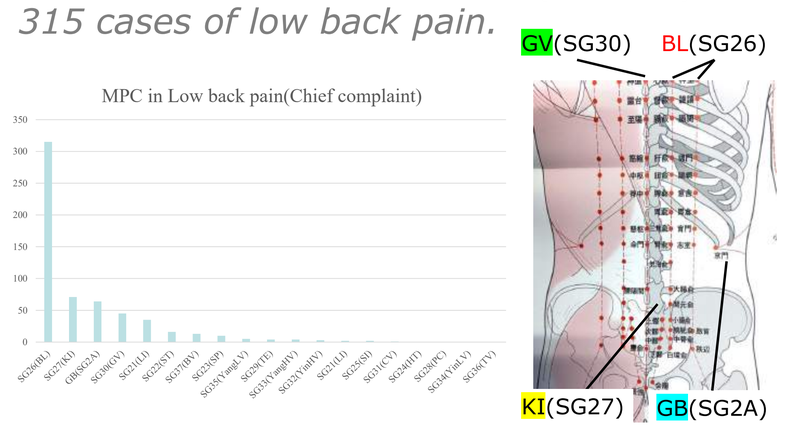


Chart 6: Chief complaint and MPC: Amongst low back pain as a chief complaint, diseases of low back pain and myofascial low back pain were common. The most common MPC was SG26(BL: bladder) in all low back pain disease. The MCP status was different for each disease.

Chief complaint	Disease name	Number of cases	%	Top 5 MPC（number, %）				
Low back pain	Low back pain	111	24.8	BL80 55.9%	GV17 11.9%	KI12 8.4%	LR11 7.7%	GB8 5.6%
	not listed	79	17.7	BL57 58.8%	GB10 10.3%	KI9 9.3%	LR6 6.2%	GV、BV5 5.2%
	Myofascial low back pain	67	15.0	BL42 48.8%	KI13 15.1%	GB10 11.6%	ST6 7.0%	SP4 4.7%
	lumbar spondylosis deformans	47	10.5	BL41 68.3%	KI6 10.0%	GV6 10.0%	GB4 6.7%	LR, LR, YinHV1 1.7%
	Chronic low back pain	16	3.6	BL16	KI3	GB2	–	–
	Spinal canal stenosis	14	3.1	BL11	KI・GB3		LR2	LR1
	Acute low back pain	13	2.9	BL7	GB4	LR2	YinHV, YangLV, BV1	
	Lumbar disc herniation	10	2.2	BL8	GV4	TE、GB, LR, BV1		
	Lumbar spondylosis	10	2.2	BL9	KI・TE・GB1		–	
	Sciatica	9	2.0	BL5	KI3	GB2	–	–

Conclusions

Concepts of meridians and collaterals are vital methods to classify diseases in clinical acupuncture and moxibustion treatments. In this study, all MCP were observed. Fewer extra meridian patterns were reported compared to main meridian patterns. Reflecting on the results, it seems that the survey method for identifying the MCP based on the anatomical location of the main complaint was not suitable.
Further studies and data collection is necessary to understand the current standing of clinical acupuncture and moxibustion treatments following the MCP. More details regarding the connections between clinical acupuncture and moxibustion, chief complaint and Western medical diseases is also necessary. More comprehensive data on traditional medicine along with ICHI (intervention) and ICF (outcome) can be expected in the near future.

Acknowledgements or Notes

I would like to thank all the practitioners who contributed their time to this study.

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317

Developing a Computer-Assisted Coding Program to Facilitate Hospital Discharge Abstract Administrative Data Generation

Authors: Elliot A Martin, Mingkai Peng, Zilong Zhang, Shahreen Khair, Chelsea Doktorchik, Cathy Eastwood, Hude Quan
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Abstract We discuss our work towards building a computer-assisted coding program to suggest International Classification of Disease codes for review by human coders. Our preliminary analysis extracting presence/absence of disease status from discharge summaries indicates that automated systems can dramatically improve the performance of human coders alone. We also discuss our capacity building efforts to employ deep learning methods towards this end.

Introduction

High-quality data are essential to inform clinical decisions, health resource allocation, quality improvement, research, and innovation in health care. Administrative health data are systematically collected following every patient's encounter with the healthcare system (e.g. hospitals, emergency departments, primary care) throughout Canada. Human coders review the medical documents generated by these encounters and abstract medical diagnoses using the International Classification of Diseases (ICD), 10th Revision, Canada (ICD-10-CA). Limitations of human resources and variations in coding standards between jurisdictions can obscure disease states (especially towards false negative misclassifications), and heterogeneity of data across institutions can hamper meaningful comparisons.

Data abstraction by human coders is unsustainable for several reasons: 1) manual data abstraction is expensive, time-consuming, and not readily scalable; 2) human coders are typically provided only 20 to 30 minutes to abstract one chart and are therefore only able to focus on identifying severe or main conditions as required by the mandatory reporting requirements; 3) retirement of experienced coders results in workforce shortages; 4) ICD-10-CA is a complex classification systems with approximately 18,000 codes — inconsistency between coders in code assignment is unavoidable.

We are developing algorithms utilizing electronic medical records (EMRs) to create a computer-assisted coding system to transform coding practices from chart review and manual assignment of codes to one of verification and/or revision of pre-populated codes. We also aim to automatically assign codes without human verification when they can be assigned with high precision. To do this we are employing natural language processing (NLP) in conjunction with pattern matching, sequential rule mining, machine learning (ML), and deep learning. The final system will combine these methods to produce a robust coding tool.

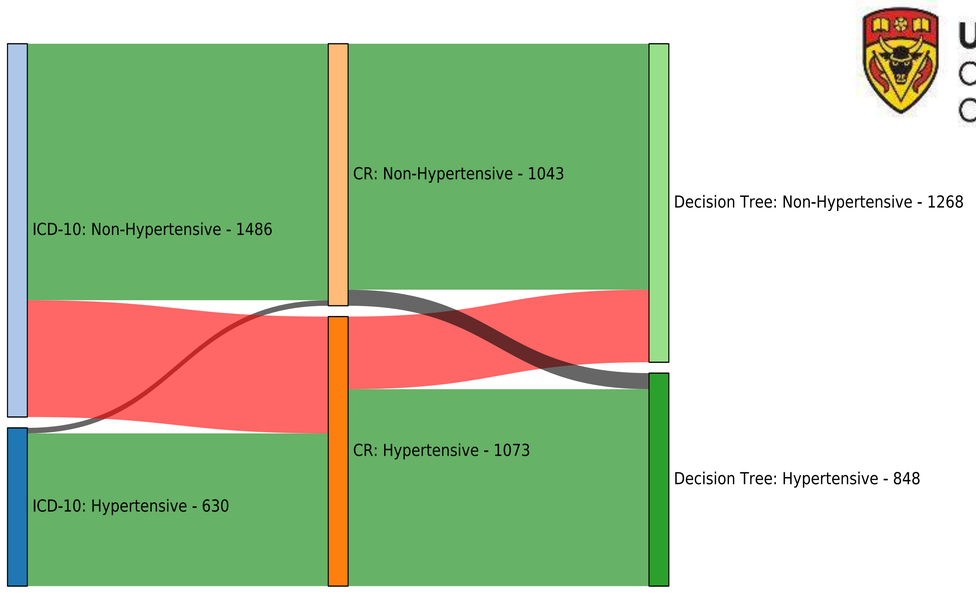
Preliminary Analysis: Case Finding

As a first step towards suggesting ICD codes, we first attempted to automatically determine the presence or absence of disease status from EMRs. For example, we attempted to determine if a patient had hypertension rather than determine what, if any, of the possible ICD codes for hypertension would apply to them.

We focused our efforts on Hypertensive disease, and Congestive Heart Failure (CHF). Using a chart review cohort of 3043 patients with manually assigned disease status, we compared the performance of ICD based case definitions with those using NLP and ML. Both of these studies have been submitted for peer review.

When only using discharge summaries in our analysis we already found that our methods showed increased sensitivity (72% vs 57% for hypertension and and 80% vs 57% for CHF) while maintaining high PPV (93% vs 97% for hypertension and 90% vs 92% for CHF). Hypertension results comparing our methods using a decision tree ML model, and the ICD case definition are shown in Chart 1.

Chart 1: The height of each vertical bar is proportional to the number of the cases in that set – the lighter shaded ones on top are cases classified as non-hypertensive, and the darker ones below classified as hypertensive. The horizontal bars correspond to how each algorithm maps to the ground truth chart review (CR) in the middle. The green horizontal lines are correct classifications, black lines are false positives, and red lines are false negatives.



Capacity Building

In order to use deep learning methods for computer assisted coding we need two elements:

1) A large number of electronic medical records
2) A GPU cluster to run the analysis on

As privacy is of the utmost importance when handling medical records, this can pose substantial administrative challenges. At the Centre for Health Informatics we are overcoming these challenges by entering into a Health Information Management agreement with our provincial healthcare provider, Alberta Health Services (AHS).

Working with AHS we are building a GPU cluster with the necessary protections in place to handle private health data. This will allow AHS to reap the benefits of deep learning without needing to invest in expensive infrastructure, or the talent to run it.

Conclusions

Developing a computer-assisted coding program for ICD codes presents many technical and administrative challenges. Nevertheless, preliminary work shows that dramatic gains are possible from such a system which justify the effort. We believe our methods in overcoming both of these types of challenges can serve as a template for others to follow in the future.

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WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Development of an ICD-11 Electronic Training Tool

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318

Authors: Vera Dimitropoulos and Filippa Pretty
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Abstract WHO has commissioned the development of an ICD-11 Electronic based on the ICD-11 Reference Guide and the ICD-11 tooling environment (i.e. ICD-11 Coding tool, Browser and ICD-FiT). All 12 units of study have been developed to include the theory for the unit with examples and assessment activities at various levels of competency. The tool provides interactive feedback dependent on the answer provided. The tool also includes an overall self assessment activity as well as up-to-date information related to confidentiality and ethics, quality and statistical presentation.

Introduction

WHO has commissioned the development of an ICD-11 Electronic based on the ICD-11 Reference Guide and the ICD-11 tooling environment (i.e. ICD-11 Coding tool, Browser and ICD-FiT). All 12 units of study have been developed with consideration given to the existing ICD-10 Training Tool (2009) and include the theory for the unit with examples and assessment activities at various levels of competency. The Tool provides interactive feedback dependent on the answer provided. The tool also includes an overall self assessment activity as well as up to date information related to confidentiality and ethics, quality and statistical presentation. An additional Unit to cover the differences between ICD-10 and ICD-11 has also been included as a resource. The Tool has been developed to ensure it can also be used in low internet bandwidth and older computer environments. The output files are for online and offline use and a paper-based version of the learning units has also been developed. As well as the Tool development, the NCCH also developed a series of podcasts to introduce ICD-11 and its features, as well as a podcast providing instructions on how to complete a death certificate. All podcasts are in English and we acknowledge the need for these to be translated into other languages.

Methods & Materials

To ensure harmonization and interchangeability of past and future training materials, the NCCH used Articulate 360 as the software platform to ensure international collaboration, accessibility and usability in various settings. We initially developed a learning content story board in consultation with the WHO. The second stage of work included the development of the ICD-11 Introductory unit which is a prerequisite for undertaking all the other units of study. Development of specific units for Mortality and Morbidity rules then followed and finally Chapter specific units were developed. All units were developed using three teams. Team 1 were our content developers, Team 2 were our quality reviewers and Team 3 our IT experts in using Articulate 360. Each learning unit was tested on a development platform by members in Team 1 and 2 with any fixes required dealt with by Team 3. When finalized, the learning units are pushed to production and shared with the WHO for feedback and final approval. Each unit was developed to ensure the following tasks in mind:

1. Including lessons for new/changed parts of ICD
2. Adapting where appropriate existing lessons from the ICD-10 training tool
3. Including examples and questions
4. Including interactivity elements

Content - Units of Study

1. Introduction to ICD-11

- Structure and benefits
- Conventions
- Pre and Post coordination and clustering (including syntax)
- Maintenance
- Tooling environment
- Codes for special purposes
- Examples of extension codes

2. Mortality Rules

- Outline of mortality rules
- Examples for coding underlying cause of death using the death certificate
- Tabulation lists for mortality

3. Morbidity Rules

- Outline MB1 to MB3
- Examples for coding using MB1 to MB3
- Tabulation lists for morbidity

4. Chapter Specific

- Chapter 01 Certain infectious or parasitic diseases
- Chapter 02 Neoplasms
- Chapter 03 Diseases of the blood or blood-forming organs
- Chapter 04 Diseases of the immune system

5. Chapter Specific

- Chapter 05 Endocrine, nutritional or metabolic diseases
- Chapter 07 Sleep-wake disorders
- Chapter 09 Diseases of the visual system
- Chapter 10 Diseases of the ear or mastoid process
- Chapter 14 Diseases of the skin

6. Chapter Specific

- Chapter 08 Diseases of the nervous system
- Chapter 11 Diseases of the circulatory system
- Chapter 12 Diseases of the respiratory system
- Chapter 13 Diseases of the digestive system
- Chapter 15 Diseases of the musculoskeletal system or connective tissue

7. Chapter Specific

- Chapter 16 Diseases of the genitourinary system
- Chapter 17 Conditions related to sexual health
- Chapter 18 Pregnancy, childbirth or the puerperium

Content – Units of Study

8. Chapter Specific

- Chapter 19 Certain conditions originating in the perinatal period
- Chapter 20 Developmental anomalies

9. Chapter Specific

- Chapter 22 Injury, poisoning or certain other consequences of external causes
- Chapter 23 External causes of morbidity or mortality (including patient safety and quality harm coding)

10. Chapter Specific

- Chapter 21 Symptoms, signs or clinical findings, not elsewhere classified
- Chapter 24 Factors influencing health status or contact with health services

11. Chapter 26 Traditional Medicine

12. Supplementary V Chapter for functioning assessment

Learning Outcomes

A self assessment module which randomly selects questions from each of the units has been developed and changes each time the self assessment is undertaken. All exercises have been designed to reinforce the knowledge gained from undertaking each of the units of study. In general, exercises have been developed for various levels of competency including:

- Elementary line coding
- Moderate case scenarios (mortality and morbidity)
- Complex discharge summaries.

The overarching learning outcomes for both mortality and morbidity coding include:

Mortality
At the end of the self-assessment participants will be able to accurately report and interpret the events and conditions leading to death using the international certificate of cause of death as recommended by the WHO, including:

- the immediate cause of death
- the sequence from the underlying cause to the immediate cause
- any conditions not directly leading to death but contributing to it
- the duration of the reported conditions

in ICD-11.

Morbidity
At the end of the self-assessment participants will be able to accurately:

- Identify main condition and the three morbidity coding rules and conventions of ICD-11
- Classify clinical concepts using ICD-11.

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319

An evaluation of gold standards in line coding - ICD-11 field trial in Japan-

Authors: Yoko Sato[1,2], Akemi Nishio[3], Eizen Kimura[2], Keika Hoshi[2], Hiromitsu Ogata[4,2], Hiroshi Mizushima[2]

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[3]Tokyo Healthcare University Setagaya, Tokyo, Japan [4]Kagawa Nutrition University, Saitama, Japan

Abstract We evaluated ICD-10 and 11 concordance rate for nineteen diagnostic terms that were provided with gold standard by WHO in the ICD-11 field trials. We found some diagnostic terms with higher concordance rate of ICD-11 by overcoming the ambiguity of ICD-10. On the other hand, the ICD-11 concordance rate was low in cases that extension codes or multiple codes were required. Detail evaluation of poor ICD-11 concordance and establishing better user guidance on coding rules will be needed. Furthermore, a more detailed analysis is necessary to understand how much of the ICD-11 and ICD-10 concordance rate was impacted by the level of English language proficiency among the participants.

Introduction

Following the WHO protocol and instruments the ICD-11 Field Testing (FT) was conducted from Aug to Sept 2017 in English. 378 health information managers with different level of English language proficiency participated. We examined evaluated ICD-10 and 11 concordance rate for nineteen diagnostic terms (Table 1) that were provided with a gold standard (GS) by WHO.

Methods & Materials

The raters coded each term with both ICD-10 and ICD-11, then evaluated the difficulty of coding, the level of detail of the code, and the level of ambiguity of the code in line coding section. A coding time was measured automatically. We analyzed concordance rates with GS, the number of variation of the response code, every evaluation items, and coding time between ICD-10 and ICD-11. McNemar test were performed for comparison of the concordance rates and the significance level was $p < 0.05$. Logistic regression analysis was performed to explore factors of whether ICD-11 codes were consistent with gold standard or not.

Multivariate analysis was performed by selecting variables with $p < 0.05$ in univariate analysis. Variable selection was performed using the backward method with $p < 0.05$. The ICD-11 provided by WHO in this trial was the development version as of August 2017, and is not identical to the ICD-11 that is currently published.

Results

Figure 1 represents a scatter plot composed of ICD-10 concordance rate on the vertical axis and ICD-11 concordance rate on the horizontal axis. We found six cases that the ICD-11 concordance rate was higher than the ICD-10 rate (Table 2). ICD-11 concordance rate of No 1206 Cytomegalovirus Colitis was 92.2 % while ICD-10 was 37.1%. Cytomegalovirus colitis is coded with 1A24 in ICD-11 and B25.8 in ICD-10. B25.8 expresses not only cytomegalovirus enteritis but also various cytomegalovirus-induced inflammatory conditions such as myelitis, encephalitis, retinitis and the like. Indeed, 15.2 % of raters selected A08.3 Other viral enteritis. On the other hand, among the seven cases in which the ICD concordance rate of ICD-10 was higher (Table 3), five cases required extension code or multiple codes in ICD-11, and the GS concordance rates were all less than 5%.

Logistic regression analysis indicated that ICD-11 concordance was associated with the low number of GS code, high ICD-10 concordance, not difficulty, and just right detail(Table 4).

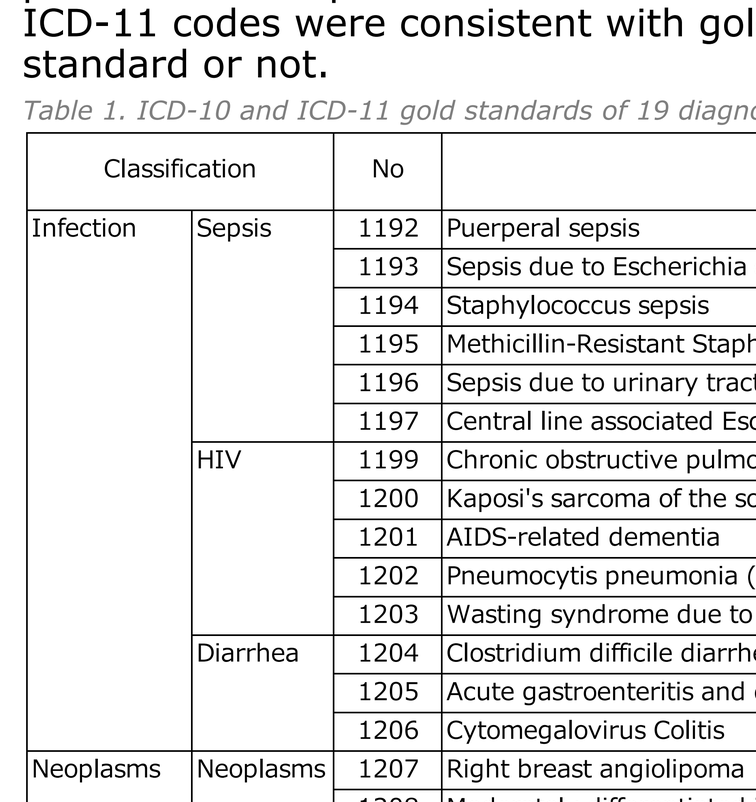
Conclusions

It is possible that ICD-11 can express precisely some diagnostic terms that are difficult to express precisely in ICD-10 because the granularity in ICD-10 is lower and the ambiguity of ICD-10 results in multiple interpretations by raters. This means ICD-11 is highly useful and suitable for expressing various diseases On the other hand, the ICD-11 concordance rate was low in cases where extension codes or multiple codes were required. Better user guidance on coding rules will be needed. Furthermore, a more detailed analysis is necessary to understand how much of the ICD-11 and ICD-10 concordance rate was impacted by the level of English language proficiency among the participants.

Table 1. ICD-10 and ICD-11 gold standards of 19 diagnostic terms

Classification		No	Diagnostic term	Respondants (N)	Respondants (%)	GS of ICD-11	GS of ICD-10
Infection	Sepsis	1192	Puerperal sepsis	291	77.0%	JA70.1	O85
		1193	Sepsis due to Escherichia coli (E. coli)	278	73.5%	1B40	A41.5
		1194	Staphylococcus sepsis	275	72.8%	1B46	A41.2
		1195	Methicillin-Resistant Staphylococcus Aureus (MRSA) Septicemia	253	66.9%	1B46&MJ81.11	A41.0&U82.1
		1196	Sepsis due to urinary tract infection	238	63.0%	GC58.Z/MJ75.1	A41.9 N39.0
		1197	Central line associated Escherichia coli (E. coli) sepsis.	216	57.1%	1B40/PG81.6/PH11.26	T82.7 A41.5 Y84.8
	HIV	1199	Chronic obstructive pulmonary disease with pneumonia and HIV disease	194	51.3%	CA12.2/CA20.Z/IC4Z	B24 J44.0
		1200	Kaposi's sarcoma of the soft palate with AIDS	197	52.1%	1C4Z/2B86.Y&XA1012292065	B21.0 B24 C46.2
		1201	AIDS-related dementia	195	51.6%	6C35.4/1C4Z/6C30.4	B22.0 B24 F02.4*
		1202	Pneumocytis pneumonia (PCP) with AIDS	180	47.6%	CA20.31/1C4Z	B20.6 B24 B59 J17.3*
		1203	Wasting syndrome due to HIV	178	47.1%	1C4Z	B22.2
	Diarrhea	1204	Clostridium difficile diarrhea	198	52.4%	1A04	A04.7
		1205	Acute gastroenteritis and dehydration	185	48.9%	1A71&XT786106375/5C20.1	A09.9 E86
		1206	Cytomegalovirus Colitis	197	52.1%	1A24	B25.8
Neoplasms	Neoplasms	1207	Right breast angiolipoma	186	49.2%	2E60.1Z&XK876572005	D17.1
		1208	Moderately differentiated invasive adenocarinoma of the duodenum	173	45.8%	2C05.11	C17.0
		1209	Pleomorphic adenoma of right parotid gland	168	44.4%	2E71.1&XK876572005&XH1856218901	D11.0
		1210	Neurofibromatosis	182	48.1%	LC1D.1	Q85.0
		1212	Mature teratoma of ovary	175	46.3%	2F12.Y&XK1694310660&XH872358015	D39.1

Figure 1. Plots of ICD-10 and 11 concordance rate.



Plots of ICD-10 and ICD-11 concordance rate. The number of plot represents the number of diagnostic term (Table 1).

Table 2. Diagnostic terms whose ICD-11 concordance rate are higher than ICD-10.

No	Concordance rate ICD-11	Concordance rate ICD-10	p value	OR	95%% CI		Variation of raters' codes ICD-11	Variation of raters' codes ICD-10
1202	11.1%	0%	<0.001	0.00	0.00	0.20	51	44
1195	31.2%	11.9%	<0.001	0.11	0.04	0.25	33	33
1194	80.4%	52.4%	<0.001	0.06	0.02	0.13	19	16
1210	83.0%	66.5%	<0.001	0.37	0.20	0.66	18	18
1193	87.8%	51.1%	<0.001	0.05	0.02	0.12	14	30
1206	92.9%	37.1%	<0.001	0.10	0.05	0.18	9	30

Table 3. Diagnostic terms whose ICD-10 concordance rate are higher than ICD-11.

No	Concordance rate ICD-11	Concordance rate ICD-10	p value	OR	95%% CI		Variation of raters' codes ICD-11	Variation of raters' codes ICD-10
1212	0.0%	82.3%	<0.001	Inf	39.35	Inf	25	11
1207	0.0%	66.7%	<0.001	Inf	33.12	Inf	52	24
1205	1.1%	18.9%	<0.001	17.50	4.50	>99	33	24
1196	1.7%	16.8%	<0.001	13.00	4.13	65.76	48	24
1209	4.2%	75.6%	<0.001	61.00	16.53	>99	30	23
1208	67.6%	81.5%	<0.001	2.79	1.48	5.55	27	19
1204	78.8%	92.4%	<0.001	4.00	1.89	9.44	21	9

Table 4. Logistic regression of predictors of whether ICD-11 code were consistent with gold standard.

Value	Reference	Univariate OR	Univariate 95%CI)		Multivariate OR	Multivariate 95%CI)	
Numers of GS godes	1	0.03	0.02	0.03	0.03	0.03	0.04
ICD-10 GS Correct	Uncorrect	7.42	6.41	8.59	1.55	1.22	1.96
Difficulty No	Yes	3.85	2.93	5.07	2.33	1.53	3.53
Detail Just right	Too detail/Not too detail	2.01	1.74	2.33	1.91	1.49	2.45
Ambiguity No	Yes	2.14	1.86	2.47	-	-	-
Coding time (sec)	1	1.00	1.00	1.00	-	-	-

Acknowledgements or Notes

We wish to thank the timely help given by health information managers, the Japan Health Information Manager Association, and Japan Hospital Association. This study was funded from Ministry of Health, Labour and Welfare of Japan(Grant Number 201701006A).

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320

Analysis of the problem in the coding at the ICD-11 beta version Field Test

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Japan Society of Health Information Management

Abstract At the request of the Collaborating Centre for the WHO-FIC in Japan and the Ministry of Health, Labour and Welfare, Japan Hospital Association (JHA) and Japan Society of Health Information Management (JHIM) conducted ICD-11 beta Field Test among the JHIM members in August 2017, using the web coding tool "ICD-FiT". The test was implemented as proving test to consider functionality, liability, usability, efficiency and academic aspect of ICD-11 from multiple perspectives, following the WHO guidelines. 404 health information managers including medical doctors participated in this test and answered the 298 Line Coding questions and 30 Case Coding questions. The field testing was conducted in English and the coding accuracy was strongly impacted by the level of English language proficiency among the participants.

In July 2018, with the purpose of supporting the ICD-11 development and improvement, a follow-up research was conducted among the above 404 people to extract the problems in the ICD-11 beta coding from the viewpoint of health information managers as end-users in medical settings. The poster shows the results of the analysis of answer from 237 people (58% of the research participants).

Introduction

During the process of ICD-11 revision, ICD-11 beta field test was undertaken in 2017. Japan Hospital Association(AHA) and Japan Society of Health Information Management(JHIM) conducted the field test in August 2017 using the web tool "ICD-FiT", at the request of the Collaborating Center for the WHO-FIC in Japan. The test was implemented as proving test to consider functionality, liability, usability, efficacy and academic aspect of ICD-11 from multiple perspectives, following the WHO guidelines. 404 health information managers(HIM) including several physicians participated in the test, and answered the 298 Line Coding questions and 30 Case Coding questions.
In July 2018, with the purpose of supporting the ICD-11 development and Improvement, a follow-up research was conducted among the 404 HIMs participated in the field test, to clarify the problems in the ICD-11 beta, from the viewpoint of HIM as the end-users in medical settings.

Methods & Materials

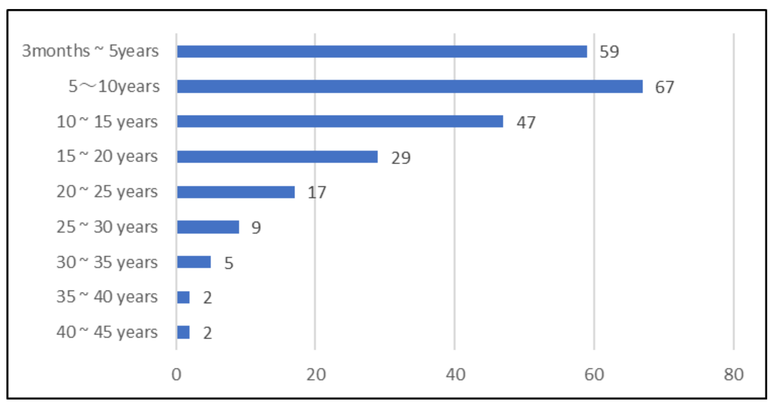
The 404 participants were requested to answer questionnaires consisted of 9 chapters(66 questions), including questions regarding the background of the participants, and the impression to the test.

Results

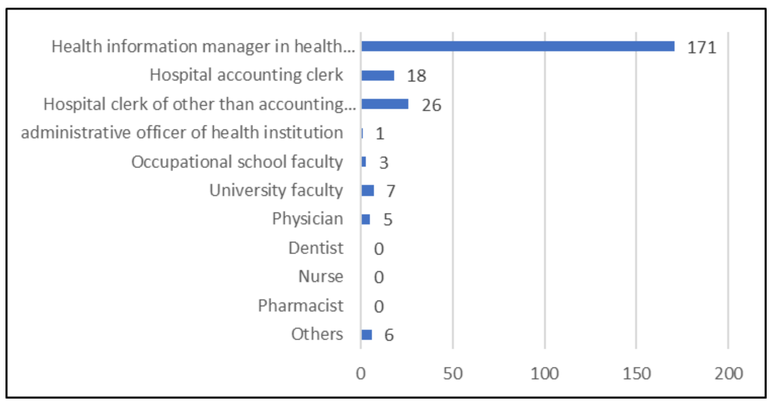
Among the 404, 237(58.7%) participants completed the questionnaire. There was a wide range of the years of experience as HIM from less than 1month to 45 years, with the largest group of 5 to 10 years. 171 participants were involved in the health information management works in medical institutions currently.
Regarding the level of difficulty of the test, 99 participants(48%) felt the 298 Line Coding questions difficult and 56(27%) felt the 30 Case Coding questions difficult.

In both groups, the most difficulty was reported in understanding English and the usage of ICD-FiT. Regarding the operability and user-friendliness of the coding tool, 29 reported to be bad and 13 very bad.

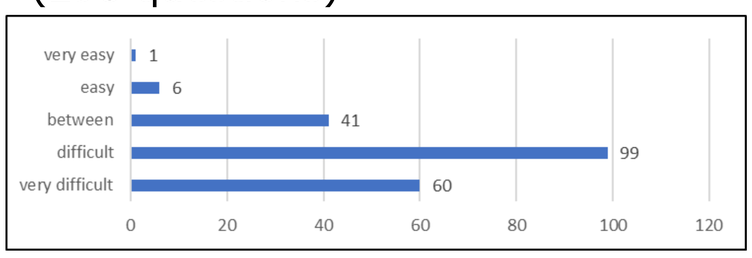
■Length of experience in health information management of participants



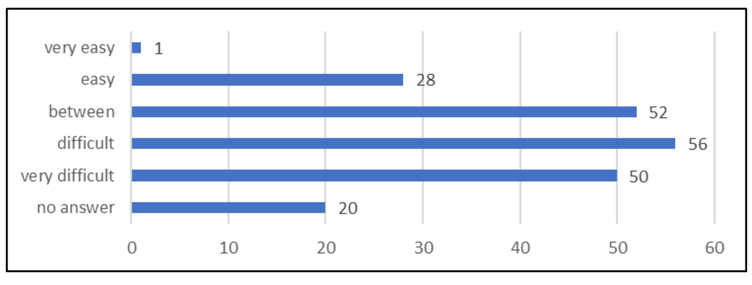
■The types of occupation of participants



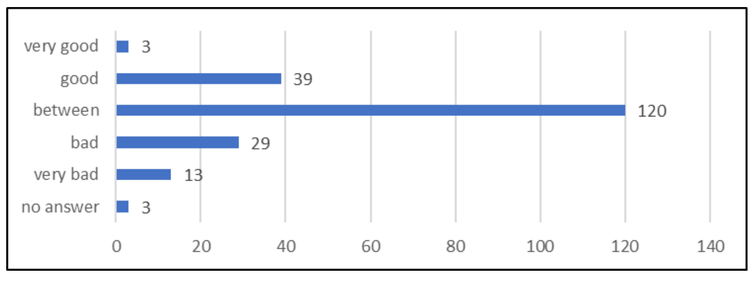
■Line Coding Questions (298 questions)



■Case Coding Questions (30 questions)



■Usability (User friendliness) of ICD-FiT



Consideration

[ICD-FiT]
The answer to the field test by ICD-Fit could be entered only once, and corrections were not allowed. Therefore, the final results of the answer may not reflect the integrity of the ICD-11.The usability and user friendliness of ICD-FiT remain to be improved.

[Coding with ICD-11]
More than half of the participants learned the structure and the method of coding of ICD-11 for the first time in the field test. And the majority of HIMs in Japan started coding with no a little knowledge about ICD-11.
Furthermore, as the Japanese translation of ICD-11 is ongoing the training and field testing of ICD-11 was conducted in English. Hence, coding accuracy was strongly impacted by the level of English language proficiency among the participants. ICD-11 is principally used on the web basis, and that means it is accessed from many health institutions through their information system. The most reliable security of those systems should be settled in all countries.
For the improvement of operability of ICD-11, enhancement of search function and addition of help function should be worked up continuously.

Conclusions

The research on the ICD-11 beta field test revealed the following issues.

1. Technical support of coding and familiarization to ICD-11.
2. Enhancement of search function and help function.
3. Needs for manuals on paper basis.
4. Education for the multiple coding and extension codes.
5. Level of English language proficiency on coding accuracy.
6. Consistency to the Japanese disease structure.

Based on these results, we will continue research for further three years to promote ICD-11.

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321

IRIS, INTERNATIONAL CODING SYSTEM FOR CAUSES OF DEATH VS MANUAL CODING: A COMPARATIVE STUDY IN MEXICO

Authors: Yañez, M.; Vázquez, B.; Alanis, R.; Pérez, M.; Andrade, C.; Torres, LM; et al.

MoH, Mexican WHO-FIC CC

Abstract In order to have enough evidence in the results of International Coding System for Causes of Death Iris, to coding certificates of death, a study was conducted comparing its results with the manual coding of multiple causes and the basic cause of death. For this, a representative sample of deaths occurred in Mexico in 2018 whose causes of death and selection of the basic cause were coded with the Iris System. This poster shows the main results.

Introduction

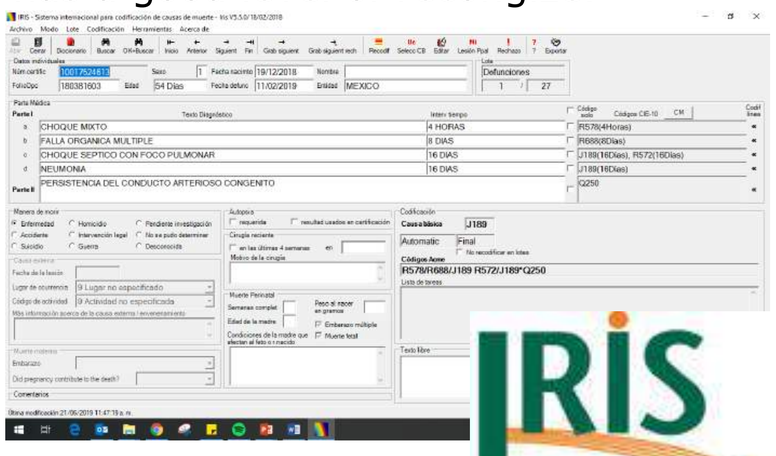
WHO through ICD-10 ensures that mortality information generated around the world is used for medical research, decision making in public health, evaluation of interventions, planning and health care. The foregoing includes the comparison of the data set by temporality and regions, therefore, the production of this data must be under the same methods and according to officially established standards and the information obtained must meet the quality requirements for the analysis of The health situation. To this end, WHO, through ICD-10, publishes the guidelines for the codification and selection of the basic cause of death.

Studies and analyzes that demonstrate the effectiveness of automated death cause coding systems are required and necessary (Floristan et al, 2016). One of these systems is the International System for the Codification of Causes of Death, called Iris, developed by the Institute of the same name Iris and where experts in this field converge for the development of the Iris System of the United States, France, Hungary, Italy and Sweden and with which Mexico generates its mortality statistics since January 2018.

The Iris System provides the interface that contains the international model of the death certificate provided by WHO in Volume 2 of ICD-10 and the causes of death are coded according to the rules of this classification.

Although the development of the dictionary of medical terms encoded with the ICD-10 is the responsibility of the user, the Iris System facilitates its compilation through coding tables and their possible standardizations.

In Mexico the Mexican WHO-FIC CC have worked in a diccitionary according with the terms that the physicians use to fill the death certificate and this work is shown in this poster, beacuse it has a good level of recongize.



Methods & Materials

As of the official implementation of the ICD-10 2018 version and the Iris System in Mexico, 465,909 death certificates (preliminary figure as of October 31, 2018) were captured in the SEED Epidemiological Statistical Subsystem of Deaths, of which , according to the information registered, they were cataloged as follows:

Death certificates in the mortality system 2018	
External deaths	48,559
<1 year deaths	15,070
Maternal deaths	715
Tumour deaths	63,379
Deaths (general)	338,186
TOTAL	**465,909**

According to the approach of this study, the 338,186 cases referred to as general deaths were considered. After the exclusion terms, the 338,186 cases of General Deaths were processed with the Iris System, which successfully concluded 269,621 death certificates; In other words, the Iris System assigned the codes of the multiple causes and determined the basic cause of death automatically in 269,621 cases. Once the total of the cases terminated by the Iris System was obtained, a representative sample of 1,044 was selected in order to be manually coded to confront the results, identify and explain the differences. The sample was selected with a confidence level of 95% and a margin of error of .03. The formula on which the sample conformation was based was:

$$\textbf{Sample size} = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p(1-p)}{e^2 N}\right)}$$

The total cases were organized according to their classification within the ICD-10 chapters. The total number of cases with the formula to obtain the sample was 1,044; However, although Chapters VII and VIII did not comply with the assumptions to obtain the sample (normality), it was decided to include them as a census due to the total and the importance for the study, with which the sample to be confronted reached 1,074 cases, which They were manually coded to check the previous results obtained with the Iris System.

Results

The 1,074 cases were distributed to 18 Mexican coders with extensive experience (between 49 and 62 cases each) for the manual coding of the multiple causes noted and for the selection of the basic cause, using only the ICD-10 volumes, 2018.

		Causes (n)	Matches: Iris SystemVS Manual, 18 coders	%	Matching: Iris System VS Manual, 18 coders and gold standard	%
Part 1	a)	1,074	1,017	95%	1,070	100%
	b)	909	839	92%	893	98%
	c)	506	471	93%	499	99%
	d)	124	119	96%	124	100%
Part 2		384	346	90%	378	98%
Causes (n)		**2,997**	**2,792**	**93%**	**2,964**	**99%**
Underlying cause of death		**1,074**	**800**	**74%**	**1,033**	**96%**

Table 1. Total number of causes and their coincidence percentages, Part 1 and Part 2 with their respective lines, according to the international model of the death certificate.

In the first analysis of results, of the sample of 1,074, the coincidence in the basic cause of death determined by the Iris System compared to that obtained by manual coding was 800 cases, which represents 74%. The 274 cases, which represent 26%, where the result was different, were reviewed in detail by a standard gold team (experienced coders, doctors with knowledge of the ICD-10 and computer specialists) of the Mexican Center for Disease Classification (CEMECE). Once the differences were reviewed, it was observed that the Iris had correctly coded 233 of the 274 cases, so that the correct resolution of the cases rose to 1,033 (96%) for the Iris. These 233 cases where the reason for the Iris System was determined, is explained by factors such as errors made in manual coding, from the assignment of codes of multiple causes to the application of the steps for the selection of the basic cause of death. Below is a table that shows in detail the data and the coincidence of codes to each of the multiple causes (which reached 99%) and for the basic cause of death (96%).

With this evidence, the Iris System becomes a complementary tool for the coding staff and thus guarantees the quality of death information.

With the results of this study, sufficient evidence was obtained to affirm that the Iris System can serve as an instrument of great support, efficacy and validity for the personnel coding for causes of death in Mexico. Iris System becomes a complementary tool for coding personnel and thus guarantees the quality of death information

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322

WEBINAR SERIES FOR INTERNATIONAL CODING SYSTEM FOR CAUSES OF DEATH IRIS IN LATIN AMERICA

Authors: *Ruiz, P.; *Giusti, A.; *Jiménez, A.; **Yañez, M.; *La Valle, G.; *Leiva; F.; **Pérez, M.; et al.

**PAHO/ **MoH, Mexican WHO-FIC CC*

Abstract Within the framework of the #ConversandosobreSIS activities of RELACSIS / PAHO; Mexico, Colombia, Brazil, Chile and Peru, presented their experience with the International Coding System for Causes of Death, Iris; during a Webinar series. The exercise was of maximum interest to the personnel involved in the processes of generating mortality information in the countries of the Region of the Americas.. These works had the added value with the first exhibition that was given by the Iris Institute.

Introduction

During the months of June and July 2019, webinars on the work of the International Coding System for Causes of Death, Iris, were carried out within the framework of the #ConversandoSobreSIS activities of the RELACSIS / PAHO.

In these sessions, the general perspective of the International Iris Death Cause System was presented by the Iris Institute, who developed this system under the coordination of the German Institute for Medical Documentation and Information (DIMDI), which is WHO-FIC Collaborating Center.

Webinar 1: Iris Institute

In charge of the Iris Institute, which is responsible for the development and maintenance of the International System for Coding of Causes of Death Iris. The speakers were members of the Iris Institute: Friedrich Heuser of DIMDI and László Pelikán of the Hungarian Central Statistical Office (KSH). The exhibitors pointed out the advantages of having an automated coding system for mortality, in this case the Iris System, mentioning that it is available to the countries that require it to be used. They emphasized that the country that uses it and decides to implement, is responsible for developing the dictionary with medical terms, as well as the standardizations that they decide to implement in the tables for coding, which can significantly reduce the number of terms . A very important point that was addressed were the decision tables, the exhibitors made a lot of emphasis that they should not be modified, since they obey the homologation in the selection of the basic cause of death and only thus can international comparability be guaranteed

Webinar 2: Mexico

The Ministry of Health, through the Mexican Center for the Classification of Diseases (CEMECE), shared the series of tasks they have carried out for an optimal implementation of the Iris System. They explained that since they received the training from the Iris Institute in August 2016, thanks to the collaboration and the annual work plan between PAHO and CEMECE and They have made significant progress and recognized that they started with the dictionary provided by the Institute of Statistics of Spain, who shared their dictionary in Spanish. CEMECE made the necessary adjustments in the death collection systems, in addition to the translation of the 2016 and 2018 updates of the ICD-10. They mentioned that officially the Iris was implemented throughout the country from January 2018, that is, it has the first year concluded with this system. They also presented a comparative study between coding with the Iris System and manual coding where the effectiveness of this system is subscribed.

Webinar 3: Colombia

For their part, the National Administrative Department of Statistics (DANE), who are responsible for the codification of mortality, and the Ministry of Health of Colombia spoke about the institutional management for the introduction of the Iris system. In 2017, with the support of the Bloomberg Foundation and advice from the Iris Institute, he began the process of migration and technological adaptation. The following points were reported:

In 2017 they carried out survey and requirements analysis, in addition to training and meetings with Iris group in Cologne, Germany. They made the technical preparation of the tables for coding.

They currently have the first quarter of 2019 information coded with the Iris System and preliminary results.

With these activities that they have developed, the progress they have achieved is determined from the tests that will be developed within the country and the advantages they have obtained.

Webinar 4: Brasil

The Brazilian Ministry of Health initially shared its population context and with emphasis on deaths, exposing the challenges and opportunities it offers.

Regarding the Iris System in 2016-2017 they performed the translation of the interface as well as Iris's messages into Portuguese. They adapted the ValidIcdCodes table for Portuguese and the translation of the user manual. In addition to the participation of two technicians in the course on Iris in Cologne, Germany. The training was also a core point in this implementation, they conducted a training workshop of 85 technicians. An important point was the use of Anaconda software with the Iris System.

Webinar 5: Chile

For its part, the DEIS of the Ministry of Health of Chile highlighted the alliance that it made with CEMECE for this implementation. They took the adjusted dictionary available in the RELACSIS / PAHO and made the necessary contextualization. They carried out training with coders and informatics and integrated the Iris System to Vital Facts. They performed double coding tests and analyzed the results, verifying the coincidence in up to 79%. They showed some examples of cases and discussion was encouraged in the specialized group for this topic.

Webinar 6: Peru

Peru through its Ministry of Health made an alliance with Brazil for training. They have coded Deaths 2016 containing 97,241 death certificates. The Iris System managed to assign the basic cause of death in 65,735, that is, in 69.6% of the records.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Health Information meets Health Informatics

The Electronic Causes of Death Certificate

Authors: Wendy Loorbach-van Zutphen & Eva Krpelanová
Statistics Netherlands (CBS)

6-11 October 2019
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Poster ID
323

Abstract We have been working on an electronic causes of death certificate with the ultimate goal to efficiently produce causes of death statistics of outstanding quality, while making the process smoother and more convenient for the certifiers.

Introduction

In the Netherlands we have been working on the electronic death certificate for a number of years now. As in other countries around us, we experience this as a slow and challenging process with various barriers to cross in the areas of law, health care software and the very diverse groups of certifiers. But looking into the future we eventually see convenience for the certifiers, more detailed information of a better quality and a much more efficient and straightforward approach to produce causes of death statistics.

In this poster we will illustrate our process, the current stage we are in, which issues we are still tackling and where we expect to be in the next year.

Challenges

First of all, in the Netherlands the law requires death certificate to be sent to Statistics Netherlands (CBS) on paper. So we have been working on changing the law for years and hope to see this happen at the end of 2020.

Secondly, the healthcare software field is rapidly changing and evolving. This brings us benefits such as better ways to connect files and to send them in a secure way, but also challenges like software monopolies, vendor lock-ins and costs for health care providers.

Finally, we need to help the certifiers move towards the digital certificate, by showing them that eventually it will be easier and more convenient for them to fill out and that they will also be providing us with information of better quality.

Plans

In the next year we aim to:

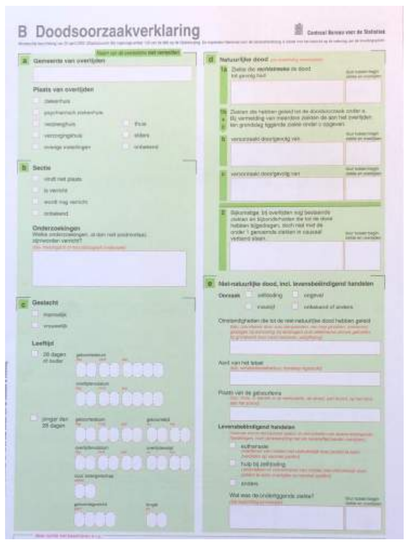
- Expand and diversify pilot studies in order to learn as much as possible about the different groups of certifiers and the digital systems they work with;
- Keep up to date with the developments in health care software;
- Interview certifiers in different fields to find out what would help them fill out the certificate in the best possible way;
- Optimize the design of the certificate both on paper and digitally with input from certifiers and users;
- Launch a communication strategy aimed at certifiers, undertakers and municipalities to help them move towards the digital certificate once the law has been changed.

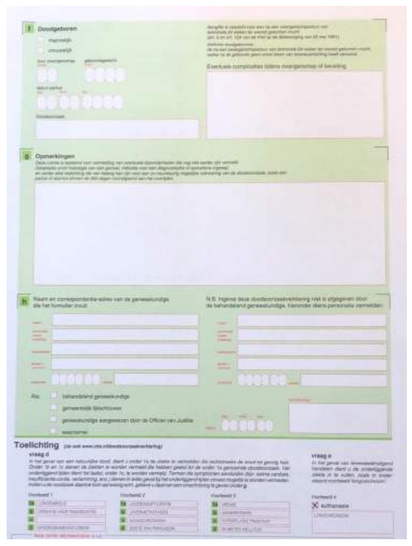
Where are we now?

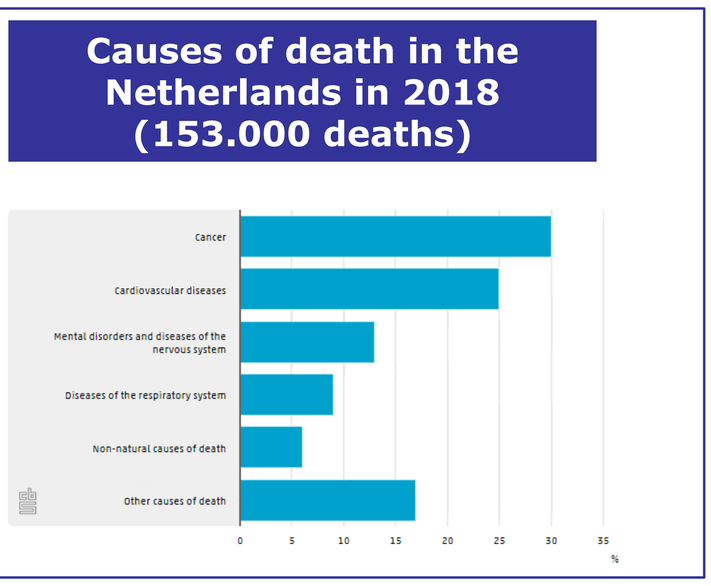
Certifier	Undertaker	Municipality	CBS
fills out both parts of death certificate (A-form and B-form) on paper and passes it on to undertaker	delivers both forms to municipality	keeps A-form, writes a unique code on envelope of B-form, sends B-form to CBS	receives B-form, scans it, types all entries manually into system, feeds data into coding software (Iris)

Where do we want to go?

Certifier	Secure system	CBS
fills out digital form based on information in electronic patient file, partially prefilled	form is sent to CBS through an encrypted e-mail service	receives digital form and feeds data into coding software (Iris)







Facts that matter

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

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324

Methodology to request clarification of the causes of medical death certificates in Cuba

Authors: Bess S., Martínez MA., Alonso I., Pérez ME., Alonso I., Castanedo K., Ramos V.
Cuban Center for Classification of Diseases, Cuba

Abstract A bibliographic review was carried out on the existing normative documents to make requests for clarification of the causes registered in the medical death certificates, developing a methodology that included all aspects to be taken into account in order to contribute to raising the quality of statistics of mortality, based on medical death certificates that present difficulties in filling. The procedures to be followed in each level of health care are detailed, the format of the official models to be filled out is presented.

Introduction

Mortality statistics are among the most used by decision makers worldwide to draw up health strategies aimed at influencing the causes of diseases and thus reducing the morbidity and mortality levels of the population. Hence the importance of these indicators having high attributes of quality and completeness. One of the factors that threatens the quality of this information is the incorrect filling of the section of the causes of death despite the multiple training routes aimed at medical staff to avoid mistakes. One of the alternatives used in our country is the request for clarification made by the coder to the certifying doctor by written notification, when filling in the causes of death denotes that there was a deficiency.

Methods & Materials

A bibliographic review was carried out on the normative documents and existing models to make requests for clarification of the causes registered in the medical death certificates. A methodology was proposed that includes the steps to follow in the review of the cause of death by medical records and statistics staff from the unit where the death certificate is issued to the national level and the procedures to be followed by The medical staff. The format of the official models to be filled for these purposes is updated and their main specifications are detailed. A list of causes is proposed that when appearing on the last line of the death medical certificate, a clarification must be requested from the certifying doctor, as well as a list of causes of death that appear as the only cause on the death certificate or that is not mentioned no complications thereof, clarification should be requested from the certifying physician.

Results

Circular corresponding to the year 2019 was issued, which includes:

• Review process of the cause of death section for medical records and statistics personnel in the health unit, municipal level, provincial level and national level through which the death certificate goes.

• Aspects to take into account when making the request for clarification of the causes of death to the certifying doctor (identification of the deceased, data of the applicant, data of the certifying doctor, aspect to be clarified).

• Control of the requests made and of those answered.

• Requirements for medical personnel to fill out the request for clarification of the causes of death or the model of the deceased's discussion report, as well as the period of time to conform the response.

• Annexes were made with the official models to manage the clarification of the causes of death: 18-41-01 "Report of discussion of deceased" and 18-207 "Request for clarification of Medical Death Certificate".

• An annex was made with a list of deficient causes in the last line of the medical death certificate or that appear alone without mention of complications, among which are: hypostatic pneumonia, septic bedsores, chronic renal failure, liver failure, digestive bleeding, pulmonary thromboembolism , liver cirrhosis, dehydration, acute peritonitis, tumor without specification of nature and location, among others, as well as hypertension and arteriosclerosis without mention of complication. For all of them, a suggestion of the question to be asked was placed.

Results

MODELO 18-41-01
Ministerio de Salud Pública
ESTADÍSTICA
UNIDAD:

REPORTE DE DISCUSIÓN DE FALLECIDO

FECHA (DÍA / MES / AÑO)

FALLECIDO: PRIMER APELLIDO | SEGUNDO APELLIDO | NOMBRE (S):

FECHA DE DEFUNCIÓN (DÍA / MES / AÑO) | LUGAR DE OCURRENCIA DE LA DEFUNCIÓN (HOSPITAL, POLICLÍNICO, DOMICILIO, ETC.)

MUNICIPIO: | PROVINCIA: | No. ORDEN DE REGISTRO DE LA UNIDAD: | No. CONSECUTIVO DE LA PROVINCIA:

LAS CAUSAS QUE A CONTINUACIÓN SE CERTIFICAN ESTÁN CONFIRMADAS POR NECROPSIA: **SI** **NO**

LA COMISIÓN ENCARGADA DE LA DISCUSIÓN DE FALLECIDOS EN EL CASO ARRIBA INDICADO, HA LLEGADO A LA SIGUIENTE CONCLUSIÓN, O SEA, QUE LA REDACCIÓN CORRECTA DEL CERTIFICADO SEGÚN LAS CAUSAS VERDADERAS DE DEFUNCIÓN SON:

Causas de Muerte:		**Tiempo aproximado entre el inicio de la causa y la muerte**
PARTE I		
Enfermedad o Estado Patológico que finalmente produjo la muerte directamente	**a)** **CAUSA DIRECTA**	
	b) **CAUSA QUE OCASIONO LO ANOTADO EN PARTE I a)**	
Causas que antecedieron a la causa directa, si existen. La última causa anotada en b, c o d será la que inició todo el proceso patológico	**c)** **CAUSA QUE OCASIONO LO ANOTADO EN PARTE I b)**	
	d) **CAUSA QUE OCASIONO LO ANOTADO EN PARTE I c)**	
PARTE II		
Otras estados patológicos significativos que contribuyeron a la muerte, pero no relacionados con la enfermedad o estado morboso que la produjo		

MEDICO QUE EXPIDIÓ EL CERTIFICADO ORIGINAL	**PRESIDENTE DE LA COMISIÓN DE DISCUSIÓN DE FALLECIDOS**	**CONSECUTIVO PROVINCIAL**
NOMBRE Y APELLIDOS	NOMBRE Y APELLIDOS	No. _____
FIRMA	FIRMA	

MODELO 18-207
Ministerio de Salud Pública
ESTADÍSTICA

SOLICITUD DE ACLARACIÓN A CERTIFICADO MÉDICO DE DEFUNCIÓN

FECHA DE SOLICITUD (DÍA / MES / AÑO)

MÉDICO CERTIFICANTE (Nombre y Apellidos): | UNIDAD: | PROVINCIA:

DEL CERTIFICADO CONFECCIONADO POR USTED AL FALLECIDO: | NOMBRE Y APELLIDOS DEL FALLECIDO: | FECHA DE DEFUNCIÓN (DÍA / MES / AÑO)

No. Reg. Udad: | No. Provincial:

NECESITAMOS ACLARAR LO SIGUIENTE:

NOMBRE Y APELLIDOS DEL QUE SOLICITA: | FIRMA: | CENTRO SOLICITANTE:

RESPUESTA A ACLARACIÓN:

MÉDICO QUE RESPONDE ACLARACIÓN (Nombre y Apellidos): | No. REG. PROFESIONAL: | FIRMA:

Conclusions

o A methodological normative document is issued that organizes the process for requesting clarification of the causes of death.

o Functions are established for both medical records and health statistics personnel and for medical personnel in the process of clarifying the causes of death.

o It contributes to the training of the doctor for the correct filling of the medical death certificate in the section corresponding to the causes of death.

o A positive result is expected in improving the quality of mortality statistics for better decision making.

Acknowledgements or Notes

Circular 13 / 2019 “Normative document for the request for clarification of the causes of death in the medical death certificates.”

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

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325

A study on the basic data for patient survey <morbidity statistics>

Authors: Yukiko Yokobori, Makoto Anan, Yasuo Arai, Tokiko Inagaki, Osahiro Takahashi, Tetsu Tsukamoto, Jyoji Nakagawara, Hiroyuki Suenaga

Japan Society of Health Information Management, Japan CC

Abstract In Japan, the Patient Survey has been conducted since 1953 as a government-designated survey in accordance with the Statistics Law. To consider the future direction of the survey (morbidity statistics), the survey on the data collection methods for morbidity statistics was conducted among 22 countries including major industrialized countries.
The survey results serve as a resource to support the policymaking, as well as reference materials indicating the disease structure change and the trends of the healthcare delivery systems. They provide a valuable basis for consideration of the quality of survey and statistics from the aspects of functionality and reliability. The developing countries were also surveyed to grasp their intention and effort toward morbidity statistics. Obtaining answers from seven major industrialized countries and eight developing countries, the results provide valuable data, and serve as useful materials for Japan and other countries around the world to consider future healthcare planning and morbidity statistics which enable international comparison.

Introduction

Nowadays morbidity structure has been rapidly changing, and in this era morbidity statistics data have a great potential to utilize for many fields including citizen's health, medical research, healthcare delivery, and etc. in each country. Since the ICD-11 has developed focusing not only on mortality but on morbidity statistics, morbidity data of high quality is now collected in many countries.
With regard to morbidity statistics in Japan, the Patient Survey has been conducted since 1953 as a government-designated survey in accordance with the Statistics Law. Since 1984, the survey has been conducted every three years at hospitals and clinics on one designated data set for each hospital to collect and aggregate specific information.
To consider the future direction of the survey (morbidity statistics), current situation of morbidity statistics in countries was surveyed and summarized as basic material.

Methods & Materials

From May to November 2018, survey request was sent to the 22 countries of the WHO-FIC Network and the WHO-FIC Asia Pacific Network (APN) including European countries, United States, Canada, and all APN countries. The WHO-FIC CC heads and APN participants filled in online or paper questionnaire.
In addition to the questions related to morbidity statistic, additional questions on ICD-11 and introduction of electronic health records were included in the survey

Surveyed countries (22 countries)

- WHO-FIC Collaborating Centre Countries (10): Australia, Canada, China, France, Germany, India, Korea, Thailand, United Kingdom, United States
- APN Countries (12): Bangladesh, Bhutan, Cambodia, Fiji, Hongkong, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Timor-Leste, Vietnam

Survey Items

<Morbidity Statistics>

◆Collection of patient data ◆Survey organ◆Survey cycle ◆Covered institutions ◆Covered patient ◆Covered diseases ◆Survey items ◆Survey methods ◆Survey history ◆Administrative support to data collection ◆Human resources ◆Tabulation of the results ◆Tabulator ◆Rapporteur ◆Responsible person adding Codes to the data ◆Processing time for creating statistics and publication ◆Restriction of secondary use of Statistical data ◆Accessibility to the Statistical data ◆To secure the quality of data ◆Obstacles to patient data collection

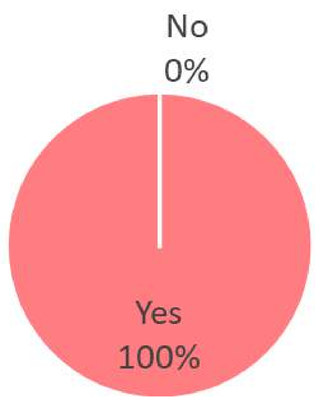
Results

Responding countries: 15 countries
Response rate：68%

- Australia,
- Bangladesh
- Bhutan
- Canada
- China
- France
- Germany
- Hongkong
- Indonesia
- Lao PDR
- Myanmar
- Nepal
- Thailand
- U.S.
- Vietnam

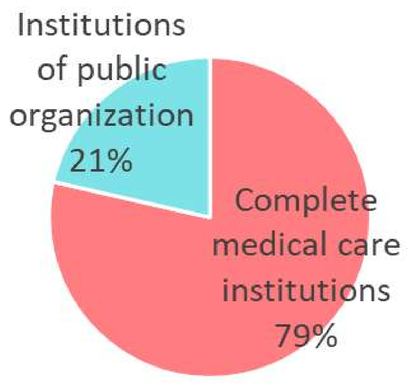
■ Patient data is collected in the country?

- Yes(15)
- No(0)



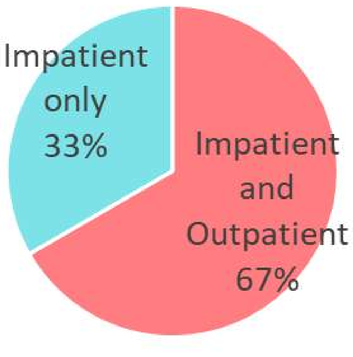
■ Covered institutions

- Complete medical care institutions (11)
- Institutions of public organization (3)



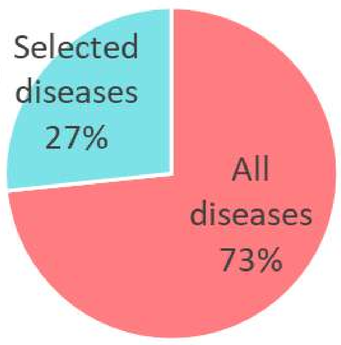
■ Covered patient

- Impatient and Outpatient (10)
- Impatient only (5)



■ Covered diseases

- All diseases (11)
- Selected diseases (4)



<ICD-11 (additional questions)**>**

■ Plans to translate ICD-11 into the country's language: Yes (7), Maybe (4), No (4)
■ Plans for the ICD-11 approval: Yes (6), Maybe (6), No (3)
■ Plans to formulate a system for ICD-11: Yes (4), Maybe (1), No (2)

<Electric Medical Records (additional question) **>**

■ Current adoption rate for electric medical records: 100% (2), 90% (1), 50% (2), 30% (1) 20% (1), A few hospitals (1), 0 (2), planned (1)

Conclusions

From the results of the questionnaire survey, collection and utilization of the health care data were already started or about to start in the targeted countries in Asia, as well as in WHO-FIC Collaborating Centre countries. As for the survey cycle, the answers are "once a year" from most targeted countries, furthermore, "every day" from some countries. With regard to the coverage, some countries collect not only inpatient but also outpatient data. Also, the ICD-11 introduction was surveyed as additional question. Asian countries are more positive to introduce the ICD-11 into their countries than WHO-FIC CC countries. It is considered that, compared to the countries that have already introduced ICD for a long time, the countries that have not introduced it yet are in a situation where they can easily plan to introduce it, since they are in the process of developing the IT infrastructure and they don't have work of transitioning from previous version of ICD. In view of the present situation of the countries' patient survey, they collect, manage, and utilize data of high quality.
We concluded that Japan needs to consider nationwide morbidity statistics, with review of the current patient survey that is conducted once every three years.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

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326

ICD-data collection features: an international survey

Authors: Lucia Otero Varela, Chelsea Doktorchik, Natalie Wiebe, Catherine Eastwood, Hude Quan

Canadian WHO Collaborating Centre for Classification, Terminology and Standards

Calgary, Canada

Abstract ICD use and data collection features varies greatly across countries. Through an online survey, we collected information on hospital ICD-coded data collection features globally. Results from this survey provide a better understanding of ICD-coded data features worldwide and could set the starting point for future research or initiatives focused on improving ICD coding and international comparisons of health data.

Introduction

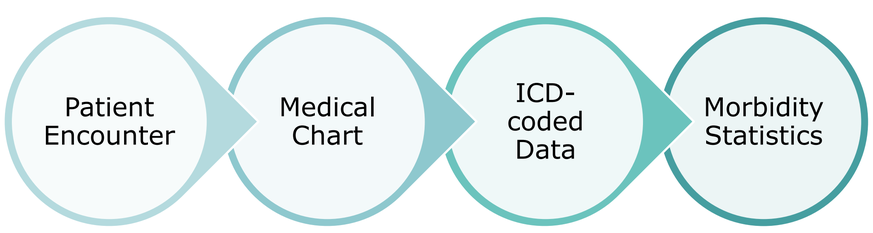
The International Classification of Diseases (ICD) is globally used for coding morbidity and mortality statistics.

However, ICD use (version 9th or 10th, and the different modifications), as well as the data collection features vary greatly across countries.

Objectives:

- To characterize hospital ICD-coded data collection features worldwide.
- To better understand the differences in coding practices internationally.

Figure 1. Flow chart of DAD (Discharge Abstract Database) generation



Methods & Materials

Online survey created to poll information on hospital data collection systems and ICD-coded data features.

Representatives from organizations specialized in the topic, such as WHO-FIC and IFHIMA (International Federation of Health Information Management Association), were contacted.

Using snowball sampling technique, the survey was distributed to potential participants that meet the specific criteria.

Respondents were limited to:

- Health Information Managers,
- Representatives from the Ministry of Health
- Representatives from a national organization that maintains or disseminates hospital data
- Educators of coding specialists
- People involved with hospital data collection

Answers were analyzed using descriptive statistics.

Results

Table 1. Country-specific answers for ICD-data collection features

Country	Definition of "main condition"	Maximum allowable coding fields for Diagnosis	Maximum allowable coding fields for Hospital interventions
AFRICA			
Botswana	Reason for admission	31 or more (limited)	No
Mauritius	Reason for admission	1 - 6	1 - 6
Nigeria	Reason for admission	31 or more (limited)	31 or more (limited)
United Republic of Tanzania	Reason for admission	Unlimited	Unlimited
AMERICA N.			
Barbados	Resource use	I don't know	I don't know
Canada	Reason for admission	16 - 30	16 - 30
Jamaica	Reason for admission	31 or more (limited)	31 or more (limited)
United States of America	Reason for admission	16 - 30	16 - 30
AMERICA S.			
Chile	Resource use	7 - 15	7 - 15
Guatemala	Resource use	1 - 6	1 - 6
Paraguay	Resource use	I don't know	I don't know
Uruguay	Reason for admission	1 - 6	1 - 6
ASIA			
India	Reason for admission	1 - 6	No
Indonesia	Resource use	16 - 30	16 - 30
Iran	Reason for admission	Unlimited	Unlimited
Republic of Korea	Resource use	31 or more (limited)	31 or more (limited)
Saudi Arabia	Reason for admission	16 - 30	16 - 30
Thailand	Reason for admission	Unlimited	Unlimited
EUROPE			
Germany	I don't know	I don't know	I don't know
Italy	Resource use		
Netherlands	Both	Unlimited	Unlimited
Spain	Resource use	16 - 30	16 - 30
Sweden	Both	Unlimited	Unlimited
United Kingdom	Resource use	Unlimited	Unlimited
OCEANIA			
Australia	Reason for admission	31 or more (limited)	31 or more (limited)
New Zealand	Reason for admission	31 or more (limited)	31 or more (limited)

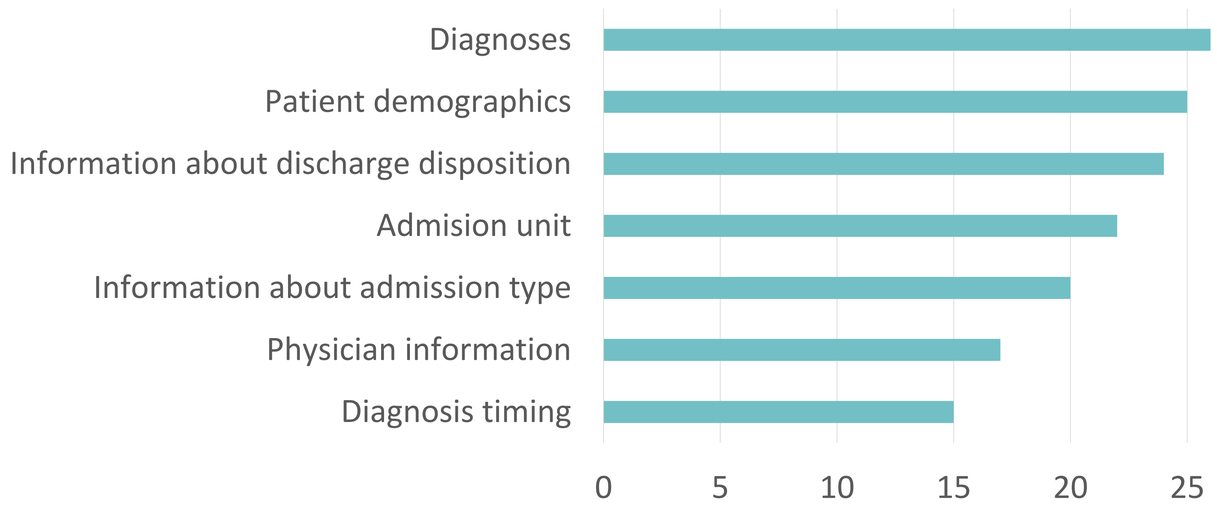


Figure 2. Frequency of countries collecting each of the mandatory data fields

Results (Continued)

Data from 48 respondents from 26 different countries has been collected.

Disparities exist in the data collection features:

- To define main condition, 54% of the countries use "reason for admission", 35% utilize "resource use" and 8% use both.
- Diagnosis timing and physician information are the least frequently required mandatory data fields.

Conclusion

These survey data will establish the current state of ICD use and data collection features internationally for:

- Promotion of ICD, rollout of ICD-11
- Better international comparison of data
- Future research on how to improve ICD coding

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327

Establishing a relationship between ICD and SNOMED-CT clinical diagnosis codes using a "Bottom-Up" approach based on natural language processing.

Xavier Pastor, Artur Conesa, Raimundo Lozano, Elisa Asensio

Hospital Clínic-University of Barcelona (Spain) and BCN-Spain CC (Spain)

Abstract Natural Language Processing allows the real-time coding of clinical expressions to assist physicians in patient's management. ICD11 and SNOMED-CT are the best terminologies for that purpose. Quality must be warranted and evaluative actions must be done with expert supervision of the machine learning technology. First step is to check the completeness and agreement between these two terminologies in a real world scenario.

Introduction

Textual narrative is the commonest way to stablish communication among healthcare professionals. Health problems (HP) are the drivers which conduct clinical decisions. In an integrated healthcare scenario among different healthcare organizations is crucial to have a solid Health-Problems list to be shared and properly managed by the clinicians. ICD and SNOMED-CT and are two terminologies commonly used in healthcare.

The WHO-FIC white paper on mapping elucidates different mapping methodologies. The usual methodology of mapping is a Top-Down model in which expert co-ders decide the best correlation between the two coding systems.

Natural Language Processing (NLP) is a new technology based on heavy data processing with Artificial Intelligence (AI) algorithms that can be successfully applied in real time to clinical language to transform text into the proper code with the human supervision expertise.

Our proposal is to evaluate if there is any significative difference between the "Top Down ICD and SNOMED-CT mapping" and a new "Bottom-Up approach" in the matching of pairs of codes obtained from a supervised NLP over clinical textual expressions used in referrals between Primary Care (Family Physicians) and Specialized Care (Consultants).

Methods & Materials

A list of free clinical expressions will be given to external coders experts in ICD11 and SNOMED-CT. They will code these expressions to train and review the dual-coding NLP system powered by AI technology based in Support Vector Machines supervised learning with any classification system.

The NLP system will be continuously evaluated by means of sensibility, specificity and F score until it reaches a threshold with enough confidence.

At the end of this "Bottom-Up" process a list of clinical expressions (HP) will be associated with a pair of codes (ICD11 and SNOMED-CT). An evaluation of this "dual coding" will be done with a concordance analysis. ICD11 codes will be independently mapped to SNOMED-CT with the Top-Down mapping. A comparison will be done among the results of the two approaches (Top-Down versus Bottom-Up).

Results

As a first step to apply the methodology described before, we made a simulation with a small sample. Approach:

1. Extraction of the 500 most frequent textual diagnostic expressions in hospital discharge reports (2018) and their ICD-10-CM codes, automatically assigned by a virtual assistant using NLP technology. https://icd.who.int/ct11_2018/icd11_mms/en/release#/

2. Manual coding of 75 randomly selected diagnostic expressions with ICD-11 done by a trained coder using the WHO ICD-11 Coding Tool and Browser. Validation of coding with the WHO official "10To11MapToOne Category" mapping. https://icd.who.int/browse11/l-m/en

3. Manual coding of the same diagnostic expressions with SNOMED CT done by the same expert using SNOMED International SNOMED CT Browser. https://browser.ihtsdotools.org/

The results of manual coding with ICD-11 of the 75 selected expressions are shown in Table 1. In 93% of cases the mapping from ICD-10 has been to an ICD-11 stem code, although 53% of these codes belong to residual categories. In the remaining 5 cases, the ICD-11 code requires postcoordination and in one case no equivalence could be found.

Coding results with ICD-11 and ICD-10 mapping	
Assignment of a stem code	33
Assignment of a residual category code (unspecified)	37
Assignment of a postcoordinated code	5
Unassigned ICD-11 code*	1
Total	75

Table 1 (* This case is shown in table 2 as id.5)

Manual coding with SNOMED CT core has been possible for all selected expressions. Only one case has used an extension code (15781000119107 |Hypertensive heart AND chronic kidney disease with congestive heart failure (disorder)|). Table 2 shows some examples of the coding performed with both terminologies.

id	ICD-11 code	ICD-11 Term	ICD-10-CM assigned code (NLP)	Textual diagnosis	SNOMED CT concept id	SNOMED CT - FSN Description
1	**1C41&XN2H4**	Bacterial infection of unspecified site. Infectious agent Enterococcus faecalis	**B95.2**	Infección enterococcus faecalis (Enterococcus faecalis infection)	**406574007**	Infection due to enterococcus (disorder)
2	**GB61.Z/5A11**	Chronic kidney disease, stage unspecified. Has causing condition Type 2 diabetes mellitus	**E11.21**	Nefropatía diabética (Diabetic nephropathy)	**127013003**	Disorder of kidney co-occurrent and due to diabetes mellitus (disorder)
3	**BB4Z**	Acute or subacute endocarditis, unspecified	**I33.0**	Endocarditis aguda (Acute endocarditis)	**91357005**	Acute endocarditis (disorder)
4	**JA03**	Missed abortion	**O02.1**	Aborto diferido (Deferred abortion)	**16607004**	Missed abortion (disorder)
5			**I13.0**	Cardiopatía hipertensiva con IRC con IC (Hypertensive heart disease with CKD and HF) (Ref. in Table1)	**157810001 19107**	Hypertensive heart AND chronic kidney disease with congestive heart failure (disorder)

Table 2 Examples of the results

The comparative analysis of the final concepts obtained is summarized in Table 3. While 83% of coded expressions identify concepts with the same level of granularity in both terminologies, the remaining 16% are showing lower specificity in ICD-11.

ICD-11 vs SNOMED CT clinical concepts	
Similar level of granularity	62
Different level of granularity	12
Unassigned ICD-11 with SNOMED CT code assigned	1
Total	75

Table 3 Summarization of results.

Conclusions

Preliminary results point-out the feasibility to stablish right pair associations of ICD10/11 and SNOMED-CT codes with common clinical expressions.

However some expressions failed to have a full pair with ICD11 in spite to use the capability of post-coordination and multiple coding.

Next step has to be applying the supervised NLP to a massive corpus of texts to achieve the desired "Bottom-Up" approach and check the degree of concordance with the "Top-Down" mapping.

Visualizing the 11th International Classification of Diseases

Bon Adriel Aseniero, Dr. Søren Knudsen, Dr. William Ghali, and Dr. Sheelagh Carpendale
University of Calgary, Alberta, Canada

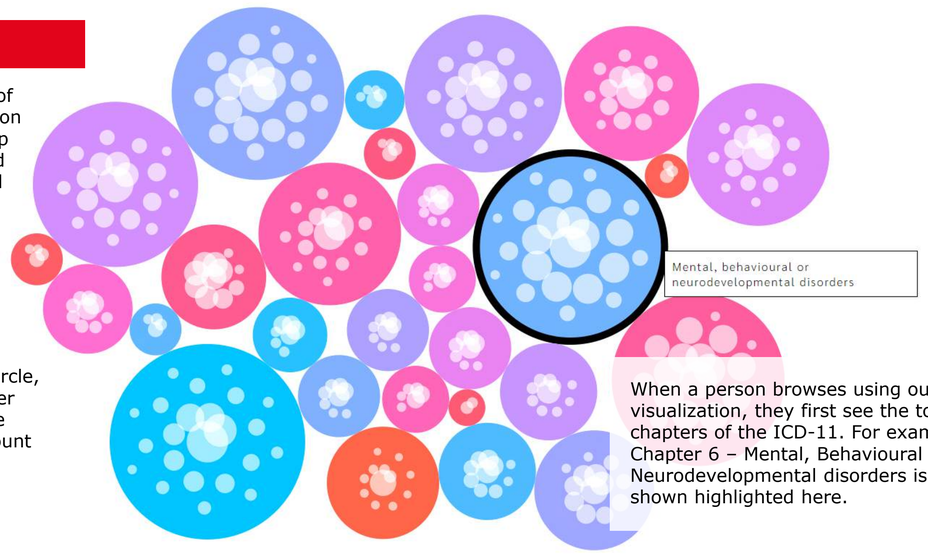
5-11 October 2019
Banff, Canada
Poster Number
WHO/CTS to insert

Abstract We designed and implemented an interactive artistic data visualization of the 11th International Classification of Diseases(ICD-11). Our visualization primarily showcases the structure of the ICD-11, showing how the different codes fall into the main disease categories (chapters) and subcategories. This is our preliminary approach in the design and study of artistic visualizations for exploring the ICD-11, as well as aid in its awareness campaign.

The Visualization

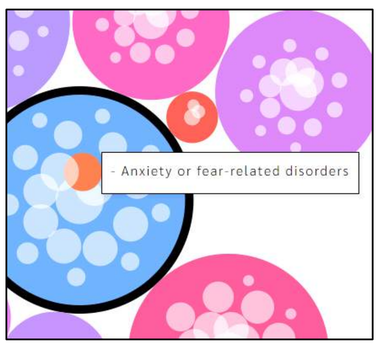
Data visualization, or the use of interactive, visual representation of data has been shown to help people explore and understand big data. Hence, we developed a visualization for browsing and exploring the ICD-11.

We designed a visualization similar to *tree visualizations* which shows the hierarchy of ICD-11 codes into categorical groupings and subgroupings. Each category is shown as a circle, and its subcategories as smaller circles within it. The size of the circles corresponds to the amount of codes the category has.

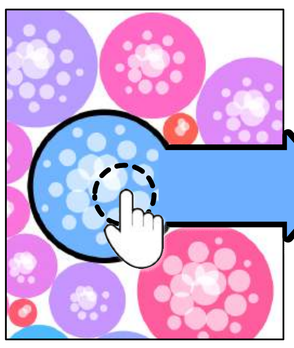


When a person browses using our visualization, they first see the top 26 chapters of the ICD-11. For example, Chapter 6 – Mental, Behavioural or Neurodevelopmental disorders is shown highlighted here.

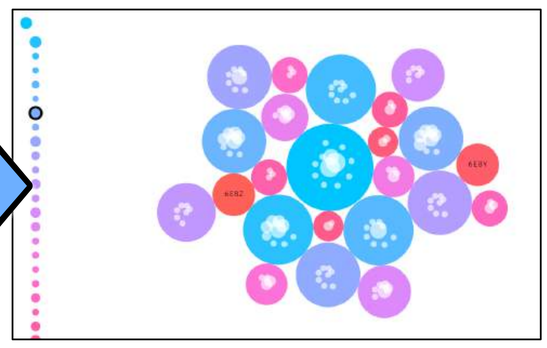
Figure 1. The 26 chapters, supplementary and extension codes of the ICD-11.



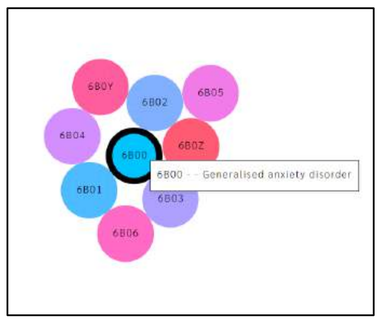
You can preview the subcategories of a group by hovering over the smaller circles in it.



You can explore the contents of a group by clicking on it.



As you go deeper into the hierarchy, the groups on the upper layers get visualized on the side. The current group is marked with a black border.



The individual codes in a group are labelled with their code and cannot be clicked further.

Future Work

This project is a work-in-progress and we are thinking of ways of how to improve it. First, we would like to explore linking it with another data sources (e.g., the Global Burden of Disease Study) to show how the ICD-11 relates to them. For example, rather than having the size of the circles show the amount of codes in a disease group, it can visualize the prevalence of that group within a population instead.

Next, we want to develop story-telling techniques and incorporate them into the visualization to help people understand what the ICD-11 is all about.

Acknowledgements

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UNIVERSITY OF CALGARY

ing of morbidity/ mortality data onic diagnostic terminology tool t the general hospitals ncome setting

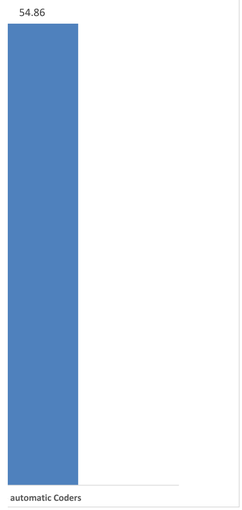
6-11 October 2019
Banff, Canada
Poster ID
328

aramola[3]; Kendra Njoku[4]; Bob Mash[5]; Adenike Omosun[6]
rtment of Primary and Community care, Radboud University Medical Centre,
nstitute for Healthcare Improvement, Lagos office, Nigeria[4] Division of Family
ectorate of Medical Services Health Service Commission, Lagos State, Nigeria[6]

s of the health system. Since encoded data on diagnoses and procedures are put to a broad range of uses, accuracy
al Hospitals in Lagos State from 78.7% to ≥95% between March 2018 and September 2018. **Method**: A quality
ftware and training of 52 clinical coders selected from the 26 General Hospitals. Immediate post-training
employed for monitoring and evaluation **Results:** Initial audit yielded a baseline coding accuracy of 78.7%. The
he use of the difficult items for the post-training exercise accounted for the lower coding accuracy when compared
riod was 91.3%. All but one had exceeded baseline and one had reached the goal within the stipulated time frame.
oted to paper-based records does improve coding accuracy and with continuous use/practice should improve reliability

s

ng accuracy



racy (54.9%) from the
ure II, the speed of
age time taken to code
st the same but for a
ween manual coders
omatic coders (47

etween the two groups
(p-value=0.021) as
not the case with the

ge monthly

Conclusions

Clinical coding is an important practice in Health Information Management which provides valuable data for vital purposes such as health care quality evaluation, health care resource allocation, health services research, public health programming and medical billing. Similar to the automated encoding software, a semi-automatic encoding software offers the possibility of improving coding accuracy and is fit for the purpose of improving coding accuracy in settings where paper-based medical records are operational.
Limitation: Paper-based records limit the possibility of measuring the data quality dimension of completeness because it is feasible to code mainly the primary diagnosis for each patient. However, this did not impede the measurement of other crucial dimensions of data quality in this study.

Figure IV: Average % coding accuracy from each of the hospitals in the first division for the period April 2018 to March 2019

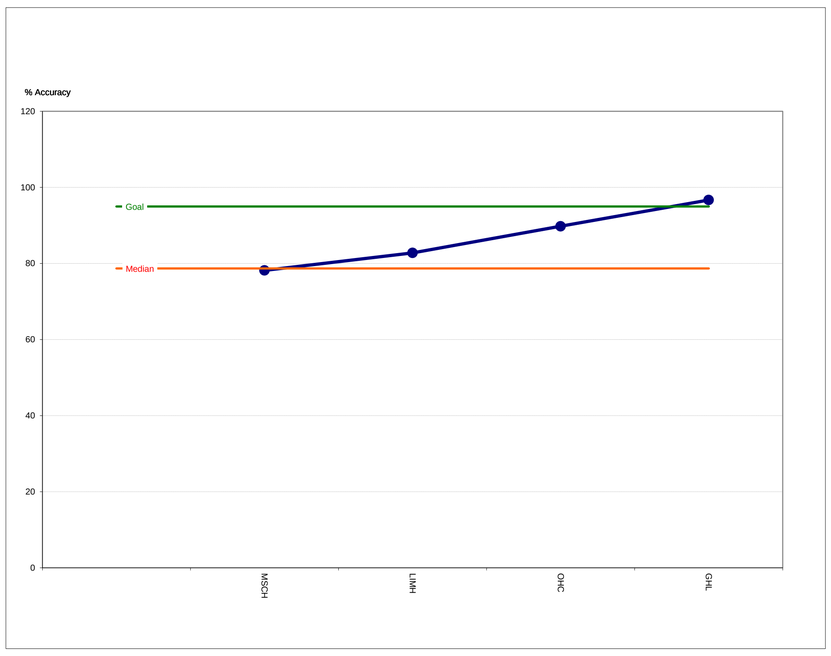
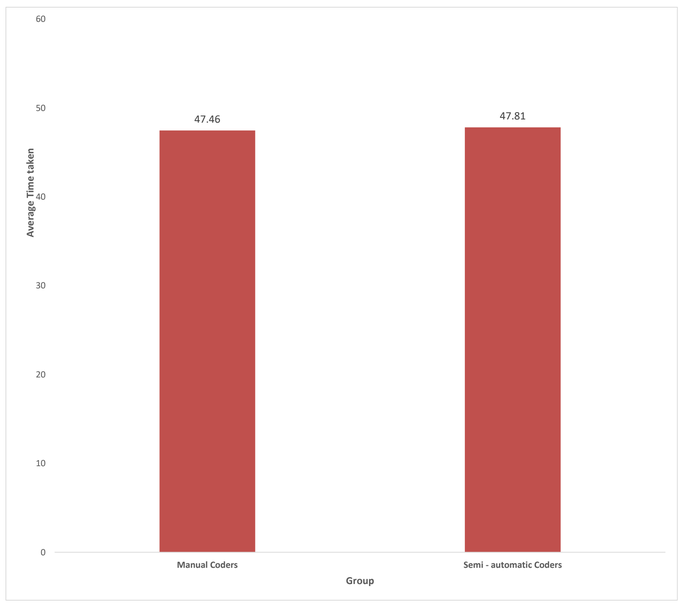


Figure II: Average time taken (minutes) to complete coding exercise



thesaurus improves the accuracy of manual coding compared with the traditional method of manual coding among non-clinician secondary coders in a setting that is

Methods & Materials

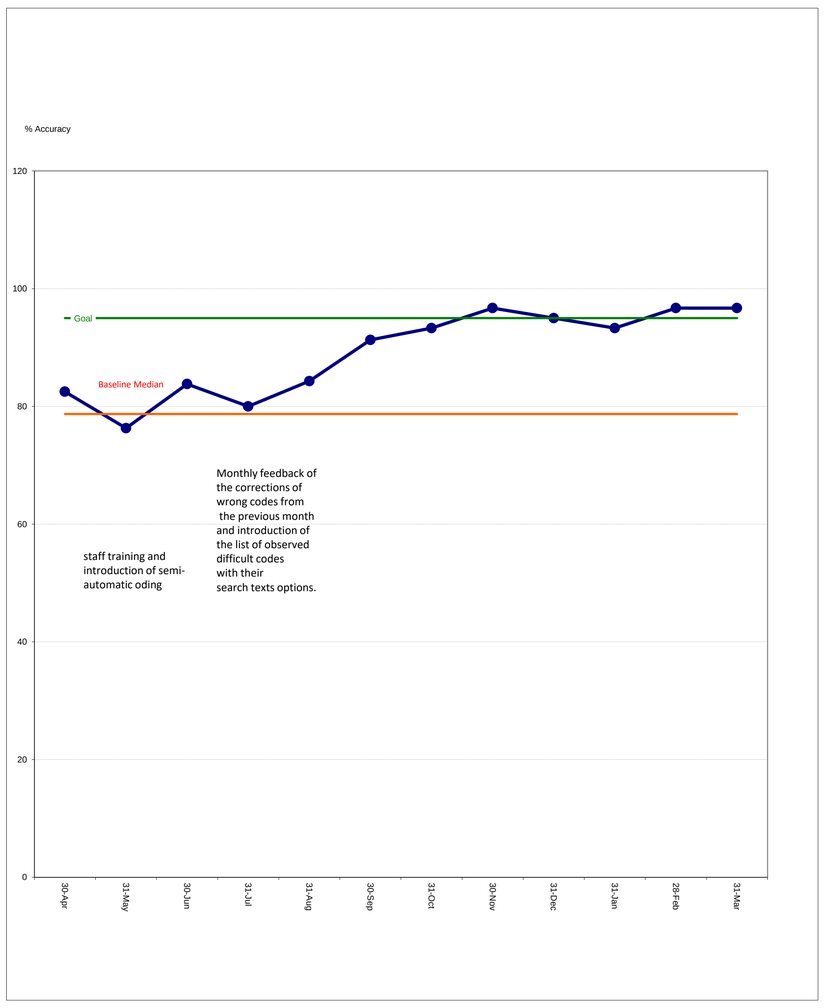
Study design: The study design was a quality improvement (QI) initiative using the PDSA (Plan-Do-Study-Act) cycle framework. It entailed the establishment of a QI team, baseline assessment of the Quality problem, planning and testing of interventions, continuous monitoring and evaluation with refinement and sustainability of proven successful interventions in repeated PDSA cycles.
Study setting: The study was set in Lagos State, Nigeria. It holds the most populous city in Africa, with a projected population of 20.5 million and an annual Population Growth Rate of 8% estimating 4,193 persons per square km. The vast majority of the population depends on the public health sector for their healthcare needs. This sector is operated by the State government through the public health facilities under the State Ministry of Health (SMoH).The Health Information Management department of the State's Health Service Commission is responsible for the management of morbidity/mortality data across the 26 General Hospitals in the State.
Study participants: A total of 52 participants included all 26 Heads of the medical records departments and a clinical coder from each of the 26 hospitals.
Evaluation plan: Outcome measure-Accuracy; Balancing measures (unintended positive or negative consequences of the intervention)-Timeliness/Speed of coding and Reliability; Process measures-Self-report of subsequent usage of the electronic coding tool and the experiences surrounding the continuous usage of the electronic coding tool within the hospitals after implementation as well as Consistency of monthly submissions of M and E sheets of the samples of semi-automatically coded data.
Ethical consideration: Ethical approval to conduct this study was obtained from the HREC of Lagos State University Teaching Hospital (Reference number: LREC/10/06/442) and informed consent was given by the Medical Records Officers.

Table 1:Comparison of accuracy and speed of coding between manual and semi-automatic coders

Variables	Categories	Mean	Std Dev	T-test	P-value
Accuracy of coding	Manual	47.77	10.20	-2 390	0.021
	Semi - automatic	54.86	11.16		
Speed of coding	Manual	47.46	16.00	-0.065	0.948
	Semi - automatic	47.81	21.84		

ge monthly percentage coding accuracy in the hospitals from April 2018 to March 2019 which ranged from 76.3% to 96.7%. By the target date of September 2018, the average % accuracy was 83.2% but this had improved to 91.3% by the 12th month of continuous M and E.
The average percentage coding accuracy from each of the hospitals in the first randomly selected division after monthly M and E over a period of 12months is shown in Figure IV. All except one of the hospitals had exceeded baseline and one had reached the goal (96.7%).

Figure III: Average monthly % coding accuracy in the hospitals from April 2018 to March 2019



Acknowledgements or Notes

We acknowledge the input and support of all the stakeholders at the Health Service Commission and the General hospitals, particularly Mrs. Popoola, all Medical Records Officers and all Medical Directors. We honour the faculty of Healthcare Leadership Academy (HLA) Africa for their invaluable technical input. We appreciate the members of the QI team and co-facilitators at the training: Dr. Ihuoma Henshaw, Dr. Sade Ogunnaike, Dr. Tolu Onafeso, Dr. Sam Amaiahan, Dr. Oyebola, Dr. Ike Ajayi, Dr. Cosmos Odoemena, Dr. Grace Somefun, and Dr. Oluwatosin Agemo. We are grateful to Mr. Akeem Agoro for for providing ICT support.

WHO-FIC 2019

CANADA

Health Information meets Practice Information

ICF

401-410

ID	Poster Title and Authors
401	ICF Related Activities in the Czech Republic *Krejčová D, Vašková J, Sládková P, Zvolský M*
402	A challenge for ICF implementation: Japanese experience *Masahiko Mukaino, Shin Yamada, Shin-Ichi Izumi, Masaaki Otaga, Eiichi Saitoh*
403	Conceptualization and development of ICF-based needs assessment in Germany following the German "Participation Law“ *Liane Simon, Michaela Kirschneck,Sven Kottysch, Sandra Kus, Michaela Coenen*
404	A trial of mapping of ICF elements to an existing social statistic of Japan *TAKAHASHI Hideto, OTAGA Masaaki, HAYASHI Reiko*
405	Three Public Authorities in a Boat of Early Interventions for Children and Their Families *Alexander Shoshmin, Elena Starobina, Viktoria Lorer, et al*
406	Basic domains required by ICF to assess functioning & disability in Mexico. A multi-disciplinary approach *Yañez M, Andrade C, Avendaño D, et al*
407	ICF use in Flanders *Jolien Veys, Greetje Desnerck*
408	Trainings for Specialists in Consultation Networks on Rehabilitation & Habilitation: The Case of Russia *Alexander Shoshmin, Kristina Rozhko, Yanina Besstrashnova, Viktoria Lorer*
409	ICF-based clinical quality management in rehabilitation (CQM-R) *Selb M, Engkasan J, Stucki G, Mukaino M*
410	Disability/functioning assessment framework for school inclusion: the Italian perspective *Lucilla Frattura, Giovanni Bassi, Caterina Morassutto, Elia Nardo*

WHO-FIC 2019 CANADA

Health Information meets Practice Information

ICF

411-420

ID Poster Title and Authors

411 ICF in academic programs in Germany – to what extent is the ICD being taught to future social and healthcare professionals?
Andreas Seidel, Thorsten Schaumberg, Sven Kottysch, Liane Simon

412 Statistical evaluation of daily living functions associated with intractable diseases using ICF and ICD-11 Chapter V codes
Masayo KOMATSU, Toshio OGAWA, Tatsuya NODA, et al

413 Laying the foundation for an ICF core set for the community-dwelling elderly adults in general practice: the patient perspective identified in a qualitative study.
Johanna Tomandl, Stephanie Book, Anina Hoefle, et al

414 The ICF in a nutshell – Development of a short online tutorial to inform stakeholders about the ICF
Angelika Eisele, Michaela Coenen, Sandra Kus

415 ICF Education
Catherine Sykes, Stefanus Snyman, Ahmed Okasha, et al

416 Improving ICF online courses in different languages
João Mazzoncini de Azevedo Marques, Eduardo Santana Cordeîro, et al

417 The 2019 ICF update process: steps towards a new ICF release.
Lucilla Frattura, Paula Tonel, Thomas Maribo

418 The Validity and Research Utility of the WHODAS 2.0 for assessment of disability in the patients with episodic & chronic migraine
Emanuela Sansone, Domenico D'amico, Licia Grazzi, et al

419 Korean Version of WHODAS 2.0 User Manual
Haejung Lee, Jumin Song, Deokhoon Jun, et al

420 Development of WHO-DAS 2.0 Short Form Evaluation Sheet (10 item version)
Masaaki Otaga, Takako Tsutsui, Sadanori Higashino

421-424

ID	Poster Title and Authors
421	The relevance of Time and Space in Aging: the TAPAS in Aging: the TAPAS in Aging Project *Claudia Toppo, Erika Guastafierro, Rosa Romano. Sara Bordoni, Matilde Leonardi*
422	The promotion of corporation among pediatric rehabilitation experts in Japan – using Kinder Infant Development Scale (KIDS) *Satoshi Tamai, Shin Yamada, Keiji Hashimoto*
423	Development of an e-tutorial to inform about the WHODAS 2.0 *Jennifer Usinger, Sandra Kus, Michaela Coenen*
424	Describing functioning & disability in persons with severe musculoskeletal injuries using the WHODAS 2.0 *Sandra Kus, Angelika Eisele, Stefan Simmel, Michaela Coenen*

Health Information meets Health Informatics

ICF Related Activities In The Czech Republic

Authors: Krejčová D. [1], Vašková J. [1], Sládková P.[2], Zvolský M.[1]
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6-11 October 2019
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Poster Number
401

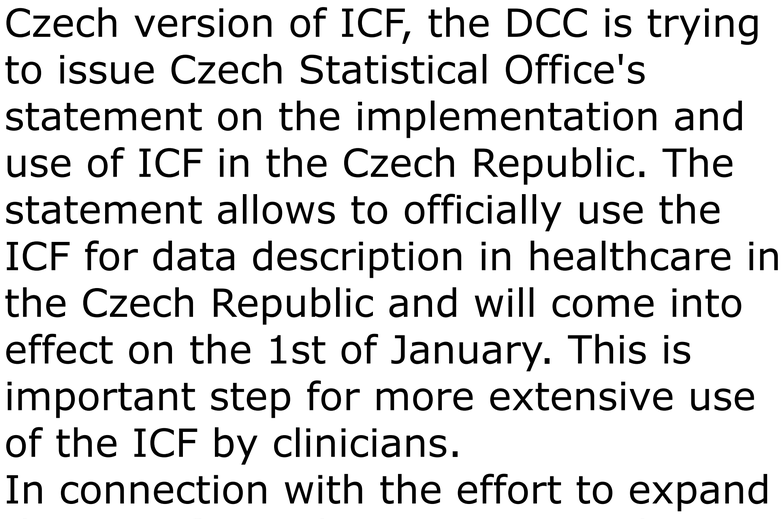
Abstract The Institute of Health Information and Statistics (IHIS) - The Department of Clinical Classifications (DCC) in cooperation with The Department of Rehabilitation, Faculty of Medicine, Charles University in Prague (DRM) maintain the Czech translation of the ICF and related tools. The effort of the DCC is to create supportive background for its use, to expand the use of ICF and related tools and to simplify the work of clinicians and social workers by various ways.

Introduction

The DCC in cooperation with The Department of Rehabilitation, Faculty of Medicine, Charles University in Prague (DRM) is in charge of maintaining the Czech translation ICF and related tools. The 2008 Czech version of ICF is in use (WHO version 2001) in the Czech Republic and the DCC is working on a major update with changes in the classification up to 2018. As an effort to facilitate the work of clinicians with search for terms in ICF, the DCC created specific Checklist forms in Czech using ICF Core Sets. The DCC created Czech version of WHODAS 2.0, interviewer-administered and self-administered. Both versions were also developed in electronic form as web applications (online calculator). In co-operation with DRM was created an instructional video explaining use of WHODAS 2.0 questionnaire and serves as training material.

Methods & Materials

With the release of the new updated Czech version of ICF, the DCC is trying to issue Czech Statistical Office's statement on the implementation and use of ICF in the Czech Republic. The statement allows to officially use the ICF for data description in healthcare in the Czech Republic and will come into effect on the 1st of January. This is important step for more extensive use of the ICF by clinicians.
In connection with the effort to expand the use of ICF, the DCC was working on developing related materials and tools. The DCC used existing questionnaire "WHO Disability Assessment Schedule 2.0 (36 items, interviewer and self-admin version)" which is developed and provided by WHO and after the license agreement realized translation of this questionnaire into the Czech language.



Picture 1: Instructional video for the Czech WHODAS 2.0 (expert's review)

Results

ICF CHECKLIST (česká verze)
Verze 2.1a, Klinický formulář
Pro Mezinárodní klasifikaci funkčních schopností, disability a zdraví (MKF)

Tento formulář je checklist hlavních kategorií Mezinárodní klasifikace funkčních schopností, disability a zdraví (MKF, anglicky ICF) Světové zdravotnické organizace. ICF checklist je praktický nástroj k získání a zaznamenání informací o fukčních schopnostech a disabilitě jednotlivce. Tyto informace mohou být sumarizovány pro zaznamenání případu (např. v klinické praxi nebo sociální práci). Checklist použijte spolu s knižním vydáním MKF v plném znění nebo kapesní verzi.

H 1. Při vyplňování tohoto checklistu užijte všechny dostupné informace. Prosím zaznamenejte, které byly použity:
[1] psané záznamy [2] primární respondent [3] jiní informátoři [4] přímé pozorování

Pokud nejsou lékařské a diagnostické informace dostupné, je doporučeno zkompletovat appendix 1: stručná informace o zdraví (strana 9 – 10), který může vyplnit respondent.

H 2. Datum __ __ /__ __/__ __ (*Den Měsíc Rok*) ***H 3. ID případu*** _ _,__ __ __,__ ***H 4. Č. účastníka*** __ __,__ __, __ __ __

A. DEMOGRAFICKÉ INFORMACE

A.1 JMÉNO *(nepovinné)* Jméno_____ Příjmení_____

A.2 POHLAVÍ (1) [ ] žena (2) [ ] muž

A.3 DATUM NAROZENÍ __ __ / __ __ / __ __ __ __ *(den/měsíc/rok)*

A.4 ADRESA *(nepovinné)*

A.5 DÉLKA FORMÁLNÍHO VZDĚLÁNÍ (v letech) __ __

A.6 SOUČASNÝ RODINNÝ STAV: *(označte pouze jedno, které nejvíce odpovídá)*

(1) Nikdy nesezdán/a	[ ]	(4) Rozvedený/á	[ ]
(2) V současnosti vdaná/ženatý	[ ]	(5) Ovdovělý/á	[ ]
(3) Žijící odděleně	[ ]	(6) Žijící ve společné domácnosti	[ ]

A.7 SOUČASNÉ ZAMĚSTNÁNÍ *(označte jednu nejlepší volbu)*

(1) Placené zaměstnání	[ ]	(6) V důchodu	[ ]
(2) OSVČ	[ ]	(7) Nezaměstnaný (zdravotní důvody)	[ ]
(3) Neplacená práce, jako dobrovolník/charita	[ ]	(8) Nezaměstnaný (jiné důvody)	[ ]
(4) Student	[ ]	(9) Jiné	[ ]
(5) V domácnosti	[ ]	*(prosím upřesněte)* _____	

A.8 HLAVNÍ LÉKAŘSKÁ DIAGNÓZA stávajícího zdravotního stavu. Pokud je to možné, zadejte kód MKN-10.
1. Žádná porucha zdraví není přítomna.
2. …….. ICD kód: __ __ __.__ __
3. …….. ICD kód: __ __ __.__ __
4. …….. ICD kód: __ __ __.__ __
5. Zdravotní stav (nemoc, porucha, úraz) existuje, nicméně jeho původ nebo diagnóza nejsou známy.

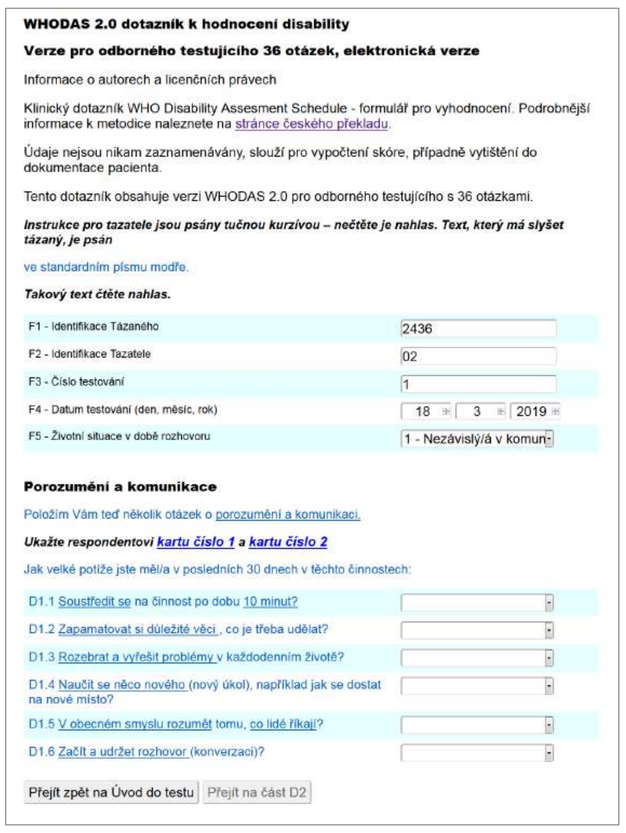
ICF Checklist © World Health Organization, September 2003. Česká verze ÚZIS ČR 2016 Strana 1

Picture 2: The Czech translation of the main category of the ICF Checklist

The DCC also realized translation of the 36-Item Short Form Health Survey developed and provided by RAND Corporation into the Czech and supplemented by calculator created in Excel to calculate the score of the questionnaire. WHODAS 2.0 questionnaires were also developed in electronic formats by programming web applications *(Picture 3)*. The DCC created an instructional video as a training tool for users of the Czech version of WHODAS 2.0 (*Picture 1).* All these materials are available to all users on the institution's website: http://www.uzis.cz/katalog/klasifikace/WHODAS for WHODAS 2.0 and https://www.uzis.cz/dotaznik-kvality-zivota-sf-36 for SF-36.
The DCC in cooperation with DRM developed Czech version of patient-specific Checklists based on existing ICF WHO's Core Sets and ICF Checklist form *(Picture 2)*. DCC has published The Czech version of the main category Checklist containing selected indicators (domains) of individual ICF components that relate to a limited rehabilitant's activity. Besides the main category form, DCC developed new Checklists defined by Core Sets. Up to now, the DCC has translated all of the specific Core Sets.

Conclusions

By developing these instruments, clinicians are able to better assess patient's status and identify patient's needs. DCC is also working on an electronic Czech version of the ICF Checklist based on selected Core Sets. Specific keywords, hierarchical tree selections, and selections following ICD-10 parameters will be used as an input for the electronic version.
The Czech version of Core Sets based Checklists (in PDF form) and related materials are available to all users on the institution's website: *https://www.uzis.cz/category/tematicke-rady/klasifikace/mkf*.
This year, the topic of annual conference on Clinical Classifications organized by IHIS CR is "ICF and related tools", therefore the DCC plans to show and promote all new tools.
The DCC is also planning to improve the use of ICF by creating a Czech version of ICF browser and ICF e-learning tool to keep up with electronization of all funds and to simplify the work with the ICF.



Picture 3: Screenshot of the WHODAS 2.0 web application

Acknowledgements or Notes

Questionnaires were provided free of charge and work on developing questionnaires and creating the video and Checklists was held as voluntary. The Department of Clinical Classifications wants to especially thank to representatives of the DRM, who are largely involved in the implementation of the Czech version of the Specific Checklists.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

A challenge for ICF implementation: Japanese experience

6-11 October 2019
Banff, Canada
Poster Number
402

Masahiko Mukaino[1)], Shin Yamada[2)], Shin-Ichi Izumi[3)], Masaaki Otaga[4)], Eiichi Saitoh[1)]

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Abstract In Japan, the concept of the ICF is widely known by clinicians who are engaged in rehabilitation clinics, but there is still some difficulty in implementing the classification in clinics, despite a number of efforts to promote its use in clinics. In this presentation we introduce the recent efforts taken for promoting ICF implementation in Japan, including simple, intuitive descriptions, rating reference guide and the field test to investigate reliability and validity of the ratings.

Introduction

Recently, several actions have been undertaken in Japan to facilitate the use of the ICF in clinics, especially in the field of rehabilitation. These implementation efforts complement the international collaboration with the ICF Research Branch, a partner within the WHO-FIC Collaborating Center in Germany and International Society of Physical and Rehabilitation Medicine. The research presented in this poster consists of the following: 1) development of the Japanese version of the simple, intuitive descriptions for the ICF Generic-30 Set (also called ICF Rehabilitation Set); 2) development of a rating reference guide; 3) examination of the interrater reliability of the rating; 4) examination of internal construct validity by Rasch analysis; 5) development of a rating app; and 6) development of an online database. Further, the development of an e-learning tool designed to help clinicians practice ratings is in process.

Simple, intuitive descriptions

The Japanese version of the simple, intuitive descriptions for the ICF Generic-30 Set was developed following the process employed to develop the Chinese and Italian versions. The consensus conference was held in November 2016 in Nagoya, Japan. A total of 21 experts from all regions of Japan and different clinical areas of expertise were assembled to participate. After two days of conference, the Japanese version of the simple, intuitive descriptions was developed with the agreement of all participants.

Rating reference guide

For further operationalization of this ICF Set in practice, a rating reference guide was developed. Development of the guide involved the following steps: 1) trial use involving several raters; 2) cognitive interviewing of the raters to analyze the thinking processes involved in the ratings; 3) drafting of the rating reference guide; and 4) review by ICF specialists to confirm consistency with the original ICF concepts.

Example of the reference guide)
d850 remunerative employment
0: No problem may include:
- Working without support or restrictions in content or work time
1: Mild problem may include:
- Working without support or restrictions in content but with consideration in work time and/or work intensity.
- Working without support or restrictions in content but with the use of assistive devices and/or under an assistive environment
2: Moderate problem may include:
- Working partly under the restriction in work content
- Working partly under support by others
3: Severe problem may include:
- Working largely under the restriction in work content
- Working largely under support by others
4: Complete problem may include:
- Being impossible to work

Interrater reliability

After the rating reference guide was developed, interrater reliability of the rating with the reference guide was determined. Interrater reliability was examined using weighted kappa statistics with linear weight (n=72 for b categories; n=100 for d categories).

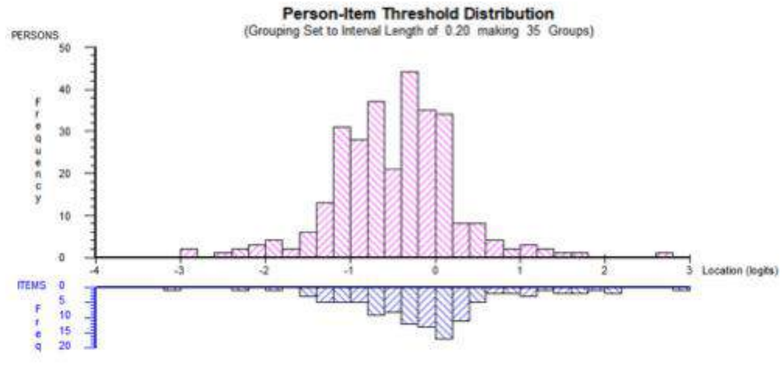
Table1: Weighted kappa statistics

		Weighted kappa
b130	Energy and drive functions	0.73
b134	Sleep functions	0.69
b152	Emotional functions	0.61
b280	Sensation of pain	0.64
b455	Exercise tolerance functions	0.61
b620	Urination functions	0.88
b640	Sexual functions	0.87
b710	Mobility of joint functions	0.78
b730	Muscle power functions	0.75
d230	Carrying out daily routine	0.73
d240	Handling stress and other psychological demands	0.7
d410	Changing basic body position	0.82
d415	Maintaining a body position	0.78
d420	Transferring oneself	0.8
d450	Walking indoors/outdoors	0.63/0.72
d455	Moving around	0.61
d465	Moving around using equipment	0.64
d470	Using transportation	0.67
d510	Washing oneself	0.78
d520	Caring for body parts	0.77
d530	Toileting	0.73
d540	Dressing	0.7
d550	Eating	0.74
d570	Looking after one's health	0.64
d640	Doing housework	0.78
d660	Assisting others	0.74
d710	Basic interpersonal interactions	0.7
d770	Intimate relationships	0.78
d850	Remunerative employment	0.74
d920	Recreation and leisure	0.64

Internal construct validity

To investigate the internal construct validity, a field test using the developed ICF data collection tools was conducted. A group of 295 inpatients in convalescent rehabilitation wards were rated using the ICF Generic-30 Set. Rasch analysis of 23 categories with missing values <10% showed a good fit to the model after applying testlet solution and item splitting. The well-balanced distribution of each person's ability to estimate in comparison to item difficulty was shown in the person-item threshold map, which supported the internal construct validity of the ICF Generic-30 Set.

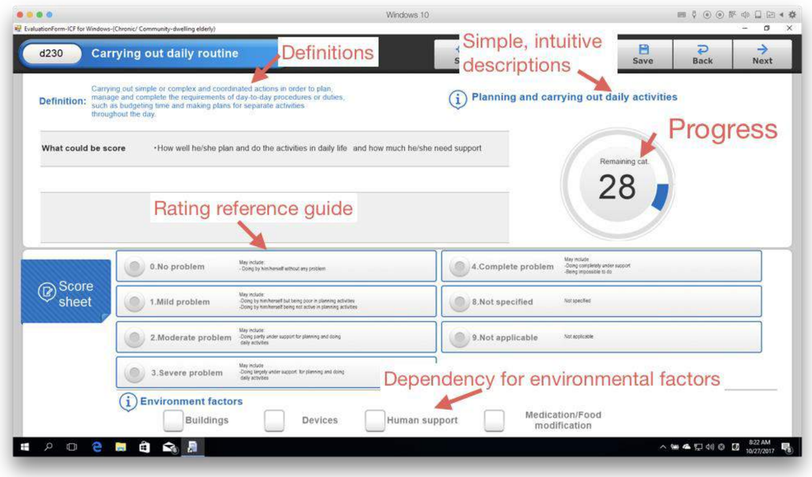
Figure 1: Person-Item Threshold Distribution map



Rating app and online database

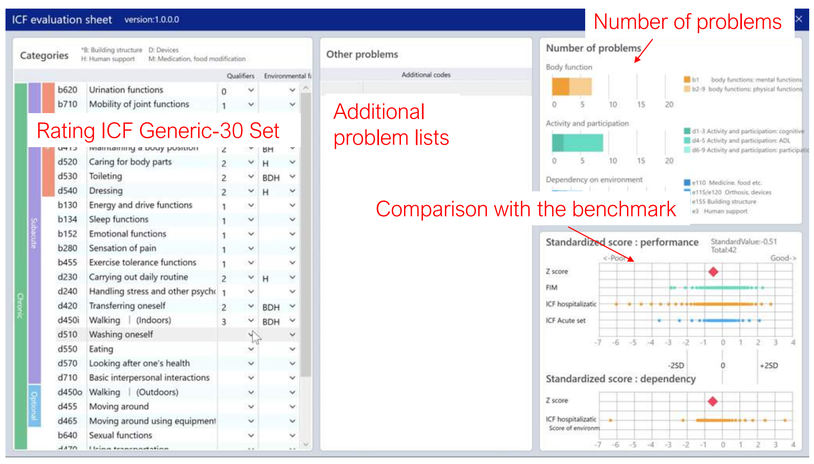
A computer app for clinicians to practice rating was developed. The original definitions and simple, intuitive descriptions and reference guide are presented in the app to help clinicians with their ratings using ICF Generic-30 Set.

Figure2: Rating app for clinicians who is not familiar with ICF



Once the clinicians master rating with these tools, they may use the app routinely in their clinics. We developed it as a prototype with various functions to facilitate clinical use.

Figure3: Rating app for routine use by clinicians



A package of web-based materials for learning ICF and practicing rating with the app is being prepared.

For multi-center data collection, a database was developed in REDCap (Research Electronic Data Capture), which is a web-based application developed by Vanderbilt University for building and managing online databases.

Conclusions

This series of work projects conducted in Japan to facilitate use of ICF is introduced with a data collection tool. The tool consists of ICF generic sets; simple, intuitive descriptions; and a reference guide which may contribute to further promotion of the use of ICF in clinical settings.

Acknowledgements

The authors thank Melissa Selb and Professor Gerold Stucki from the ICF Research Branch for their kind advice and support in conducting this series of studies.

This work has been supported by the Ministry of Health, Labour and Welfare of Japan (Grants-in-Aid for Research on Policy Planning and Evaluation) and The Nippon Foundation International Fellowship Program.

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Conceptualization and development of ICF-based needs assessments in Germany following the German "Participation Law"

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Abstract In 2017, the German Bundesteilhabegesetz ("Participation Law") was passed. The Bundesteilhabegesetz aims to strengthen and improve participation and empowerment of persons with disabilities and to implement the Convention on the Rights of Persons with Disabilities in Germany. Consequently, efforts to reorganize the system for (re)habilitation and for integration of persons with disabilities have begun. The law also requires the implementation of a standardized needs assessment based on the International Classification of Functioning, Disability and Health (ICF). Due to the federal structure of Germany, individual federal states have developed their assessment procedures. For small children there is a plan to replace the existing assessment strategies by restructuring the forms that have been used to date. We report on the conceptualization of standardized needs assessments for (small) children, adolescents and adults in Germany.

Introduction

In Germany, the **Bundesteilhabege-setz** (BTHG; "Participation Law") was passed in 2017. The BTHG aims to:

- implement the Convention on the Rights of Persons with Disabilities in Germany
- strengthen the empowerment of persons with disabilities and
- improve their participation.

The BTHG prescribes the mandatory implementation of an ICF-based needs assessment for persons with disabilities. Because of Germany's federal structure, all 16 federal states are called upon to develop respective assessment tools for children, adolescents and adults.

For small children (0-6 years) there is a plan to develop a uniform instrument that could be applied in all German states.

The aim of this poster is to report on the conceptualizations of standardized needs assessments for small children children, adolescents and adults in Germany.

Results

Various instruments have been developed under the leadership of the provincial governments. Different federal states developed similar or common instruments (see Table 1 and Figure 1; federal states marked with identical colors share similar instruments). The degree in which the ICF is implemented in the instruments varies greatly.

For small children (0-6 years) there is a plan to develop a uniform instrument that could be applied in all German states.

Results continued

	Federal states	Needs assessment	Level of specification in ICF classification
1	Bremen	BedarfsErmittlung Niedersachsen (B.E.Ni.)	ICF chapters (1st level) (rating 0-4)
	Hamburg	Hamburger Gesamtplan	2nd level ICF categories (free text)
	Berlin	Teilhabeinstrument Berlin (TIB)	ICF chapters (1st level) (free text)
?	Saarland	*Not defined*	*Not yet available*
?	Schleswig Holstein	*Not defined*	*Not yet available*
1	Thuringia	Integrierter Teilhabeplan (ITP)	2nd and 3rd level ICF categories (rating 0-4)
2	Saxony	Integrierter Teilhabeplan (ITP)	2nd level ICF categories (rating 0-4)
	Rhineland Palatinate	Individuelle Gesamtplanung Rheinland-Pfalz	*Not yet available*
	Saxony-Anhalt	ICF Erhebung Sachsen-Anhalt	*Not yet available*
3	Hesse	Integrierter Teilhabeplan (ITP)	2nd and 3rd level ICF categories (rating 0-4)
4	Mecklenburg Western Pomerania	Integrierter Teilhabeplan Mecklenburg-Vorpommern (ITP M-V)	ICF chapters (1st level); 2nd level ICF categories (free text)
5	Brandenburg	Integrierter Teilhabeplan (ITP) (*planned*)	*Not yet available*
1	Northrhine-Westphalia	Bedarfsermittlungsinstrument NRW (BEI_NRW)	ICF chapters (1st level) (free text)
2	Baden-Württemberg	Bedarfsermittlungsinstrument Baden-Württemberg (BEI_BaWü)	ICF chapters (1st level); 2nd level ICF categories (rating 1-4)
3	Bavaria	Bedarfsermittlungsinstrument Bayern (BEI-Bay) (*planned*)	*Not yet available*
2	Lower Saxony	BedarfsErmittlung Niedersachsen (B.E.Ni.)	ICF chapters (1st level) (rating 0-4)

Table 1: Needs assessments tools in the 16 federal states and their levels of specifications regarding the ICF.
Federal states marked in identical colours share similar tools (see also Figure 1).

Figure 1: Federal states in Germany and needs assessments tools.

In the area of early childhood there are the following aspects that need to be considered in particular:

1. Difficulties in **describing participation especially in early infancy.**

We receive notifications of rejection of treatment because of the "fact that children of this age do not participate".

2. The **identification** of the environmental factors, influencing the child´s functioning has to be **made by parents and health professionals though they are environmental factors themselves.** This requires a high degree of reflection and communication skills.

3. Early childhood intervention in Germany is organized in interdisciplinary organizations. The Ministry of Labour and Social Affairs advices that the **usual drawing up of an "interdisciplinary intervention and treatment plan" should be maintained** instead of implementing one of the mentioned assessment tools. Therefore, there are several drafts, including the ICF-CY into these plans. The German Association of Interdisciplinary Early Childhood Intervention (VIFF e.V.) is developing a draft, that could be applied nationwide.

Conclusions

The existing needs assessments tools were mainly developed along the conceptualization of the ICF. There are diffferent tools that have been implemented in the 16 German federal states. Needs assessments tools differ regarding their level of specification. In early childhood it is noticeable that the special features that led to an independent ICF-CY version do not yet fit together easily.

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A Trial Of Mapping Of ICF Elements To An Existing Social Statistic Of Japan

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Abstract ICF is an indicator that is considered internationally useful measures for the persons with disabilities and those for aging. We consider it can also help to achieve the article 31 of the convention on the rights of persons with disabilities (CRPD). In Japan, however, it is difficult to implement a new survey, so it is meaningful to explore how the ICF concept is included in existing statistics. To explore it, we used “the Survey on the Difficulties of Life*” which consists of Question 1 to Question 39 (total of 499 answer items), and checked how large proportion ICF concepts are included in each item at the level ICF L0 (classification level) and L1 (chapter level), respectively. Results were summarized as radar charts with 4 axes, body structure (S axis), body function (B axis), activity and participation (D axis), and environment (E-axis), and summarized the results as radar charts (mapping). For this survey, we obtained high affinity of the concepts of D and E axis. The mapping can characterize survey by L0 and L1 level of ICF. We hope the aggregation of mappings for various surveys could totally give sufficient ICF information in Japan without implementing new national statistics.

Introduction

The Convention on the Rights of Persons with Disabilities (CRPD) was adopted by the United Nations in 2006. After Japan signing in 2007, the ratification was deposited with the Secretary-General of the United Nations in 2014, and the convention became effective in 2016 in Japan. Article 31 of the Convention includes “States Parties undertake to collect appropriate information, including statistical and research data, to enable them to formulate and implement policies to give effect to the present Convention”.

There have been 56 basic social statistics in Japan (as of April 2019), but to implement of new statistics is difficult (According to the provisions of the Statistical Law, national statistical surveys must be reviewed as considering the rationality, validity and accuracy of the design, duplication with other surveys, and reduction of the burden on the surveyed people, and approved by the Minister of Internal Affairs and Communications.) Since ICF is an international and it is necessary to develop an indicator using ICF in Japan, it is important to clarify how large ICF elements are covered by existing social statistics.

This study aimed to clarify how the ICF concept is included in an existing survey statistic, “Seikatsu no Shizurasa ni Kansuru Chousa” (the Survey on the Difficulties of Life*) in Japan.

Overview of the Source Survey

Survey Purpose: To obtain the living conditions and needs of handicapped children and persons at home (including patients with intractable diseases and those who are not eligible for support in the existing legal system).
Questionnaire survey: Question 1 to Question 39, a total of 499 response items.

*: The author’s translation because of no official English name.

(1) Classification level (L0)

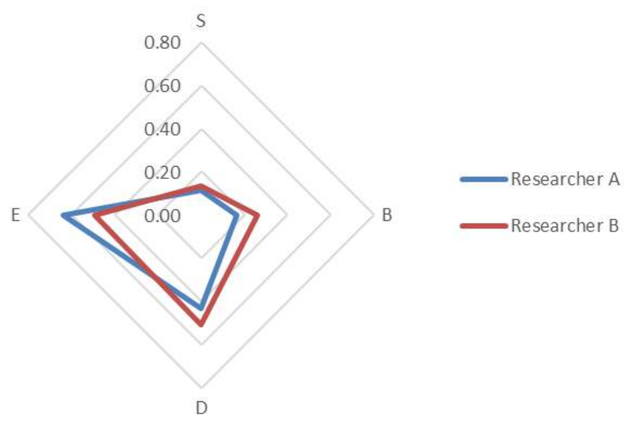

Fig1:Classification Level(L0) by two researchers A and B.

Survey Subjects: Children and persons with disabilities living at home in about 2,400 national census territories (0.024% of the country) Patients and those who have not been supported by the legal system so far, but who have difficulty living due to prolonged illness or injury.
Questionnaire Survey: Visiting survey (handing survey questionnaire), filling in and returning by mail (self-mailing method). As a general rule, the survey person himself / herself fills in the survey form (self-recording type), and supports appropriate entry as necessary. For the visually impaired, a Braille version or an expanded letter version is available as desired. Distribute a questionnaire. If the subject is a person with hearing, language, or speech disabilities, consider dispatching a sign language interpreter.

Methods of Analysis

Analysis: For each question item of Question 1-Question 39 (total 499 answer items), researchers examined whether or not these items were contained in the concept of each of ICF components and calculated the proportion for each axis on L0 (independently of researchers A and B) and on L1 level (by researcher A), respectively: (1) classification level (L0), body Structure (S-axis), body Function (B-axis), activity and participation (D-axis), and environmental factors (E axis), and (2) chapter level(L1), S1-S8, B1-B8, D1-D9, and E1-E5.
Rader charts: For each ICF axis or element, the proportion of how many questionnaire items contained it to all 499 items was calculated, and each proportion was represented on each axis which started from the same center(radar chart).

(2) Chapter level (L1)

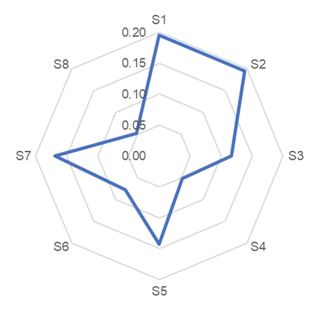

Fig2a: S-axis

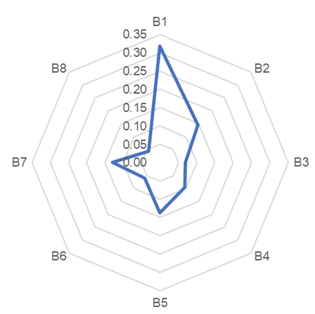

Fig2b: B-axis

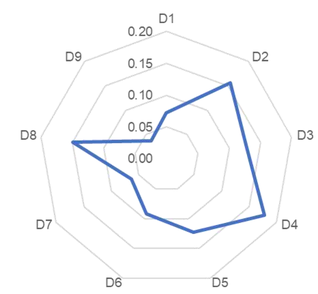

Fig2c: D-axis

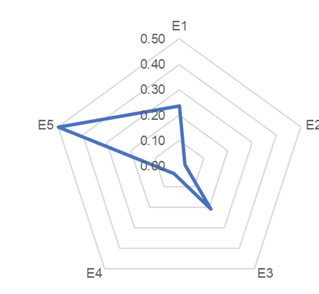

Fig2d: E-axis

Fig2: Chapter Level(L1) by researcher A

Results

L0 showed there are many items related D and E-axis. For L1, when considering subordinate items at the chapter level, on S-axis, the proportions of S1”structure of the nervous system”, S2“the eye, ear, and related structures”, S5“structure related to the digestive system, metabolic, and endocrine system”, and S7“structure related to movement” were high. On B axis, B1”Mental functions” was prominently high. On D axis, D2”general tasks and demands”, D3”communication”, D4”mobility”, D8”major life areas“ were higher than others. On E axis, E5”services, systems, and policies” were outstandingly high.

Conclusion

The survey on the difficulty of life is basically framed on D axis ”activities and participation” and E axes “environmental factors”. They are "how you are limited on the relationship to society" and "what condition enables them to achieve it", which will essentially relate to the survey subjects of the persons with disability.
We hope the aggregation of mappings for various surveys could totally give sufficient ICF information in Japan without implementing new national statistics.

Health Information meets Health Informatics

Three Public Authorities In A Boat Of Early Interventions For Children And Their Families

Alexander Shoshmin[1,2], Elena Starobina[1], Viktoria Lorer[1,2,3], Larisa Samarina[1,4], Yanina Besstrashnova[1,2], Evgenia Ermolaeva[1,4]

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Abstract Three public authorities (healthcare, social protection and education) involve in early interventions in Russia. In 2017-2018 new technologies were tested in Sverdlovsk region and Perm Krai. The guidelines for organization of early interventions for children and their families have been developed to implement results of field tests across Russian regions.

Introduction

The ratification of the Convention on the Rights of Persons with Disabilities caused a systemic change in the legislation and the structure of rehabilitation system in the Russian Federation. Development and testing of a new system of rehabilitation for disabled people became necessary.
As part of the State Program "Accessible Environment" for 2011-2025, pilot tests were carried out to apply a new approach to creation of a comprehensive (re)habilitation system for persons with disabilities based on interaction between organizations, which deliver rehabilitation services. At the same time, new technologies for (re)habilitation, such as assisted living, supported employment, and early aid for children of 0-3 years old and their families and others, were implemented. In 2017-2018 pilot tests in early interventions were conducted in Sverdlovsk region and Perm Krai (see the Chart 1).

Methods & Materials

The Ministry of Labour and Social Protection of the Russian Federation approved the main components of the program-target approach to challenge the system of comprehensive (re)habilitation in Russian regions.
In the framework of early intervention services there are the following *principles*: free for families, accessibility, regularity, openness, family-centered aid, individuality, functionality, daily life situations, ethics, team work, competence, research findings.
These services are provided in different forms: at home, when visiting an organization that delivers services, in inpatient hospital stays or in an organization for orphans and children without parental care, remotely, individually, in a group (for parents and children or for parents only).
An transdisciplinary team consists of psychologist, social pedagogue, comprehensive rehabilitation specialist, speech therapist, speech pathologist, pediatrician, physical exercise instructor / physical therapist, ergotherapist.
A new *functional* approach now is being developed in the international practice of early intervention. Its main goals are improving the child's ability to cope with the tasks of **everyday life**, ensuring maximum **involvement** of the child in daily life situations. The most significant goal of early intervention programs is to increase the child's ability to participate in various social situations.

Chart 1: Public authorities in regions

Regional Authorities	Sverdlovsk region	Perm Krai
healthcare	Ministry of Healthcare	Ministry of Healthcare
social protection	Ministry of Social Development	Ministry of Social Policy
education	Ministry of Education and Science	Ministry of Common and Professional Education

Results

To provide qualitative care to the child and the family, early intervention specialists conduct several assessments. Depending on the purpose, this is: an initial assessment to find out if the child and his family need an early intervention; transdisciplinary assessment to build up an intervention program; midterm and final assessment of the effectiveness of the program.
It is determined in Russian Federation, that children with difficulties in functioning, or learning difficulties, or severe body dysfunctions have the right for early intervention services. To determine whether a child and his family have right for early intervention services, specialists conduct an initial screening assessment of the child's health and functioning. A pediatrician and psychologist meet the child and the family to conduct this assessment.
It includes the child's activities in 9 areas of functioning and identification, of any severe body dysfunctions. A protocol with ICF code sets, suitable for an early age, is used. Each set of codes describes the activity and involvement of the child in accordance with the 9 ICF domains. For the initial assessment, the most significant types of activities were selected. The child's functional difficulties are assessed on the basis of the ICF qualifier scale. If they are scored in 3 points and above, this indicates the need in an early intervention program for the child. To build the functional goals, a comprehensive transdisciplinary assessment is carried out with protocols containing ICF codes and ones for assessing daily life situations and family needs. Transdisciplinary team members are selected according to the needs of the child and the family. An assessment enables to obtain the information about The child's life in general, to define the functional goals to normalize family life and ensure maximum involvement of the child in daily activities.
WHO FIC Collaborating Centre and Institute of Early Intervention (St. Petersburg, Russia) conducted trainings for regional early intervention specialists.

Conclusions

Three public authorities working under different federal laws now interact with each other on issues of early interventions in pilot regions. Officials and specialists in the affiliated organizations use the same terminology (ICF) and the concept for working with children and families, which are reflected in a single form of the regional law on early aid.
It became possible to agree on continuity during the transition in delivering services from one authority to another (they make appointments, transmit documents, train specialists).
In 2019 the document circulation has been implemented. Parents may address to an organization regardless of its affiliation to get a primary or in-depth assessment of functioning of a child and family, a set of services that different organizations may deliver regarding to a single program without repeated assessment.
Protocols for conducting primary and in-depth transdisciplinary assessments based on the ICF are used by early intervention specialists from 30 regions of the Russian Federation. Further, it is planned to create the guidelines for specialists to implement the protocols.
The guidelines for organization of early interventions for children and their families have been developed to implement results of field tests in the other Russian regions.
Regarding to the State Program "Accessible Environment", in 2019-2020 financial support of regional programs for early aid included in development of regional systems of comprehensive (re)habilitation of persons with disabilities is provided.

Acknowledgements

The field tests were funded by the Ministry o Labour and Social Protection of the Russian Federation, and the administrations of Sverdlovsk region and Perm Krai.
Authors thank public officials and specialists from organizations delivering early intervention services for children and their families in Sverdlovsk region and Perm Krai.

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Basic Domains Required By The ICF To Assess The Functioning And Disability In Mexico. A Multidisciplinary Approach

Authors: Yañez, M.; Andrade, C.; Avendaño, D.; López, V.; Alanis, R.; et al.

Mexican WHO-FIC-CC, MoH

Abstract Mexico is working on the design of a certificate for the assessment of functioning / disability, under the approach of the ICF and Human Rights. There have been multidisciplinary meetings and several institutions related to the subject. This poster shows the advances to reach the objective for the first time in Mexico to have this certificate homologated and aligned to the ICF.

Introduction

Objetive: Establish the technical basis and define the roadmap for the work of developing a standard for disability certification and disability certificate in Mexico, aligned with the International Classification of Functioning, Disability and Health (ICF) and Human rights. So that, for the first time, Mexico has a certificate for people with unique disabilities, under the biopsychosocial approach and that encourages inclusion; which will be issued to those who request it and that after an evaluation process can obtain this document.

In 2019, during the months of April, May, June and July, monthly meetings have been held to discuss and advance the proposals for the creation of the Certificate of Disability and to give representatives of all institutions and organizations the opportunity to express their opinion technique.

Development of the *Person with Disability Certificate*

The *Person with Disability Certificate will have* four large sections and eleven parts:

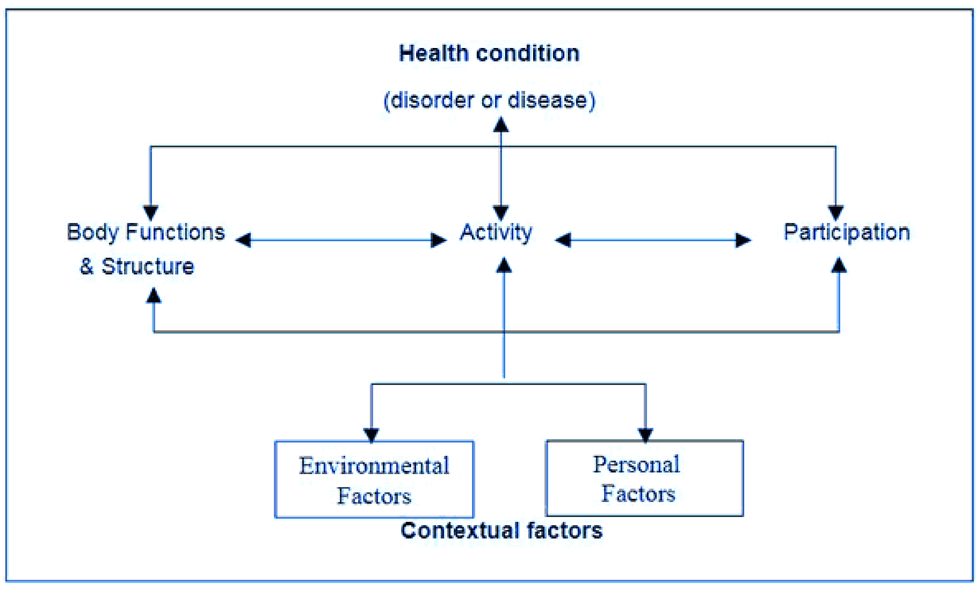
1. Identification data
- Medical unit
- Identification of disabled person
- Respondent data

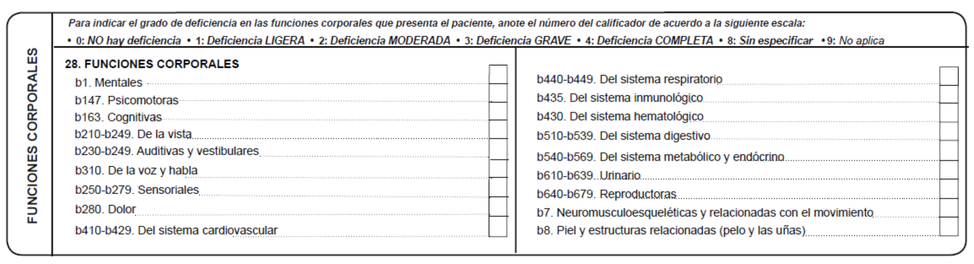
2. Sociodemographic information
- Health
- Education
- Work

3. Medical diagnosis
- Diagnosis (ICD 10, start and origin)
- Information from doctor

4. ICF components
- Functions and body structures
- Activities and participation
- Environmental factors

In the sessions progress has been made showing the experiences of each institution that works with people with disabilities. How they are currently issuing certificates, performance evaluation and, in some cases, disability certificates. Of the institutions that have shown these advances have been, the National Institute of Rehabilitation, the National System for the Integral Development of the Family in Mexico. But it has been recognized that none of the existing instruments could ensure that they comply with the ICF performance / disability assessment and in accordance with the Convention on the Rights of Persons with Disabilities.



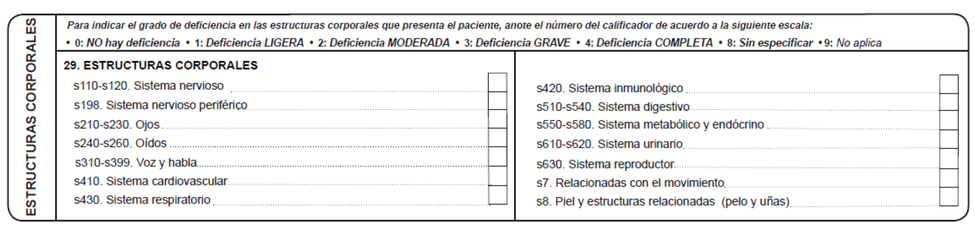


FUNCIONES CORPORALES

Para indicar el grado de deficiencia en las funciones corporales que presenta el paciente, anote el número del calificador de acuerdo a la siguiente escala:
• 0: NO hay deficiencia • 1: Deficiencia LIGERA • 2: Deficiencia MODERADA • 3: Deficiencia GRAVE • 4: Deficiencia COMPLETA • 8: Sin especificar • 9: No aplica

28. FUNCIONES CORPORALES

b1. Mentales
b147. Psicomotoras
b163. Cognitivas
b210-b249. De la vista
b230-b249. Auditivas y vestibulares
b310. De la voz y habla
b250-b279. Sensoriales
b280. Dolor
b410-b429. Del sistema cardiovascular
b440-b449. Del sistema respiratorio
b435. Del sistema inmunológico
b430. Del sistema hematológico
b510-b539. Del sistema digestivo
b540-b569. Del sistema metabólico y endócrino
b610-b639. Urinario
b640-b679. Reproductoras
b7. Neuromusculoesqueléticas y relacionadas con el movimiento
b8. Piel y estructuras relacionadas (pelo y las uñas)



ESTRUCTURAS CORPORALES

Para indicar el grado de deficiencia en las estructuras corporales que presenta el paciente, anote el número del calificador de acuerdo a la siguiente escala:
• 0: NO hay deficiencia • 1: Deficiencia LIGERA • 2: Deficiencia MODERADA • 3: Deficiencia GRAVE • 4: Deficiencia COMPLETA • 8: Sin especificar • 9: No aplica

29. ESTRUCTURAS CORPORALES

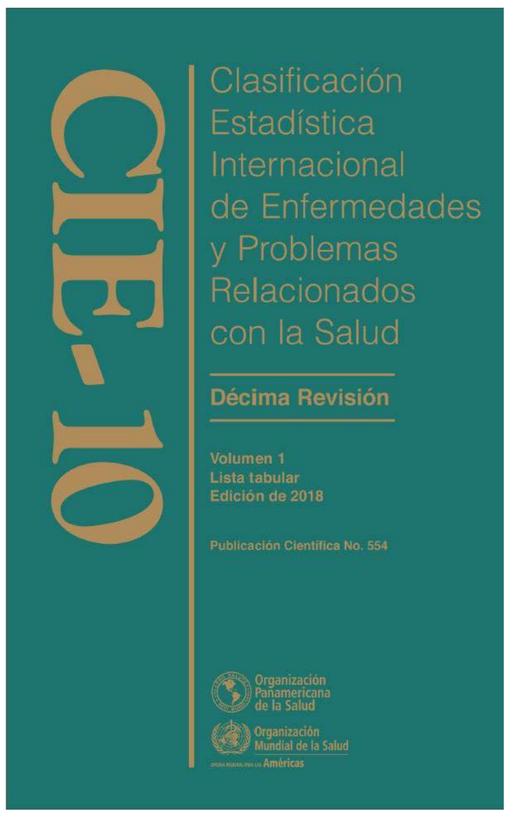
s110-s120. Sistema nervioso
s198. Sistema nervioso periférico
s210-s230. Ojos
s240-s260. Oídos
s310-s399. Voz y habla
s410. Sistema cardiovascular
s430. Sistema respiratorio
s420. Sistema inmunológico
s510-s540. Sistema digestivo
s550-s580. Sistema metabólico y endócrino
s610-s620. Sistema urinario
s630. Sistema reproductor
s7. Relacionadas con el movimiento
s8. Piel y estructuras relacionadas (pelo y uñas)

Experiences in countries of the Region of the Americas have also been reviewed, namely Argentina, Chile, Colombia and Peru; in order to have a reference with that experience; With this evidence, it was possible to ensure that Argentina with its multidisciplinary teams are a good example to follow for the objective sought in our country.

In Mexico, what is sought is the assessment of a multidisciplinary team that can focus on the assessment according to its corresponding component, so that the investment in human resources with the professional health personnel within the units that provide care to People with disabilities will be absolutely necessary. If a biopsychosocial approach is promoted, the formation of trained multidisciplinary teams will be paramount. It is encouraged that the assessment of persons requesting a disability certificate be assessed by a multidisciplinary team (at least one social worker, doctor, psychologist).

Change of the paradigm of disability in Mexico that has prevailed over the years, where the deficiency of body function or structure is automatically equivalent to disability. In addition to standardizing inclusive terms to refer to people with disabilities.

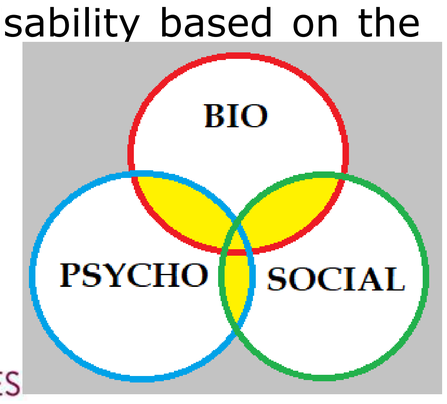
It is necessary to disseminate the knowledge and applicability of the CIF in all the institutions of the National Health System, non-governmental organizations and private initiative. It will also be very important to develop a system to capture the information obtained through the instrument obtained as a result.



Among the latest agreements is that the example of the World Disability Survey will be taken, to rescue the domains that were used in this instrument and those that were used in the Certificates of Persons with Disabilities that were worked in Mexico in previous years. Perform the component weighting exercise and agree with the institutions involved the qualification for each of them, to determine when a person has a disability or not.

Inform the highest authorities of the National Health System of the need for investment of resources of all kinds to comply with the provisions to optimally assess the functioning / disability based on the ICF and the Convention.

CRPD
CONVENTION ON THE RIGHTS OF PERSONS WITH DISABILITIES



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ICF use in Flanders

Jolien Veys & Greetje Desnerck

Abstract Howest, University College of Applied Sciences found the ICF-Lab, a knowledge- and training center which aims to support the implementation of the ICF in the field of health, wellbeing, education and labour. At this moment the ICF-Lab analyses where the ICF is used and what support is necessary to implement the ICF in practice.

Introduction

In Flanders, the Dutch-speaking part of Belgium, the ICF-Lab has the objective to encourage and facilitate the use of the ICF in the health care, welfare, education and employment sector. The ICF-Lab is an expertise- and training center within Howest, the University College of Applied Sciences of West-Flanders. The ICF-Lab collaborates with the ICF-Platform and the WHO-FIC Collaborating Center in the Netherlands. The ICF-Platform is a non-profit organization in which the various colleges, universities and sectors with expertise in ICF are represented. In February 2019, the ICF-Lab started a new research project. Specifically, the ICF-Lab wants to know which sectors in Flanders use ICF or have the intention to use it in the future and what their needs are regarding the use and implementation of the ICF. In the first phase, the research maps out these sectors. In a second phase, the research uses experts to assess the needs of the different sectors. In a final phase, the ICF-Lab will respond by adapting the service provision to the identified needs through the development of tools and methods together with the practitioners. Currently, phase one is taking place. Phase two started in September 2019. The results of phase one are described below.

Methods & Materials

In phase 1 of the study, various sources were explored to identify which sectors use the ICF or have specific intentions to do so. Among other things, the Belgian Official Gazette in which legislation and decisions of the Belgian government are incorporated was explored. The chair members of the ICF-Lab committee and the members of the ICF-Platform gave information about which sectors were using the ICF. People brought in concrete knowledge and sources.

Results

Phase 1 of the investigation revealed that the following sectors and authorities in Flanders use the ICF. A brief description is given on how they use it.

1) National Institute for Sickness and Invalidity Insurance, Accident insurance organization (RIZIV)
2) Flemish Service for Employment and Vocational Training (VDAB) and the Flemish specialized service for people with a work disability (GTB).
These two organizations (VDAB and GTB) work closely together. In collaboration with them, the public social welfare center (OCMW) and the health care case managers who work in different organisations such as a psychiatric hospital also use the ICF.

These authorities (1 and 2) developed an indicator instrument to analyse the functioning. These instruments contain a selection of ICF categories and an adapted form of qualifiers. The first uses the instrument to determine which aids the person is entitled to. The second uses the document to map the person's occupational disability.

3) Student guidance centers (CLB)
Within education, the definition of students with specific educational needs is described through the components of the ICF. The educational needs are determined based on the ICF framework.

4) Flemish Agency for Persons with Disabilities (VAPH)
The definition and the conditions for disability are based on the ICF. The Quality Center for Diagnostics explicitly mentions the ICF in the Classifying diagnostic protocols for autism and intellectual disability. They recommend embedding the classifying protocol in a broad biopsychosocial and holistic framework.

5) Ambulatory rehabilitation centers (CAR)
This sector mentions a few guidelines in the protocol that should be pursued as much as possible, including the use of the ICF. For the target group of people with a speech impairment, it is a requirement that ICF categories are used to indicate the need for a multidisciplinary approach.

6) Rehabilitation within general hospitals
7) Functional rehabilitation centers
8) District health centers
These sectors do not publicly announce that they use the ICF. However, through our network that is connected to these sectors, it is known that these sectors use the ICF.

There are still uncertainties for the mental healthcare and Pain clinics. Both show interest, but their usage or intention to implement the ICF could not yet be demonstrated.

Conclusions

In Flanders, different sectors use the ICF. The biopsychosocial approach is strongly encouraged and there is ongoing work to support organizations with implementing this. The ICF-Lab will analyze their specific use, intentions and what they need to maximize the implementation of the ICF. In addition to this, the ICF-Lab will provide the organizations with their continuous support during the implementation.

Acknowledgements

The ICF- Lab collaborates with the ICF-Platform and with the WHO-FIC Collaborating Center in the Netherlands.

Trainings For Specialists In Consultation Networks On Rehabilitation And Habilitation: The Case Of Russia

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408

Abstract Trainings were organized within the Russian-Norwegian project "Establishment of the consultation network in framework of rehabilitation and habilitation" (B1805). They aim to create new competencies in describing functioning of children with cerebral palsy, applying the ICF Core Sets and comprehensive approach to rehabilitation and habilitation.

Introduction

The Russian-Norwegian project "Establishment of the consultation network in framework of rehabilitation and habilitation" was created between Albrecht Federal Scientific Centre of Rehabilitation of the Disabled (St. Petersburg, Russia) and University Hospital of North Norway (Tromso, Norway) for July 2018 - June 2020. The project is implemented on 7 regions in the North-West of Russia (see Chart 1). The target group of the project are specialists from regions who work with children with cerebral palsy (CP) and musculoskeletal disorders. The project aims at raising the common level of rehabilitation services on the territory of North-West of Russia, especially in rural areas.

Chart 1: Map of regions in the project.

Methods & Materials

The objective of the trainings for specialists was to create new competencies in describing functioning of children with CP, applying the ICF Core Sets and multidisciplinary approach to rehabilitation and habilitation, and to get skills for using the consultation network.
In 2016-2018, the research to standardize disability assessments and to plan individualized (re)habilitation programs for disabled children and youth with CP was fulfilled at Albrecht Federal Scientific Centre of Rehabilitation of the Disabled. The findings were summarized in the form of the guidelines on using the ICF Core Sets for children and youth with CP. These guidelines and practices formed the framework of content of the trainings in the ongoing project.

Results

Through the geographical locations of trainees it was feasible to use distance education technology (e-learning) in the project. Some platforms for webinars were compared to select the one that meets requirements in the best way.
Trainings consisted of two modules (see the chart 2).

Chart 2: Modules for members of the consultation network on rehabilitation & habilitation

Modules	Topic	Duration, hours
Technical module	How to work in the consultation network on rehabilitation & habilitation	1
Use-case specific module	ICF-based approach to rehabilitation & habilitation of children	1.5
	Assessment of functioning of children with CP: clinical aspect	1.5
	Assessment of functioning of children with CP: social aspect	1.5
	Assessment of functioning of children with CP: psychological aspect	1.5

The technical module contained the short description of the consultation network of rehabilitation and habilitation, practical things of using the created website http://cnet.center-albreht.ru:6001 (see the Chart 3).

Chart 3: Section "For specialists" of the website created for the consultation network on rehabilitation & habilitation

The use-case specific module was based on the guidelines on using the ICF Core Sets for children and youth with CP and additional educational materials.
Members of the network and their colleagues from the project regions took part in the trainings.

Conclusions

1. Experience of conducting face-to-face trainings for specialists enabled to develop ones for the members participants of the consultation network on rehabilitation and habilitation quickly.
2. The use-case specific module is now considered as a part of the appropriate curriculum by Albrecht Federal Scientific Centre of Rehabilitation of the Disabled. It can be transformed depending on the training form: from distance to face-to-face one.
3. Educational materials from the trainings will be available at the network website in the section "For specialists". To disseminate the project results, links to the educational materials of the use-case specific moduke can be uploaded to the resource ICF Education (www.icfeduction.org) as well.
4. Regarding to the next planned trainings, only the use-case specific module may be changed to be devoted to musculoskeletal disorders, or early interventions for children and their families, or autistic spectrum disorders. The technical module can be repeated for new members of the network.

Acknowledgements

The project is running with financial support from the Ministry of Health and Care Services of Norway.
Acknowledgements to the specialists of University Hospital of North Norway in Tromso, Norway and specialists of Albrecht Federal Scientific Centre of Rehabilitation of the Disabled in St.Petersburg, Russia.

Project webpage:
http://www.center-albreht.ru/en/institute_of_itu_and_rehabilitation_of_the_disable/mezhdunarodnoe_sotrudnichestvo/norway/project_establishment_consultation_network/

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409

ICF-based clinical quality management in rehabilitation (CQM-R)

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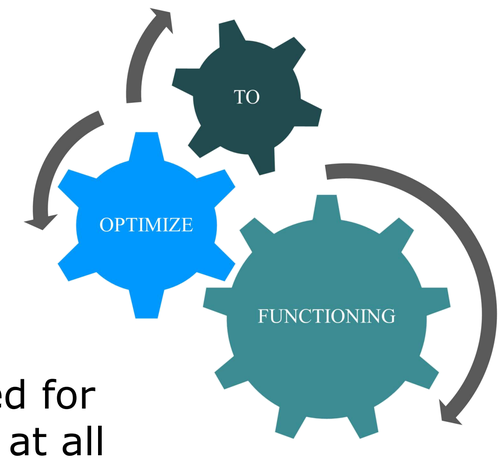
Abstract Documentation of functioning information is essential for rehabilitation. Functioning information is required for the effectiveness of rehabilitation at the clinical level of professional-patient interaction, the level of service provision and the level of policies and programs. Successful implementation of functioning information at a national level poses a unique challenge since it depends on the possibility of forging a link between healthcare practice, science and governance. This cross-over presents itself prominently in the use of the ICF as a reference system for the standardized reporting of functioning in clinical quality management in rehabilitation (CQM-R). This poster outlines the international efforts to implement the ICF in CQM-R, highlighting the collaborative activities and corresponding results in Europe, Japan, and Malaysia.

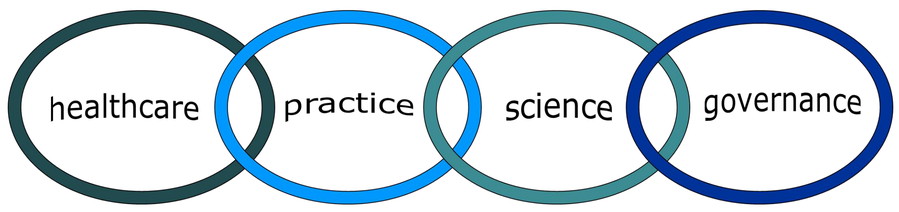
Introduction

Functioning complements mortality and morbidity as essential health indicators.[1]
In rehabilitation, documentation of functioning information is essential.

Aim of rehabilitation



Functioning information is required for the effectiveness of rehabilitation at all levels of the health system – at the clinical level of professional-patient interaction, the level of service provision and the level of policies and programs.



This cross-over presents itself prominently in the use of the ICF as a reference system for the standardized reporting of functioning in clinical quality management in rehabilitation (CQM-R). This poster outlines the international efforts to implement the ICF in CQM-R, highlighting the collaborative activities and corresponding results in Europe, Japan, and Malaysia.

Methods

Development of simple descriptions for the ICF Generic-30 Set

- ⇨ facilitates the comprehension of categories by clinicians
- ⇨ follows an established consensus process involving a multidisciplinary group of rehabilitation professionals [2,3]
- ⇨ conducted cross-cultural and language adaptions [3]

Development of rating system

- ⇨ qualifier scale, 0-10 scale or other scaling options
- ⇨ can be tailored to country needs, e.g. qualifiers with or without reference guide for rating. See separate poster from Mukaino et al.

Development of a framework for rehabilitation service types[4,5] and corresponding clinical assessment schedules (CLAS)[6]

- ⇨ standardized description of services supports a shared understanding of current provision of rehabilitation services
- ⇨ recommends which aspects of functioning to document
- ⇨ Malaysia: Established through a situation analysis and subsequent stakeholder consultation[4]
- ⇨ Europe: Established using a Delphi approach using the Malaysian example as the starting point [5,6]

Results

Simple descriptions for the ICF Generic-30 Set

- ⇨ Based on the English panel-based back translation of the Italian version, simple descriptions have been developed in various countries in Europe, Japan and Malaysia
- ⇨ Japan also considered the Chinese version [2]

Development of rating system

- ⇨ Japan and Malaysia both decided 0-4 scale with some guiding text
- ⇨ In Europe, the recommendation is to use a 0-10 scale

Framework for rehabilitation service types ("Framework") and corresponding CLAS

- ⇨ The Framework in Malaysia comprises 7 service types
- ⇨ With the Malaysian Framework as the starting point, the European Framework consists of 14 service types

Type of Rehabilitation Service	ICF Sets (BRIEF versions) for the respective Clinical Assessment Schedule
1. Rehabilitation in acute care	**Default:** ICF Generic-7 **Optional:** ICF Generic-30 (Rehabilitation Set); ICF Acute Core Set(s) for - neurological conditions - musculoskeletal conditions - cardiovascular conditions - geriatric population
2. General post-acute rehabilitation	**Default:** ICF Generic-30 (Rehabilitation Set) + Minimal set of environment factors **Optional:** ICF Post-acute Core Set(s) for - neurological conditions - musculoskeletal conditions - cardiovascular conditions - geriatric population
3. Specialized post-acute rehabilitation	**Default:** ICF Generic-30 (Rehabilitation Set) + relevant health condition-specific ICF Core Set + Minimal set of environmental factors **Optional:** ICF Post-acute Core Set(s) for - neurological conditions - musculoskeletal conditions - cardiovascular conditions - geriatric population
4. General outpatient rehabilitation	**Default:** ICF Generic-7 **Optional:** ICF Generic-30 (Rehabilitation Set), Relevant health condition-specific ICF Core Set(s) + Minimal set of environmental factors
5. Specialized outpatient rehabilitation	**Default:** ICF Generic-30 (Rehabilitation Set) + relevant health condition-specific ICF Core Set + Minimal set of environmental factors **Optional:** Other relevant health condition-specific ICF Core Set(s)
6. General day rehabilitation	**Default:** ICF Generic-30 (Rehabilitation Set) + Minimal set of environmental factors **Optional:** Relevant health condition-specific ICF Core Set(s)
7. Specialized day rehabilitation	**Default:** ICF Generic-30 (Rehabilitation Set) + relevant health condition-specific ICF Core Set + Minimal set of environmental factors **Optional:** Other relevant health condition-specific ICF Core Set(s)
8. Vocational rehabilitation	**Default:** ICF Core Sets for vocational rehabilitation (WORQ Self-report) + Minimal set of environmental factors **Optional:** Relevant health condition-specific ICF Core Set(s)
9. Rehabilitation in the community	**Default:** ICF Generic-7 **Optional:** ICF Generic-30 (Rehabilitation Set) Relevant health condition-specific ICF Core Set(s) + Minimal set of environmental factors
10. Rehabilitation services at home (incl. nursing home)	**Default:** ICF Generic-30 (Rehabilitation Set) + Minimal set of environmental factors **Optional:** Relevant health condition-specific ICF Core Set(s) ICF Core Set for geriatric population in post-acute setting
11. Rehabilitation for specific groups of persons with disability	**Default:** ICF Generic-7 **Optional:** ICF Generic-30 (Rehabilitation Set) Relevant health condition-specific ICF Core Set(s) for index health condition, incl. ICF Core Sets for CP, ICF Core Sets for autism and ICF Core Sets for ADHD, ICF Core Sets for vocational rehabilitation (WORQ Self-report) + Minimal set of environmental factors
12. Rehabilitation in social assistance	**Default:** ICF Generic-7 **Optional:** Relevant health condition-specific ICF Core Sets, ICF Core Sets for vocational rehabilitation (WORQ Self-report) + Minimal set of environmental factors
13. Specialized lifelong follow-up rehabilitation	**Default:** [similar to Rehab at the home, with consideration of geriatric population] ICF Generic-30 + Minimal set of environmental factors **Optional:** Relevant health condition-specific ICF Core Set(s), ICF Core Set for geriatric population in post-acute
14. Rehabilitation in medical health resorts	**Default:** ICF Generic-30 (Rehabilitation Set) + Minimal set of environmental factors **Optional:** Set developed by Morita E, et al.; Relevant health condition-specific ICF Core Set(s)

The Malaysian service types are outlined in red. The type «rehabilitation in primary care» was renamed «rehabilitation in the community» in the European Framework.

Conclusion

ICF-based CQM-R is expected to enable the accountable reporting of functioning outcomes and the continuous improvement of rehabilitation service provision.

(1) Eur J Phys Rehabil Med. 2017;53(1):134-8; (2) J Rehabil Med. 2016; 48(6): 508-14; (3) Eur J Phys Rehabil Med. 2017;53(2):290-8; (4) J Rehabil Med.2018; 50(4):346-357; (5) Eur J Phys Rehabil Med. 2019; 55(4):411-417; (6) Eur J Phys Med. 2019. Accepted for publication.

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Disability/functioning assessment framework for school inclusion: the Italian perspective

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Italian WHO-FIC CC - Central Health Directorate/Classification Area, Friuli Venezia Giulia Region, Udine (Italy)

Abstract This contribution aims at presenting the ICF-based functioning and disability assessment framework and web tool developed by the team of the Italian WHO FIC Collaborating Centre under an agreement with the Italian Ministry of Health in order to support the ascertainment of the disability status in children for educational inclusion.

Introduction

In Italy, the assessment of medical requirements and their consequences for eligibility to disability benefits is a health matter. The current disability assessment is made according to the medical model of disability and the ICDH.
In 2017, Italian law n. 66 introduced new requirements based on the ICF for ascertaining disability status in children for educational inclusion, and it modified the reference law n. 104 approved in 1992.
Under law n. 66/2017, the Italian Ministry of Health has the responsibility to implement the ICF in disability assessment in the National Health System (NHS), taking into account the need to be simple, transparent, and uniform across the country. A national work group was established, with representatives of five ministries and many administrative bodies, including the Italian WHO-FIC CC.
This contribution aims at presenting the specific disability/functioning assessment framework and related web tools developed and proposed by the Italian WHO-FIC CC for school inclusion purposes under an agreement with the Italian Ministry of Health. The need to be consistent with the UN Convention of the Rights of Persons with Disabilities, ratified in Italy in 2009 (law n.18/2009), was also considered.

Methods & Materials

1. The assessment framework and web tool aim at describing participation restriction and facilitators and barriers in three specific domains: learning; relationships; and self-care/autonomy/self-sufficiency.
2. The ICF was used as conceptual framework and standard language, but no coding was requested.
3. A selection of Body Functions and Activities and Environmental Factors was identified.
4. A mapping table was defined to map the three domains to 17 subdomains and 61 ICF Activities and Participation categories (Table 1). The Body Functions were also considered and a subset of 24 categories distributed in the three assessment domains was included.
5. Environmental Factors were considered the «core» of the disability ascertainment process. 18 kinds of Environmental Factors were considered (Table 2).
6. Operazionalization of the «facilitators» and «barriers» was made (Table 3).
7. Raw algorithms were developed in order to describe participation restrictions starting from information about facilitators and barriers.
8. A web tool was designed in order to implement the assessment protocol and to support the automatic coding into ICF.

Table 1 – Domains considered in the assessment

Domains	Subdomains
D1 Learning	D1.1 Purposeful sensory experiences
	D1.2 Basic learning
	D1.3 Applying know ledge
	D1.4 Education
D2 Relationships	D2.1 Communicating – receiving
	D2.2 Communicating – producing
	D2.3 Conversation and use of communication devices and techniques
	D2.4 Changing and maintaining body position
	D2.5 Carrying, moving and handling objects
	D2.6 Walking and moving
	D2.7 General interpersonal interactions
	D2.8 Particular interpersonal relationships
	D2.9 Community, social and civic life
D3 Self-care, autonomy and self-sufficiency	D3.1 General tasks and demands
	D3.2 Moving around using transportation
	D3.3 Self-care
	D3.4 Caring for household objects

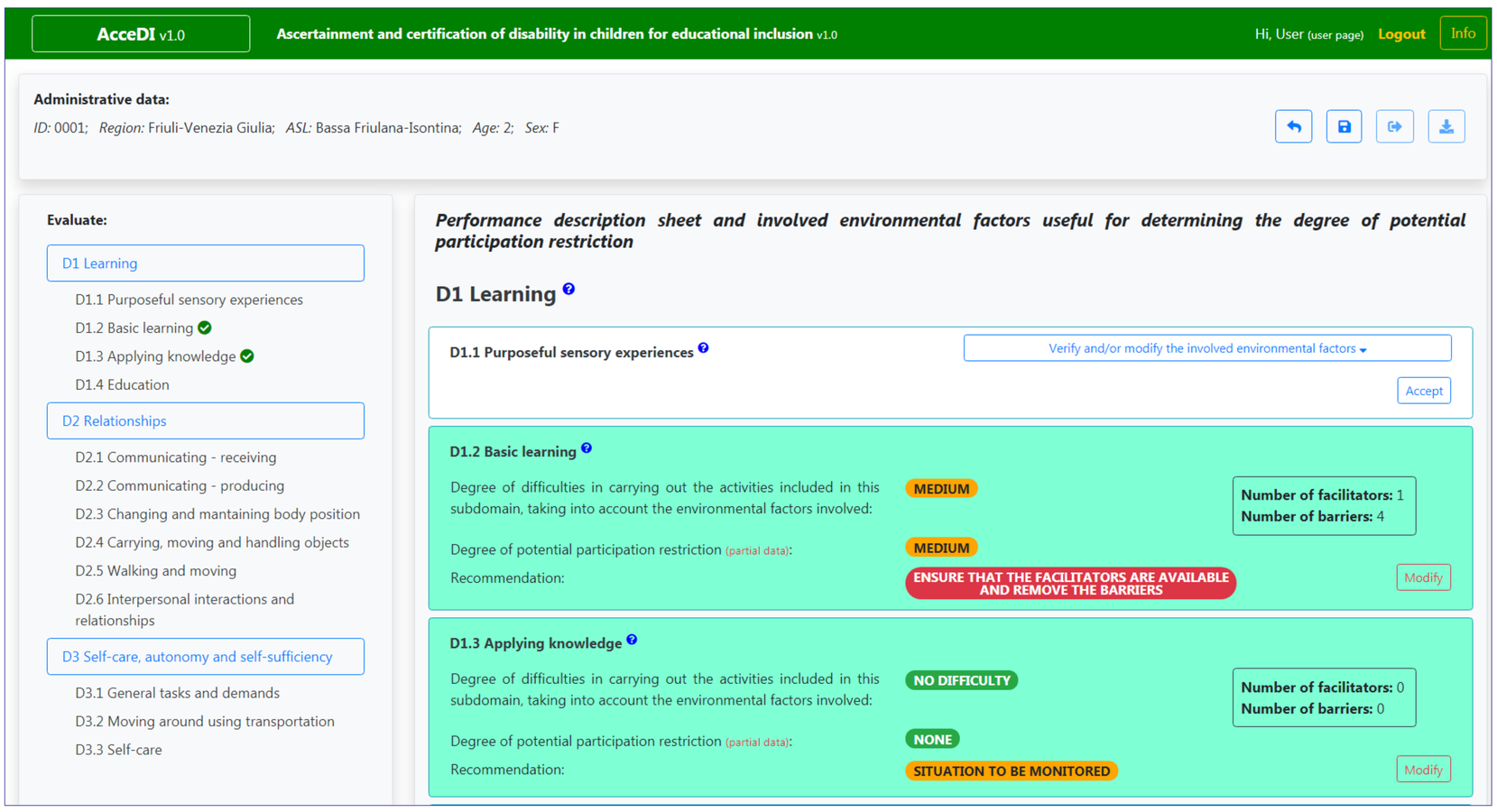
Table 2 - Types of Environmental Factors

Environmental Factors
Products and technology for personal use in daily living
Products and technology for mobility and transportation
Products and technology for communication
Products and technology for education
Products and technology for culture, recreation and sport
Products and technology for accessibility of buildings for public and private use
Food for special medical purposes
Drugs
Natural or physical environment
Support from immediate and extended family
Support from professionals within and outside the health system
Support from friends and individuals who are familiar to each other
Support from personal care providers and personal assistants
Support from domesticated animals
Attitudes
Health services
General social support services
Education and training services

Table 3 - Operazionalization of the facilitators and barriers

Effect of Environmental Factors	
Presence and effect	**Meaning**
Absent and not necessary	*The person does not need anything or anyone to perform a specific activity (Health)*
Present and effective	*Facilitator*
Present and partially effective	*Mild barrier*
Present and ineffective	*Moderate barrier*
Absent but necessary	*High barrier*
Present and not necessary	*The person has resources in excess of his/her needs*

Figure 1 –Screenshot of the web tool interface



Results

An assessment protocol was designed and a first version of the web-supported assessment protocol for ascertaining functioning and disability in children was set up and presented at the national work group led by the Italian Ministry of Health (Figure 1). A new translation of ICF into Italian was started, to be aligned with the ICF updates.

Conclusions

The new ICF-based functioning and disability assessment protocol and tool can be considered the first national initiative to implement the ICF in the National Health System (NHS) and to use the bio-psycho-social model of health and disability.
The tool and related training materials were progressively presented at the national work group responsible for guiding the ICF implementation in disability status ascertainment in children, and a fruitful discussion occurred.
The ICF implementation in the NHS is led by the Italian Ministry of Health with the support of the Italian WHOFIC Collaborating Centre. It has some advantages because it does not require training of health professionals in «ICF coding».
The web tool will be released in English too, in order to be used internationally.
The new Italian translation of an updated version of ICF was started considering that the Italian CC is completely aware of the ICF update process, because of its role in CSAC.

Acknowledgements

The activities were partially funded by a grant by the Italian Ministry of Health. Grateful thanks are due to Claudio D'Amario, Cristina Tamburini and Giuseppina Rizzo (Ministry of Health, Rome, Italy) for their fruitful contribution in the progressive development of an ICF-based assessment framework fitting with the national purposes.

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Health Information meets Health Informatics

ICF in academic degree programs in Germany – To what extent is the ICF being taught to future social and healthcare professionals?

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2 Medical School Hamburg, Hamburg, Germany

3 ICF Research Branch, a cooperation partner within the WHO Collaborating Centre for the Family of International Classifications in Germany

Abstract

In Germany, the **Bundesteilhabegesetz** (BTHG; "Participation Law") passed in 2017. Thus the use of the ICF is strongly increasing in rehabilitation and has become a major subject in the training and academic education of social and health care professionals. ICF Mapping is a project to systematically review it´s usage since 2016. A study has been initiated to identify whether and how the ICF and its terminology is mentioned in documents provided to students in the module manuals of German academic degree programs for social and healthcare professions. This poster will introduce the concept and methods of this study.

Introduction

The overall aim of the ICF (International Classification of Functioning, Disabilty and Health) is to provide a unified and standard language and framework for the description of health and health-related states. In Germany the Federal Ministry of Labour and Social Affairs passed a law (German Participation Law) in 2016 that gives people with disabilities equal rights. Therefore, the use of the ICF is strongly growing and a major subject in several trainings and academic education of social and healthcare professions. The aim of this study is to identify whether and how the ICF and its special terminology are mentioned in the module manuals of German academic degree programs in social and healthcare sciences.

Methods

Collection of 430 available module manuals of the following courses (bachelor and master): Social Work, Social Pedagogy, Therapeutic Pedagogy, Social Management, Early Intervention, Therapeutic Education, Psychology, Occupational Therapy, Speech Therapy, Physiotherapy. For Medicine, module manuals do not exist, there is an object-catalog given by the state to all universities.
The data analysis (document analysis) towards "ICF", "bio-psycho-social-model" and "participation" took place in 2018.

Results

430 of 549 national module manuals in winter term 2017/2018 were available (78,3%). The oldest manual was written in 2010. Chart 2 shows a heterogenous distribution of results. "ICF" was mentioned in 19,7% of the module manuals, the term "biopsychosocial model" was found in 23% of the documents. "ICF" *or* "biopsychosocial model" was mentioned in 34,1%, participation in 47,9% of all reviewed module manuals.

Results continued

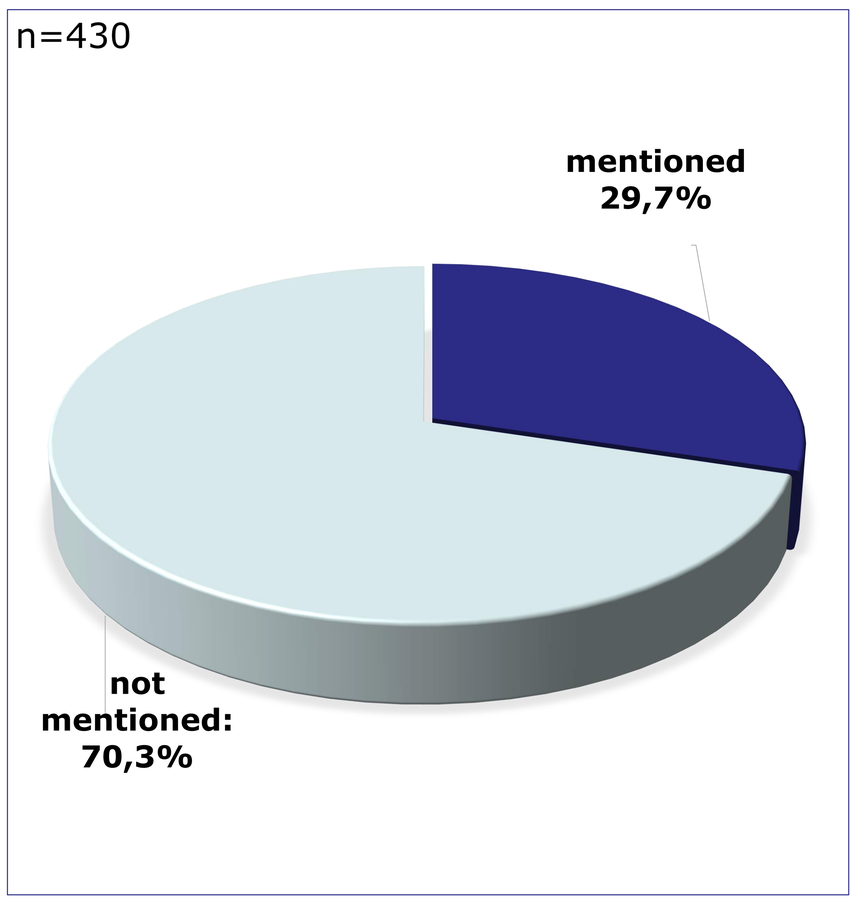

Chart 1: ICF or Bio-Psycho-Social Model mentioned in module books of Social and Health Care Science academic degree programs in Germany - Winter Term 2017/2018

Study subject		Analyzed module manuals	ICF	bio psycho social model	ICF or biopsychosocial model	Participation	Module manuals completed in (year)	Available manuals/courses of studies in total
Occupational Therapy	All	6	5	4	6	5	2013-	6/11
	BA	6	5	4	6	5	2017	6/11
	MA	0	0	0	0	0		0/0
Physiotherapy	All	17	16	12	17	7	2012-	17/32
	BA	17	16	12	17	7	2018	17/32
	MA	0	0	0	0	0		0/0
Speech Therapy	All	4	3	1	3	2	2016-	4/13
	BA	3	3	1	3	2	2017	3/12
	MA	1	0	0	0	0		1/1
Early Intervention	All	3	2	1	3	3	2016-	3/4
	BA	2	1	0	2	2	2018	2/3
	MA	1	1	1	1	1		1/1
Psychology	All	110	8	23	26	3	2011-	110/129
	BA	52	3	8	9	2	2018	52/65
	MA	58	5	15	17	1		58/64
Social Work	All	168	19	44	54	132	2010-	168/200
	BA	109	12	38	45	95	2018	109/139
	MA	59	7	6	9	37		59/61
Social Management	All	7	0	0	0	0	2014-	7/11
	BA	2	0	0	0	0	2017	2/3
	MA	5	0	0	0	0		5/8
Social Pedagogy	All	22	0	0	0	4	2010-	22/24
	BA	13	0	0	0	4	2018	13/14
	MA	9	0	0	0	0		9/10
Therapeutic Pedagogy (Heilpädagogik)	All	17	11	8	13	16	2010-	17/20
	BA	13	10	8	12	12	2017	13/15
	MA	4	1	0	1	4		4/5
Midwifery	All	12	3	3	3	3	2013-	12/17
	BA	12	3	3	3	3	2018	12/17
	MA	0	0	0	0	0		0/0
Nursing	All	29	14	2	16	19	2012-	29/40
	BA	28	13	2	15	18	2018	28/38
	MA	1	1	0	1	1		1/2
Nursing Sciences	All	19	2	0	2	10	2014-	19/27
	BA	13	2	0	2	8	2018	13/18
	MA	6	0	0	0	2		6/9
Nursing Management	All	16	2	1	3	2	2013-	16/21
	BA	13	2	1	3	2	2018	13/18
	MA	3	0	0	0	0		3/3
Medicine	There are no module manuals for Medicine available in Germany							
Total	All	430	85 (19,7%)	99 (23,0%)	147 (34,1%)	206 (47,9%)		430/549
	BA	283	70 (24,7%)	77 (27,2%)	117 (41,3%)	160 (56,5%)		
	MA	147	15 (10,2%)	22 (14,9%)	30 (20,4%)	46 (31,2%)		

BA Bachelor, MA Master

Chart 2: descriptive statistic allocated to Social and Health Care academic degree programs

Conclusions

The ICF was translated into German in 2005, the UN convention on the rights of people with disabilities was signed in 2009 and the Bundesteilhabegesetz passed in 2017, most of the module manuals of German study courses in health and social sciences do not mention the ICF / the biopsychosocial model yet.

As ICF Mapping found barriers concerning the attitute of employees towards the Implementation of the ICF (Simon et al. 2017), there is a strong need to implement the philosophy of the ICF as standard in relevant academic degree courses to let students become agents of change.
But there seem to exist similar barriers concerning the people responsible for module manuals.

The primary objective of further research is to explore possible reasons and attitutional barriers that lead to the given results.

Acknowledgements

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WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

Statistical evaluation of daily living functions associated with intractable diseases using ICF and ICD-11 Chapter V codes

6-11 October 2019
Banff, Canada
Poster ID
412

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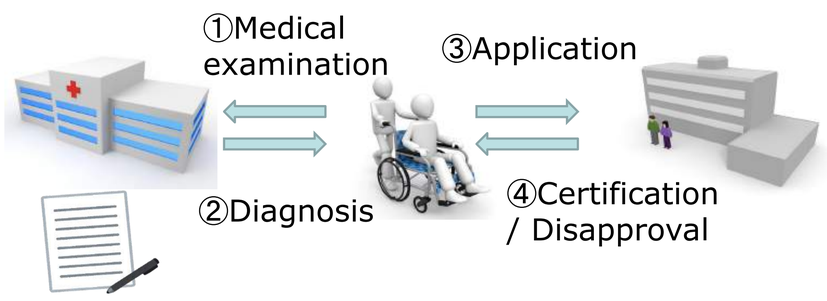
Abstract This study assessed daily living functions based on data on daily living and other functions associated with intractable diseases using the International Classification of Functioning, Disability and Health (ICF) code and the ICD-11 Chapter V code. We coded the daily living function items of the following diseases using the ICF code: 1. amyotrophic lateral sclerosis (ALS), an intractable disease of the nerves and muscles that has a major impact on daily living functions, and 2. tetralogy of Fallot (TOF), a congenital disease for which there is a number of application for intractable disease certification among Japanese children. The daily living function items comprise the diagnostic criteria and the items listed on the application form used to apply for public financial assistance for intractable disease care in Japan. Most items on the application form matched those listed under ICF classifications. However, 28 ALS items (45.9%) and 13 TOF items (21.3%) matched those listed in the Chapter V, which consist of 61 codes excerpted from the ICF code. Thus, daily living functions associated with intractable diseases cannot be sufficiently described using current Chapter V code; detailed ICF codes are necessary.

Introduction

ICD-11 Chapter V is composed of three tools as; the World Health Organization Disability Assessment Schedule 2.0 (WHODAS-2); the Brief Model Disability Survey (MDS), and the Generic Functioning Domains that are made up of a rehabilitation set containing the ICF core set and nine supplemental factors. These three tools are based on the ICF code as it was anticipated that Chapter V could be used as statistically consistent yardstick based on the ICF code to assess daily living functions associated with diseases. Therefore, it is necessary to evaluate whether Chapter V is a standardized scale. As we conducted a number of comparative studies between assessment scales and ICF classification, the Chapter V codes was evaluated using intractable diseases for considering an international standardized classification of daily living functions.

Methods & Materials

We coded all ALS and TOF application form items in Japan as either ICF code level 2 or level 4. Our coding consistency criteria were based on the coding rules reported by Cieza et al. (2002). The items were also coded using Chapter V for comparing two classification schemes.



Application form for Intractable Disease

✓Disease name
✓Basic patient information
✓Diagnostic criteria (medical test, blood test, etc)
✓Social security
✓**Living situation information**

Figure.1
Support System of Intractable Diseases and Specific Pediatric Chronic Diseases, Japan

Results

The ALS application form has a total of 100 items, of which 96 items (excluding basic data such as sex, age, and blood test results) were able to be coded to the ICF codes. However, one-to-one relationship between the application form items and ICF could not be determined for some cases.

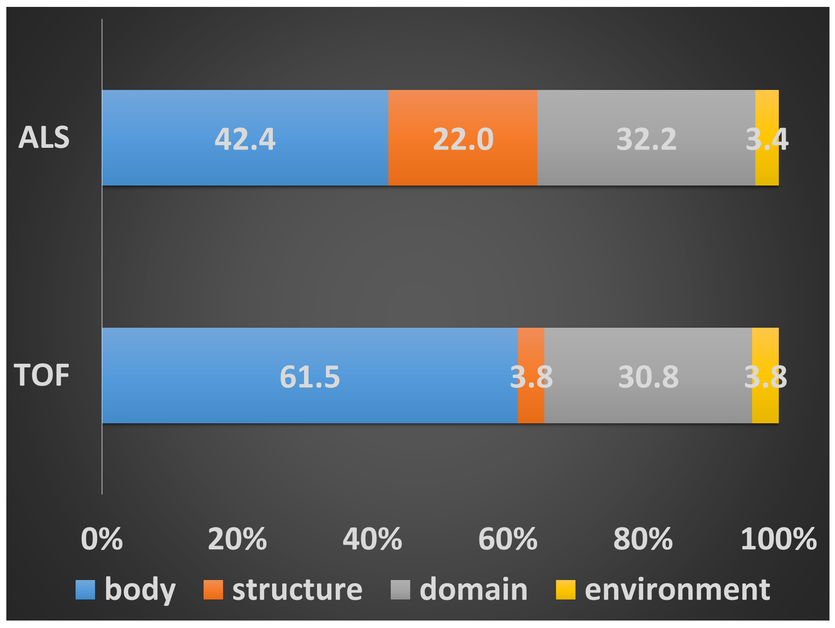


Figure.2
Application form for intractable disease coding as ICF code

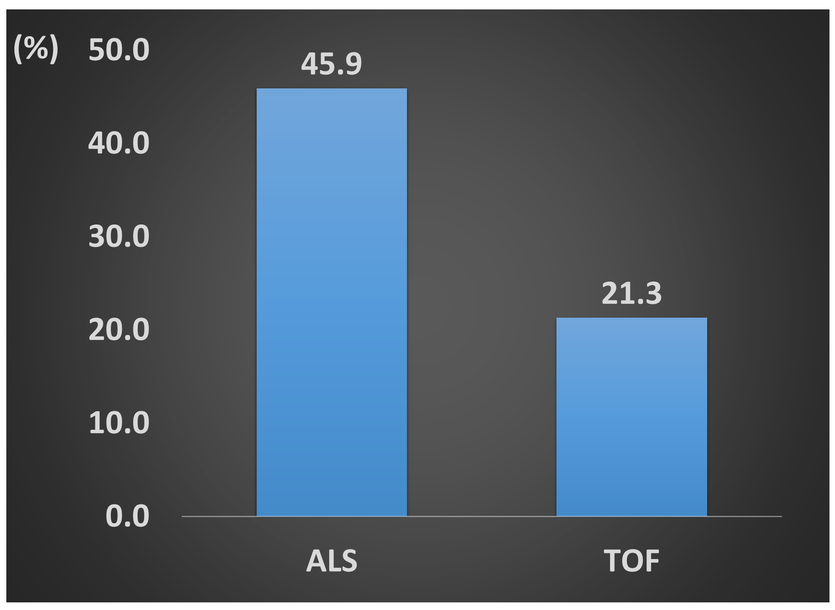


Figure.3
Application form codes that match chapter-V codes

For example, multiple ICF codes were applied to one application form item as: “Do you have some problems walking around?” in the item could be coded with ICF codes as d450 (walking), d455 (moving), and d460 (moving around in different locations). Some items were found to be difficult to code with ICF classifications. The detailed breakdown of the codes for the 96 application form items is as follows: body (b), 42.4%; structure (s), 22.0%; domain (d), 32.2%; and environment (e), 3.4%. Approximately 47.5% of the codes matched the Chapter V codes among 96 application form items.

The TOF application form has 30 items. Fifteen items, excluding the same items that were not included when coding the ALS items, could be coded to the ICF codes. However, similar situations were observed while coding the ALS and TOF items. The detailed breakdown of the 15 items is as follows: b, 61.5%; s, 3.8%; d, 30.8%; and e, 3.8%. Approximately 34.6% of the codes matched the Chapter V codes (Fig2.3)

Discussions

ICD-11 Chapter V has a total of 61 items currently after various changed were made. We found that almost all items of two intractable diseases we selected as cases for this study could be assigned to the ICF codes whereas only half the items matched the Chapter V codes, which comprised three tools (WHODAS-2, MDS, and Generic Functioning Domains). These results suggest that it would not be enough to use Chapter V for evaluating daily living functions of congenital diseases such as ALS and TOF due to lack of information (=codes). It would be essential to use ICF for evaluating these conditions.

The objectives of statistically using the ICF code are as follows: 1. to allow international comparisons of the daily living functional disabilities caused by diseases and 2. to allow its use in the fundamental assessment of support and other types of services provided to those with disabilities and diseases. In order to accomplish these objectives, it is primarily necessary to perform statistical analyses of the diseases and daily living functions using Chapter V.

Daily living functions are either promoted or obstructed by environmental conditions. However, we cannot include environmental conditions as only a small number of environmental-related factors included in the intractable disease data were analyzed in this study. In addition, the Chapter V code does not include any environmental factors. WHO explains ICF in the "ICD Practial Manual" as "provides a standard language and conceptual basis for the definition and measurement of disability, and it provides classifications and codes. Thus, it is necessary to consider environmental factors when assessing changes in daily living functions. To increase the statistical value associated with the use of ICF and Chapter V codes, further studies on assessment methods that can be used to statistically analyze changes in daily living functions using environmental factors should be conducted. This would lead to further accumulation of data related to daily living functions associated with each disease, which in turn is important in the analysis of data related to daily living functions.

Acknowledgements or Notes

Funding from Ministry of Health, Labor and Welfare Scientific Research Expenses（H29-SEISAKU-IPPAN-001 ） is gratefully acknowledged.

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Poster ID

413

Laying the foundation for an ICF Core Set for community-dwelling elderly adults in general practice: the patient-perspective identified in a qualitative study

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Abstract With rising age and increasing prevalence of multimorbidity the treatment of isolated diseases based on disease-specific guidelines will almost inevitably lead to overtreatment. Considering not only the disease but concentrating more on functioning might help to decide on the appropriateness of medical interventions. The ICF is a tool to describe functioning. However, it is too detailed to be used in primary care. Consequently, we aim to develop an ICF Core Set for geriatric patients (≥ 75 years) in primary care from four different perspectives. This qualitative study represents the patient perspective. To identify the most relevant aspects of functioning, we conducted semi-structured interviews and focus groups with 27 community-dwelling elderly in Germany.

Introduction

There is evidence that information on functioning limitations is not only important to understand the consequences of chronic conditions for everyday life, but, with increasing age, also becomes a strong predictor of mortality [1]. Consequently, combined information on disease and functioning might be a better discriminator between necessary and unnecessary medicine in older persons than disease information alone. Functioning can be described using the International Classification of Functioning, Disability and Health (ICF) [2]. However, the ICF is too detailed to be implemented in primary care practices. Therefore, an ICF Core Set (ICF-CS) for community-dwelling elderlies (≥ 75 years) for use in primary care is being developed. Following the proposed methodology of the ICF Research Branch four preparatory studies are conducted to capture relevant ICF categories from different perspectives [3]: systematic review (research perspective), empirical study (clinical perspective), qualitative study (patient perspective) and expert survey (expert perspective). The objective of this qualitative study was to find relevant concepts of functioning from the perspective of community-dwelling elderly adults.

Methods & Materials

A **qualitative study** using semi-structured interviews and focus groups was conducted with community-dwelling adults (≥ 75 years) living in Germany. Before conducting the interviews the participants were asked to take pictures of their daily life, which served as a basis for the interviews. The interviews and focus groups were recorded and transcribed verbatim. The data analysis was based on **Mayring's qualitative content analysis** using deductive category assignment [4]. The linkage with the ICF categories followed established linking rules [5].

Results

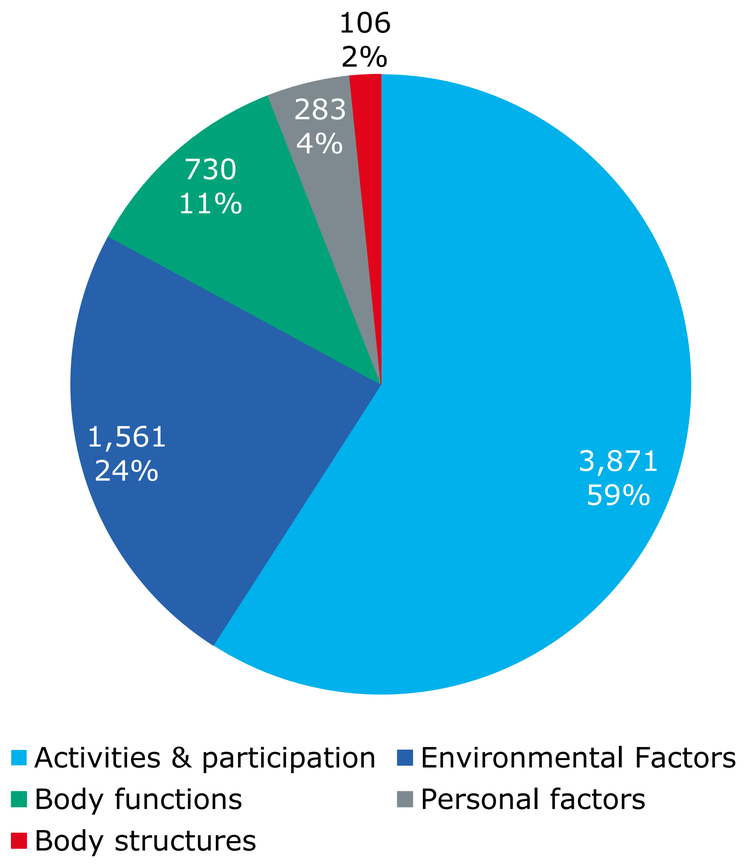
Twenty-seven participants took part in our study (see Tab. 1). **Twenty-five interviews** (married couples were interviewed together) and **four focus groups** were conducted.

Table 1: Sample characteristics

Characteristics	N (%)
Age in years, M (SD)	80.8 (4.8)
Women	21 (77.8)
Living alone	9 (33.3)
Having children	24 (88.9)
Family status	
Single	2 (7.4)
Married/living in partnership	9 (33.3)
Divorced	3 (11.1)
Widowed	13 (48.1)
Place of residence	
Rural community	6 (22.2)
Town	5 (18.5)
City	16 (59.3)
Total	27 (100)

Across all interviews **6,667 concepts** were identified (see Fig. 2). Most of the concepts (n=6,268, 94.0%) were linked to second-level ICF categories. The five most frequently identified categories were *'recreation and leisure' (d920), 'family relationships' (d760), 'informal social relationships' (d750), 'immediate family' (e310),* and *'doing housework' (d640).*

Figure 1: Number of identified concepts arranged by ICF components.



Conclusions

To our knowledge this is the first qualitative study examining functioning in old age from the perspective of community-dwelling elderlies using the ICF as a framework. The results of this qualitative study add further knowledge to the understanding of relevant aspects of functioning in old age from a biopsychosocial perspective. The assigned ICF categories corresponded mainly to the areas of recreation and leisure, mobility, instrumental activities of daily living, social relations and mental functions. Body structures were minimally addressed. This qualitative study provides a list of relevant ICF categories from the perspective of community-dwelling elderlies that will be used together with the results of the other three preparatory studies for developing the ICF-CS for older primary care patients. In the long term, this ICF-CS is expected to support GPs in assessing functioning of their patients, defining treatment goals that are less deficit-oriented, and based on these goals, differentiating between necessary and unnecessary medical interventions.

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Poster ID

414

Health Information meets Health Informatics

The ICF in a nutshell – Development of a short online tutorial to inform stakeholders about the ICF

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Abstract To become familiar with or to deepen one's knowledge about the International Classification of Functioning, Disability and Health (ICF) various possibilities and formats, such as WHO's ICF e-learning Tool or ICF workshops, already exist. Depending on stakeholders' expertise and purpose for learning the ICF, basic knowledge about the ICF might be sufficient, and completing the ICF e-learning Tool modules or an ICF workshop may be too extensive. Thus, offering a less time-consuming online tutorial containing the most important information about the ICF in a nutshell would assist sharing knowledge to a broader group of people. This poster reports on the development of a short online tutorial to inform stakeholders as well as further interested parties about the ICF.

Introduction

Various possibilities and formats exist, to gain knowledge about the ICF. The ICF e-learning Tool, for example, is a web-based, self-teaching tool to inform comprehensively about the framework, conceptualization and possible application areas of the ICF to potential users.

Depending on stakeholders' expertise and purpose for learning the ICF, however, basic knowledge about the ICF might be sufficient, and completing the entire ICF e-learning Tool modules or taking part in a two-day ICF workshop may be too extensive.

Thus, offering a less time-consuming online tutorial containing the most important information about the ICF in a nutshell would assist sharing knowledge to a broader group of people.

This poster aims to report on the development of a short German online tutorial to inform stakeholders as well as other interested parties about the ICF.

Activities

We worked on the content development and design of a short ICF online tutorial making available the most basic information about the ICF in a condensed way. The ICF online tutorial is designed to be completed in a very short period of time. Interactive elements are included to grab the learner's attention.

Needs for and aims of the ICF are introduced to the user, together with the biopsychosocial perspective of the ICF. Information on the structure and the codes of the classification are also contained. Short examples complement the online tutorial to create a link to the practice.

We used the e-learning authoring software Storyline 3 (Articulate Global, Inc.) to create a first version of the German ICF online tutorial.

Results

The ICF online tutorial consists of 11 slides. By adding one or more layers to some of the slides, interactive elements were installed into the online tutorial. Completing the entire online tutorial will take approximately 10 minutes.

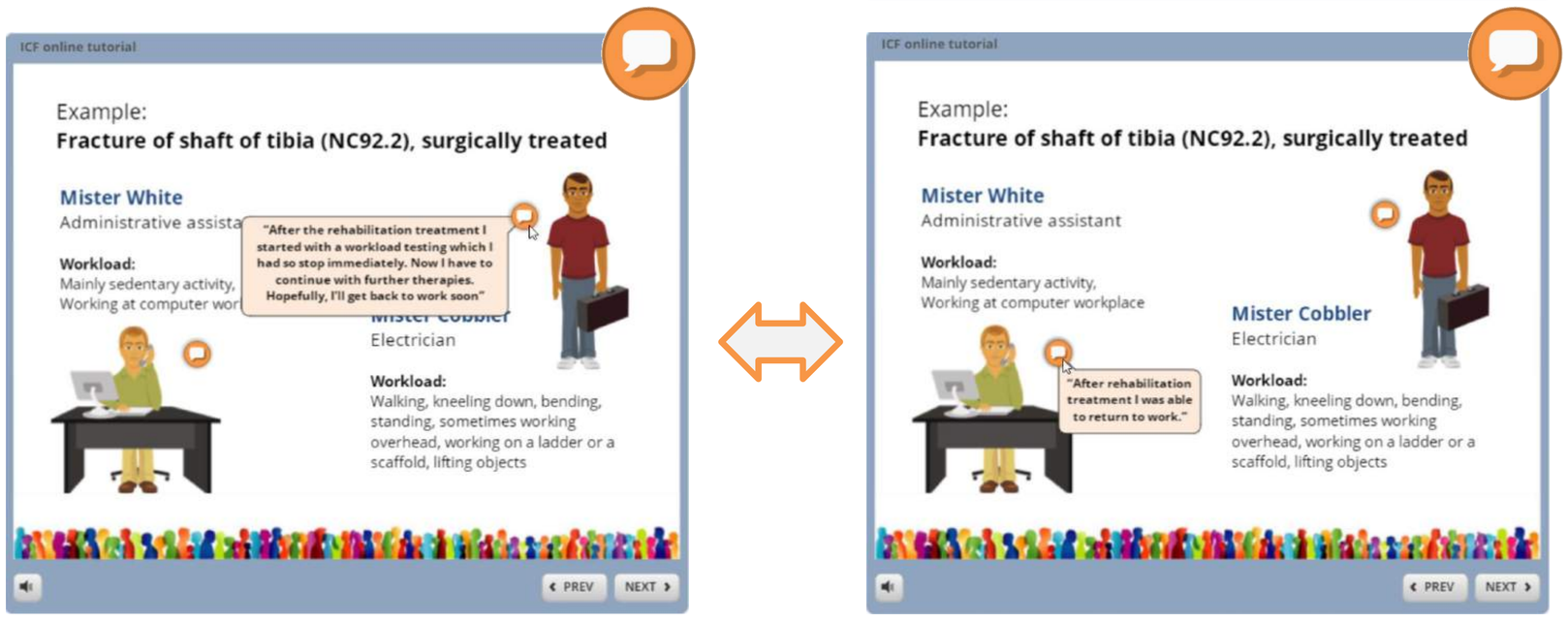

Figure 1: Screenshots of a basic slide and its additional layers to introduce the need for the ICF to the user.

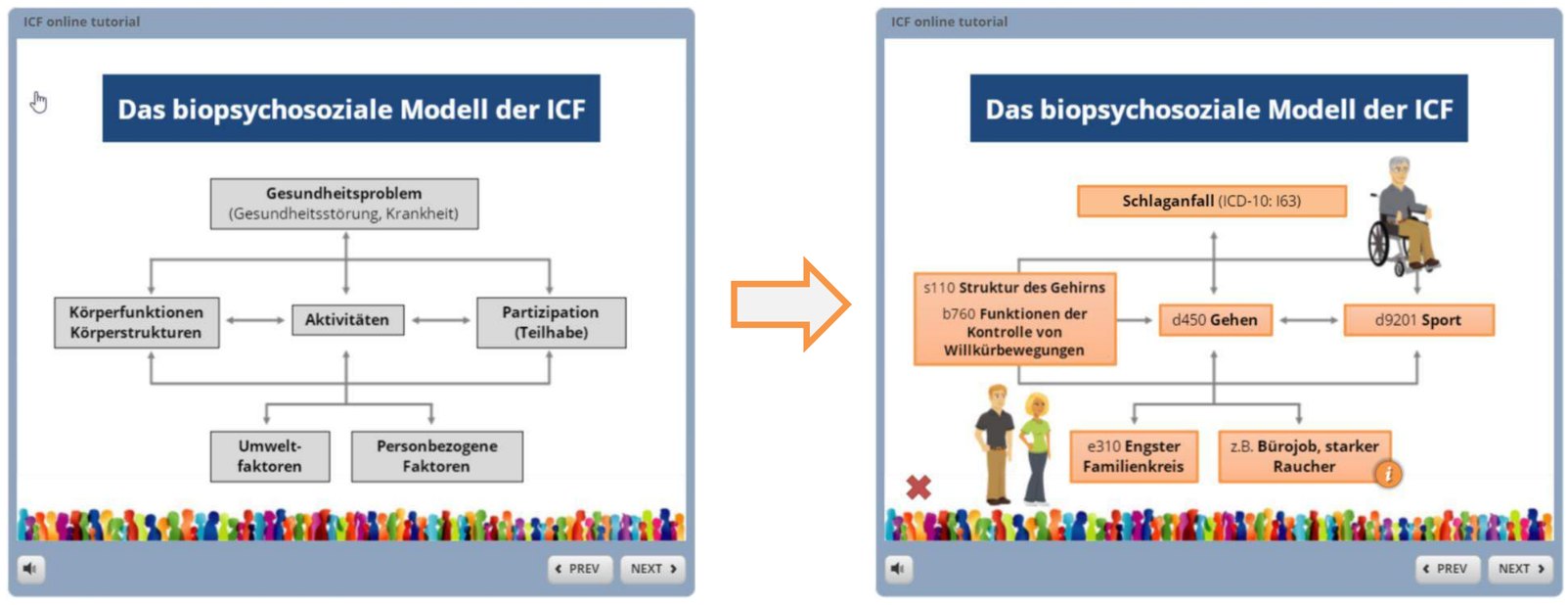

Figure 2: Screenshots of the basic slide and its interactive elements to inform about the biopsychosocial perspective of the ICF – German version.

Conclusion

Providing a compact and less time-consuming ICF online tutorial will facilitate spreading knowledge about the ICF to a large number of people and gaining a brief insight into the ICF for stakeholders and other interested persons. The German version can serve as a blueprint for condensed ICF e-tutorials established in other languages.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

6-11 October 2019

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Poster ID

415

ICF Education

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Abstract This poster outlines activities in support of ICF Education including the 4th International Symposium ICF Education and the activity on the ICF Education portal.

Introduction

Despite the years since the ICF was published there is still a high demand for education about the classification and, importantly, how to use it in practice. A series of international symposia have been conducted in association with the Functioning and Disability Reference Group mid-year meetings since 2015. These symposia offer an opportunity for people in the locality of the FDRG meeting to benefit from the presence of FDRG members with their experience of the ICF and its use globally.

On 6 & 7 April 2019, the 4th International Symposium: ICF Education took place in following the FDRG mid-year meeting in Kuwait. A multidisciplinary group of 80 persons from 29 nations in all 6 WHO regions attended the symposium. This unexpectedly large and diverse turn-out underscores the interest in the ICF and its implementation all around the world.

The International Synposium: ICF Edunation - Kuwait 2019

Following an opening ceremony featuring representatives of the Ministry of Health, the WHO-FIC Collaborating Centre in Kuwait, the Public Authority for Disability affairs and FDRG there were sessions on Kuwait and regional perspectives on functioning and disability and presentations from the region.

The plenary sessions covered ICF related tools to assess functioning, ICF based evidence informing policy and Educating on ICF. These were followed by facilitated discussion groups on the topics.

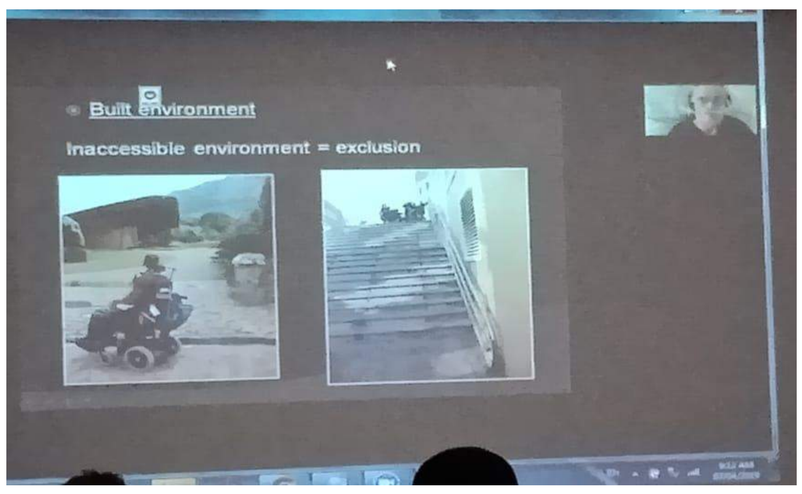
The symposium attracted more than 50 abstracts, the majority of which were published as posters in a booklet. The poster booklet stands as an ongoing record of the symposium on the ICF Education portal.

Results

The key outcomes of the symposium were:

- Increased awareness of the importance of information on functioning for policy and planning as well as delivery of services to people with disabilities.
- Cross cultural exchange of views in lively discussion.
- National coverage on television.

Involvement of people with disabilities was made possible through technology. Dr Vic McKinney was able to join a large part of the meeting and make a presentation from his home in South Africa. His contribution to the meeting was highly appreciated.



ICF Education portal

ICF Education was designed as an open access international portal for users and potential users of ICF to access educational materials. Over the five years that it has been in existence, and in response to WHO requests the portal has been developed further to include a Functioning Forum and a register of ICF advisors and educators.

The list of resources has grown to 87; with a mix of slide presentations, podcasts, webinars and user guides. Resources are available in a range of languages including: Dutch, English, Finnish, French, German, Italian, Portuguese, Russian, Spanish and Turkish

ICF EDUCATION

There are a list of advisors/educators who have provided workshops and seminars in response to enquiries from the portal. Users of the portal can search according to level of experience and the languages in which education/ advice can be provided.

The Functioning Forum includes frequently asked questions concerning the application of ICF and the WHODAS 2.0. Users of the portal can pose a question and members of an Editorial team of FDRG members and collaborators can provide answers. Other users can enter discussions and submit their points of view.

In addition there are sections on the portal for users to share their news about ICF, including any peer reviewed publications and to submit information about ICF related events.
To access the portal go to: www.ICFEducation.org

Conclusions

The International Symposia: ICF Education have proved successful; stimulating interest in the classification. The multidisciplinary nature of the symposia and involvement of health officials is important. The next symposium is scheduled for April 2020 in Ribeiro Preto, Brazil. Announcements will be made on the ICF Education portal.

As more people become aware of the importance of functioning information through the inclusion of categories in the ICD 11 so ICF education may need to change.

Acknowledgements

The ICF Education international symposium 2019 was only made possible through the generosity and enthusiasm of a large number of people, too numerous to name, from the WHO Eastern Mediterranean regional office, the WHO-FIC Collaborating Centre in Kuwait, and a committee of FDRG members and collaborators.
The ICF Education portal also benefits from the contributions of FDRG volunteers and staff from Nelson Mandela University and funding from the CC in the Netherlands.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

6-11 October 2019

Banff, Canada

Poster ID

416

Improving ICF online courses in different Languages.

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Abstract This poster presents a website with an Android Application that were made to improve ICF skills throw ICF using. The portal also provides an online course and a specific ICF Journal, but the knowledge is performed during ICF using on reports and registering patient data using ICF into the platform

Introduction

The literature indicates three necessary steps needed to be implemented reach that goal: the insertion of the conceptual model of functioning and disability from World Health Organization in professional, politics and academic practices. Current training in health education is still mostly based on a linear model of disability for clinical practices and management guidelines, that is, the disease is considered as a starting point and all other changes are considered as its exclusive consequences. The dynamic and interactive model of the ICF needs to be included in undergraduate and graduate education. To facilitate the ICF dissemination, different institutions created online courses in Portuguese Language. Most of them is divided into sections, each one containing video-classes, articles and guiding texts. Those are complemented with queries, exercises and forums for discussing. The students stay online during two to four weeks, about two hours per day and the instructors share information, questions and interacts with the online group to stimulate learning. But, considering the training as a way to learn, it was created a new tool, avaliable as a website and as an Android App: the Multifunction ICF Portal (http://www.cifbrasil.com.br). So, the objectives of these article are:

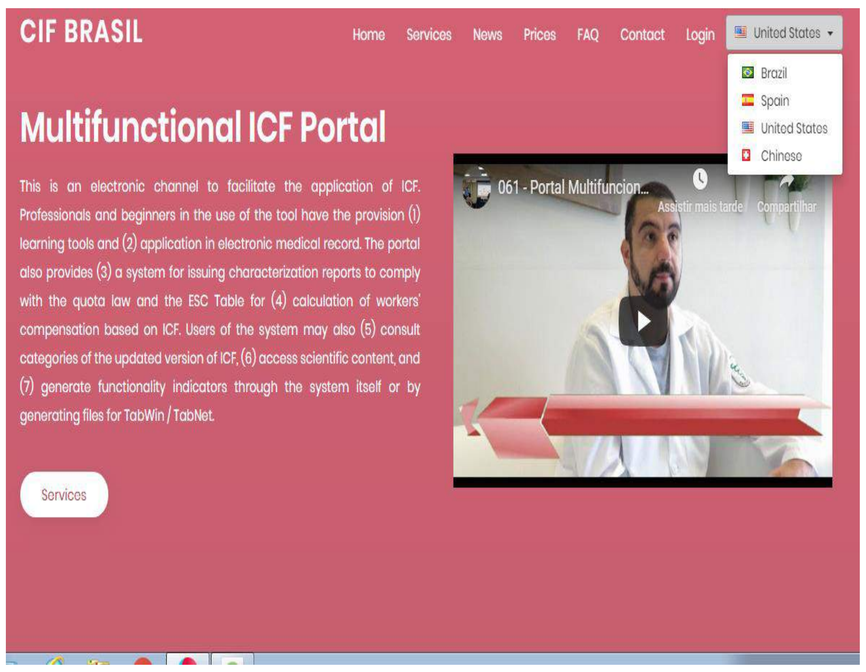
1. Show part of what has been done in Brazil;
2. Offer a tool under development to other interested researchers;
3. Present what the prototype provides.

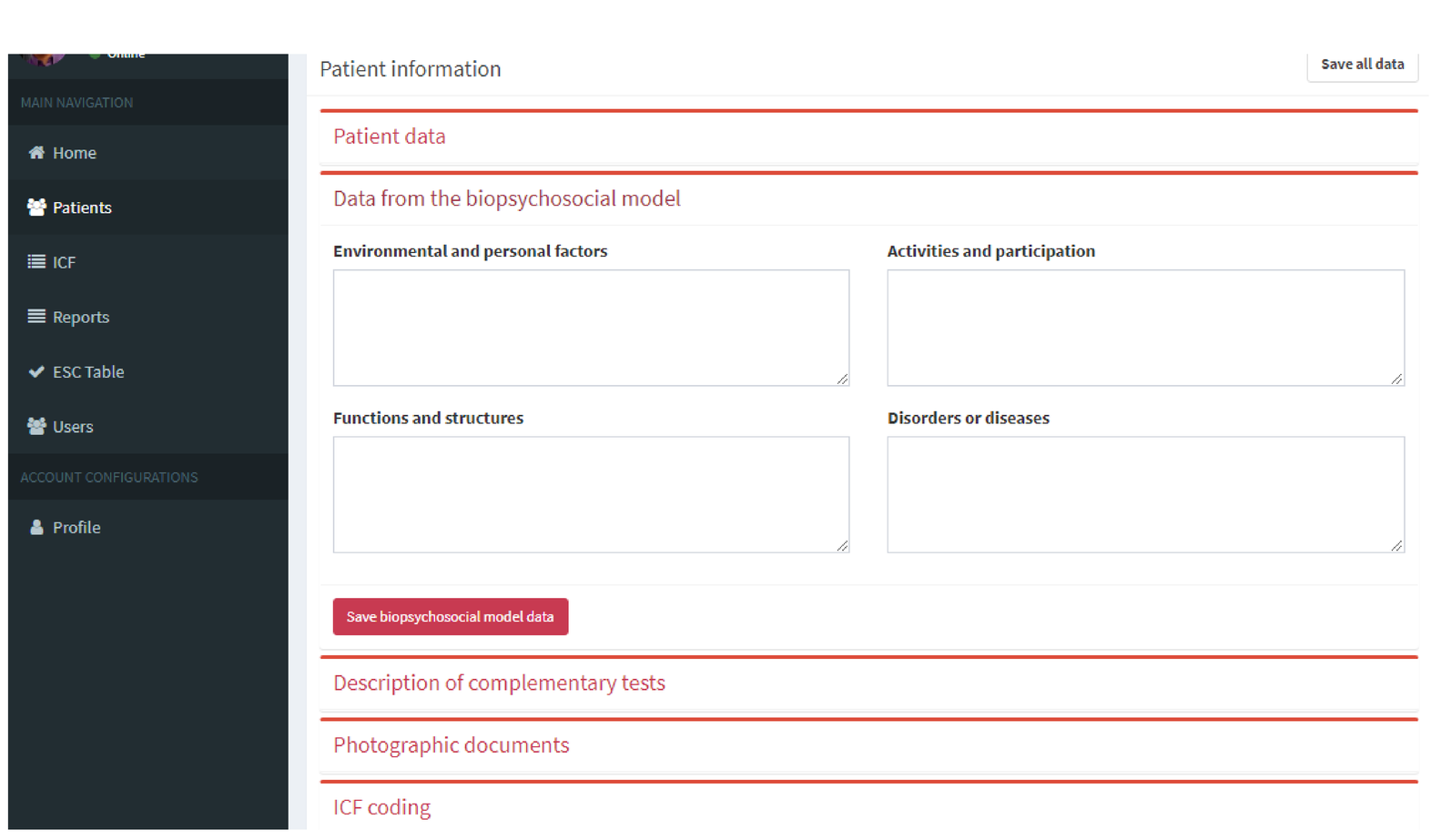
Methods & Materials

This Multifunctional ICF Portal is where researchers and professional can have additional knowledge throw an online ICF course, learning how to write records using ICF, see information on functioning indicators, access an especific ICF journal and register patients data using ICF. Data related to knowledge level of ICF, the learner's experience in receiving online instruction and usability of the platform can be collected in the future using electronic forms like GoogleForm or other one. For qualitative analysis, former learners can also be invited to take part in online focus groups discussions. Both, quantitative and qualitative analysis of the collected data can be performed.

Expected Results

This Portal will help to obtain knowledge about the feasibility and effectiveness of an online teaching platform of the ICF. Based on the results obtained we will be enabled to develop and improve this education strategy further and expand to other audiences in different languages and regions of the world.





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WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

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Poster ID

417

The 2019 ICF update process: steps towards a new ICF release.

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Abstract The authors aim at presenting the state of the art of the 67 proposals (containing 599 updates) which were put on vote in 2019 and some open issues which remain to be managed considering the challenge of a new ICF release.

Introduction

In the last nine years the ICF Tabular list of categories changed in relation to the ICF update process and the WHO decision to merge ICF-CY into ICF (Figures 1 and 2). The WHO intent to release a new ICF version in the next years after nearly twenty years from the ICF approval by the World Health Assembly asks the WHOFIC Network, particularly CSAC and FDRG, to work coordinated and awared on the fact that it will be possible to release a new Tabular List, but some inconsistencies will remain. The authors aim at presenting the state of the art of the proposals put on vote in 2019 and some open issues which remain to be managed considering the challenge of a new ICF release. ICF Introduction and Annexes were not considered because there are no proposals for updating them, despite the need for that.

Methods & Materials

Only proposals on the ICF update platform put on vote in 2019 were taken into account. In order to give an idea of the great work that the WHOFIC network has to do this year, each proposal was considered regarding any specific update on titles, description, inclusions, exclusions which impacts with potential changes in the ClaML file. Data are presented in absolute numbers. A similar count was done on ICF cumulative 2011-2018 updates (Figure 2).

Results

Figure 3 shows the distributions of the updates in the 67 proposals put on vote in 2019.

- **109** updates, regarding **28** proposals, were submitted in order to include into ICF codes coming from ICF-CY and previously rejected along the years in the ICF update process;
- **292** updates, regarding **11** proposals, were submitted in order to remove impairments from inclusions of Body Functions categories, already rejected in 2018 and newly re-submitted with changes (Figure 3);
- **143** updates, regarding **21** proposals, were submitted in order to have titles in a verbal form in Activity and Participation categories of d7, d8, d9 chapters;
- **30** updates, regarding **4** proposals, were submitted on Environmental Factors not coming from ICF-CY;
- **25** updates, regarding **3** proposals, were submitted to modify other in ICF.

All the 67 proposals contain **599 changes** and **99 potential deletions from ClaML.** CSAC Co-Chair for ICF and CSAC Secretariat have also checked ICF for A&P categories missing a verb in the title in Chapters 1-6. They found 48 Activities to modify. To reach uniformity in the ICF, a new proposal has to be submitted on the ICF update platform.

Figure 1: Milestones in the ICF update process

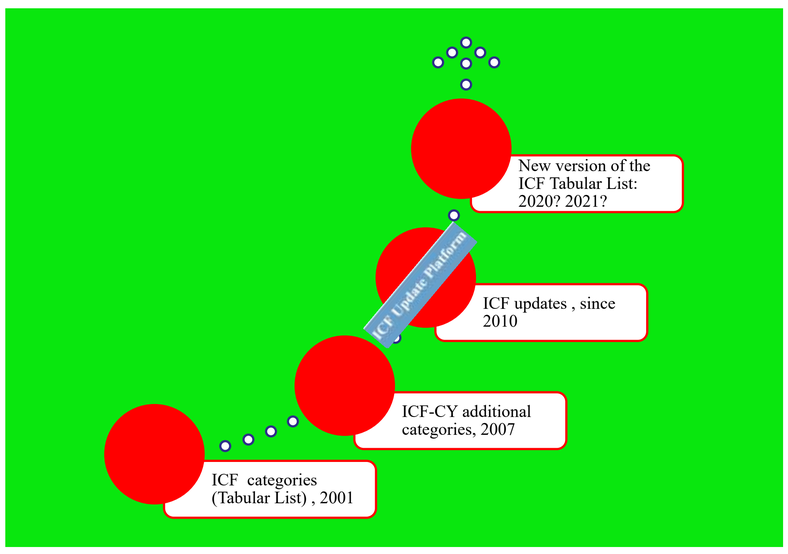
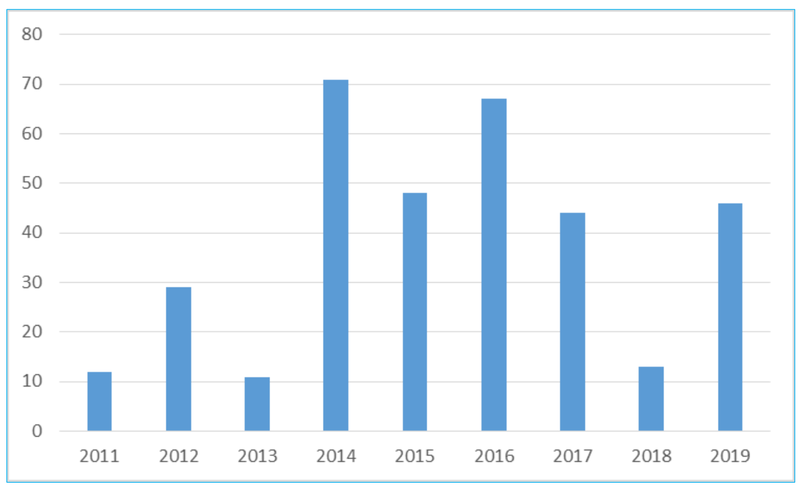


Figure 2: Accepted updates of the ICF tabular list with implementation years 2011-2019 (N=341)



Source: Italian WHOFIC CC analysis, based on the ICF ClaML file

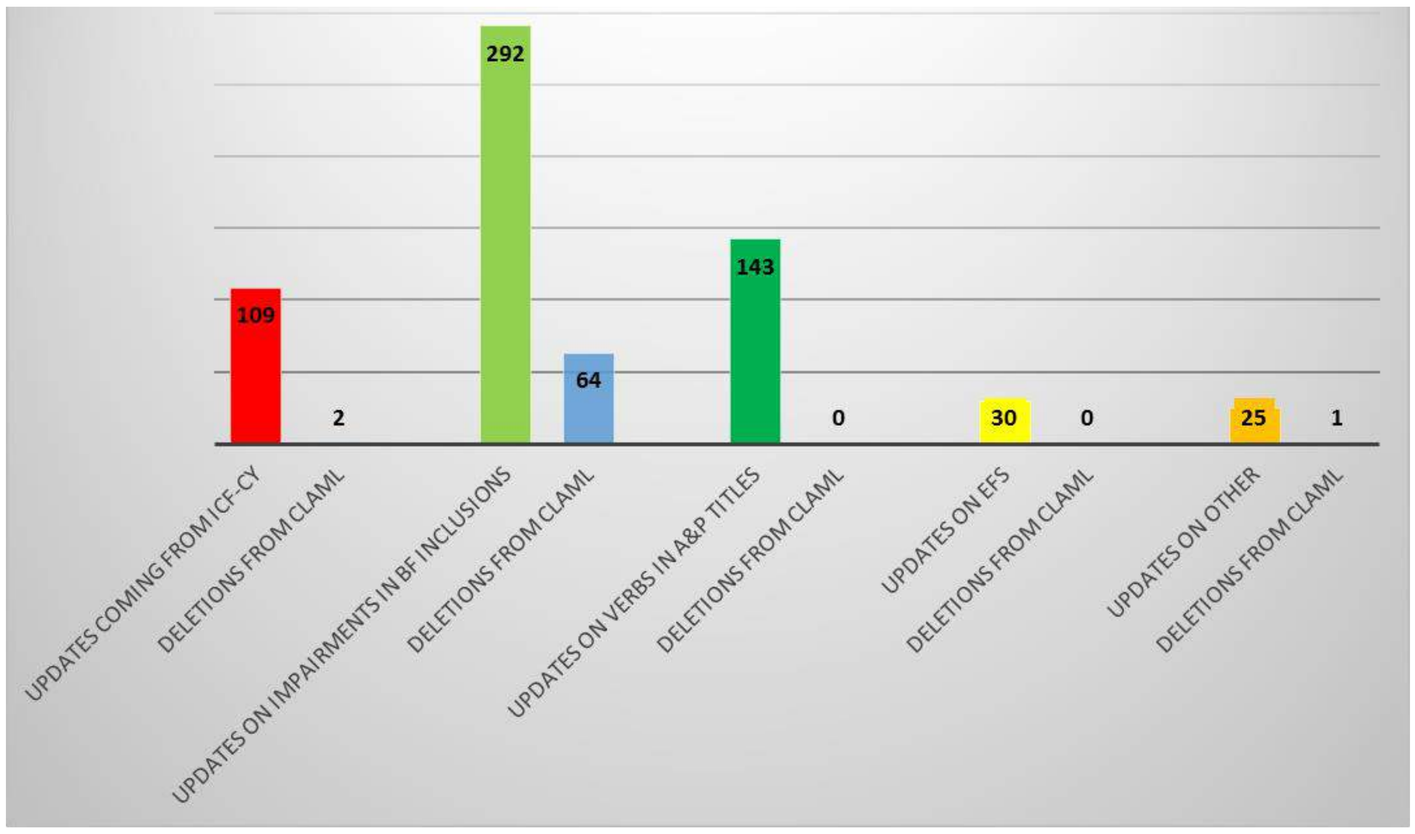


Figure 3: Distribution of the 599 updates in the 67 proposals put on vote in 2019 (data analysed by the Italian WHOFIC CC using the information on the ICF update platform, as of August 2019)

Figure 4: Example of changes related to «impairment» inclusions in Body functions, as of August 2019 (ICF update platform)

b410 Heart functions
Functions of pumping the blood in adequate or required amounts and pressure throughout the body.
Remark: impairments of these body functions are present in health conditions such as heart failure, cardiomyopathy, myocarditis,and coronary insufficiency and in other conditions that manifest in tachycardia, bradycardia, irregular heartbeat, arrythmias

Inclusions: functions involved in the heart rate, the heart rhythm, the contraction force of ventricular muscles, and in supplying blood to the heart muscle ~~of heart rate, rhythm and output; contraction force of ventricular muscles; functions of heart valves; pumping the blood through the pulmonary circuit; dynamics of circulation to the heart; impairments such as tachycardia, bradycardia and irregular heart beat and as in heart failure, cardiomyopathy, myocarditis,and coronary insufficiency~~
*Exclusions: blood vessel functions (**b415**); blood pressure functions (**b420**); exercise tolerance functions (**b455**)*

b4100 Functions involved in the ~~H~~heart rate
Functions related to the number of times the heart contracts every minute.
~~Inclusions: impairments such as rates that are too fast (tachycardia) or too slow (bradycardia)~~

b4101 Functions involved in the ~~H~~heart rhythm
Functions related to the regularity of the beating of the heart.
~~Inclusions: impairments such as arrhythmias~~

b4102 Functions involved in the ~~C~~contraction force of ventricular muscles
Functions related to the amount of blood pumped by the ventricular muscles during every beat.
~~Inclusions: impairments such as diminished cardiac output~~

b4103 ~~Blood supply~~ Functions involved in supplying blood to the heart
Functions related to the volume of blood available to the heart muscle.
~~Inclusion: impairments such as coronary ischaemia~~

b 4108 Heart functions, other specified
b 4109 Heart functions, unspecified

Conclusions

In the period 2018-2019, the work on updating ICF was mainly done keeping in mind the release of a new ICF version. The aim is to have a version as much complete and correct as possible. A great number of new update ICF proposals were submitted and just as many were already present in the update platform. All the 2019 proposals have to be voted and hopefully accepted by CSAC. They are nearly double compared to those accepted in nine years of ICF updating. It can happen that some proposals of the same types are accepted and some others are rejected. In any case, the acceptance of changes require a general check of the ICF Tabular list to modify inclusions and exclusions in any part of the classification interested by the updates. The management of «complex» proposals such as the majority of 2019 ICF proposals, which are about several changes in each proposal (title, definition, inclusions, exclusions) perhaps needs to be managed in a way similar (identical) to that used in ICD-11. Similarly to ICD-11 proposals, some ICF proposals could require to be discussed by MSAC before being put on vote. No activity has been done on the ICF Introduction and Annexes until now, but these parts need to be reviewed. For example, a new paragraph needs to be added in the ICF introduction about the merging of ICF-CY into ICF. In addition to the changes proposed with the proposals, a general review of ICF is also suggested in order to have uniformity in the classification. The success of this effort greatly depends on the results of the 2019 CSAC voting rounds and the WHO decisions about possible problems. We urge the WHO-FIC network to appoint a core group to support the «editing requirements» of a new version of the ICF.

Acknowledgements

Grateful thanks to all the authors of the ICF update proposals, to FDRG for discussing all the 2019 update proposals and the CSAC voting members for ICF.

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418

The Validity And Research Utility Of The WHODAS 2.0 For Assessment Of Disability In Patients With Episodic And Chronic Migraine

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Abstract

Headache disorders are very common worldwide and patients with headache show decreased quality of life (QoL) with high disability. Migraine impact is relevant on individuals, as it causes reduced health and productivity and increased costs for the health systems. There are many disease specific instruments for assessment of headache and the aim of this study is to demonstrate that the **WHODAS 2.0** (World Health Organization Disability Assessment Schedule 2.0) can be used as an additional assessment tool to assess functioning and disability in migraine patients. The results of the study show that WHODAS 2.0 is a sensitive and effective instrument to measure disability in migraine patients and allows the correlation and comparison of migraine disability scores with disability scores due to other diseases.

Introduction

Headache disorders are very common worldwide and they determine relevant difficulties on many areas. These patients show decreased quality of life (QoL) with high disability. Moreover social, family and leisure activities are impaired as much as work activities. So, migraine impact is relevant on individuals, in terms of personal suffering and reduced health, and on societies, in terms of reduced productivity and increased costs for the health systems. A better understanding of the impact of migraine has been achieved using the **WHODAS 2.0**, assessment tool based on the **International Classification of Functioning Disability and Health (ICF).** The aim of this study is to explore the relation between WHODAS 2.0-12 questions disability score and other outcomes usually obtained with other migraine specific instruments and to demonstrate that WHODAS 2.0 is as valid as the other migraine specific instruments and offers more possibility of comparison in public health planning.

Common Migraine specific instruments to assess disability

- MIDAS
- HEADWORK
- MSQ
- HEADACHE DIARY

Methods & Materials

Patients with episodic migraine (EM) or chronic migraine (CM), according to the International Classification of Headache Disorders (ICHD-3), were consecutively enrolled in a multi-center study coordinated by the headache Centre of the Neurological Institute C. Besta of Milan. In addition to the **WHODAS 2.0**, patients were administered the Migraine Disability Assessment (MIDAS) to assess the impact of migraine, the Migraine-Specific Quality of life Questionnaire (MSQ) for quality of life, and the HEADWORK questionnaire to assess work-related difficulties. Furthermore data on the frequency and intensity of migraine were collected through self-report (headache diary). Whodas 2.0 is self administer and takes 5 minutes to be completed and cover the interaction of the person with the environment in a biopsychosocial prospective. We calculated Pearson's correlations between WHODAS 2.0 and MIDAS, MSQ, HEADWORK and other clinical aspects.

Results

362 patients, (288 EM, 74 CM; 293 females, 69 males; 247 employed up to 40hrs/week, 155 over 40hrs/week) were enrolled. The correlations between the WHODAS 2.0 scores and outcomes of other instruments were all significant at the $P<.001$ level and with coefficients comprised between .293 and .666.

	WHODAS-2.0
HEADWORK-WORK DIFFICULTIES	.607
HEADWORK-FACTOR IMPACTING WORK DIFFICULTIES	.565
MSQ-RR	-.638
MSQ-RP	-.666
MSQ-EF	-.633
MIDAS	.553
HEADACHE FREQUENCY	.418
AVARAGE PAIN SEVERITY	.367
LOST WORKDAYS	.310
DAYS WORKED WITH HAMPARED PRODUCTIVITY	.293
AVARAGE PRODUCTIVITY	-.293

Table 1: Correlation analysis between WHODAS-2.0 and the other assessment tools, headache frequency, pain intensity and productivity indexes (N=362)

Conclusions

The disability value of WHODAS 2.0-12 questions shows convergence with other outcomes obtained with migraine specific assessment tools that are relevant for headache research.

WHODAS 2.0:

- disability scores correlates with results of other specific instruments for migraine
- can be reliably used as an assessment instrument for migraine
- Allows comparability with disability due to other health conditions

WHODAS 2.0 is therefore a very useful instrument for the assessment of migraine-related disability as it investigates the various dimensions related to this condition and the impact of environment on the patients.

WHODAS 2.0-12 items should be recommended for migraine disability studies.

Acknowledgements or Notes

The authors declare no conflict of interests

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419

Korean Version of WHODAS 2.0 User Manual

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Abstract This study aimed to develop a new Korean version of the WHODAS 2.0 User Manual for its use in Korean culture. The User Manual was translated to the Korean language in accordance with scientific translation process. For examining the applicability of WHODAS 2.0 in Korean culture, validation of the Korean version of WHODAS 2.0 was conducted in a national wide data collection. The study also aimed to broaden the usability foundation of ICF in Korea, by translating WHODAS 2.0 User Manual into the Korean culture and presenting it as a guideline and training material for the Korean users.

Introduction

The attention in disability burden for individual has now shifted to assessing the individual's functioning and limitation in society. The International Classification of Functioning, Disability and Health (ICF) constitutes the conceptual basis for defining and understanding those conditions. However, the ICF is a classification system of health and disability rather than an evaluation or measurement tool. Consequently, in accordance with the concept of the ICF, the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0) was developed to provide the general evaluation and measurement of health conditions, disabilities, and psychometric variables. While its wide use in the field, the WHODAS 2.0 User Manual had not yet been translated to the Korean language. Thus, this study aimed to develop a new Korean version of WHODAS 2.0 User Manual into Korean culture. To further on broadening the applicability of WHODAS 2.0 in field, validation of Korea version of the WHODAS 2.0 was conducted in a clinical setting.

Methods & Materials

The study consisted of two individual process; 1) translation of User Manual and 2) validation of the WHODAS 2.0. The detail of the process is described in Figure 1. The original version of User Manual was independently translated to Korean by two bilingual Korean nationals (both are health professionals). The two independent translations were synthesized and any discrepancies between translations were reviewed by the expert committee, consisted of two study investigators and 7 external health professionals in five disciplines (e.g., medicine, physio therapy, occupational therapy, special education, speech therapy). The pre-final version was complete with the consensus on the committee.

Validation of the WHODAS 2.0 is being evaluated by examining the reliability, validity and responsiveness, however, not yet complete. From wide areas in Korea, a total of 440 patients with current suffering of neck or back pain participated to the validation process and the data collection is currently ongoing process. Patients complete the WHODAS 2.0 two times at the beginning of treatment and the end of treatment. Additional questionnaire is given to include patient's demographic factors, current pain status, fear of avoidance, progress of pain.

Results

Overall, the pre-final version proved similarity to the original version regarding the general and the referential meaning. However, we had difficulty in providing wording for some clinical definitions (glossary or title domains), proper noun, and statistical terms to be translated into lay languages. Consequently, despite lack of delivery, they remained in the intended meaning of the original words for accuracy. Some of examples are shown in Table 1.

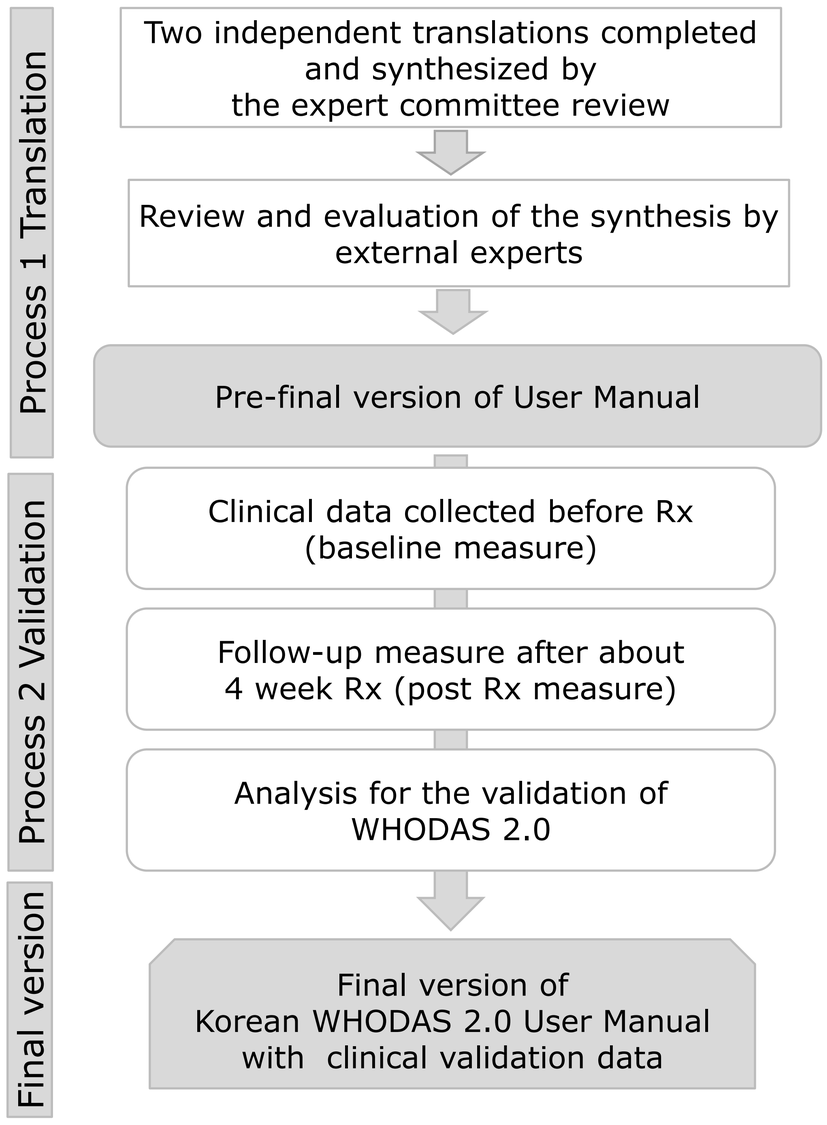

Figure 1. Diagrammatic summary of the method for the study process

We report some beneficial feedbacks attained from clinicians as to the applicability and the usability of WHODAS 2.0 in clinical setting. First, the clinicians who carried out WHODAS 2.0 indicated the necessity of education as to WHODAS 2.0, how it is applied and scored on what basis and conceptual purpose. Second, it was also questioned by the users the evidence for clinical use when considered insurance fee, generality, and legal benefit. Lastly, despite improvement in pain status, higher disability due to pain was observed after treatment. This paradox may be due to the 30 days frame for recall and often seen when some patients experienced short but severe pain prior to the participation while experienced quick improvement in pain for longer period post treatment.

Conclusion

This new translation will have practical application for clinicians and researchers in Korea to assist in the management of disability and limitation by providing a general evaluation and measurement of health conditions and disabilities. The study will also broaden the usability foundation of ICF in Korea, by translating WHODAS 2.0 User Manual into Korean and presenting it as a guideline and training material for the Korean users.

Acknowledgements

The study was supported by Korean Collaborating Centre in 2019.

Table 1. Examples of translating terms

Type	Original words	Translated words
Glossary	Activity limitation, Barriers or hindrances, Contextual factors, Difficulty, Facilitators, Functioning, Household activities, Health condition, Participation restrictions, Personal assistance	활동제한, 장애물 또는 장해물, 배경요인, 어려움, 촉진자, 기능수행, 가사활동, 건강상태, 참여제약, 개인보조
Title of domains	Cognition, Mobility, Self-care, Getting along, Life activities, Participation	인지, 이동, 자기관리, 어울리기, 일상활동, 참여
Statistical terms	Face validity, Factor analysis, Responsiveness	안면타당도, 요인분석, 반응도

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Development of WHO-DAS 2.0 Short Form Evaluation Sheet (10-item version)

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Abstract The purpose of this study was to develop a simple and short evaluation sheet for improving the accuracy and universal use of the 12-item version of WHO-DAS 2.0, based on the results of a survey of residents using disability social services in City A. A 10-item version of the WHO-DAS inventory was developed through expert review by clinicians. Confirmatory factor analysis confirmed the factor structure and a high correlation with the 36 item WHO-DAS.

Introduction

Objective WHO-DAS 2.0 is an assessment tool developed by WHO to assess disability in accordance with the biopsychosocial model described in the ICF concept (Üstün et al, 2004). The tool has already been translated into Japanese, and is expected to be used as a tool for evaluating subjective daily life functions and social participation, and as a basis for clinical studies in the field of welfare and for policy making. On the other hand, it has been pointed out that there are many problems in clinical use (Tsutsui, 2014).
The purpose of this study was to develop a simple and short evaluation sheet for improving the accuracy and universal use of the 12-item version of WHO-DAS 2.0, based on the results of a survey of residents using disability social services in City A.

Methods & Materials

A study group consisting of clinicians and academic experts was organized to conduct an expert review of survey items based on the results of the 36 item version of the WHO-DAS 2.0 (N = 1,056).
We then performed confirmatory factor analysis by covariance structure analysis on items extracted from statistical analysis and clinical findings.
The research was approved by the ethics review committee of the Graduate School of Business Administration, Hyogo Prefectural University.

Results

The participation and activity profiles identified using WHO-DAS 2.0 in the study population are shown in Table 1. Because people who use disability services were surveyed, the self-reported version of the Life activities category was missing a lot. In addition, the participation in society category showed a greater degree of disability than the other categories.

Table1: Distribution of domain specific activity and participation responses

No	Item	Mean	SD	N	%
Understanding and communicating					
1	Concentrating on doing something for ten minutes?	1.71	1.216	1,006	95.3
2	Remembering to do important things?	1.77	1.23	1,006	95.3
3	Analysing and finding solutions problems in day-to-day life?	2.06	1.412	988	93.6
4	Learning a new task, for example, learning how to get to a new place?	2.30	1.445	991	93.8
5	Generally understanding what people say?	1.85	1.19	1,001	94.8
6	Starting and maintaining a conversation?	1.83	1.253	1,002	94.9
Getting around					
7	Standing for long periods such as 30 minutes?	2.34	1.536	1,012	95.8
8	Standing up from sitting down?	1.77	1.257	1,014	96.0
9	Moving around inside your home?	1.56	1.119	1,008	95.5
10	Getting out of your home?	1.89	1.389	1,009	95.5
11	Walking a long distance such as a kilometre [or equivalent]?	2.25	1.583	1,010	95.6
Self-care					
12	Washing your whole body?	1.87	1.403	1,017	96.3
13	Getting dressed?	1.58	1.17	1,016	96.2
14	Eating?	1.34	0.905	1,016	96.2
15	Staying by yourself for a few days?	2.31	1.686	1,009	95.5
Getting along with people					
16	Dealing with people you do not know?	2.16	1.436	1,007	95.4
17	Maintaining a friendship?	1.97	1.381	1,001	94.8
18	Getting along with people who are close to you?	1.90	1.362	993	94.0
19	Making new friends?	2.45	1.439	991	93.8
20	Sexual activities?	1.97	1.4	979	92.7
Life activities					
21	Taking care of your household responsibilities?	2.19	1.509	992	93.9
22	Doing most important household tasks well?	2.22	1.522	988	93.6
23	Getting all the household work done that you needed to do?	2.17	1.489	984	93.2
24	Getting your household work done as quickly as needed?	2.26	1.478	983	93.1
25	Your day-to-day work/school?	1.66	1.187	363	34.4
26	Doing your most important work/school tasks well?	1.83	1.232	361	34.2
27	Getting all the work done that you need to do?	1.83	1.256	359	34.0
28	Getting your work done as quickly as needed?	1.95	1.304	357	33.8
Participation in society					
29	How much of a problem did you have in joining in community activities in the same way as anyone else can?	2.94	1.611	1,004	95.1
30	How much of a problem did you have because of barriers or hindrances in the world around you?	2.68	1.494	960	90.9
31	How much of a problem did you have living with dignity because of the attitudes and actions of others?	2.15	1.269	980	92.8
32	How much time did you spend on your health condition, or its consequences?	2.72	1.346	964	91.3
33	How much have you been emotionally affected by your health condition?	2.69	1.365	974	92.2
34	How much has your health been a drain on the financial resources of you or your family?	2.66	1.418	982	93.0
35	How much of a problem did your family have because of your health problems?	2.77	1.417	982	93.0
36	How much of a problem did you have in doing things by yourself for relaxation or pleasure?	2.20	1.327	936	88.6

Results Based on the data of 36 items of WHO-DAS 2.0, 12 items which have already been standardized were examined. In the review of the 12-item version, 10 items were selected as candidates, in which "perform an activity at work or school" and "Effects of health status on family members", which were the most common answers for "Difficult to understand definition and unable to answer" were deleted and "You can walk a long distance of about 1 km." was replaced with "to go out of the house".

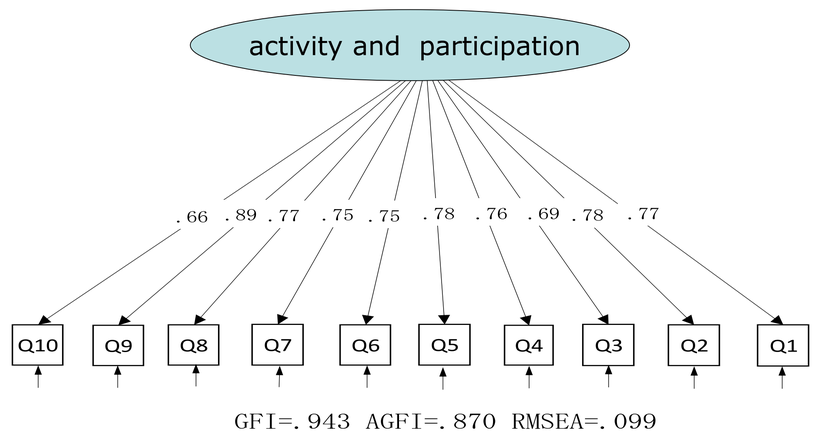
Figure1: Item reduction process from WHO-DAS 2.0 12item-ver.

No	Category	Item	
1	Understanding and communicating	Concentrating on doing something for ten minutes?	
2	Understanding and communicating	Learning a new task, for example, learning how to get to a new place?	
3	Getting around	Standing for long periods such as 30 minutes?	
4	Getting around	Walking a long distance such as a kilometre [or equivalent]?	Changed to other items because it is difficult to evaluate
5	Self-care	Washing your whole body?	
6	Self-care	Getting dressed?	
7	Getting along with people	Dealing with people you do not know?	
8	Getting along with people	Maintaining a friendship?	
9	Life activities	Taking care of your household responsibilities?	
10	Life activities	Your day-to-day work/school?	Removed due to low response rate
11	Participation in society	How much of a problem did you have in joining in community activities (for example, festivities, religious or other activities) in the same way as anyone else can?	
12	Participation in society	How much have you been emotionally affected by your health condition?	Removed due to low response rate

No	Category	Item
1	Understanding and communicating	Concentrating on doing something for ten minutes?
2	Understanding and communicating	Learning a new task, for example, learning how to get to a new place?
3	Getting around	Standing for long periods such as 30 minutes?
4	Getting around	Getting out of your home?
5	Self-care	Washing your whole body?
6	Self-care	Getting dressed?
7	Getting along with people	Dealing with people you do not know?
8	Getting along with people	Maintaining a friendship?
9	Life activities	Getting all the household work done that you needed to do?
10	Participation in society	How much of a problem did you have in joining in community activities (for example, festivities, religious or other activities) in the same way as anyone else can?

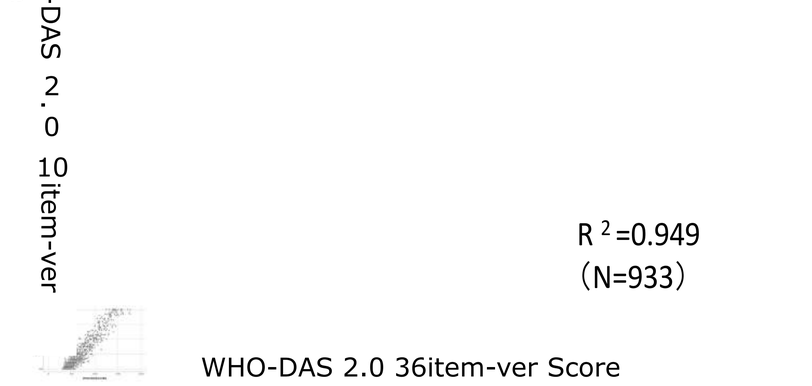
Therefore, confirmatory factor analysis of these 10 items was performed, and it was confirmed that a one-factor model was valid.

Figure2 : Path diagram with parameter estimates (standard errors) of the m the WHO-DAS 2.0 10 item ver



The scores calculated by 36 and 10 WHO-DASs were highly correlated with 0.949 (N = 933).

Figure3 : Scatter plots of WHO-DAS2.0 36 item score and the abbreviated WHO-DAS 2.0 10 item score



Conclusions

The results of this study suggest that the short version of the WHO-DAS 2.0 questionnaire (10-item version) is applicable. WHO-DAS 2.0 is included in the V-Chapter section of ICD -11. Therefore, the shorter version of the WHO-DAS 2.0 questionnaire (10-item version) developed in this study has high social significance.
In the future, it will be necessary to conduct a separate survey using this evaluation sheet to further verify its validity.

Acknowledgements or Notes

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421

The relevance of Time and Space in Aging: the TAPAS in Aging project

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Abstract The increase of aging population, associated with a longer average life expectancy, raises concern for the management of chronic conditions and long-term care needs. **Space and time are concepts that play a key role that should be evaluated to understand aging in our society.** TAPAS in Aging project aims to identify the key determinants for well-being and quality of life in older adults, by evaluating the space in which people live and how they spend their time, particularly focusing on the impact of social network and built environment. The study is expected to provide valuable data regarding the factors that can contribute to a healthy aging process and will therefore purpose potential solutions for the increase of well-being and quality of life in the elderly population.

Introduction

The **aging of the world population** is undergoing, in recent years, a significant growth. The increase in life expectancy leads to an **increment in chronic diseases and disability**, and at the same time to a growing demand for health and social services. In this scenario, there is a significant concern about the management of chronic conditions and long-term care needs.
Therefore, it is important to try to **determine the relevant factors for healthy and active aging**, intended as maintaining functional abilities that allow a state of well-being even during the advanced age.

Investigating the aging process using a bio-psychosocial perspective is essential to understand how to reduce disability and improve functioning of elderly people. In this framework, better social networks and facilitating environments can contribute to a healthy aging path. Therefore, it becomes essential to **observe how aging people spend their time and how their physical and social environment can constitute a facilitator or a barrier**.

The aim of **TAPAS in Aging project** is to obtain reliable information to understand **the role of time and space on well-being** during aging in the Italian context.

Methods & Materials

The study uses a quantitative methodology, based on a protocol already used in previous research on determinants of aging in Europe and Italy (COURAGE in Europe, IDAGIT). The protocol will be administered to a cohort of people aged over 50 and resident in Lombardy Region (Northern Italy).

The protocol is composed by different tools that collect information about socio-demographic characteristics, health status, social networks, well-being, disability, quality of life and built environment.

The purpose of the study is to valuate the variations in **Well-Being** scores (WB) of the aging population with respect to the characteristics of the **Built Environment** (BE) and **Social Networks** (SN), considering the variables of gender, age and health status.

Chart 1: Explored influence of built environment (BE) and social network (SN) on well-being in aging population.

Moreover, the Well-Being of the older people will be explored by analyzing their **use of time**, applying the Daily Reconstruction Method (DRM), a tool which collects descriptions of the activities carried out during the day and the feelings that people experienced in relation to them.

Chart 2: Daily activity description using the Daily Reconstruction Method.

Finally, the **functioning** and **quality of life** will be assessed in the sample, using, respectively, the instruments **WHODAS 2.0 and WHOQOL-AGE,** always taking into account age, gender and chronic conditions.

Results

The results of **TAPAS in Aging** project are expected to provide valuable information on how to improve well-being and quality of life of older people through an enrichment of social networks and environmental factors that can act as facilitators.

In fact, using a biopsychosocial methodology, TAPAS in Aging suggests that **acting on the physical and social environment can be helpful for the elderly population** from many different points of view. Such interventions are intended not always to improve health conditions only, but often also to find support for management of practicalities of daily life within the networks, both social and environmental, in which people live.

Based on project results, some recommendations on how to implement services to improve well-being and quality of life will be developed.

Conclusions

TAPAS in Aging project could answer some of the most pressing questions related to healthy aging, and in particular to the scenarios that characterize the societal impact of aging, and the effect that social networks and built environment have on quality of life and well-being. **By exploring and studying the interaction between the person and his/her environment, it becomes possible to act for reducing disability and improving functioning, well-being and quality of life, since modification in the environment today can have consequences in the future.**

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422

The Promotion of corporation among pediatric rehabilitation experts in Japan - using Kinder Infant Development Scale (KIDS)

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Abstract The aim of the study was to identify the clinical validity of Kinder Infant Development Scale (KIDS) which is frequently used to capture overall child's developmental state at various clinical settings in Japan. KIDS harmonizes with concepts of ICF; that is, assessing physical, mental and social functioning, as well as influence of environments. We presented clinical validity of KIDS and limitation of clinical usage.

Introduction

In Japan, as progression of medical care and social understanding for developmental disorder/delay at recent years, needs of medical treatments, rehabilitation and various social interventions on those individuals has been raising. However, there are not enough available medical institutions and specialists in order to complete an intelligence test or a developmental evaluation using standardized measure for such cases at the moment. In addition, we also need to adopt holistically approach that takes into consideration of the child's daily life situation and of the educational settings when evaluating psychosomatic function along development. To tackle those concerns, our team thought that a family-rating scale based on daily observation was used to serve as initial assessment tool when concerns about developmental delay and/or developmental disorder has been identified. Named Kinder Infant Development Scale (KIDS) for screening developmental delay, is one of the most frequently used parent-questionnaire for developmental evaluation, whose items are supposed to indicate affinity with the framework of ICF(Table1). The present study was undertaken in order to investigate the clinical validity of KIDS.

Table1. samples of correspondence KIDS subcategory with ICF codes

Physical-Motor	Changing and maintaining body position (d410-d429) Walking and moving (d450-d469)
Receptive Lang	Basic learning (d130-d159) Applying knowledge (d160-d179) Communicating – receiving (d310-d329)
Expressive Lang	Applying knowledge (d160-d179) Communicating – producing (d330-d349)

Methods & Materials

Method: The participants of this study were 404 children aged 0-5, who were referred to the Developmental Evaluation Center of the National Center for Child Health and Development (NCCHD) in Tokyo, Japan, between May 2011 and December 2015, due to a suspected developmental disorder/delay. All children were administered the Kyoto Scale of Psychological Development 2001 (KSPD) and KIDS by clinical psychologists or speech-language therapist at the same time. This study was approved by the ethics board of NCCHD. Prior written or verbal informed consent was obtained from all participant's parents, since all participants were too young to obtain an agreement. Table2 shows characteristics of the participants.

Measure: The KSPD is a standardized developmental test that is widely used in Japanese clinical settings, measuring an individual's developmental level. The test which has three distinct domains; Postural-Motor (P-M), Cognitive-Adaptive (C-A), and Language-Social (L-S), was administrated in accordance with standard procedure and standard scores were delivered. We computed Developmental Quotient (DQ) of overall score and each domain to conduct analyses based on the standard procedure.

Table2. Demographic of study participants

Participants	404
Age (median and range)	2.0 (0-5)
Sex	Male;248, Female;156
gestational age/weak （median and range）	37.0 (23-42)
Birthweight / g （median and range）	2621（420-4024）

The KIDS is a daily performance basis parent-rating questionnaire that has been used for developmental screening of children aged between 0 year 1 month and 6 years 11 months. The questionnaire is composed of 9 categorical subscales: Physical-Motor, Manipulation, Receptive Language, Expressive Language, Social Relationships with Adults, Feeding, Language concept, Social Relationships with Children, and Discipline (self-care). For each item, the parent is asked to answer "O" (yes) if his/her child can perform the behavior, and "X" (no) if his/her child cannot. We calculated Developmental Quotient (DQ) of overall score and each subscale using standard procedure.

Analysis: To validate the clinical validity of KIDS, we undertook a correlation analysis between KIDS and KSPD, and verified the sensitivity and specificity of KIDS.

Results

KIDS Total DQ and Posture-Motor (P-M) domain DQ demonstrated a high correlation (r=0.756, 0.774) with the KSPD Total and Posture-Motor (P-M) DQ (Table 3). The regression equation was KSPD Total DQ=22.901 + 0.0652 × KIDS Total DQ (R=0.765, R^2=0.571). The sensitivity was 62.6, 52.3%, when cutoff values of Total and Receptive language DQ by KIDS were set at 70 to screen developmental delay with KSPD DQ less than in Total and C-A domain, respectively (Table4).

Table3.The correlation coefficient of KSPD-DQ and KIDS-DQ（Pearson）

KIDS-DQ	Overall 89.0 [20-150]	Motor 80.0[11-175]	Receptive Lang 94.9[8- 204]
KSPD-DQ overall 81.0 [13-123]	.756** (404)	.617** (404)	.615** (404)
KSPD-DQ P-M 74.0 [9-148]	.592** (357)	.774** (357)	.384** (357)
KSPD-DQ C-A 83.0 [15-137]	.697** (402)	.514** (402)	.571** (402)
KSPD-DQ L-S 81.0 [20-150]	.751** (404)	.469** (404)	.665** (404)

a) **p>0.01.b) The number in parenthesis is frequency. c) DQ both KSPD and KIDS are median [minimum -maximum].

Table4.Sensitivity / specificity less than DQ70 KSPD when KIDS less than DQ70 is the cut-off value.

KIDS (frequency)	KSPD	Sensitivity	Specificity
Overall DQ below 70(94)	Overall	62.6%(77)	94.0 %(264)
Motor DQ below 70(138)	P-M	64.7%(97)	80.2 %(166)
Receptive Lang DQ below 70(81)	L-S	52.3%(68)	95.3%(261)

Conclusions

This study demonstrated KIDS total DQ can predict total DQ of KSPD, but the sensitivity was low when the cutoff values were set at less than 70 of KIDS Total and Receptive language to screen developmental delay with KSPD DQ in Total and L-S domain less than 70. Therefore, We suggest that using and interpreting of KIDS as evaluating of developmental disability/delay at developmental assessment requires careful handling.

On the other hand, KIDS can capture child's function and developmental states through daily performance and environments, which way of thinking is same as ICF concepts. We would like to continue to encourage researchers and specialists in Japan to consider using holistic based measure such as KIDS.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

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423

Development of an e-tutorial to inform about the WHO Disability Assessment Schedule 2.0

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Abstract The World Health Organization's (WHO) Disability Assessment Schedule (WHODAS) 2.0 is WHO's recommended generic assessment instrument to collect data on functioning and disability by relying on the framework of the International Classification of Functioning, Disability and Health (ICF). The WHODAS 2.0 is available in various languages and formats (e.g., short and full version; self-report, proxy interview). It is applicable in both clinical and general population settings. There is an urgent need to provide information on the construction, content and the application of the WHODAS 2.0 for stakeholders, researchers and clinicians around the world. This poster reports on the development of an e-tutorial that provides this information.

Introduction

Persons with any kind of health conditions experience impairments in functioning. To collect standardized data on functioning from the persons with health conditions a sound, valid and reliable instrument is needed.

The World Health Organization's (WHO) Disability Assessment Schedule (WHODAS) 2.0 is WHO's recommended generic assessment instrument to collect data on functioning and disability.

The WHODAS 2.0 is based on the conceptualization of the International Classification of Functioning, Disability and Health (ICF). It is also part of ICD-11's Supplementary section for Functioning assessment. To provide information on the WHODAS 2.0, its conceptualization and fields of application a training tool is needed.

With this poster we present the work on the WHODAS 2.0 e-tutorial.

Activities

We developed the content and layout for an e-tutorial based on the available information about the WHODAS 2.0 in the manual edited by Üstün et al. (2010) and in published literature.

The e-tutorial was conceptualized to provide the most important information about the WHODAS 2.0 in a compact and user-friendly way. It is designed to be completed in a short period of time. From a starting page which includes nine different topics (symbolized by different icons see Fig.1), the user is led to different subpages which offer details about the chosen topic (see Fig.2). A list of links is provided for those who would like to deepen their knowledge on the WHODAS 2.0.

We used the e-learning authoring software Storyline 3 (Articulate Global, Inc.) to create a beta version of the WHODAS 2.0 e-tutorial.

Results

After reviewing available information and the literature, the following topics and contents where identified to be covered by the e-tutorial:

What is WHODAS 2.0?
Definition, structure (domains), one factor-solution of score

Why use WHODAS 2.0?
Direct link to ICF, cross-cultural comparability, ease of use and availability

Background information and concept
Human functioning and ICF, the biopsychosocial model, WHOQOL

Psychometric properties
Studies on reliability and validity, robust factor structure

Versions and administration modes

Uses/applications
Surveys of general and specific populations, clinical settings, languages

Scoring
Scoring procedure, links to the SPSS syntax and scoring templates

ICD-11
ICD-11's Supplementary section for functioning assessment and use of WHODAS 2.0

Further information
Links to versions and manual on WHO homepage (detailed information, specifications, problems/solutions, FAQs)

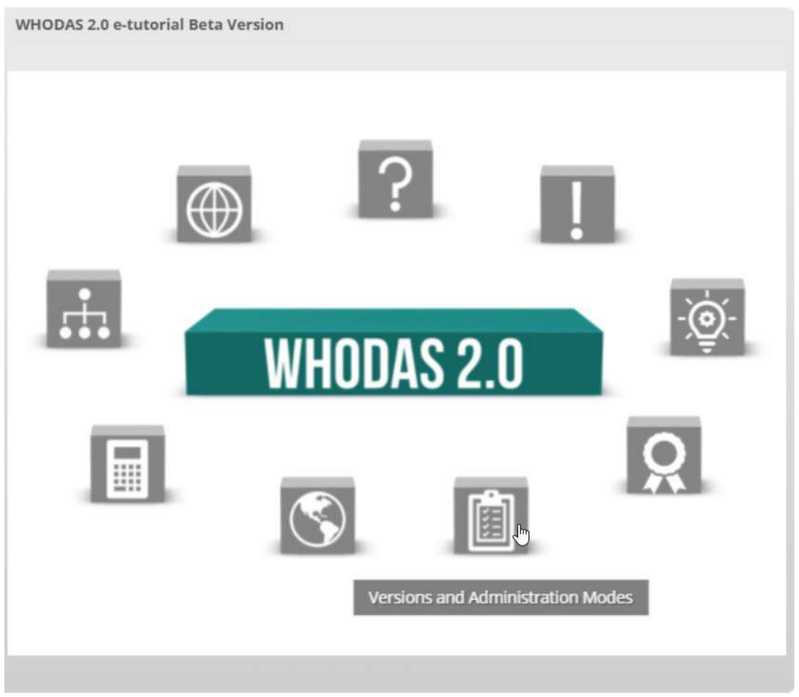

Figure 1: Screenshot of the starting page of the WHODAS 2.0 e-tutorial (main topics).

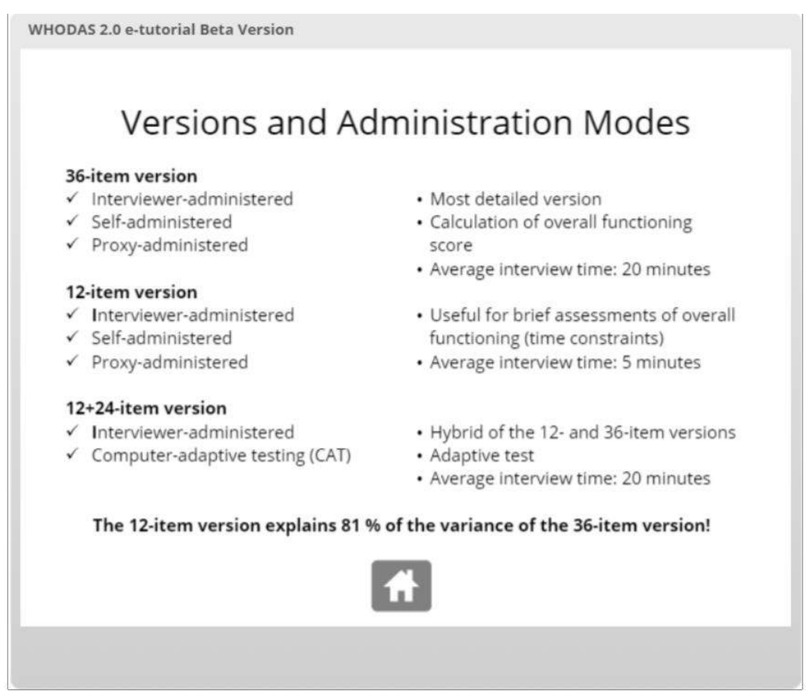

Figure 2: Screenshot of a subpage with information about the chosen topic in the WHODAS 2.0 e-tutorial.

Next Steps

After consultation with the WHO-FIC network, adjustments will be made and the final version of the e-tutorial will be implemented. A field study on the beta version is planned.

In addition, a scoping review dealing with the areas of application of the WHODAS 2.0 will be conducted. The results of this review will also be included in the e-tutorial.

Reference

TB Üstün, N Kostanjsek, S Chatterji, J Rehm (Eds.) (2010). Measuring Health and Disability: Manual for WHO Disability Assessment Schedule (WHODAS 2.0). Geneva: World Health Organization.

Health Information meets Health Informatics

Describing functioning and disability in persons with severe musculoskeletal injuries using the WHO Disability Assessment Schedule 2.0

6-11 October 2019
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424

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Abstract Persons with severe musculoskeletal injuries suffer from a broad range of impairments in functioning. There is a lack of knowledge about the limitations and restrictions in activities and participation these persons experience in everyday life. The World Health Organization (WHO) Disability Assessment Schedule (WHODAS) 2.0 is an instrument that can be used to assess functioning and disability based on the framework of the International Classification of Functioning, Disability and Health (ICF). Within the project "Predicting the rehabilitation outcome after trauma based on the ICF" (icfPROreha), the WHODAS 2.0 has been used to assess a large sample of persons with severe musculoskeletal injuries in inpatient rehabilitation. The project icfPROreha is the first research project using the WHODAS in a sample of persons with a broad range of musculoskeletal injuries in a rehabilitation setting. With this poster, we report on the first results of the application of the WHODAS in persons with musculoskeletal injuries.

Introduction

Persons with severe musculoskeletal injuries suffer from a broad range of impairments in functioning. In most cases, a rehabilitative treatment of these patients is indicated. There is a lack of knowledge about limitations and restrictions in activities and participation these persons experience.

The aim of this poster is to report on the first results of the application of the WHO Disability Assessment Schedule (WHODAS) 2.0 in a large sample of persons with musculo-skeletal injuries treated in inpatient rehabilitation.

Methods & Materials

icf|PROreha

We used data of the study cohort of the project *Predicting the rehabilitation outcome after trauma based on the ICF – icfPROreha*, a joint effort of ten German rehabilitation clinics and departments.

Patients fulfilled the following inclusion criteria:
- Aged 18 – 65 years (working age)
- Diagnosis of severe musculoskeletal injury
- First inpatient rehabilitation treatment after injury
- Acute treatment was provided a maximum of 16 weeks ago

Data on functioning was assessed using the WHODAS 2.0 12-item self-administered version.

Patients filled in the questionnaire at admission to rehabilitation treatment using a tablet-based survey created by means of the web-based application *Research Electronic Data Capture* (REDCap).

Descriptive and bivariate analyses were performed using SPSS 25.0.

Results

In total, 510 patients (male: n=382; 74,9%) with a mean age of 47,6 years (SD 20,5) were included in the analyses. Types of injuries are shown in Figure 1.

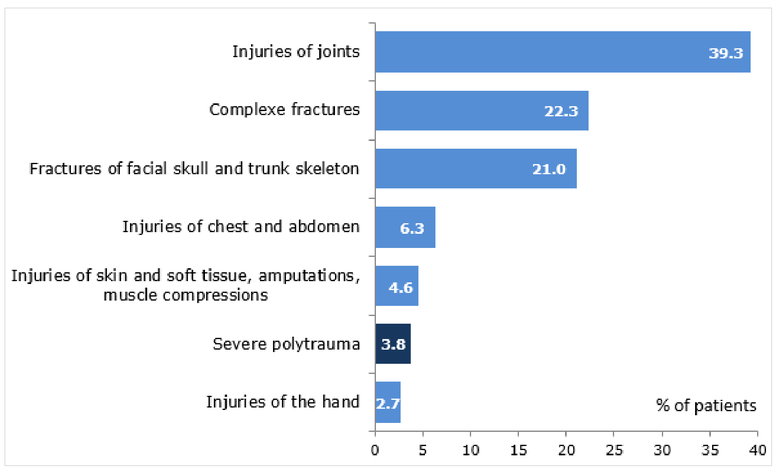

Figure 1: Types of injuries (N=510).

Mean WHODAS score was M=43.8 (SD 20.8). Figure 2 shows the distribution of the overall score; Figure 3 displays the distribution of responses to the 12 items of the WHODAS ranging from 0 (no difficulty) to 4 (extreme difficulty/ cannot do).

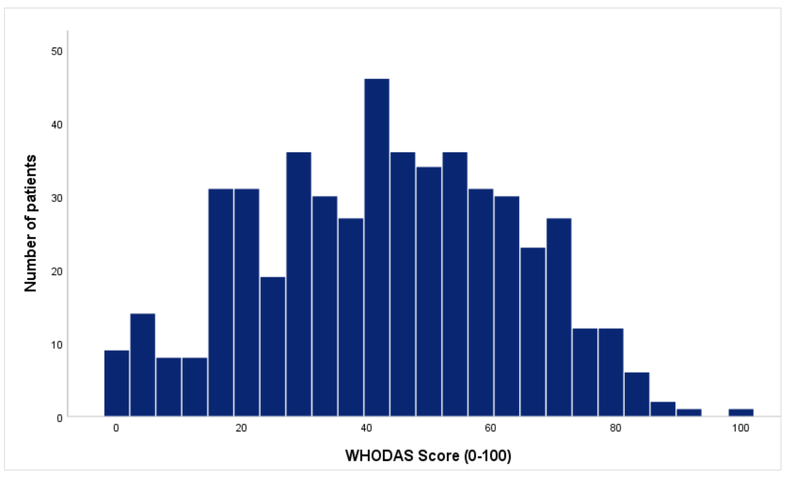

Figure 2: WHODAS score (0 – 100) (N=510).

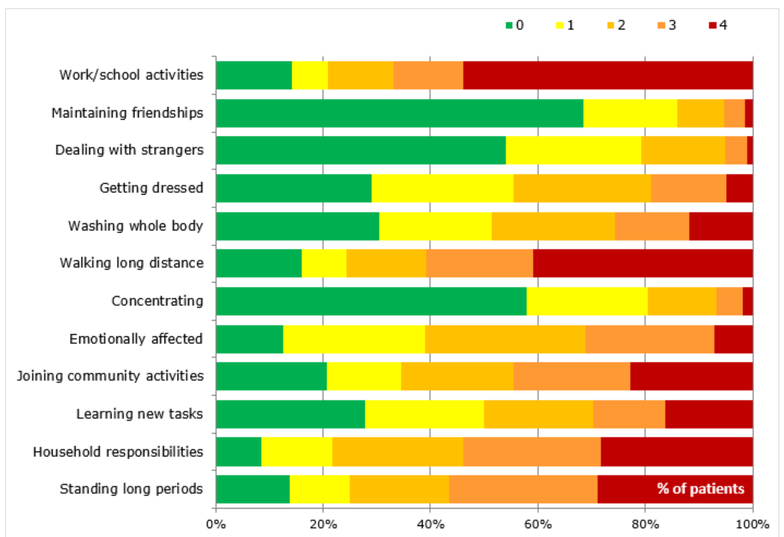

Figure 3: Distribution of responses to the WHODAS 12-item version (N=510).

Bivariate analyses show that the WHODAS score is associated with numerous aspects, such as time in acute care, presence of comorbidities and patients' resilience (see Table 1).

Variables associated with WHODAS Score		r [1]	p
Age		.208	≤.001
Time in acute care (days)		-.274	≤.001
Time acute care - admission to rehabilitation (days)		-.114	≤.010
Resilience (RS-13) [2]		-.476	≤.001
Quality of life (EQ-5D VAS) [3]		.201	≤.001
Pain in rest (VAS 0-100)		.246	≤.001
Pain under strain (VAS 0-100)		.198	≤.001
Sleep functions (VAS 0-100)		.218	≤.002
Patients' prognosis of time to RTW [4] (weeks)		.250	≤.001
Physicians' prognosis of time to RTW (weeks)		.208	≤.001
		M [5]	p
Anxiety (screening PHQ-4 [6])	negative positive	39,9 56,1	≤.001
Depression (screening PHQ-4)	negative positive	41,3 59,2	≤.001
Comorbidities	no comorbidity at least 1 com.	38,1 47,1	≤.001
Patients' confidence of RTW	yes, sure no, unsure	41,9 46,4	≤.015

1) Pearson correlation coefficient; 2) Resilience scale (RS-13) (Wagnild & Young, 1993; Schuhmacher et al., 2005); 3) EuroQoL EQ-5D (EuroQol Group, 1990); 4) Return to work; 5) Mean tested with t-Test; 6) Patient Health questionnaire (PHQ-4) (Löwe et al., 2010)

Table 1: Results of bivariate analyses.

Conclusions

For the first time, WHODAS data of a large sample of persons with a broad range of severe musculoskeletal injuries treated in inpatient rehabilitation were collected.

The majority of patients show significant limitations in activities and restrictions in participation. There are several variables associated with the overall score of the WHODAS 12-item version.

Acknowledgements

We thank our cooperation partners who provided the data for this work.
The project icfPROreha is funded by the German Social Accident Insurance (DGUV). The responsibility for the content of the poster lies with the authors.

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Wagnild GM. & Young HM. Development and psychometric evaluation of the Resilience Scale. Journal of Nursing Measurement 1993;1:165-178.

WHO-FIC 2019 CANADA

Health Information meets Public Information

ICHI

501-503

ID	Poster Title and Authors
501	Testing of ICHI in the Czech Republic *Irena Rubešová, Miroslav Zvolský*
502	Formal test of ICHI – Nordic WHO-FIC CC *Ann-Helen Almborg*
503	Potential use of ICHI in Mozambique, Zambia, Zimbabwe, Malawi, Lesotho, Mauritius, Kenya and Uganda *Warrick Sive, Chris Crockett*

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

6-11 October 2019

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Poster ID

501

Health Information meets Health Informatics

Testing of ICHI in the Czech Republic

Authors: Rubešová Irena, Zvolský Miroslav

Instutute of Health Information and Statistics of the Czech Republic, Prague

Abstract The Czech Republic has already participated in the testing of the International Classification of Health Interventions (ICHI) Beta 2018. Currently we collaborate on the next phase of developement of ICHI. It means testing of sets of primary care interventions, public health interventions, medical/surgical interventions and functioning interventions. We hope that this project (expected finish until september 2019, at the meeting we will provide experience gained) is an opportunity for participating experts to understand the ICHI structure and properties and to get the experience with testing of ICHI coding.

Introduction

The Czech Republic is involved in the activities of the WHO FIC and specifically in the ICHI Working Group. Last year we tested Beta 2018 version of ICHI. Three raters used ICHI browser to assign appropriate codes of ICHI to interventions described by approximatly 500 real cases from hospitals. The source for coding were anonymized text protocols about abdominal surgical interventions, orthopedic interventions, gynecological-obstetric interventions and ophtalmic interventions on patient. We found that ICHI very well describes surgical health care provided in the Czech Republic. This year we got involved in Beta-2 field testing of ICHI, which is one of the last steps before release this new classification.

Methods and materials

Testing of ICHI took place from July to September 2019 and was carried out in a web application web application ICHI-FiT v1.3.2. The Institute of Health Information and Statistics of the Czech Republic has establised Field Trial Centre (FTC) with FTC coordinator and also Field Trial (FTS) Site with FTS coordinator. The most important FTS coordinator role is invitig of raters and monitoring of work done. FTC coordinator assigns cases to raters. Our raters are terminology experts with medical backround who participated on development of national coding standards at The Institute of Health Information and Statistics of the Czech Republic (Picture 1) and clinicians from cooperating hospitals with experience with coding healthcare services in the Czech healthcare system. We did not organize special training for search terms in the ICHI browser.

There are seven studies in ICHI testing (Table 1) The aim of testing is for every intervention to find right stem code and also try to find extensions codes for detailed description. The ICHI platform is the part of testing application which is users friendly. We would like to code every intervention at least by two raters. Each rater sends feedback about the experience of finding the right codes.

Preliminary Results

Czech FTS has recruited 10 raters There are seven terminogy experts from IHIS a three clinitions from hospitals. Currently is done approximately 28.9% of planned coding cases (Table 2). Most acitivity has been done in study 1, 2 and 4. On the contrary, we must advance in coding of cases in study 5, 6 and 7 (Chart 1).

Study	Number of raters in the study	Number of cases completed	Number of cases total
1	10	28	40
2	5	41	100
3	5	14	50
4	9	78	200
5	6	1	20
6	5	20	200
7	5	0	20
Total	**10**	**182**	**630**

Table 2: Preliminary results of ICHI Beta-2 field testing in the Czech Republic

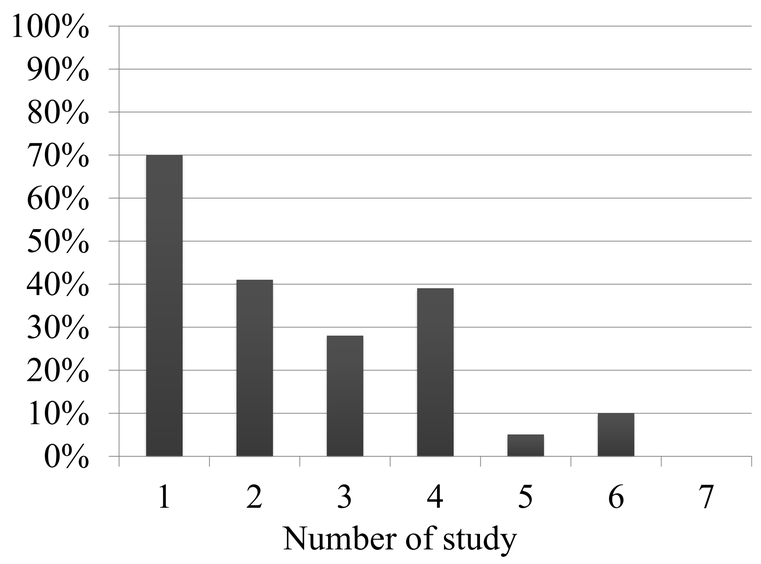

Chart 1: Cases completed of ICHI Beta-2 field testing in the Czech Republic

Conclusions

We did not experience technical or organizational issues during testing. In the long term, we are trying to participate in the ICHI workgroup activities. We have experience in developing our own classification of interventions, which should help us in the future with the implementation of ICHI and with translation. That testing is very beneficial for the rater in terms of expert knowledge of ICHI. Czech raters have experience and knowledge rather in surgical intervention domains and both terminology and classification units of domains such as public health are not commonly used in our medical data.

Picture 1: Raters in the Institute of Health Informations and Statistics of the Czech Republic.

Acknowledgements or Notes

Beta-2 field testing of ICHI will finish in the end of september therefore we only publish preliminary results and we hope to have final results at WHO – FIC network annual meeting 2019 in Canada.

Study number	Study name	Number of cases
1	Sample interventions (DEMO STUDY)	10
2	Primary care interventions	50
3	Public health interventions	25
4	Medical/surgical interventions (line coding)	100
5	Medical/surgical interventions (case coding)	10
6	Functioning interventions (line coding)	100
7	Functioning interventions (case coding)	10
Total		**305**

Table 1: Studies in ICHI-FiT v1.3.2

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

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502

Formal test of ICHI – Nordic WHO-FIC CC

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2. *Nordic WHO-FIC Collaborating Centre, Norway*

Abstract WHO formal test of International Classification of Health Interventions (ICHI) has started by the Nordic WHO-FIC CC, but not finalized as the final date is 30 September. About 26 persons from the Nordic countries are participating in the test. The test started with an introduction meeting (Web Meeting). Most of the coders chose to rate are interest in coding medical/surgical interventions. Primary result is that the use of extension codes need to highligthed.

Introduction

International Classification of Health Interventions (ICHI) has been under development since 2006. Different versions have been developed and published during the years to the version ICHI Beta 2 2019.

WHO has asked the WHO-FIC Collaborating Centres to participate in WHO's formal test of ICHI. The invitation was send to the WHO-FIC CC in the end of July and the test period was August – September. Each CC should point out a coordinator.

This poster presents the ICHI formal test performed by the Nordic WHO-FIC CC.

Methods and materials

WHO send out following instruments and material for ICHI Beta-2 draft testing.

Full name	Format
Registration forms (i.e. Participant Information Form, Declaration of Conflict of Interest, License	eForm in ICHI-FiT
ICHI Code Assignment Form	eForm in ICHI-FiT
Evaluation Form	eForm in ICHI-FiT
Modules with intervention terms and cases	Part of eForm in ICHI-FiT
ICHI Browser	Linked with ICDfit
ICHI Training material & ICHI-FiT User Guide	Word Document

The formal test consist of seven parts for coding:

1. Demo study (10 cases)
2. Primary care interventions (50 interventions)(Line coding)
3. Public health interventions (40 interventions)(Line coding)
4. Medical/surgical interventions (100 interventions)(Line coding)
5. Medical/surgical interventions (10 cases)(Case coding)
6. Functioning interventions (100 interventions)(Line coding)
7. Functioning interventions (10 cases)(Case coding)

An invitation with information about the aim and performance of the formal test was send to each country (Denmark, Iceland, Norway and Sweden) during the spring. The invitation also include suggested dates for introduction meetings (by using Web Meeting). Each country decided how they wanted to invite participants to the test. There will also be a follow-up meeting (Web Meeting) after the test is finalized.

Result

About 26 persons have participated in one of the introduction meetings, which was held six different dates by using Zoom. 16 persons from Sweden, 8 persons from Denmark, 3 persons from Norway. The introduction meetings include such as the training material, looking through the ICHI Platform to be familiar in searching interventions and information how to use ICHI-FIT. The raters chose one or several lists for coding and most of the raters chose the list of medical/surgical interventions.

	Coders (n)
Demo Study	27
Primary care interventions	4
Public health interventions	4
Medical/surgical interventions (Line coding)	10
Medical/surgical interventions (Case coding)	10
Functioning interventions (Line coding)	9
Functioning interventions (Case coding	9

The Demo study consist of 10 cases and until 1st Sep have nine to ten coders done the cases.

Case 1 Media campaign on alcohol awareness (coded to VAA.VB.ZZ Awareness raising to influence alcohol use behaviours & XB013 Media campaign). The result show that all did not add extension code (Table 2).

Table 2 Golden standard - VAA.VB.ZZ&XB13	Coders (n)
VAA.VB.ZZ&XB13	5
VAA.VB.ZZ	3
VAA.PN.ZZ	1

Case 4 *Insertion of cochlear device into left ear* (coded to CCB.DN.AA Implantation of cochlear prosthetic device & XCA3 Left & XT03.01 Cochlear implant (CI)).The result from nine coders show that it all did not add extension codes as the Golden standard (Table 3).

Table 3 Golden standard - CCB.DN.AA&XCA3XT03.01	Coders (n)
CCB.DN.AA&XCA3	7
CCB.DN.AA	2

Case 5 *Counselling on tobacco usage (*coded to VAB.PP.ZZ Counselling about tobacco use behaviours). The result from nine coders show that two different steam codes were used (Table 4).

Table 4 Golden standard - VAB.PP.ZZ	Coders (n)
VAB.PP.ZZ	8
VE1.PP.ZZ& XVAB	2

Case 6 *Lung transplant with peripheral cardiopulmonary bypass* (coded to JBF.KD.AA Lung transplantation /PSA.DD.AF Cardiopulmonary bypass). (Table 5)

Table 5 Golden standard - JBF.KD.AA/PSA.DD.AF	Coders (n)
JBF.KD.AA/PSA.DD.AF	7
JBF.KD.AA/PSA.DD.AA	1
JBF.KD.AA	1

Case 7 Walking assessment (coded to *SJA.AA.ZZ* Assessment of walking) (Table 6)

Table 6 Golden standard - SJA.AA.ZZ	Coders (n)
SJA.AA.ZZ	5
SJ2.AA.ZZ	4
MVG.AA.ZZ	1

Case 8 Percutaneous biopsy of thymus (coded to DBA.AD.AE Percutaneous biopsy of thymus). Eight coders used this code.

Until the 1st September the cases of Demo study have 94 coded results and for one case are two stemcodes needed. The coders have used correct stemcodes in 84,1%.

Of 94 coded result in the Demo study the coders have rated that 18 (about 19%) were difficulty to code. The comments are such as *unpreise term... lack inclusion terms*, *unclear how to specify left ear, not my speciality, difficult to choose correct target in the hierarchial structure.*

Conclusions

There is a great interest to participate in the formal test of ICHI and to get more knowledge about ICHI in the Nordic countries. A primary conclusion is that ICHI need more information about the content in the extension codes to facilitate the use of these.

Acknowledgements

Great thanks to all participants in the formal test for your interest in learning more about ICHI and to participate in the formal test. Thanks to the Board of Nordic WHO-FIC CC supporting the ICHI development and the formal test of ICHI.

Contact

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503

Cross Mapping ICHI To Hospital Interventions In Nigeria, Uganda And Zambia

Warrick Sive, Chris Cockett

University of the Witwatersrand, Johannesburg

Abstract The study used a dataset of Procedure Descriptors to assess the mapping of such descriptors to ICHI codes. Data was extracted from completely anonymous claims data emanating from Nigeria, Uganda and Zambia. Data was mappable to ICHI codes in 79% of the Descriptors tested. The variability in Procedure Descriptors for the same Intervention was noted. It is suggested that ICHI has the potential to improve the quality of data in the setting of this study.

Introduction

The International Classification of Health Interventions (ICHI) has been under development by the WHO and WHO-FIC Network since 2007 and beta testing is currently underway.

ICHI has the potential to provide African (and other) national health systems with a valuable and standardised intervention coding system. This is one of the critical requirements for any health system to be empowered to deliver health care that is of quality, is sustainable and is accessible to all.

This would fulfil one of the WHO and WHO-FIC Network goals, that of providing an intervention coding system that: "…*meet(s) a number of use cases including international comparisons, a classification for countries that lack one, expanded content for countries that have a national classification focused on medical and surgical interventions as well as a base for redevelopment of national classifications*."

Methods & Materials

Claims data was extracted from a Medical Insurance administrator which provides medical cover to clients in a number of African countries.
In-Hospital Procedures were extracted for three countries: Nigeria
Uganda
Zambia.
The Procedure Descriptors were used to map to the ICHI code equivalents.

The ICHI Beta-2 2019 Online Browser (https://mitel.dimi.uniud.it/ichi/) was used to identify the relevant ICHI codes.

The Procedure Descriptors that could not be cross mapped to an ICHI code were then grouped within country data to reflect the reasons for failure to cross map.

Results

Chart 1 : Cross Mapping across all countries

ALL COUNTRIES		
Total Unique Descriptors	1 223	
Successful ICHI Cross map	965	79%
Potentially Mappable	120	10%

Chart 2 : Cross Mapping per Country

MAPPING	Nigeria		Uganda		Zambia	
Unique Descriptors	769		138		471	
Successful ICHI Cross map	624	81%	100	72%	367	78%
Potentially Mappable	63	8%	15	11%	51	11%
Codeable with T	58		12		40	
Codeable with T and or A and or M	5		3		11	
Descriptor not Mappable - describes:	82	11%	23	17%	53	11%
Anatomy	6		1		0	
Consumable	3		1		2	
Contractual Information	28		8		5	
Diagnosis	12		2		5	
Equipment	2		0		0	
Life Stage	1		0		0	
Part of other Intervention	4		0		2	
Test	5		2		4	
Too Vague	21		9		35	

Figure 1 : Number of Unique Descriptors by Country

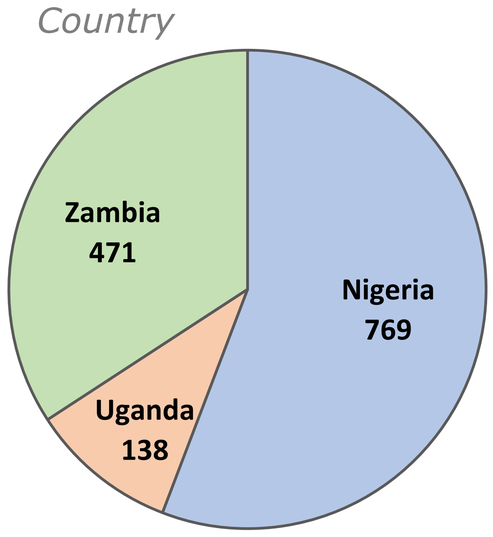


Figure 2 : Descriptors Mappable to ICHI

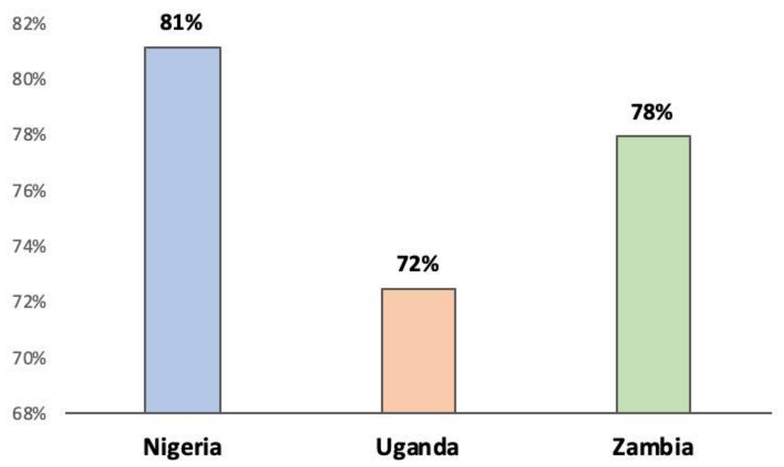
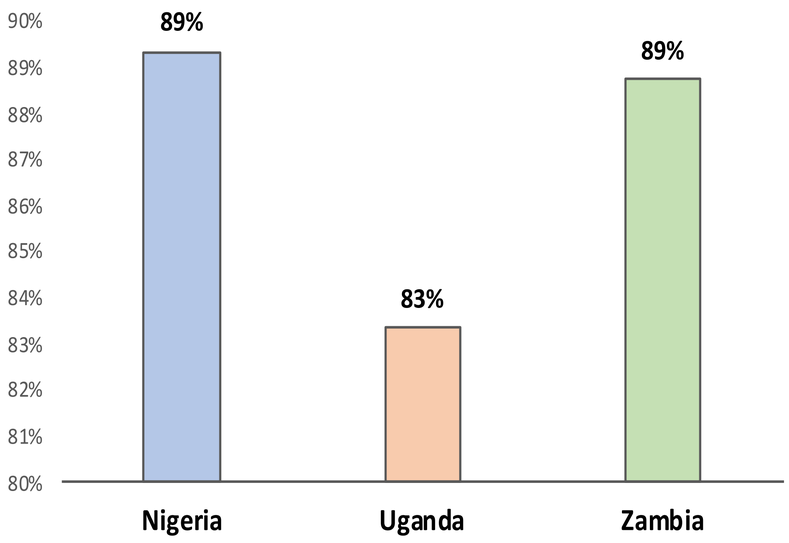


Figure 3 : Descriptors Mappable to ICHI + Potentially Mappable Descriptors



Conclusions

Range of Descriptors for the same Intervention:
Although there were 1 223 Unique Procedure Descriptors a number of these descriptors, although textually different described the same intervention. Different abbreviations, spellings, type of doctor, location of intervention etc were responsible for a wide range of duplicated descriptions. In the case of ECGs (non-stress) there were some 37 different descriptions (mainly different spelling and abbreviations) and for Dilatation and Curettage some 10 different descriptions. This gives but one indication of the improvement of data quality should ICHI coding be used within this environment.

Mapping of Descriptors to ICHI Codes
79% of all Unique Indicators were mappable to ICHI codes. A further 10% were assessed as mappable should the relevant Target (predominantly) or the Target and/or Means and or Action be recorded. Thus it appears that 89% of the extracted Descriptors could be mapped to ICHI codes.

Variability in Number of Unique Descriptors
The variability of unique Descriptors across the countries indicates an area of further research. Such may facilitate an improvement in health data quality.

Mapping if Descriptors to ICHI
All three countries were above 80% in mapping + potential mapping of Descriptors to ICHI.

Summary
The study provides encouragement as to the potential use of ICHI I the countries concerned.
ICHI has not been developed as a tariff tool. Further research and development is required in this regard if ICHI is to play a role in the measurement of resource utilization (costing) of health care and therefor, similarly, in the development of an ICHI ICD-11 DRG grouper.

Acknowledgements or Notes

The following is gratefully acknowledged
- Liberty Health for providing the Descriptors
- Wits Health Consortium for travel assistance

Other topics

601-607

ID	Poster Title and Authors
601	WHO-FIC Primary Health Care Linearization – A report on process and progress *Coen H. van Gool, Andrea Martinuzzi, Nick Hardiker, et al*
602	The ICPC-3 development within the WHO-FIC framework *Huib Ten Napel, Marc Verbeke, Egbert van der Haring, et al*
603	Towards a Harmonized WHO-FIC Classification Content Model *Samson W Tu, Csongor I Nyulas, Tania Tudorache, et al*
604	Alignment of WHO-FIC Content Within a Unifying Model: Preliminary Steps *Andrea Martinuzzi, Vincenzo Della Mea, Samson Tu, et al*
605	Detailed Mapping of the 100 Global Reference list of Core Health Indicators on the 3 Reference WHO Classifications. *Andrea Martinuzzi, Soraya Maart, Luisa Whitelaw, et al*
606	Using WHO's reference classifications together in Contsys *Ann-Helene Almborg, Torsten Lundmark*
607	KlasifiKon – the Central European Conference on Clinical Classifications *Zvolský M, Matušková K*

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601

Health Information meets Health Informatics

WHO-FIC Primary Health Care Linearization

A report on process and progress

Coen van Gool, Lyn Hanmer, Nick Hardiker, Soraya Maart, Richard Madden, Donggyo Shin, Warrick Sive, Marie Vikdal, Martti Virtanen, Luisa Whitelaw

Abstract To assist health professionals in recording disease, functioning loss and performed interventions in all primary health care domains, a WHO-FIC primary health care linearization is envisioned. This WHO-FIC primary health care linearization propagates joint use of the WHO-FIC reference classifications, as well as the integration of relevant elements from related or derived classifications. This poster describes the work done on this linearization to date.

Introduction

A key work area of the Family Development Committee (FDC) is to develop the WHO-FIC as an integrated and comprehensive suite of classifications, including in its application (FDC-SWP 02 Integration of the Family). Earlier discussions about the primary health care use case within the WHO-FIC with the WONCA classification working group (WICC) date back as early as the Brasilia WHO-FIC meeting (2012).[1] Those discussions resulted in work done by a task group that advised on how the ICD-11 MMS and ICPC-2 currently relate. The output was a selection of items in ICD-11 MMS that was deemed relevant for primary care, as currently in the ICD-11 Maintenance Platform (aka orange browser).

However, the WHO-FIC primary health care (PHC) scope goes well beyond general practice. There should be a set of elements of classifications that comes as a package that can assist a health professional record disease, functioning loss and intervention – universally applicable – in the realm of all PHC domains. Therefore, developing a WHO-FIC PHC linearization offers the opportunity to propagate joint use of the WHO-FIC reference classifications, as well as integrating relevant elements of related or derived classifications. Importantly, this can be seen as anticipating the alignment of the WHO-FIC classifications.[2]

Primary Health Care

In essence, primary health care covers any primary access point to health care. But it cannot be limited to just that, because then only *access* to health care is defined. We have used the Alma Ata Declaration definition of Primary Care, as the declaration is still valid and reads as follows:

"Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination."[3]

Based on that, essential health care can be considered to:

- Provide good value for money in many settings.
- Address a significant disease burden.
- Be feasible to implement in a range of LMICs.

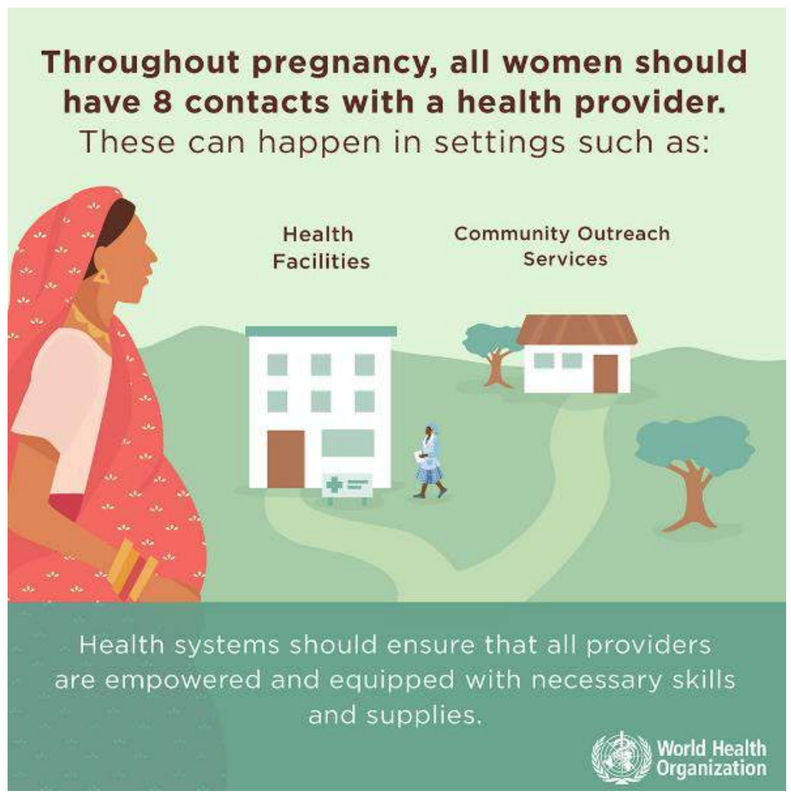
A PHC linearization should then cover all three perspectives of primary care.

Common domains where primary health care is delivered (this is not an exhaustive list):

Antenatal care	Community based rehabilitation	Dental care
Physio-therapy	Family medicine	Occupational therapy
Pharmacy	Community nursing	Social care
Dietetics	Speech therapy	School nursing

Use case

The PHC linearization gives the health professional the ability to register or document all elements of essential care that a health professional collects or performs through observation, communication and examination. This can be recorded at a granular level within each of the reference classifications (ICD-11 MMS, ICHI, ICF), or at a higher category level (sub or reference set), or potentially a combination of both. The goal of a WHO-FIC PHC linearization is to help a health professional in both high and low resource settings record disease, functioning loss and interventions in the realm of all primary health care domains using the suite of WHO-FIC classifications and thereby providing comparable data.



We foresee an exemplary use case for a PHC linearization in antenatal care, in both low and high resource settings, where there is a practical need for documentation / registration that will benefit from a complete toolkit / tick-box. The reasons for women to come into contact with antenatal care will probably be universally applicable, but the method of recording may be different in different resource settings. For example:

*A female patient comes into first time contact with antenatal care with **nausea**. Patient reported **being pregnant**. This was confirmed by **urine dipstick test** during visit. First-time check-up was performed; **blood pressure** and **weight measurement**. Patient was **enrolled in pregnancy monitoring program**. She was **given advice and support developing healthy home behaviors** and a **birth and emergency preparedness plan**. Patient was **advised on strategies how to cope with nausea.***

MD90 Nausea or vomiting
QA41 Pregnant state
QA42.Z Supervision of normal pregnancy, unspecified
NT1.AC.ZZ&XJ59 - Test of genitourinary and reproductive functions by Urine dipstick and urine microscopy
PZA.AB.ZZ - Whole body measurement
ITA.AB.AF - Measurement of blood pressure
SM1.PN.ZZ - Advising about self care
VE1.PP.ZZ - Counselling about lifestyle behaviours
VC1.PP.ZZ - Counselling about safety-related behaviours
SDJ.PM.ZZ - Education about handling stress and other psychological demands

Approach

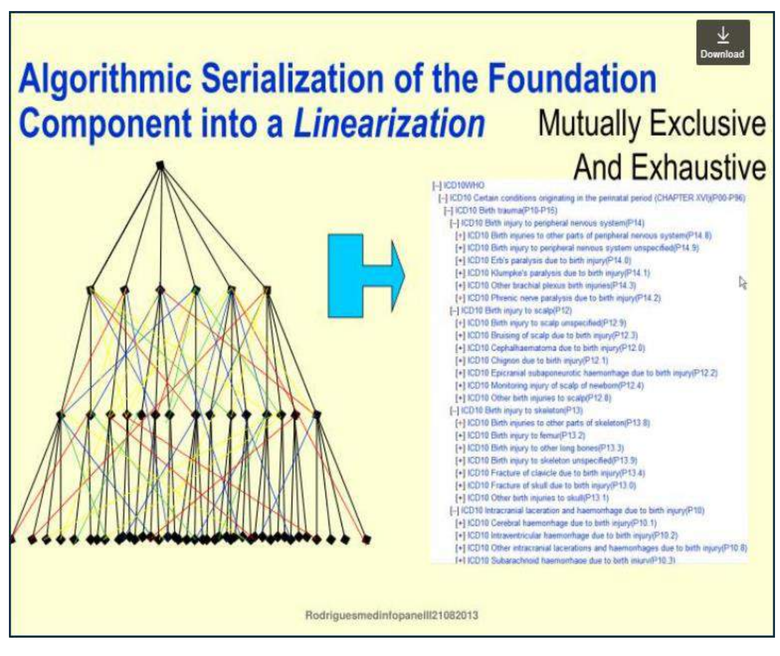
As the WHO-FIC PHC linearization uses the WHO-FIC reference classifications as a starting point, we focused on these firstly, trying to identify PHC-relevant elements in ICD, ICF and ICHI.

→For ICD-11: selection was actually done by the ICD-11 task force primary care, in the ICD-11 foundation: 1054 codes.
→For ICHI: list of essential interventions as defined by World Bank (Disease Control Priorities document Version 9): 140 codes (including preliminary mapping to ICHI);
→For ICF: it was advised during the FDC midyear meeting 2019 to select all groups of second level codes (188 codes / block codes), excluding the anatomical and structures component.
→For WHO-FIC extension codes: selection of Essential in vitro diagnostic tests: 62 codes; Assistive devices: 136 codes. These were chosen because they are common to both ICD and ICHI.

→Next steps include:
1) identifying information gaps left by the selections from the reference classifications;
2) examining if any missing information elements are present in the reference classifications, or if related classifications from the WHO-FIC could provide these (such as ICNP, ICPC, etc.);
3) resolving issues where concepts can be captured in multiple classifications but which are not fully comparable, like in ICD-11 and ICPC; and
4) validating the entire selection by cross-checking it against actual patient records from relevant PHC domains.

Linearization

To ensure further development and secure digital use of the PHC linearization, all elements (from chapter to block to category) need to have a unique reference ID (URI). That will facilitate the PHC linearization to be a 'true' tabulation in the sense of mutual exclusiveness and exhaustiveness, including residuals. The product then might even qualify as a derived classification.



Conclusions & Way forward

This year, 2019, marks the re-start of the work on a primary health care linearization. During FDC sessions in the Banff meeting a further plan of action will be discussed as well as timelines to develop this work further. People are still welcome to contribute to this challenging FDC work item.

[1] R. Jakob et al. ICD-11 Primary care. Poster C307, WHO-FIC Network meeting Brasilia, 2012. [2] See also: S. Tu et al. Toward a Harmonized WHO-FIC Content Model. WHO-FIC Network meeting Banff, 2019. [3] WHO. Declaration of Alma-Ata. Alma-Ata, 1978.

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602

Health Information meets Health Informatics

ICPC-3 development within the WHO-FIC Framework

Huib Ten Napel, Marc Verbeke, Egbert van der Haring, Daniel Knupp, Khing Njoo, Diego Schrans, Olawunmi Olagundoye, Mikko Härkönen, Laurent Letrilliart, Thomas Frese, Kees van Boven

Abstract *Since January 2018, the International Classification of Primary Care (ICPC-2) is under revision. At the end of 2020 there will be a new ICPC: the ICPC-3. The ICPC-3 will be a practical, scientifically up-to-date modern classification, usable for all contacts in Primary Health Care. The ICPC-3 can help to improve ICD-11 content for Primary Care.*

Introduction

The International Classification of Primary Care – ICPC-2, is a related member within the WHO-Family of International Classifications (WHO-FIC). It has been accepted into the WHO-FIC as Reason For Encouter (rfe) Classification to fill the information gap in Primary Care settings, where the ICD can play a limited role, because of its traditional focus on mortality for statistical purposes and morbidity data for hospital (and re-embursement) settings.
With ICPC-2 the persons health problems can be registered and managed within Primary Care settings with a level of detail required for Primary Care, including the problems people express, diagnostic statements, limited functioning and disability, and interventions, all organised within an Episode of Care.
The ICPC-2 has been updated over the years, but because of lack of coding space, a few new classes could not be placed correctly. Also the Regional needs for specific codes could not be adressed within the present structure.

As Primary Health Care is increasingly moving towards person-centeredness care in which also prevention requires a more prominent space, and the focus is shifting from GP's to all health care workers involved in Primary and Community Care, WONCA decided to revise the ICPC-2 and to develop the new ICPC, fitting within a framework for changing the attitudes on health.

ICPC-3 Consortium

For the development of the new ICPC-3 a Consortium is in place in which the project is undertaken.

The Consortium consists of WONCA World, WONCA Europe, Radboud University Nijmegen and five participating countries.

The participating countries represented by national agencies or institutions, have a mediating role in the assessment of the required input to the ICPC-3, to fulfill the National needs and requirements concerning Primary- and Community Care.

The Consortium is open for new partners if they want to contribute, financially or otherwise. The benefits of taking part in the ICPC-3 Consortium is two-fold: having influence on the content of ICPC-3 and a user license for the ICPC-3.

The Consortium is also open to observers in case a Country or National Institute considers the use of ICPC-3.

Related work

Two members of the project-team have been engaged in the WHO-FIC ICD-11 PC Taskforce for development of a concept Primary Care linearization. The concept linearization for PC of the ICD-11 still needs to be further discussed and developed.

The insights gained in the work on the concept PC linearization of the ICD-11 is partly feeding into the development of the ICPC-3, which can also assist in improving the further development of ICD-11, as the content for the PC linearization at this moment is based on the ICPC-2, which will be replaced by the ICPC-3 in 2020.

ICPC-3 can assist to improve ICD-11 for Primary Care and make it suitable for data-exchange in all Electronic Records in Health Care.

About the project

In the ICPC-3 Project a new version of the ICPC and an Interface Terminology for Primary Care is under development, based on a novel approach for classification development, i.e. based on a content-model.

- This novel approach takes into account all desired uses of ICPC in International and different National Primary Care, and Community Care settings.
- There will be consistency with the principle of interoperability within the Framework of the WHO Family of International Classifications and with Clinical Terminologies.
- The ICPC-3 Project Secretariat is hosted by the Department of Primary and Community Care / Radboud University Nijmegen, the Netherlands.
- The ICPC-3 Consortium is founded specifically for the development and future maintenance of ICPC-3.
- For Information: http://www.icpc-3.info

What will be new

Person-Centeredness at the core of ICPC-3!

The leading principles are:

- Relevant Regional Extensions on content within ICPC-3 to suit National Primary Care needs.
- Covering every kind of contact in Primary and Community Care for all disciplines involved.
- The rational for additions to ICPC-3 will still be: frequency and evidence based.
- Familiar will be the simplicity of the new ICPC-3, no excessive and theoretical subclasses or terms like most classifications and clinical terminologies.
- Residual classes only for 'other' specified.
- The content of ICPC-3 will be 'linked' to relevant classifications, such as ICD-10, ICD-11, ICF, ICHI, DSM-V, clinical terminologies such as Snomed-CT, but also to previous versions of ICPC-1 , ICPC2.7 and to the SDG's (United Nations' Sustainable Development Goals) where possible and relevant.

Working method

To achieve new content for ICPC-3, the first steps are to review the present content of the ICPC 2.7, from an International and National perspective.

International: This work takes place within the Consortium Core-Group and the WICC Taskforce-A. The input from WICC Taskforce-A is through membership of the ICPC-3 Consortium Taskforce. As a dedicated body represented within the Consortium by one of the Taskforce-members, the WICC members are reviewing all chapters of ICPC 2.7, based on a set of criteria. The result of the review is provided as proposals to and processed by the ICPC-3 Consortium Secretariat, in view of the criteria.

National: First the Country Members of the Taskforce are reviewing the ICPC 2.7 on content that is of relevance, and is not present, or cannot be registered as a separate entity for the Countries own needs.

All results of the reviews are processed within the ICPC-3 Comment site and structured within the ICPC-3 Content Model in a dedicated modelling and editing-environment: the Classification Manager (ClaM).

Present progress and way forward

The development of the ICPC-3 content is well underway, and on schedule. Most of the Chapters have been discussed, reviewed, revised, new Chapter on Functioning added, linked to relevant classifications and processed in ClaM.

A dedicated concept Web-browser has been developed in which it has been made possible to assess external classifications and terminologies by using references/unique identifiers of the target classifications and terminology.

In principle the ICPC-3 can be used/approached in EHR's by using Unique Identifiers (UID's), but also via the intended Interface Terminology.

It is expected that by the end of 2019, ICPC-3 will be ready for testing.

WONCA is looking forward to a fruitful cooperation with WHO/WHO-FIC.

Acknowledgement

We wish to thank all Consortium partners and WICC/Taskforce-A members for their valuable contributions to the process.

INTERNATIONAL CLASSIFICATION OF PRIMARY CARE

THE ICPC-3 CONTENT MODEL - February 2019 -

Any Rubric/Category in ICPC is represented by:

Descriptive characteristics

1. **TITLE of Entity: Name of rubric**
   a. Textual description, concise an detailed
   b. Short title - Inclusion – Exclusion - Index terms/synonyms – Coding hint - Note
2. **Type of Entity**
   a. Organ System
      - Symptoms, complaints and abnormal clinical findings
      - Diagnosis, Health Problems
   b. Interventions (patient related) and Processes (administrative)
   c. Problems influencing health status (Z-chapter)
   d. Functioning
      - Functions, Activity and Participation
   e. Functioning related factors
      - Personal factors, Environmental factors)
3. **Extensions**
   a. Duration, course, age of occurrence,
   b. Severity and/or – existing severity scales- ICF scale, stages

Maintenance attributes

A. **Unique identifier**

B. **Attributes** (subset, adaptation, and special view flag)
   1. Causality – in disease component (congenital, hereditary, infectious, neoplasm, injury, life-style, risk factor, other, unknown)
   2. Country adaptation
   3. Research
   4. Special indices (e.g. Primary Health Care Indicators, Public Health Care Indicators, Emergency and First aid or Resource Groupings, Case-mix)

C. **Hierarchical relationships**
   Parents and children in the ICPC structure:
   Chapter
   Component

D. **Reference relationships**
   D. References to classes as in ICPC-1, ICPC-2, ICD-10, ICD-11, ICF, ICHI, SDG's, and terms as in Snomed-CT etc.

E. **Other rules**

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Toward a Harmonized WHO-FIC Content Model

Samson W. Tu, Csongor I. Nyulas, Tania Tudorache, Mark A. Musen, Andrea Martinuzzi, Coen van Gool, Vincenzo della Mea, Christopher G. Chute, Lucilla Frattura, Nick Hardiker, Huib ten Napel, Richard Madden, Ann-Helene Almborg, Anupama Ginige, Catherine Sykes

Abstract *Developing a harmonized WHO-FIC Content Model allows the use of a unified Foundation to generate variants of ICD, ICHI, and ICF as linearizations and to promote seamless joint use of the classifications. We propose a work plan to realize this vision and describe the initial conceptualization and modeling of such a Content Model.*

Introduction

The vision of a harmonized ICD/ICF/ICHI Content Model and Foundation includes: 1. One single Foundation from which all variants of all WHO-FIC classifications are derived as linearizations; 2. A core WHO-FIC Content Model shared and extended by different classifications; 3. Harmonized Foundation content, without duplicates and with mutual references, that serves the requirements of all classifications; 4. Clear relationship to underlying ontologies; 5. Integrated tools that facilitate the development, maintenance, versioning, and publication of all WHO-FIC classifications. In the past year, a working group has been formed to develop a work plan and to prototype the harmonized WHO-FIC Content Model. Interested parties are welcome to join the group. (Contact samsontu@gmail.com)

Methods & Materials

Figure 1 shows the work plan for the working group to develop a harmonized WHO-FIC Content Model. (A separate working group is in charge of harmonizing the content of various classifications.) An overview document that provides links to all aspects of this work is located at http://tinyurl.com/harmonizedCMOverview. The prototype WHO-FIC Content Model, as implemented in Protege 3.5, has been posted to a GitHub repository who-fic/harmonized-cm. The working group members communicate through a dedicated maiing list.

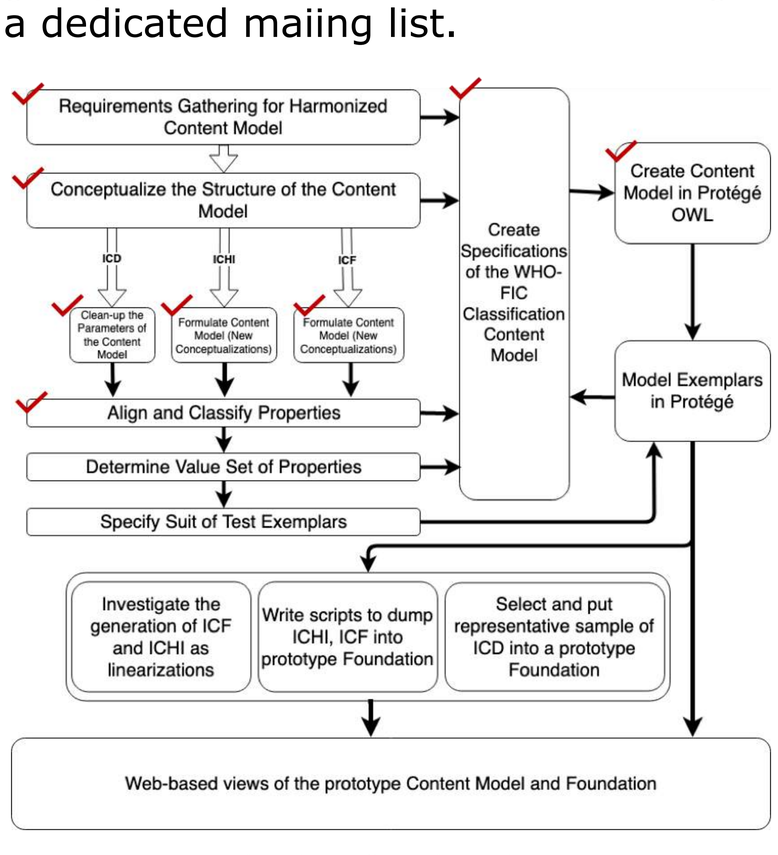

Figure 1. Work plan for developing a harmonized WHO-FIC Content Model. Check marks indicate work-in-progress.

Results

A Content Model defines the types of entities and relationships in the WHO-FIC Foundation. It provides a view of the domain concepts and relationships independent of their use in a linearization. The Content Model defines entities in a classification in terms of the following concepts:

- The *codable categories* in a classification: These are the categories that represent phenomena that a classification is designed to encode and about which the classification is designed to collect information. For ICD, diseases and disorders, injuries, symptoms, and factors that influence health conditions are examples of codable categories; For ICHI, health interventions are the codable categories; For ICF, health states, defined in terms of existing ICF domains and the impairment/restriction qualifiers, that represent the outcome of the interaction between a person with a health condition and its environment, will be codable categories.
- The *structural components of codable categories*: These are the categories that help to define the meaning of codable categories. For ICHI, targets, actions, and means are the structural components of health interventions. For ICF, the body structure, body function, activities and participation, and environmental factors are the structural components that help to define the health states that ICF is designed to code.
- The *defining attributes of codable categories*: Attributes, such as ICF's extent of impairment limitations and restriction qualifiers, that are necessary parts of the definition of some codable entities.
- The *extension codes*: These are entities that can be used to refine the codable entities. They are the value sets of most post-coordination properties.
- The *properties of the classification entities*: they include informational properties and post-coordination properties. The informational properties, such as title and definition, together with their values, help to make statements about the entity being described. Post-coordination properties, such as severity of diseases, represent axes along which the entities can be defined logically or specialized.
- The *post-coordination model*: This is the model that specifies how the structural components, defining attributes, and extension codes can be used, in conjunction with post-coordination properties, to define and refine the codable categories.
- The *linearization model*: This is the model that specifies what entities and relationships are necessary to describe any linearization in the Foundation. It describes how to select an entity to be included in a linearization, what post-coordination axes are allowed or required in a given linearization, and constraints on the values of the post-coordination model.

ICD and ICHI can easily be formulated in this framework. For ICF, the introduction of the concept of codable categories formalizes what has been informally defined (see Figure 2).

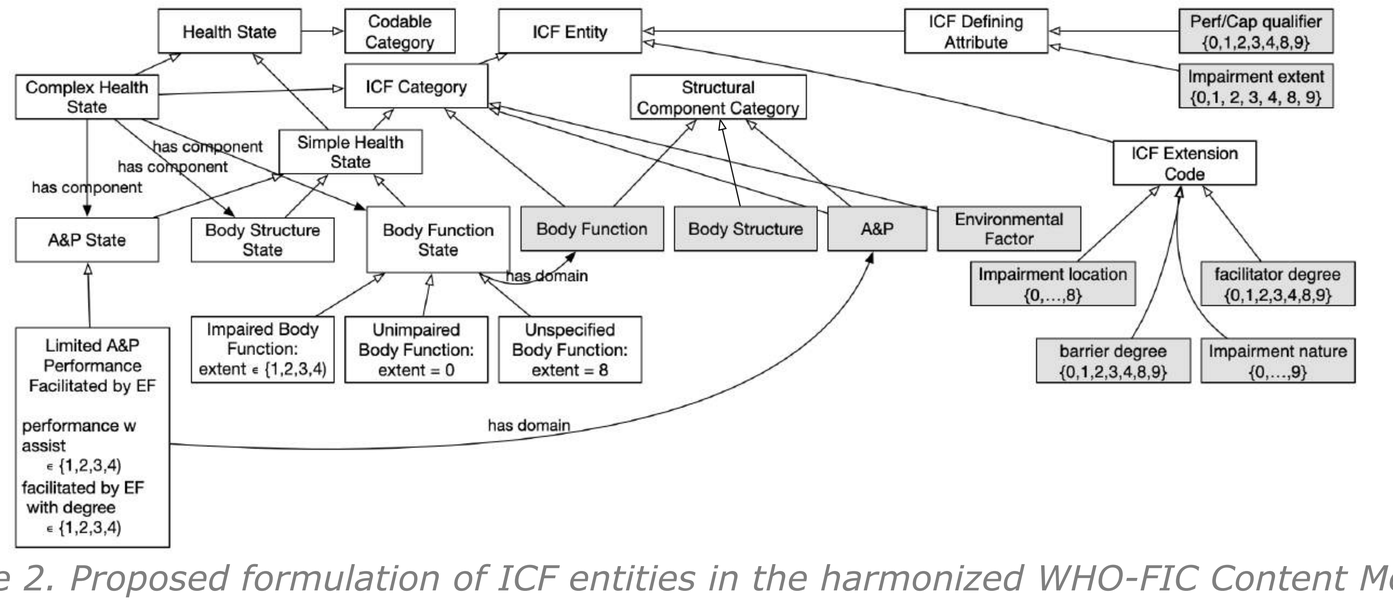

Figure 2. Proposed formulation of ICF entities in the harmonized WHO-FIC Content Model

Conclusion

The unification of WHO classifications in a common modeling framework and a shared Foundation Component is the long-term vision of many in the WHO-FIC community. We have made considerable progress toward achieving this vision.

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ALIGNMENT of WHO-FIC CONTENT WITHIN A UNIFYING MODEL: PRELIMINARY STEPS

Andrea Martinuzzi, Vincenzo Della Mea, Samson Tu, Huib ten Napel, Nick Hardiker, Lucilla Frattura, Richard Madden, Warrick Sive, Luisa Whitelaw, Catherine Sykes, Christopher Chute, Soraya Maart, Coen Van Gool

WHO-FIC Collaborating Centres of Italy, Stanford (USA), The Netherlands, United Kingdom, Australia, South Africa, Mayo (USA)

Abstract

At the Seoul WHO-FIC Network Meeting, a discussion was held on the possibility of developing a generalized Content Model and Foundation that encompass all WHO-FIC core classifications. After that, a working group has been started to pursue the following vision:
-Development of one single Foundation from which all variants of WHO-FIC classifications are derived as linearizations;
-The Foundation should be based on a core WHO-FIC Content Model shared and extended by different classifications;
-The Foundation content should be harmonized, without duplicates and with mutual references, to serve the requirements of all classifications;
-There should be a clear relationship to underlying ontologies, i.e., concepts represented in classifications should be well defined;
-Finally, there will be a need for integrated tools that facilitate the development, maintenance, versioning, and publication of all WHO-FIC classifications.
Two main lines of work have been identified: one dealing with the model and the other addressing the harmonization of the content. This latter group will concentrate on the existing entities now represented in the three reference classifications.
The working group meets regularly by teleconference and has had an in-presence meeting in Conegliano, Italy. In the latter, the basis for the first concrete steps have been set, starting from a preliminary work about the content models of the current classifications, to find similarities and differences at the present time and suggest further developments.

Introduction

The joint use of the WHO FIC elements would greatly benefit from the definition of a common foundation where all the concepts included in the various classifications would be aligned and provided with univocal labels and identifiers. Such alignment would not only foster the implementation of the WHO-FIC products, especially in an electronic environment, but also facilitate maintenance and further development. A long term plan with inputs from multiple sources is required to tackle this commitment. The task falls well within the FDC strategic work plan but requires input from other Committees and Reference Groups (e.g. ITC and FDRG).

Methods & Materials

During the FDC mid year meeting held in Conegliano, April 2019, a general discussion was held on the topic, including contributions from ITC, FDRG, EIC members. Proof of principle tests were run starting from the ICD11 content model to probe several approaches and to test the feasibility of the project.

Results

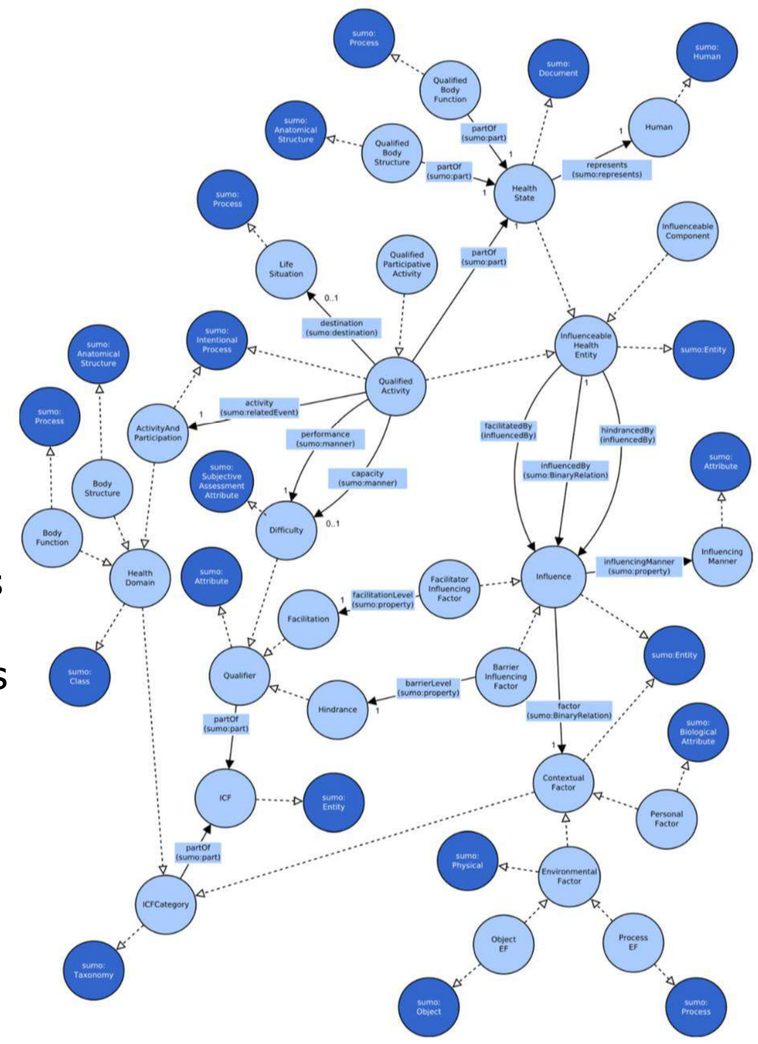
General agreement was reached on the need to work from two complementary approaches:

1) Drafting a common content model where the various elements from the three reference classifications are harmonized and fully accounted for;
2) Reconciling the single content elements of the three reference classifications wherever they diverge in any of the signifying labels.

Accordingly, two work groups where established, each tasked with addressing one of the two approaches. Next steps in the process have been tentatively identified and discussed via e-forum.
The content model part of the work can be seen in the poster by (Samson Tu et al.: Toward a Harmonized WHO-FIC Content Model)

Regarding the second task, an analysis of possible terminology overlap among classifications will be needed as a basis to reconcile entities represented with similar terms in the three classifications.

Work carried out in relation to ICF (S. Cozi, 2017) provides a model that could be informative as an application across all three systems. ICF may require specific work as there is a lesser degree of alignment between ICF and ICD-11 and ICHI for example as compared to current degree of alignment between ICD-11 and ICHI.



S.Cozzi. Formalization of an Ontology for the International Classification of Functioning, Disability and Health (ICF). Master Thesis in Computer Science, University of Udine, 2017

Conclusion

The full alignment of the three reference WHO classifications requires long term planning with the two complementary approaches having been identified.
The two streams of work will be managed by two working groups within (but not limited to) the FDC.
WHO-FIC Members interested in joining the groups could contact Samnson Tu for task 1 and Andrea Martinuzzi for task 2.
The results from the working groups will be presented for consideration by WHO.

	UHC INDICATOR	ICD11	ICF	ICHI
Nutrition	Exclusive breastfeeding rate 0–5 months of age	KD32.3, MG43.30	d560	Target: VEH
	Early initiation of breastfeeding	KD32.3, MG43.30	d560	Target: VEH
	Incidence of low birth weight among newborns	KA20-KA21	b530	Target; KTN, PZA.AB.ZZ

Acknowledgements or Notes

The contributions of all FDC, ITC, EIC and FDRG members are gratefully acknowledged.

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

6-11 October 2019

Banff, Canada

Detailed mapping of the 100 global reference list of core health indicators on the 3 reference WHO classifications

Andrea Martinuzzi, Soraya Maart, Luisa Whitelaw, Warrick Sive, Lucilla Frattura, Coen Van Gool

WHO-FIC CC Italy, South Africa, The Netherlands

Poster ID

605

Abstract Sustainable development Goal (SDG) 3 (Better Health for all at all ages) is a central pillar among the UN SDGs. A reasonable representation of SDG3 includes Universal Health Coverage (UHC), one of the main targets of SDG3. The global reference list of 100 Core Health Indicators published by WHO and recently revised (WHO 2018) should function as a normative guide for the selection of standard indicators and their definition that "stakeholders and countries can use for monitoring in accordance with their respective heath priorities and capacity". Among the 100 Core Health Indicators many, especially those grouped under the "Health Status" headline already incorporate the appropriate method of measurement chosen from the WHO-FIC codes (e.g. NCD mortality: ICD codes 100-199, C00-C97, E10-E14, J30-J98). Others however, especially those grouped among under Risk Factors, Health Coverage and Health Systems, lack such specific indication. Both ICF and ICHI can provide categories and items useful to capture and summarize indicators within those groups. A group of FDC members ran an experiment of manually mapping items from the WHO-FIC to Core Health Indicators.

Introduction

The UN Sustainable Development Goals (SDGs) is the framework within which global efforts to ensure healthy lives operate. The Global Action Plan for Healthy Lives and Well Being for All (WHO 19/19/2018) lists the priorities in the area of health that should be pursued actively in the set timeframe. Universal Health Coverage (UHC), that includes financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all, is a central element in the plan.
The ability to monitor the progress towards the achievement of set goals is a fundamental requirement for any effective plan and action. The identification of efficient indicators useful to monitor the path towards UHC may start from the recently updated "list of core health indicators" (LoCHI). The Global Reference List of 100 Core Health Indicators relevant for health are well represented in the reference WHO Family of International Classifications. These could be used to monitor each of the selected indicators

Methods & Materials

A manual search was run through the 100 core health indicators to initially identify those for which a specific category from one of the WHO classifications existed.

For all the remaining items the best fitting category was searched for within the WHO FIC.

A test of the process was run on blocks of the LoCHI as a proof of principle exercise.

Results

Indicators were matched using key words within the descriptors. Attempts were made to map to ICD-10, ICD-11, ICF and ICHI.

ICD was best to capture the indicators linked to **Health Status and Risk Factors**. However, there was an overlap in ICD codes for mortality e.g. adolescent, adult, under five and infant mortality and neonatal codes.

The indicator of **Nutrition** could be mapped across all 3 classifications. However limitations could not be addressed using the classifications e.g The codes all speak to initiatives for promoting breastfeeding, or possible feeding problems but none are absolute indicators that an infant was exclusively breastfed up till 5 months; possibly the ICF code could be used as a status code for tracking at postnatal/neonatal check ups (with consideration of the 6th character impairment codes if relevant).

The ICF and/or ICHI codes may be more appropriate for **Environmental Risk Factors** as ICD codes speak more to issues potentially related to water quality issues - rather than an affirmation that the population are using safely managed drinking water as required in the indicator.
ICD was best used for tracking **Health Systems.**

	INDICATOR	ICD-10	ICD-11	ICF	ICHI
Mortality by age and sex	Life expectancy at birth				
	Adolescent mortality rate	R96-R99, I46.1	BC64, BC65.1, MC82, MH10, MH12-MH16	e2150	
	Adult mortality rate between 15 and 60 years of age	R96-R99, I46.1	BC64, BC65.1, MC82, MH10, MH12-MH16	e2150	
	Under-five mortality rate	R95-R99	BC64, BC65.1, MC82, MH10-MH16	e2150	
	Infant mortality rate	R95-R99	BC64, BC65.1, MC82, MH10-MH16	e2150	
	Neonatal mortality rate	R95-R99	BC64, BC65.1, MC82, MH10-MH16	e2150	
	Stillbirth rate	Z371/3/4/7, P95, O36.4	QA46.1/3/4/6/7/9/A/C/D/F/G/J/K, KD3B.0/1/Z, JA86.3, JA81.3		NME.JE.AA
Mortality by cause	Maternal mortality ratio	O95-O97, P01.6	JB60, JB61, JB62, KA01.6		
	TB mortality rate	A15-A19	1B10-1B14, 1B1Y, 1B1Z		
	AIDS-related mortality rate	B20-B24	1C60-1C62		
	Malaria mortality rate	B50-B54, P37.3/4	1F40-1F4Z, 1C61, KA64.1, MG55.0		
	Premature noncommunicable disease (NCD) mortality	I00-I99, C00-C97, E10-E14, J30-J98			
	Mortality from household and ambient air pollution	Z58.1/7	QD70.1/5/Z	e2600	
	Mortality from unsafe water, unsafe sanitation and lack of hygiene	A00-01, A03, A04, A06-9, B76-77-79, E40-46		e5300-9	
	Mortality from unintentional poisoning	X40-X49	NE6Z		
	Suicide rate	X60-X84	PB80-PD3Z, XE97V		

	INDICATOR		ICD 10	ICD11	ICF	ICHI
Nutrition	Exclusive breastfeeding rate 0–5 months of age		O92, P05.2/9, P92	KD32.3, MG43.30	d560	Target: VEH
	Early initiation of breastfeeding		O92, P05.2/9, P92	KD32.3, MG43.30	d560	Target: VEH
	Incidence of low birth weight among newborns		P05-P07	KA20-KA21	b530	Target; KTN, PZA.AB.ZZ
	Children under 5 years who are stunted		E45	5B53&XS5W/XS0T/XS25	b530	Target; KTN, PZA.AB.ZZ
	Children under 5 years who are wasted		E41	5B51&XS5W/XS0T/XS25	b530	Target; KTN, PZA.AB.ZZ
	Children aged under 5 years who are overweight		E66	5B80-5B81, 5C1Y/Z, QA10	b530	Target; KTN, PZA.AB.ZZ
	Anaemia prevalence in children		Range D50-D64	Range 3A00-3A9Z		
	Anaemia prevalence in women of reproductive age (Also: severe anaemia)		Range D50-D64	Range 3A00-3A9Z		
Health Systems Indicators	Quality and safety of care	Perioperative mortality rate	Y88.3	PL2Y/Z		VC1.VC.ZZ UE1.AA.ZZ UBC.VC.ZZ
		Obstetric and gynaecological admissions owing to abortion	O00-O08	JA00-JA0Z		VC1.VC.ZZ UE1.AA.ZZ UBC.VC.ZZ
		Institutional maternal mortality ratio	O95, O96, O97	JB60-JB62		VC1.VC.ZZ UE1.AA.ZZ UBC.VC.ZZ
		Maternal death reviews	O95, O96, O97	JB60-JB62		VC1.VC.ZZ UE1.AA.ZZ UBC.VC.ZZ
		ART retention rate	B20-B24, Z71.7, Z21, O98.7, Z11.4	1C60-1C62; QC49		VC1.VC.ZZ UE1.AA.ZZ UBC.VC.ZZ
		TB treatment success rate	A15-A19	1B10-1B14, 1B1Y, 1B1Z		VC1.VC.ZZ, UE1.AA.ZZ UBC.VC.ZZ
		Service-specific availability and readiness		QB11, QB14, QB15		UE1.TK.ZZ
	Utilization and Access	Outpatient service utilization (Also: inpatient admissions and surgical volume)		XE8DZ	E5800	VD1.VC.ZZ
		Health facility density and distribution (Also: access to emergency surgery)		QB14, QB15, QB1Y	E5801	VD1.VC.ZZ
		Hospital bed density				VD1.VC.ZZ
		Access to a core set of relevant essential medicines		QB14	E1101	VD1.VC.ZZ
	Health workforce	Health worker density and distribution			E355	UB1.AA.ZZ
		Output training institutions				UEQ.AA.ZZ
	Health information	Birth registration	Z37, Z38	QA46, QA47		VC1.VC.ZZ
		Death registration				VC1.VC.ZZ

Conclusion

The WHOFIC can be used to plot the achievement of UHC. The ICF should be aligned to be used to monitor the achievement of functioning across populations.

Acknowledgements

THE FDC Working Group on UHC .

WHO - FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK ANNUAL MEETING 2019

6-11 October 2019

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Poster ID

606

Using WHO's reference classifications together in Contsys

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Abstract Describing how WHO:s three reference classification ICD, ICHI, and ICF can be used together in the process- and content model in the System of concept s for continuity of care (Contsys) (EN ISO 13940:2015). The poster show an example of concept in Contsys linked to ICD, ICF and ICHI. Further work is needed to define other relevant concepts in Contsys for using ICD, ICF and ICHI.

Introduction

WHO:s three reference classifications - ICD, ICF and ICHI - are developed to be used together in health information system to describe diagnosis, functioning, disabilities and health interventions.

System of concepts for continuity of care (Contsys) is an international standard (EN ISO 13940:2015). The purpose is to describe the generic concepts, which are needed to achieve continuity of care. The standard will establish a common conceptual framework across national, cultural and professional hindrances. It will also be the foundation for interoperability at all levels in healthcare organizations, but also for development of information systems in healthcare. Contsys applies the ICF-model of health and all components of the bio-psychosocial model. The standard consist of process- and concept models.

ICD can be used to describe diseases, disorders, injuries and other related health conditions. ICF can be used to describe functioning, in goal-setting, needs assessment and to follow the results of interventions. ICHI can be used to describe health interventions such as planned and performed interventions.

The aim of this work is to describe how WHO's three reference classifications can be used together in Contsys.

Methods and materials

Identifying and comparing the content of Contsys in relation to the ICD, ICF and ICHI.

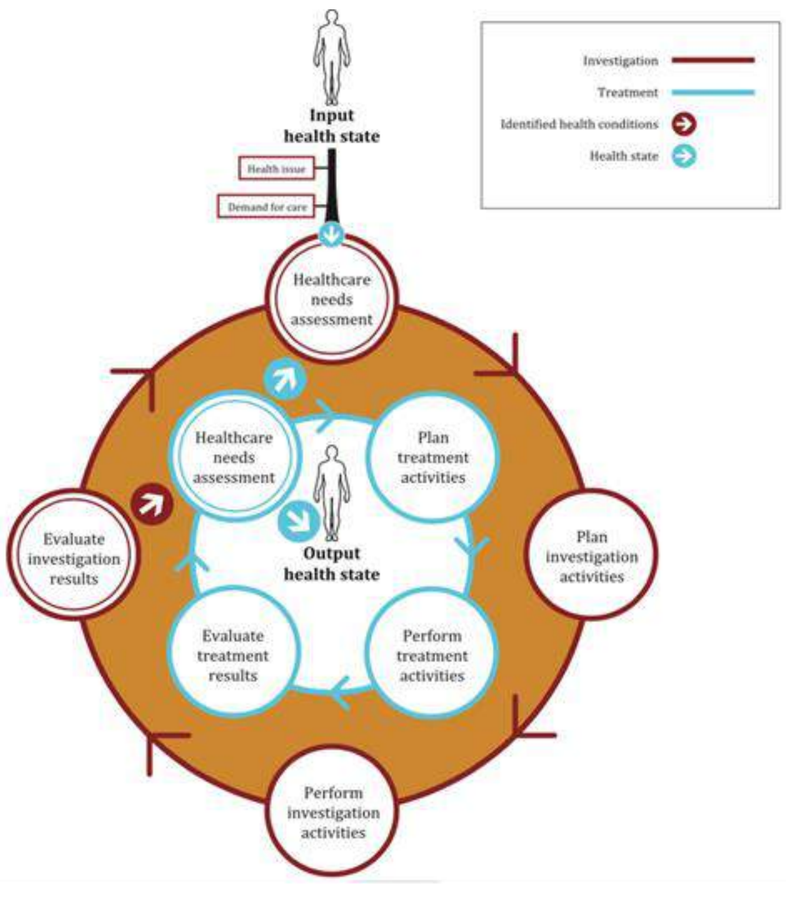


Figure 1: Contsys Process model (EN ISO 13940:2015)

Result

The **process model** in Contsys consist of following nine steps (Figure 1):

1. *Perceive a demand for care, due to a health concern* – the process starts with the patient reporting a health issue or a demand for care, which can be categorized by using the ICF, ICD or ICHI.
2. *Assess healthcare investigation needs* – includes assessment of the need for investigation.
3. *Plan investigation activities* – includes development of planned investigation activities (ICHI) based on the health issue.
4. *Perform investigation activities* – includes performing investigation activities (ICHI), which results in information being collected about matters such as described functioning and contextual factors (ICF) and diseases, disorders, injuries and other related health conditions (ICD).
5. *Evaluate investigation results* – the information is analyzed and assessed, which results in a described, measured and classified state of functioning (ICF) and diseases, disorders, injuries and other related health conditions (ICD).
6. *Assess healthcare treatment needs* - includes goal-setting (ICF) with the patient and a needs assessment of health interventions to achieve the goals.
7. *Plan treatment activities* – consists of the development of a treatment plan, which includes information about goal(s) (ICF) and therapeutic or preventive intervention(s) (ICHI) to achieve the goal(s).
8. *Perform treatment activities* – includes performing the planned therapeutic intervention(s) (ICHI)
9. *Evaluate treatment results* – includes using investigation interventions (ICHI) for follow-up purposes. These interventions result in collected information about described, measured or assessed functioning and environmental factors (ICF) and about whether the goals (ICF) are achieved or not. If the goal is achieved, and the patient and health professionals agree there is no further need for health interventions (ICHI), the clinical process can be ended. If there is more need of health care the process continues to the step "Assess healthcare investigation needs" and the process restarts.

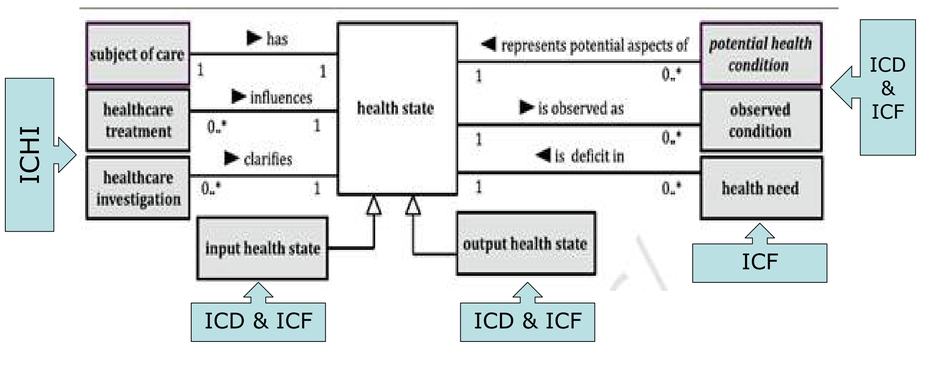
The **concept model** in Contsys consist of about 80 concepts. An example is **Health state** which is defined as 'physical and mental functions, body structure, personal factors, activity, participation and environmental aspects as the composite health of a *subject of care' (EN ISO 13940:2015*). The lists the associations of this concept is presented in table below.

Specialization of			**Generalization of**	
			Input health state	
			Output health state	
Association from		Associtation name	Association to	
1	subject of care	has	1	health state
1	health state	is observed as	0..*	observed condition
0..*	potential health condition	represents potential aspects of	1	health state
0..*	healthcare treatment	influences	1	health state
0..*	health need	Is deficit in	1	health state
0..*	healthcare investigation	clarifies	1	health state

ICD, ICF and ICHI can be used to describe following concepts related to health state.

Concept	Classifications
Health state	ICD, ICF
Potential health condition	ICD, ICF
Health care treatment	ICHI
Health need	ICF
Health investigation	ICHI
Observed condition	ICD, ICF

ICD, ICF and ICHI is added to the UML representation of the concepts (EN ISO 13940:2015) in the figure below.



Conclusions

By using these three classifications (ICD, ICF and ICHI) together in structured digital documentation such as in electronic health record (EHR) this information can be reused for other purposes such as sharing information between care-givers, following up health care system at local as well as national level, for quality improvement of health care, research and statistical use.

Contact

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KlasifiKon

The Central European Conference on Clinical Classifications

5-11 October 2019

Banff, Canada

Poster Number

WHO/CTS to insert

Authors: Zvolský M., Matušková K.

Institute of Health Information and Statistics of the Czech Republic, Prague

Abstract In 2016, representatives of the Department of Clinical Classifications (DCC), the Institute of Health Information and Statistics of the Czech Republic (IHIS CR), started activities related to the organization of a half-day overview seminar on the importance of using clinical classifications and a coding system in Czech healthcare. The organizers received a positive response from some conference participants. This was momentum to start organizing a conference for up to 200 participants in future years. In 2017 and 2018, therefore, two-day sessions focused on theoretical as well as practical implementation and use of clinical classifications in healthcare were held.

Introduction

The IHIS CR develops and adopts basic classification and terminology systems used to describe cases and collect data in healthcare, including in particular:

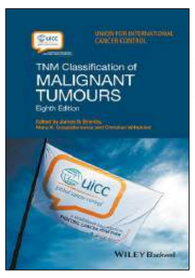
WHO FIC Classifications published in Czech translation

International Classification of Diseases (ICD)

International Classification of Diseases for Oncology (ICD-O)

International Classification of Functioning, Disability and Health (ICF) and Derived Assessment Scales and Questionnaire Tools

Other clinical classifications regularly presented at KlasifiKon



TNM Classification of Malignant Tumors (TNM) – Czech translation

Classification system of inpatient cases CZ-DRG (national)

Classification of hospitalization procedures (national)

Classification of medical devices - Medical Instruments, Equipment & Supplies (national)

Dissemination of information, methodological materials, and best practices require intensive communication both with the professional public and with a wide range of including coders, management of health service providers and health service payers, scientific researchers, postgraduates, other specialists from related areas such as public health, social, economic, linguistic and development in these fields and patients.

Methods & Materials

The selection of key conference topics is most often subject to topics of cooperation with the World Health Organization (WHO) in the field of classifications and institutions intention such as the Ministry of Health of the Czech Republic, Ministry of Labour and Social Affairs, Czech Medical Association of J. E. Purkyně, departments of university hospitals focused on research and education (e.g. Department of Rehabilitation Medicine of the First Faculty of Medicine of Charles University and General Teaching Hospital in Prague).

The main conference topics in recent years were as follows:

KlasifiKon 2016 - daily seminar on clinical classification systems used in the Czech healthcare.

KlasifiKon 2017 - a two-day conference focused on an overview of all classification systems used abroad and in the Czech Republic.

KlasifiKon 2018 - a two-day conference focused on the 11th revision of the ICD and methodological materials to support the coding of diagnoses in the ICD-10.

KlasifiKon 2019 - the main presented topic of the following fourth year of the conference will be the International Classification of Functioning, Disability and Health (ICF). The ICF topic is based on the priority of the Czech Government Resolution - National Plan for the Promotion of Equal Opportunities for Persons with Disabilities 2015–2020. Scales for assessing patient functional status, Activities of Daily Living and nursing scales will be complementary topics. Another important topic will be rare diseases coding.

Picture 1: Invited speakers of the KlasifiKon conference third year

KlasifiKon is the only professional event in the Czech Republic focused on classification systems and terminology used in healthcare.

Great emphasis is placed on sharing an international experience. In this respect, we invite internationla speakers from institutions dealing with classiifications development and use – in previous years these were representants from WHO, DIMDI (WHO FIC Collaborating Center), IFHIMA, SNOMED International & GMDN.

Results

The KlasifiKon conference aims to help give a comprehensive overview of them to the general public. In the Czech healthcare system is often a need to monitor a specific indicator, collect data, classify the care segment, solve a specific problem, but without an overview and knowledge of foreign approaches, efforts to solve in a narrow national context may be unsuccessful, short-term or ineffective.

Similarly, the achievements of Czech solutions in the creation or implementation of classification systems should be presented internationally, perhaps because many neighboring European states are dealing with the same problems as we do and with the same limited resources. Our experience can be beneficial.

Conclusions

The healthcare described through the classification systems and the statistical reports recorded in health registers have an intrinsic meaning, system, logic and are subject to evolution. These systems create an accurate unitary language used by health and non-health institutions, health service providers and others for mutual understanding.

Acknowledgements or Notes

More information about the KlasifiKon 2019 can be found on the website http://www.uzis.cz/akce/klasifikon-2019.

Information on previous years of the conference, especially for KlasifiKon 2018, can be found on the website http://www.uzis.cz/akce/klasifikon-2018.

All conference presentations (PDF form) and online video recordings of speeches are available at http://www.uzis.cz.