



Poster Booklet

WHO-FIC Network
Annual Meeting 16-21 October 2017

❖ WHO ID

C101 – C114

C201 – C221

C301 – C316

C401 – C420

C501 – C531

C601 – C607

C701 – C713

❖ Topic

Committees & Reference Groups

WHO Collaborating Centres

ICD-11

ICD-10

ICF

ICHI

Other

Committees & Reference Groups C101 – C114

❖ WHO ID	❖ Title	❖ Author(s)
C101	Report from the WHO-FIC Network Advisory Council 2017	Bracewell, Hargreaves
C102	Education and Implementation Committee - Annual Report	Napel, Yokobori
C103	Family Development Committee - Annual Report	Hanmer, Martinuzzi, Macpherson
C104	Informatics and Terminology Committee - Annual Report	Nakaya, Linton
C105	Update and Revision Committee (URC) - Annual Report	Hargreaves, Frattura, Tonel
C106	Mortality Reference Group - Annual Report, 2016-2017	Hoyert, Grippo, Nakayama
C107	Functioning and Disability Reference Group - Annual Report	Leonardi, Lee, Camargo
C108	Quality & Safety TAG	Quan, Southern; Ghali
C109	Activities of WHO-FIC Asia-Pacific Network	Paoin, Suenaga Yuenyongsuwan, Yokobori, Kim, Endo, et.al

Committees & Reference Groups

C101 – C114

❖ WHO ID	❖ Title	❖ Author(s)
C110	Activities developed by the PAHO/RELAC SIS Network under South-South Cooperation	Ruiz, Giusti, Jiménez, Yáñez, Araya, Torres, Ribotta, Mejía, Weinstein
C111	Seven years in making difference to promote the strengthening of the WHO- Family of International Classifications in the region of the Americas	Ruiz, Giusti, Jiménez, Yáñez, Umaña, Torres, Mejía, Ribotta, Leiva
C112	Ibero-American Forum of Discussions on the Family of International Classifications of the WHO (FCI-OMS) "Dr. Roberto A. Becker "	Navarro
C113	Different Agencies Contribute to the Lac Network for Strengthening HIS (RELAC SIS)	Weinstein, Ruiz, Giusti
C114	Developing a Network inside a Network: The LAC Experience	Ruiz, Giusti



Report from the WHO-FIC Network Advisory Council 2017

16-21 October 2017
Mexico City, Mexico

C101

Authors: Lynn Bracewell¹, Jenny Hargreaves²

¹United Kingdom NHS Digital and United Kingdom Collaborating Centre Head

²Australian Institute of Health and Welfare and Australian Collaborating Centre, Head

M É X I C O

Abstract During the 2007 annual meeting of the Network, a WHO-FIC Network Advisory Council was established to accommodate the need for broader participation in the core decision-making processes of the WHO-FIC Network and, in 2013, the role of the Advisory Council was confirmed in the Network's 'Conduct of the WHO Family of International Classifications Network' paper. 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 2016-17.

Introduction

During 2007, the Network WHO-FIC Advisory Council was established. It has two co-chairs, who are WHO-FIC Collaborating Centre (CC) Heads (currently Jenny Hargreaves and Lynn Bracewell), 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 NGOs 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.

During 2008, the Council established a Small Executive Group (SEG) 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 Huib Ten Napel and Jun Nakaya), a network member nominated by the WHO (currently Patricia Wood) and WHO Headquarters staff.

Meetings during the last year

The Council convened twice during the annual WHO-FIC Network meeting in Tokyo in October 2016.

During the period November 2016 to August 2017 the Council conducted three telephone conferences, in January, April and June, and will conduct a fourth in September 2017.

The Small Executive Group (SEG) met at the annual meeting in Tokyo, and in 9 telephone conferences. One further teleconference is planned for September 2017.

The focuses of these SEG and Council meetings include organisation of the work of the Network, with oversight of the Strategic Work Plans of the Network's Committees and Reference Groups, and facilitating communication between the Network and the WHO.

Meeting minutes are available at:

<https://sites.google.com/site/whoficcouncil/teleconferences>

Conduct of the Network Paper

The Council and SEG continue to work towards improving the paper *Conduct of the WHO Family of International Classifications*, available at [http://www.who.int/classifications/Conduct of WHO-FIC Network-version1.pdf?ua=1](http://www.who.int/classifications/Conduct%20of%20WHO-FIC%20Network-version1.pdf?ua=1)

Revisions were agreed during the year (to be published soon) to update language referring to CTS CCs, to add Terms of Reference for the Morbidity Reference Group (for which re-establishment was agreed at the Tokyo meeting) and to add a one page 'Overview of the Network Organisational Structure and Workflow'.

Aligning Network Committee and Reference Group work with the strategic directions of the WHO

The Council and SEG have been working with the WHO towards improved alignment of the work of the Network Committees and Reference Groups with the strategic directions of the WHO. This work is ongoing and may include review and revision of the Terms of Reference of the Committees and Reference Groups, including to accommodate a change in focus from ICD-10 to ICD-11. It may also include agreement to a document that outlines a framework for WHO priority work areas for the Network.

Annual meeting format

Over the last couple of years, the Council and SEG discussed revising the format of the Network's annual meetings. It was agreed that, starting with the 2017 meeting, the annual meeting will be conducted over a period of 5.5 days (rather than 7 days). Most of the meeting will be from Monday to Friday, with a Saturday morning session only for the Council. To accommodate the reduced length of the meeting, there will be greater focus on work that needs to be done in-session, and on reducing duplication between sessions.

The reduced length of the meeting is expected to improve meeting affordability and feasibility for both organisers and participants. Discussions on some aspects, such as the role of posters, is continuing.

ICD Revision

The Council SEG continued to provide advice to the WHO on future governance arrangements to be established for maintaining ICD-11. The proposed arrangements are expected eventually to replace the current Network arrangements for updating ICD-10 and the current JLMMS arrangements for the ICD-11 Revision as the focus of ICD-related work evolves from ICD-10 to ICD-11. The WHO also provided updates on its work to liaise with SNOMED International with regard to the current and future relationships between ICD and SNOMED.

Reports from WHO

The WHO provided reports to the Council SEG and Council about the ICD revision process, including on work on the ICD-11-MMS (Joint Linearization for Mortality and Morbidity Statistics).

The Council and SEG also received reports from the WHO about work planned or in progress on updating ICF, provision of support for the use of WHO-DAS and further development of ICHI.

The WHO also provided regular reports on plans for the Annual meeting in Mexico in 2017.

Acknowledgements

The authors would like to thank all the Council and SEG members for their valuable contributions to the work of the Council this year.

We also acknowledge the secretariat support provided by the WHO.

Co-Chairs

The Council Co-Chairs serve for a two year term and may be re-elected for one additional term. Jenny Hargreaves has now served two terms; she was appointed as co-chair in October 2013 and reappointed in October 2015. Lynn Bracewell was appointed as co-chair in October 2015. Elections will be held for the co-chairs at the Mexico annual meeting.



Education and Implementation Committee - Annual Report

16-21 October 2017
Mexico City, Mexico

C102

Huib Ten Napel¹, Yukiko Yokobori²
and the Education and Implementation Committee members

¹ WHO-FIC Collaborating Centre, the Netherlands; ² Japan Hospital Association, Japan

Abstract The EIC aims to improve the quality of health data and the use of the WHO Family of International Classifications. 2016-2017 EIC activities related to these objectives, and listed in the EIC Strategic Work Plan, are reported according to their level of development. Four main streams of our strategic work are presented in this poster; 1 WHO-FIC Implementation database/s, 2 ICD-11, 3 Education in general, and 4 Revision of the EIC Strategic Work Plan, 5 Better alignment of task in collaboration with other committees and groups in the WHO-FIC.

Introduction

The Education and Implementation Committee was created in 1999, and since then has been developing resources, tools and programs, aiming at improving the level of classification use and the quality of coded health data. In this past year, the EIC held two teleconferences in March and September, and a group meeting in Stellenbosch, South Africa in June. In addition, the EIC initiated Co-chairs' meeting for better alignment of task in collaboration with other committees and reference groups in the WHO-FIC. Regarding the EIC tasks, a survey was conducted to identify the priority of EIC tasks and the Strategic Work Plan is currently being reviewed. The official members of EIC have been identified by Collaborating Centre heads, to encourage the active participation and involvement in the EIC tasks and to assign the EIC tasks appropriately to the members. This is the summary of the EIC activities since the 2016 WHO-FIC meeting in Tokyo.

WHO-FIC Implementation Database

The EIC supports the development and completion of data in the WHO-FIC Implementation Database. After the finalization of the Database for ICD and ICF in 2014, the main thrust of EIC activities has been to identify more Focal Points who would enter and update the data. Request letters and updated User Guide were sent to current Focal Points, WHO ROs and WHO-FIC CCs twice a year, and we had more focal points including India, Republic of Korea, Benin, Kenya and Congo over the past year. Newly designated and re-designated CCs will be obligated to enter and update data as part of their Work Plan. Meanwhile, the Database has been reviewed, aiming at simple and "user-friendly" database. Questionnaire is being discussed to improve its clarity. The EIC is also considering the approaches to enable territories of certain countries to enter their data.

The current version of the database is available at <http://beta.who-fic.nl/> for country focal points to input and update WHO FIC Implementation information. The information on WHO FIC implementation is displayed and disseminated through the WHO Global Health Observatory: <http://apps.who.int/gho/data/node.whofic>

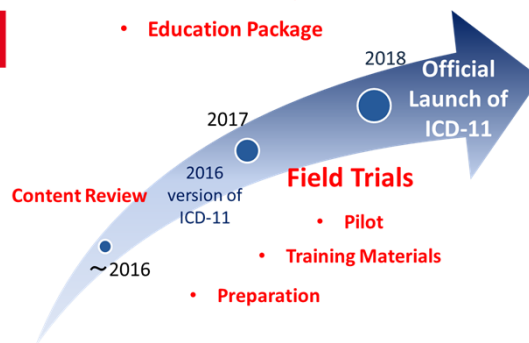
ICD-11

ICD-11

The EIC made a content review of the Reference Guide and gave a feedback to WHO. The 2016 version of ICD-11 was released in October 2016 at the ICD-11 Revision Conference in Tokyo. It is announced that ICD-11 will be officially launched for implementation in 2018. The EIC supports the ICD-11 Field Trial activities and the development of the Transition and Implementation Package.

EIC tasks related to the ICD-11

- Transition & Implementation Guidance
- Education Package



ICD-11 Field Test Material

The ICD-11 FT Education Package has developed to promote awareness and understanding about ICD-11 among various audiences internationally and to enable participants in the field trials to use ICD-11.

Transition and Implementation Guidance

Included in the EIC's work plan, an action plan is summarized and the small core group for this task is formed at this annual meeting.

Education in General

The EIC has supported the work on the development of web-based training tools for the ICD and ICF.

The ICD-10 training tool

available at;
<http://apps.who.int/classifications/apps/icd/icd10training/>

ICF e-learning tool

After the Tokyo meeting, copyright issues were discussed and the quizzes at the end of each chapter was reviewed. Setting up articulate storyline in eLearning tool, the tool is now on the phase of the field testing. The progress report is provided at the Annual Meeting.

Revision of the EIC Strategic Work Plan

At the EIC conference call in March, it was agreed that the EIC SWP would be reviewed and formulated, focusing on the ICD-11 related tasks. Some tasks that were no longer relevant or did not merit discussion at EIC meeting were deleted from the EIC SWP. To carry out the EIC SWP accordingly, members' active involvement is crucial. Two surveys were conducted among the EIC members to encourage active participation in the EIC tasks. It was agreed that the EIC has more frequent teleconference, instead of face-to-face meeting in 2017. At the same time, a request was sent to CC Heads to identify the official EIC members to ensure the participation from each country. Consolidated the EIC membership, the SWP will be revised and timely implemented.

Better alignment of task in collaboration with other committees and groups

To align the work of respective committees and groups toward common Network tasks, there is a need for better communication to avoid duplication of work, deeper level of cross-fertilization, more productive work outside silos, and efficient use of limited resources. EIC lead a Co-chairs' meeting in April and launched the initiative to meet the requirements.

Family Development Committee Annual Report 2017

16-21 October 2017
Mexico City, Mexico

C103



M É X I C O

Lyn Hanmer¹, Andrea Martinuzzi², Brooke Macpherson³

¹South African Medical Research Council, South African Collaborating Centre and FDC Co-Chair

²E. Medea Scientific Institute, Italian Collaborating Centre and FDC Co-Chair

³Australian Institute of Health and Welfare, Australian Collaborating Centre and FDC Secretariat

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 2016 to October 2017.

Introduction

The Family Development Committee (FDC) was established in 1999 to ensure that the WHO-FIC has a logical structure so that health classifications needed for each health parameter and setting within the health system can be identified. The Committee assesses potential new member classifications that could fill a gap in the WHO-FIC.

During the year, the FDC met three times; in October 2016 at the Network Annual Meeting in Tokyo, Japan, via teleconference in April 2017, and in June 2017 at the mid-year meeting in Stellenbosch, South Africa.



Figure 1: Attendees of the FDC mid-year meeting in Stellenbosch, South Africa

The mid-year meeting was held in conjunction with meetings of the International Classification of Health Interventions (ICHI) and the Functioning and Disability Reference Group (FDRG).

The FDC co-chairs are Lyn Hanmer (South African Collaborating Centre) and Andrea Martinuzzi (Italian Collaborating Centre). The secretariat function is provided by Brooke Macpherson (Australian Collaborating Centre).

The Strategic Work Plan (SWP) for the FDC is outlined below with progress against each item summarised.

SWP 01: Assist WHO in the development of ICHI

The FDC acts as the focal point for the WHO-FIC Network for the ICHI development work. In order to facilitate communication and co-ordination, FDC and ICHI development meetings have been co-located for several years, including the 2017 mid-year meetings.

The WHO ICHI Task Force was established in 2016. One of the FDC co-chairs is a co-chair of the Task Force, and some members of the Task Force are also members of the FDC.

SWP 02: Integration of the Family

The FDC has been re-drafting the 2007 WHO Family paper, which describes the WHO-FIC, principles of classification and the processes for adding, updating and maintaining classifications in the Family.

At the Tokyo meeting in 2016, a shorter document focused on the reference classifications in the ICD-11 era was tabled for discussion by the FDC. It was anticipated that this document would *complement* the 2007 Family paper.

A writing group has been working since January 2017 to amend and finalise the Family paper, to be presented to the Network in Mexico City in 2017. A revised draft of the Family paper was presented to members at the FDC mid-year meeting, where small groups worked on individual sections. Drafts have also been presented to the ICD-11 MMS Joint Task Force and the WHO-FIC Advisory Council.

The schematic representation of the WHO-FIC is being revised to reflect new developments in classifications. Figure 2 below was developed by the FDC during its 2017 mid-year meeting. Further modifications are under consideration.

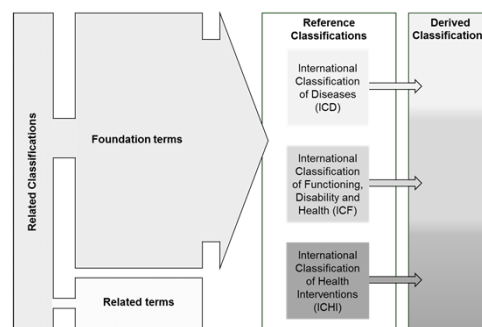


Figure 2: Proposed schematic representation of the WHO-FIC for the revised Family paper. Developed during the 2017 FDC mid-year meeting

SWP 03: Applications of the WHO-FIC: Joint use of reference classifications

Major outcomes of discussions at the 2017 mid-year meeting:

- A template for canvassing case examples of joint use of the WHO-FIC reference classifications will be deployed to the Network.
- IT requirements and tools to support joint use will be investigated in collaboration with the ITC.
- Common concepts across WHO-FIC reference classifications will be investigated.

SWP 04: WHO-FIC support for UHC and the SDGs

The FDC has been assessing how the WHO-FIC can potentially be used to support measuring progress towards the WHO's Universal Health Coverage (UHC) initiative. Since the 2016 Network meeting in Tokyo, this item has been expanded to include the Sustainable Development Goals (SDGs).

SDG3, Health, contains UHC as one of its thirteen targets. UHC in this context represents an influential factor where success in UHC could propel the achievement of the other set targets and, indirectly, other SDGs.

Previous mapping exercises by the FDC have assessed which reference classifications could be useful to monitor the UHC indicators and the 13 targets of the Health SDG. This year the FDC expanded the mapping to include the *100 Core Health Indicators* identified by WHO, which contain indicators for health status, risk factors, service coverage and health systems – all seen as vital elements that contribute to UHC. Each reference classification has a role to play in the monitoring of these indicators.

The FDC will continue to pursue this topic at its 2018 mid-year meeting, with a focus on ensuring alignment with other WHO activities related to UHC.

SWP 05: Assess the need for additional members of the Family

There is a need for further engagement with the FDRG on personal factors in the WHO-FIC. This topic will be included in the agenda for the FDC 2017 annual meeting.

SWP 06: Alignment of members of the Family

The 2017 mid-year meeting concluded that this activity could encompass reviewing the reference classifications for multiple representations of concepts, and ensuring that their meanings are consistent.

This topic will be discussed at the FDC annual meeting in Mexico in October 2017, for possible inclusion in the agenda for the 2018 mid-year meeting.

Acknowledgements

The FDC co-chairs thank the FDC members for their contributions to the FDC work plan activities during the year, and the South African Collaborating Centre for hosting the mid-year meeting.



INFORMATICS AND TERMINOLOGY COMMITTEE – ANNUAL REPORT

16-21 October 2017
Mexico City, Mexico

C104

Authors: Jun Nakaya¹, Cassandra Linton²

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Abstract This poster presents the annual report of the Informatics and Terminology Committee (ITC), highlighting activities of since the Tokyo meeting in October 2016.

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 seven 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.

Administration

Ad-hoc meetings of the co-chairs, Cassandra Linton and Jun Nakaya as well as WHO liaison Can Celik, Robert Jakob have been held throughout the year. A mid-year teleconference was held in July 2017.

Classifications and Revision Platforms

WHO headquarters and collaborating centres work to enable standardized maintenance, update and revision of WHO classifications. Work has continued on the classification update platforms and on the ICD Revision Platform:

A **Coding tool**, developed to enable allows for searching codes in the ICD-11 Mortality and Morbidity Statistics using natural language expressions. The tool has been continuously revised and enhanced.

ICD Web services and URIs,

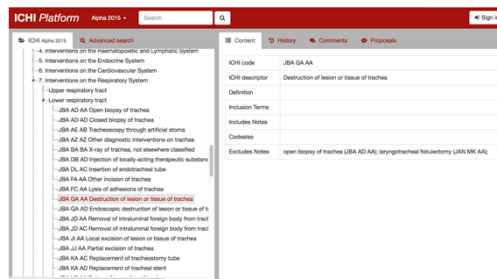
Integration of ICD-10 and ICD-11 into other software, electronic health records, mobile apps is available via web services. Web services are hosted in the cloud, and supports multiple foundation version.

ITC members are invited to try the API and provide feedback. More information on how to access and consume the API can be found here:

<https://icdaccessmanagement.who.int>

ICD-11 coding exercises tool (ICD-FiT): Formal technical testing was completed on the tool. This involved 8 raters coding from case summaries to test the capabilities of the tool. A multi-language version of the web-based system is now available to support ICD-11 coding exercises.

ICHI Platform: In the past few years an ICHI browser has been developed to enable access to the Alpha version of the ICHI classification. During the ICHI meeting in Trieste and the FDC mid-year meeting in Conegliano (both in 2016), sessions on this topic have been carried out with participation of ITC members that resulted in a long-term work plan for the expansion of the browser to become a more comprehensive platform for the creation, revision and maintenance of ICHI. The platform will allow comments, proposals, history of modifications, three privilege levels for users, and linkage to other classifications of the family.



ClaML (Classifications Markup Language)

The classification markup language ClaML is the WHO recommended format to exchange classifications between developers and users. It is an ISO standard used worldwide. In 2015 the standard started to undergo revision in the ISO process. Its result will be ClaML 3.0 with an aimed date of completion in 2018. This year CLAML is in the process of international standardization. It passed the first ballot and moved to the next ballot in ISO. The WHO-FIC-Network is actively involved in the revision through the ITC. It will try to ensure that emerging classification needs for the exchange standard will be considered.

iCOS(ICD Clinical Omics Sub information model)

The ICD Clinical Omics Sub information model, which enables handling of omics data including whole genome data with ICD, has received WHO recommendation toward international standardization at ISO. Two projects based on already existing international standard IS25720 in ISO TC215 WG2 collaborating with HL7 CG and CDISC BRIDGE have begun the international standardization process.

Formal Knowledge Representation

Over the next year, ITC will continue to focus on receiving feedback on the new web services, CLAM-L, and OMICs. Activities will also focus on creation of a sub-group to consider the links to terminologies and other factors in adoption of ICD-11.

Discussion with IHTSDO around the SNOMED-CT collaboration is in preparation toward restarting.

Acknowledgements

ITC wishes to acknowledge the work of the WHO HQ and collaborating centres for their contributions over the past year.

Standards

Technical standards are developed to enable the electronic exchange of WHO classifications.

During the last year, work has been carried out in the following directions:

URI API: URIs (Uniform Resource Identifiers) are standard identifiers for ICD entities, with a corresponding Application Program Interface (API) platform for software to access information about the classifications. Experimentations have been started on the coding API, based on the coding tool software, to enable code search also on third party software.



Update and Revision Committee (URC) Annual Report

16-21 October 2017
Mexico City, Mexico

C105

M É X I C O

Hargreaves J.¹, Frattura L.², Tonel P.²
¹Australian Institute of Health and Welfare, Australia - URC ICD Co-chair; ²Central Health Directorate, Classification Area, Friuli Venezia Giulia Region, IT WHO-FIC CC - URC ICF Co-chair; ²Central Health Directorate, Classification Area, Friuli Venezia Giulia Region, IT WHO-FIC CC - URC ICD and ICF Secretariat

Abstract This poster includes an outline of the purpose and strategic plan of the Update and Revision Committee and presents a preliminary annual report of the work of the Committee for 2017.

Introduction

The purpose of the Update and Revision Committee (URC) is to support WHO and WHO-FIC Network in keeping the WHO Family of International Classifications (FIC) "Reference Classifications" up to date in line with current knowledge (1). The functions of the URC include the development of update policies, update coordination & decision making, and the participation in the revision work in order to ensure synchronization from one revision to the other and consistency within the members of Family of International Classifications.

Methods & Materials

The URC work is mainly conducted through the update and revision platforms for ICD-10 and ICF, 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 and deliverables of URC in the WHO-FIC Strategic Work Plan are shown here below (Table 1) (4). In order to update the ICF URC membership list, the Head of the Collaborating Centres were contacted and WHO was asked to update the lists on the ICF update platform.

Table 1 – The URC relevant part of the WHO-FIC SWP

Product/Deliverable	Activities
Annual updates to ICD-10	Submission, review, decision and implementation of update proposals for ICD-10.
Transition strategy from ICD-11 revision process to URC update process	WHO draft for comments
Realize a Foundation ICF implementation of ICF proposals	Submission, review, decision and implementation of ICF-CY related update proposals for ICF. Due to the difference in submission process and lack of supporting rationale additional work is required.
Provide annual updates to ICF	Submission, review, decision and implementation of update proposals for ICF.
Overall coordination of the update process	Secretariat: Participation in the works, meetings and teleconferences of Initial Review Group and FDRG. Secretariat: Integrating all the amendments into a single electronic version of the ICF; Publishing this on the web-site as a PDF file; Updating the ICF Browsers, both on the WHO-FIC web site and in the ICF Update Platform
i) A PDF file which incorporates all the amendments passed by the URC from 2000-2014 available on the web-site	
ii) An updated ICF Browser available on the WHO-FIC web site reflecting all these amendments	
iii) An updated ICF Browser available on the ICF Update Platform reflecting all these amendments	

	ICD-10 related items
	ICD-11 related items
	ICF related items
	overall coordination

Results

At the 2016 WHO-FIC Network annual meeting held in Tokyo, Japan, the URC ratified 104 recommendations for updating the ICD-10 and 20 recommendations for updating the ICF (Figs. 1 and 2). The annual and cumulative update documents for ICD-10 and the annual update documents for ICF were prepared and delivered to WHO. ICD-10 changes were finalised for the major update of ICD-10 for January 2019.

The analysis of update proposals coming from ICF-CY to be included in ICF was completed.

An updated ClaML version of ICF including all amendments approved by the URC from 2000 to 2016 was prepared. A ClaML-based electronic version of ICF to be used by WHO to update the ICF browser was also prepared. The updated ICF online version can be seen at <http://apps.who.int/classifications/icfbrowser/> (Fig. 3).

URC participated (by teleconference) in the FDRG mid-year meeting 2017 to address some ICF issues. At present, in 2017, 88 proposals have been moderated for ICD-10 and put to vote by URC members. With regard to ICF, 24 proposals have been moderated and put to vote by URC members.

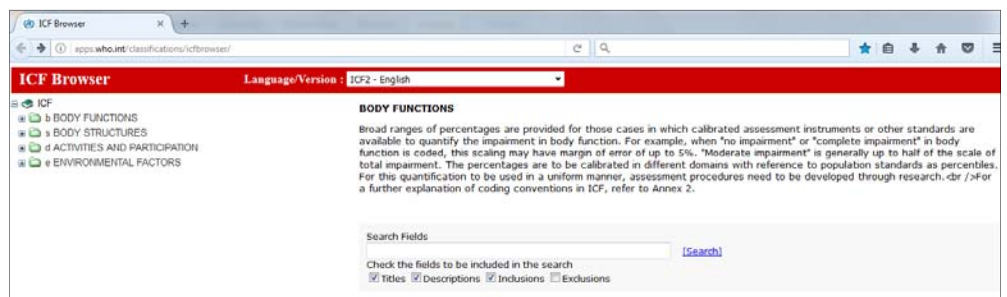
Figure 1 – Screenshot from the ICD annual updates approved in 2016

Section	Table for entries	Source	Date approved	Major update	Minor update	Suggested implementation date
Add instructional note	G02 Extensive vomiting in pregnancy <i>Use additional code, if desired, to identify cause.</i>	1245 Australia	October 2016	Minor	Minor	January 2018
Delete instructional note	G51.8 Other vomiting complicating pregnancy <i>Use additional code, if desired, to identify cause.</i>	2258 Australia	October 2016	Minor	Minor	January 2018
Revised inclusion and exclusion	G62.2 Other serious ischaemia At any of uterus, vagina, labia Dyspareunia Hypertensive dystrophia NOS Impaired labour Puerperal infection Twins in utero NOS <i>Excl. cause: ectopic pregnancy (O02.1)</i>	2003 Canada	October 2016	Major	Minor	January 2019
Add exclusion	P12.2 Epileptic infarction <i>Excl. cause: birth injury</i>	2264 Australia	October 2016	Major	Minor	January 2018
Delete exclusion	P96.8 Other specified intestinal obstruction of newborn <i>Excl. cause: intestinal obstruction (K56.0-K56.3)</i>	2219 Statistics Korea	October 2016	Major	Minor	January 2019
Revised inclusion and exclusion	P98.3 Infective mononucleosis <i>Excl. cause: infectious (A09.0)</i>	2213 United Kingdom	October 2016	Minor	Minor	January 2018

Figure 2 – Screenshot from the ICF annual updates approved in 2016

Proposal ID & update type	Affected Code	Original version	Update version
ICD-10 Minor modification of code definitions	4665 Moving around using equipment 4670 Using transportation	4665 Moving around using equipment Moving the whole body from place to place, on any surface or space, by using specific devices designed to facilitate moving or create other ways of moving around, such as with skates, skis, or stilt equipment, or moving down the street in a wheelchair or a walker. Excludes: transferring oneself (4620); walking (4650); moving around (4655); using transportation (4670); driving (4675)	4665 Moving around using equipment Moving the whole body from place to place, on any surface or space, by using specific devices designed to facilitate moving or create other ways of moving around, such as with skates, skis, or stilt equipment, or moving down the street in a self-propelled wheelchair or a walker. Excludes: transferring oneself (4620); walking (4650); moving around (4655); using transportation (4670); driving (4675)
	4670 Using transportation	4670 Using transportation Using transportation to move around as a passenger, such as being driven in a car or on a bus, rickshaw, jitney, animal-powered vehicle, or private or public taxi, bus, train, tram, subway, boat or aircraft and using humans for transportation. Includes: using human-powered transportation; using private motorized or public transportation; using humans for transportation. Excludes: moving around using equipment (4655); driving (4675)	4670 Using transportation Using transportation to move around as a passenger, such as being driven in a car , bus, rickshaw, jitney, animal-powered vehicle , or private or public taxi, bus, train, tram, subway, boat or aircraft and using humans for transportation. Includes: using human-powered transportation; using private motorized or public transportation; using humans for transportation. Excludes: moving around using equipment (4655); driving (4675)
	46700 Using human-powered vehicles	46700 Using human-powered vehicles Being transported as a passenger by a mode of transportation powered by one or more people, such as riding in a rickshaw or rowboat.	46700 Using human-powered vehicles Being transported as a passenger by a mode of transportation powered by one or more people, such as riding in a rickshaw or rowboat.

Figure 3 – The updated ICF online version



Conclusions

The achievements of the Committee are made possible by the generous efforts of URC members and relative institutions. The realization of a foundation ICF with the implementation of the classification items coming from the ICF-CY was concluded. An increasing engagement of the Collaborating Centers in the Committee's work will ensure a new phase in the ICF update process (5).

References

1. The WHO Update & Revision Committee <http://www.who.int/classifications/committees/URC.pdf>
2. The ICD update platform <https://extranet.who.int/icdrevision/nr/login.aspx?ReturnUrl=%2Ficdrvision%2FDefault.aspx>
3. The ICF update platform <https://extranet.who.int/icfrevision/nr/loginICF.aspx>
4. Terms of Reference for WHO FIC Update and Revision Committee (URC) version Dec 2012
5. Frattura L, Tonel P. The ICF update process: suggestions for improving outcomes. WHOICF Network Annual Meeting 2017

Acknowledgements

The authors thank URC members for their contributions over the past year. Special thanks to Janice Miller.



M É X I C O

Mortality Reference Group Annual Report, 2016-2017

DL Hoyert¹, F Grippo², K Nakayama³
(1) NCHS, (2) ISTAT, (3) Japan ICD Office, MHLW

16-21 October 2017
Mexico City, Mexico

C106

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 19th year, the MRG deliberated about 108 issues related to both updates to ICD-10 and development of the ICD-11 revision and made recommendations to the Update and Revision Committee for further action.

Introduction

This is the 19th 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.



The MRG has dealt with about a thousand issues related to updating and clarifying ICD-10 as it applies to mortality classification and coding. The MRG has settled more than 650 issues selected largely from the Mortality Forum (an international mortality classification discussion network) and submitted 428 recommendations to the Update and Revision Committee (URC) for consideration.

This report describes the background of the MRG and the issues decided in the 19th year.

MRG meeting locations, 1998-2017



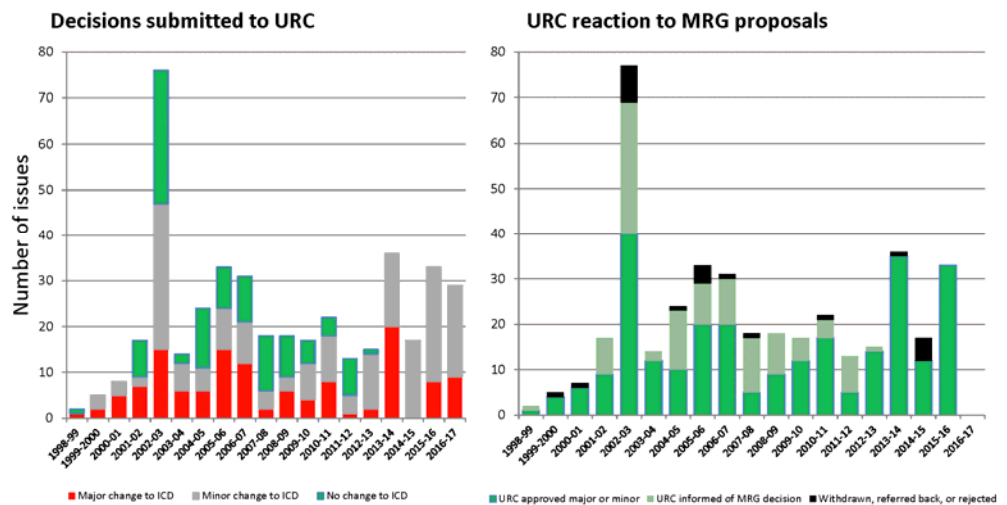
Basis for the MRG

Provision for the MRG are described in two documents: the WHO long-term strategy document (WHO/HST/ICD/C/97.39) and the Centre Heads' Report for 1997 (WHO/HST/ICD/C/97.65). Briefly, for updating ICD-10, WHO- - working with the Centre Heads- - established two separate bodies: the MRG and URC. 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 URC for a vote on ICD updates and changes. The decisions requiring no change in the ICD are forwarded for the URC's information and for documentation.

Decisions during the full 19 years

In the 19 years (1998-2017), the MRG reached more than 650 decisions. The left panel of the chart shows the subset of the decisions that were sent on to the URC for information as well as for voting. The MRG forwarded 428 decisions to the URC: 317 recommendations for changes in the ICD and 111 decisions requiring no change in the ICD. The total number of issues either withdrawn by the MRG, referred back by the URC for additional work, or rejected by the URC during the first 18 years was 24 and is shown in the right panel of the chart.

Summary of MRG decisions by work year



Decisions during the 19th year

The MRG met in Raleigh, NC on March 23-24 and 27-28, and in Mexico City, Mexico on October 16-17, 2017. A smaller table group also met in March to work through issues concerning the decision tables where MRG decisions left details open. The MRG reviewed about 108 issues, and submitted 29 recommendations (9 major and 20 minor) to the URC (see Table).

Table. Decisions made in 2016-2017

Year Discussed and Issue
Minor change submitted to URC in 2017
2016-2017: Addition to Annex 7.4
2016-2017: Index discrepancies involving O10
2016-2017: Rheumatic fever and tonsillitis
2016-2017: Victim of extreme weather (X37-X38)
2015-2017: Term reported as sudden infant death but age is over 1 year
2014-2017: Infections specific to perinatal period
2015-2017: P95 usage notes
2016-2017: Neoplasm instructions in section 4.3.5 A
2014-2017: Correction to URC 2184
2016-2017: Clarification of instructions for diabetes
2016-2017: Congenital conditions
2017-2017: Neonatal diarrhea
2015-2016: Hypertension issues
2015-2017: Adding codes in some of neoplasm instructions section 4.3.5
2015-2017: Move more related to old perinatal certificate to end
2016-2017: Conflict in linkage instructions
2016-2017: Cognitive impairment
2016-2017: Check for modifications of the starting point example
2016-2017: Graphic illustration of coding instructions for mortality
2017: Error correction in vol 2 4.3.7 c
Major change submitted to URC in 2017
2014-2017: Note on 146.9
2014-2017: Unspecified effects of other external causes
2015-2017: Code for hyperbilirubinemia
2016-2017: Appropriate code for hypoproteinemia
2016-2017: Restore missing index entry
2015-2017: Neoplasm instructions modifications related to metastatic
2015-2017: 4.3.7 instructions on rheumatic disease
2016-2017: Chylothorax
2015-2017: Respiratory nos

Conclusions

In the 19th year, the MRG met in March and in October, communicated by e-mail, posted proposals and comments on the ICD-10+ Platform, did considerable work on a number of issues outside the committee meetings, circulated documentation for issues under consideration; and comprehensively documented all activities. During the nineteenth year, a total of about 108 issues were reviewed by the MRG and the MRG's Table Group. Closure was reached for many of these and 29 decisions were submitted to the URC in 2017. Nine of these were recommendations for major change and 20 for minor change. As the updating of ICD-10 is phasing out, current ICD-10 update proposal are also reviewed in terms of their relevance for ICD-11.



M É X I C O

FUNCTIONING AND DISABILITY REFERENCE GROUP ANNUAL REPORT

16-21 October 2017
Mexico City, Mexico

C107

Authors: Matilde Leonardi¹, Hae-Jung Lee², Olaf Kraus de Camargo³

¹Istituto Besta, Italy ²Silla University, Korea ³McMaster University, CanChild Centre for Childhood Disability Research (corresponding author on behalf of FDRG)

Abstract FDRG had a midyear meeting in South Africa at Stellenbosch University with 36 attendees. In addition, we had a workshop of the mICF group and the 2nd International Symposium for ICF Education. Regarding the current use of the ICF a global survey was distributed and the results are reported in a separate poster entitled "HOW IS ICF USED AROUND THE WORLD?" The e-Learning tool was finalized and will be released shortly, also becoming available for translations to other language besides English. The ICF Education Platform is growing and updated.

Overview

At the last Annual Meeting in Tokyo Haejung Lee (Korea) and Matilde Leonardi (Italy) were elected as new chairs. Olaf Kraus de Camargo (Canada) was nominated for the Secretariat. The strategic plan 2017/2018 contains the following goals:

1. Ongoing updates of ICF
2. Global survey about ICF use
3. Strategies for ICF Education and Implementation
4. ICanFunction mICF development
5. WHODAS – survey of user needs

1 - ICF Updates

2011 – 2016 updates by year:

<http://www.who.int/classifications/ICFupdates/en/>

14 updates: 6 environmental factors, 7 activities and participation, 1 body functions

To register on ICF platform and participate in the update process (see chart 1):

<https://extranet.who.int/icfrevision/>

2 - ICF Survey

238 responses were obtained from 32
See separate poster "HOW IS ICF USED AROUND THE WORLD?" for details. We obtained 238 responses from 32 countries (See chart 2)

Chart 2: Top 10 respondents in ICF Survey

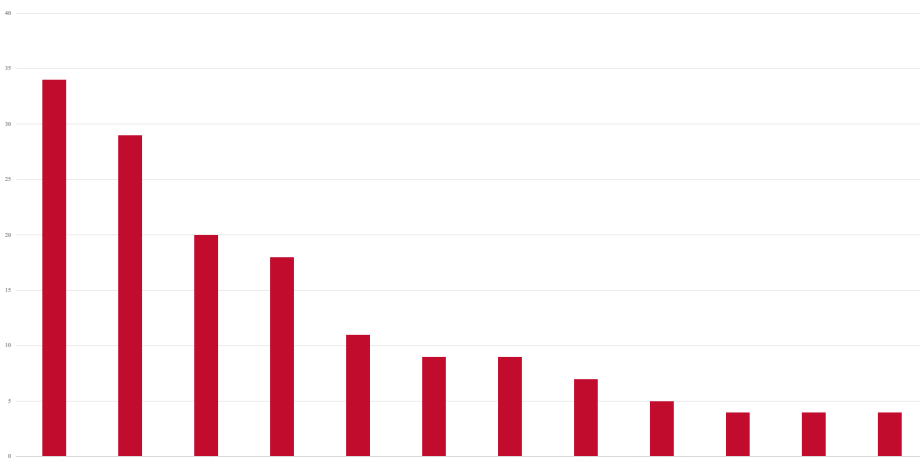
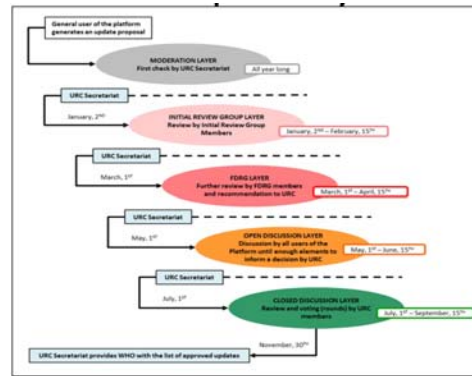


Chart 1: ICF Update Process



3 - ICF Education

3.1 The ICF e-learning tool went through further iterations of development and the ICF 2017 codes were incorporated. Currently, field testing is under way: <https://icf-elearning.com>.

3.2 The online ICF Education platform www.icfeducation.org has now a discussion forum to pose questions (send to icfeducate@gmail.com) and a search function to find resources (see Chart 3). Over 50 resources are available in 11 languages so far. The website is accessed more than 50 times per day. Registration as Advisor/Educator is open.

3.3 After the Mid-Year Meeting in Stellenbosch, South Africa, we co-organized the 2nd International Symposium on ICF Education in Cape Town with about 160 participants. The presentations can be found on the ICF Education platform.

Chart 3: ICF Education Search Function

4 - mICF Development

A developer workshop before the mid-year meeting focused on potential new applications and the strategy to further develop the FunctionMapper platform. A proof of concept was successful in Finland and will be further developed. See news on <http://icfmobile.org> and separate poster **ICanFunction mHealth Solution (mICF): Progress report**

5. WHODAS

Only a small proportion of ICF users reported using WHODAS (43 out of 238). A separate WHODAS survey is being developed and will be sent out after the Annual Meeting.

Acknowledgements or Notes

We thank the members of FDRG (Functioning and Disability Reference Group) for volunteering in the different working groups and the WHO Collaborating Centres and Academic Centres in supporting our work.



M É X I C O

Quality & Safety TAG

16-21 October 2017
Mexico City, Mexico

C108

Authors: **Hude Quan, Danielle Southern, William Ghali**
for the Quality & Safety TAG

Abstract The Quality and Patient Safety TAG is 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 Volume II work from the perspective of quality and safety use case.
- Designing field trials for the beta version of ICD-11.

ACTIVITIES

Published Manuscripts

Forster AJ, et. al. A World Health Organization field trial assessing a proposed ICD-11 framework for classifying patient safety events. Int J Qual Health Care. 2017 Jun 17.

Southern DA, et. al. Enhanced capture of healthcare-related harms and injuries in the 11th revision of the International Classification of Diseases (ICD-11). Int J Qual Health Care. 2015 Dec 10

Southern DA, et. al. Opportunities and challenges for quality and safety applications in ICD-11: an international survey of users of coded health data. Int J Qual Health Care. 2015 Dec 8.

Sundararajan V, et. al. Capturing diagnosis-timing in ICD-coded hospital data: recommendations from the WHO ICD-11 topic advisory group on quality and safety. Int J Qual Health Care. 2015 Aug;27(4):328-33.

Quan H, et. al. International variation in the definition of 'main condition' in ICD-coded health data. Int J Qual Health Care. 2014 Oct;26(5):511-5.

Ghali WA, et. al. ICD-11 for quality and safety: overview of the WHO Quality and Safety Topic Advisory Group. Int J Qual Health Care. 2013 Dec;25(6):621-5.

Drösler S et. al. How many diagnosis fields are needed to capture safety events in administrative data? Findings and recommendations from the WHOICD-11 Topic Advisory Group on Quality and Safety. Int J Qual Health Care. 2014; 26(1):16-25.

Completed Field Trials Survey

With the overriding goal for the TAG (& thus the WHO) to collect info on user needs from ICD-11 in advance of the next TAG meeting (in September) to inform ICD-11 refinements. We developed and executed a survey for the field trial. A manuscript or the results has been drafted and circulated for TAG member comments.

ACTIVITIES

Mapping of existing patient safety indicator

A mapping exercise, whereby we have attempted to map the Calgary PSI list, the International ICD-10 AHRQ PSI list as well as Patient Safety concepts in ICD-11-Beta.

Code-recode testing

Objectives

- To assess, from a healthcare leader's perspective, the utility of patient safety information encoded using the following classification systems: AHRQ Common Format, WHO-ICD 10-CA, and WHO-ICD11 (Beta)
- To evaluate the inter-rater reliability of raters classifying patient safety events
- To determine the face validity of event classification
- To assess the coding practice for classifying patient safety events

Conclusions

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

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

Acknowledgements

Q&S TAG was funded by the *Agency for Healthcare Research and Quality* (AHRQ), Canadian Institute of Health (CIHI), Canadian Patient Safety Institute (CPSI), and Canadian Institute for Health Information (CIHI).

2017 MEETING ATTENDEES

Australia: James Harrison, Vijaya Sundararajan
US: Harold Pincus, Patrick Romano, Brigitta Spaeth-Rublee, Marilyn Allen, Jeff Brady (via phone)
Canada: Alan Forster, William Ghali, Yana Gurevich, Hude Quan, Danielle Southern, Sharon Baker, Keith Denny (via phone), Catherine Eastwood, Alicia Boxhill, Cindy Penner, Lori Moskal
France: Jean-Marie Januel
Germany: Saskia Drösler
Sweden: Olafr Steinum
WHO: Nenad Kostanjsek (via skype)

We have held meetings in New York, NY, USA & Calgary, Alberta, Canada

- Continued the status of discussions around coding rules (main condition, diagnosis timing, coding field).
- Continued to review chapter 19&20 content and associated clustering mechanisms.
- Undertook a field trial testing codability of cases
- Refined coding recommendations based on results from field trial
- 3rd stage of field trial – re-testing coding concepts recommended to WHO in latest version





Activities of WHO-FIC Asia-Pacific Network

16-21 October 2017
Mexico City, Mexico

C109

Wansa Paoin¹, Maliwan Yuenyongsuwan², Yukiko Yokobori³,
Sukil Kim⁴, Hiroyoshi Endo⁵, Hiroyuki Suenaga⁶

¹ Thai CC, ² Thai CC, ³ Japan CC, ⁴ Korean CC, ⁵ Japan CC, ⁶ Japan CC

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 nine network meetings so far, with the most recent one being held in Kuala Lumpur, Malaysia, in August 2017. The poster reports on the network's activities that are taken place after the WHO-FIC Network Meeting in Tokyo in October 2016. This includes the step toward introducing ICD in Lao PDR, 10th anniversary report on the APN activities, and the progress of combining the ICD-10 APN simplified version with the Startup Mortality List of the World Health Organization 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 nine conferences and five working meetings so far. This is the summary of the APN activities since the 2016 WHO-FIC meeting in Tokyo.

	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

Luncheon Meeting

On October 10th, 2016, the luncheon meeting of the WHO-FIC Asia-Pacific Network was held during the WHO-FIC Network Annual Meeting in Tokyo, Japan. Approximately 20 people from 6 countries and WHO regional offices participated in the meeting and the progress status of ICD-10 APN simplified version and plan for the 9th APN meeting were reported and discussed.

Step toward introducing ICD in Lao PDR

In order to share the current situation about the health information system in Lao PDR, and to present the basic concept of ICD-10 APN simplified version, a meeting was held at the Ministry of Health in Lao PDR, between APN and Government officers, and also between APN and WHO officers on December 1st, 2016. Visit to Mahosot Hospital was also made on the same day.



On 7th June, 2017, To discuss the necessary step for the Implementation of ICD-10 start-up list in Lao PDR, a meeting was held among the representatives from the Ministry of Health in Lao PDR, WHO country office in Lao PDR, and APN. The current situation and the future plan were shared. Also, the draft of ICD-10 simplified version in Lao was shared at the meeting. In mid-September, 2017, the consultative meeting is held in Vientiane to discuss the next step. Translation into Lao is also finalized at the meeting and the meeting result is shared at the Mexico City Meeting.

Follow-up activities in Cambodia

Following the Field Trial in 2016, ICD-10 Implementation Plan was drafted in August 2017. Also, Hospital forms have been adjusted and Doctor manual has been prepared. In September, training of doctors and coders for good medical record writing and ICD coding is conducted, and ICD-10 coding will start in 10 hospitals using the ICD-10 APN simplified version in October. In November, 2017, training of doctors and coders for ICD code analysis, morbidity and mortality statistics is scheduled. It is ongoing project and the current status is timely shared at the APN meeting.

Progress of the ICD-10 APN simplified version

At the 8th APN meeting, decision was made to include the WHO Simplified List of Code of Deaths and make the integrated version, as WHO APN ICD-10 Simplified Morbidity and Mortality List. After finalizing, it will be published on the WHO website in 2017. It is now expected to be use not only in the Asia-Pacific region, but also in many other regions around the world.

Current Status of ICD-10 APN Simplified version

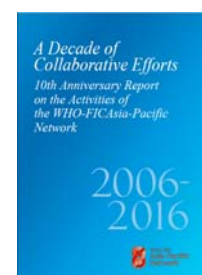
1	Simplified ICD-10 for Primary Care Unit (beta2 version), March 2015
2	Simplified ICD-10 for Hospital (OPD and IPD) (beta3 version), Feb 2016
3	Simplified ICD-10 Morbidity and Mortality List (alpha1 version), Oct 2016
4	ICD-10 Startup index (ICD-10 StI) version 1.1 last update: June 2017

The 9th APN Meeting

On 28th and 29th August, 2017, the 9th APN Meeting was held in Kuala Lumpur, Malaysia, hosted by UKM Medical Center. We had approximately 50 participants from 16 countries, supported by SEARO and WPRO. The current situation in Malaysia, ICD progress, APN activity reports, and reports from nine countries were shared and had an interactive discussion. In conjunction with the APN meeting, Training-of-Trainers Workshop for improving morbidity and mortality statistics was held supported by SEARO. At this event, "The Start-up Index" was introduced and used for the first time.



APN 10th Anniversary Report



Making the great milestone of the 10th year of the WHO-FIC Asia-Pacific Network's founding, the anniversary report was published.

This book records and overviews a decade of activities that APN members have been engaged in, in collaboration with each other, with the shared mission of facilitating the status of ICD implementation in the Asia-Pacific region. The book was distributed at the 9th APN meeting, and will also be available on the APN website in due course.

WHO-FIC Asia-Pacific Network Website
<http://www.whofic-apn.com/>



M É X I C O

Activities developed by the PAHO/RELACSIS Network under South-South Cooperation

16-21 October 2017
Mexico City, Mexico

C110

Authors: RELACSIS Secretariat. P. L. Ruiz; A. Giusti; A. Jiménez and M. Yáñez; O. Araya; N. Torres; B. Ribotta; L. S. Palacio Mejía; S. Weinstein
RELACSIS Secretariat; PAHO, USA; LMG, Argentina; CEMECE-México; INEC-Costa Rica; Secretaría Técnica de Planificación, Paraguay; CIECS, Argentina; INSP-México; MSH, Guatemala

Abstract: This poster presents practices developed for countries under a horizontal cooperation context. It shows coordinating activities between leading and beneficiaries countries from a regional perspective under the framework of the RELACSIS 2015-17 work plan. Also describes the strategy defined and results from different WG and Forums implemented through the network website.

Background

Officially launched in Lima, Peru in April 2010 PAHO/RELACSIS is now implementing its 6th BWP. Promotes horizontal cooperation between countries of the Americas with the support of PAHO, USAID, Leadership, Management and Governance (LMG)/ Project of Management Sciences for Health (MSH), ECLAC, WHO-FIC-CC and NRCs. The overall objective is to contribute to HIS strengthening, dissemination, and use of information by focused on: proposing standards to generate higher-quality, more reliable, and more timely information; developing and sharing practices, lessons learned, and knowledge; promoting the dissemination and use of generated information and knowledge; promoting monitoring and evaluation of the performance of national HIS; strengthening human and financial resources and developing cooperation between countries.

Working Groups (WG)

1. Implementation of an electronic system to codify mortality (led by Mexico).

A road map for disseminating, testing and implementing the MMDS software is now implemented according 13 countries requirements through a PAHO/RELACSIS Forum

<http://www.relacsis.org/index.php/foro?view=category&catid=77>

Mexico is currently defining the migration of MMDS to IRIS and will disseminate by 2018 its experience to apply that software in Spanish Speaking countries of the region that are now applying MMDS.



2. Online courses on ICD-10 coding (led by Argentina and Mexico).

Two first courses were given for tutors through PAHO's virtual campus (150 technical staff members). These tutors replicated a course to 1500 coders from participating countries.

Under the 2015-2016 PAHO/RELACSIS WP ICD-10 updates to 2015 were included in the third and four online courses in ICD-10 for 110 tutors from 11 countries (Aug, 2015); the course were replicated by tutors for more than 330 coders in these countries.

Based on the current course the group is defining a new course for three levels (initial, intermediate and advanced) that will be tested in the second half of 2017 and will be available next year.

An updated ICD 10, 2015 Edition was printed and disseminated free of charges to each Spanish Speaking countries of the Region.

3. Online course for awareness of medical doctors in the adequate registration of the causes of death (led by Uruguay, Argentina and Mexico).

The course is offered through the PAHO's virtual campus (more than 81,000 medical doctors participated from 2014 to 2017).

The data bank of evaluating exercises for the online course is being updated. The course is available in Spanish, English and French and is now being translated to Portuguese.



4. Online course on International Classification of Functioning, Disability and Health (ICF).

The base document has been prepared and is being designed in e-learning format.

Other activities

5. The "Dr. Roberto Becker Forum" <http://www.relacsis.org/index.php/foros-relacsis/foro-becker-fci-oms>

To support countries in the proper use of WHO-FIC emphasizing coding with ICD-10 and to find regional consensus in standard recommendations for consistency and comparability. All tutors and coders trained by PAHO/RELACSIS and coders from different countries can participate in the free Forum. Six consultations were closed during 2017 (1632 visits). Seventeen consultations are still open (3609 visits).

6. Three Forum on Electronic Health Record (EHR) through the PAHO/RELACSIS portal.

The 2015 Forum included six Webinars were selected countries presented their experiences in using EHR. The Forum discuss the conflict in the use of FIC in the EHR.

7. Training and software in deliberate search of maternal deaths (BIRMM as its acronym in Spanish).

Was developed by Mexico for 10 countries (Jul, 2015). It is confirmed to develop a new regional workshop during the second semester of 2017 for new other countries.

8. Coverage estimations in death and birth at the local level

<http://www.relacsis.org/index.php/foros-relacsis/foro-cobertura-y-calidad>
Monitoring health goals and policies not only requires statistics at the national level but also at the sub national level. This Forum seeks to develop practices according different national realities to estimate the coverage of vital events at the lowest levels of disaggregation. Until now, direct and indirect techniques are being tested in countries such as Argentina, Chile, Colombia and Mexico. More than 100 professionals from the region participate in three Forum.

Further information

Website: www.paho.org/relacsis.org

Contacts: secretariado@relacsis.org

Video: What is PAHO/RELACSIS ? (2 min)

<http://www.paho.org/relacsis/index.php/2014-06-13-19-13-11/que-es-relacsis>



RELACSIS
LATIN AMERICAN AND CARIBBEAN
NETWORK FOR THE STRENGTHENING
HEALTH INFORMATION SYSTEMS



M É X I C O

Seven years in making difference to promote the strengthening of the WHO- Family of International Classifications in the region of the Americas

Authors: . P. L. Ruiz; A. Giusti; A. Jimenez; M. Yañez; O. Araya Umaña; N.Torres; L.S.Palacio Mejía; B.Ribotta; G. La Valle; F. Leiva
RELACSIS Secretariat; PAHO, USA; LMG, Argentina; DGIS/CEMECE-CC-FCI-OMS, México; INEC, Costa Rica; STP, Paraguay; INSP, México; CIECS-CONICET, Argentina; LMG, Argentina

16-21 October 2017
Mexico City, Mexico

C111-1



Abstract: This poster will present the roadmaps followed by leading and adherent countries in the development of RELACSIS Network biennial work plans, countries involved as well as the results and products of these activities...

PERIOD	MEETING	2010-11	LIMA & CUERNAVACA	2012-13	QUITO & ANTIGUA
NETWORK MILESTONES		2010. Creation of RELACSIS. Launch of regional training plan		2012. Creation of Network Working Groups (WG)	
WORK AREA		2010. Creation of the network portal		2012. Course on ICD-10 coding 2012. Creation of private discussion groups on the portal 2012. Course on correct completion of death certificates	
ICD-10 CODING 		Regional on-site course on coding of medical information (CMI) ECU BOL PAR PER Leader: MEXICO 15 tutors ECU, 4 tutors BOL, PAR, PER Coders trained Subnational on-site courses on CMI ECU BOL Leader: ECU BOL (with support from MEX) Training for 200 coders and awareness-raising for 200 students and medical professionals		On-site courses for ICD-10 coders HON GUT NIC ELS Leader: MEXICO Training for 25 coders per country Sessions to promote the establishment of national reference centers (NRC) SESSION 1. CHI ECU PAR BOL Leader: MEXICO - OPS CHI/PAN have NRC. Others being SESSION 2. NIC ELS Leader: MEXICO - OPS NIC, ELS tienen su CNR en creación Virtual course for coders of medical information (ICD-10) (WG2) Design of online course by Argentina and Mexico.	
CORRECT COMPLETION OF DEATH CERTIFICATES 				Online course on correct completion of death certificates (WG4). 1. COUNTRIES THAT ACCEPTED Leader: ARG MEX URU Conceptual design and e-learning format, with piloting through the PAHO virtual campus.	
SOFTWARE FOR CODING CAUSE OF DEATH WITH ICD-10 				Implementation of an assisted electronic system for mortality coding ROUND 1. ARG CHI COR GUT PAR URU ECU Leader: MEX Software available in countries and road maps for its use and implementation. Countries implement MMDS in accordance with their particular conditions and requirements.	
INTENTIONAL REVIEW AND RECLASSIFICATION OF MATERNAL DEATHS 					
IBERO-AMERICAN NETWORK OF WHO-FIC COLLABORATING CENTERS WHO 				Creation of network of regional WHO-FIC centers 1. CC and CNR Lead: WHO-FIC COLLABORATING CENTERS (CCs) AND NATIONAL REFERENCE CENTERS (NRCs) Creation of network. Meeting in Mexico in 2011 to ToR and work plan with priority lines of action. Session in Cuba within framework of CRAES 2012. Reaffirmation of importance of moving forward on the work plan.	
FIC TRAINING 					
COVERAGE AND QUALITY OF VITAL STATISTICS 					
ELECTRONIC MEDICAL RECORDS 		Electronic Clinical File. MEX (Colima) Leader: MEX (INSP) Tulane Implementation study			
MEASUREMENT OF INEQUALITY 					
LINKAGES WITH ACADEMIA		Virtual Library on Health Information Systems (BDSIS) MEXICO Leader: MEXICO (INSP) Countries of the region have access to BDSIS through INSP/MEX. Master's in Public Health with emphasis on health information systems. MEXICO Leader: MEXICO (INSP) INSP/MEX offers blended online/face-to-face master's which countries of the region can access. Access through fellowship or institutional financing.			
AWARENESS-RAISING FOR MANAGERS 				Training for "Information-producers." Awareness-raising for managers (WG1) COURSE 1. ECU PAN MEX PER PAR Leader: PARAGUAY Course prepared and delivered to 25 participants and replicated in PAN and MEX. COURSE 2. MEX PAN PAR Leader: PAN MEX (support PAR) Course replicated twice in PAN and some techniques in MEX. Other countries did not replicate	
COMMUNICATION/PRODUCTION PORTAL/NETWORKS/GENERAL PRODUCTION		NETWORK Portal COUNTRIES OF THE REGION Lead: SECRETARIAT Design and of version 1.		COUNTRIES OF THE REGION Lead: SECRETARIAT Maintenance and expansion according to WG needs.	



Seven years in making difference to promote the strengthening of the WHO- Family of International Classifications in the region of the Americas

Authors: P. L. Ruiz; A. Giusti; A. Jimenez; M. Yañez; O. Araya Umaña; N. Torres; L.S. Palacio Mejía; B. Ribotta; G. La Valle; F. Leiva
RELACSIS Secretariat; PAHO, USA; LMG, Argentina; DGIS/CEMECE-CC-FCI-OMS, México; INEC, Costa Rica; STP, Paraguay; INSP, México; CIECS-CONICET, Argentina; LMG, Argentina

16-21 October 2017
Mexico City, Mexico

C111-2



Abstract: This poster will present the roadmaps followed by leading and adherent countries in the development of RELACSIS Network biennial work plans, countries involved as well as the results and products of these activities...

2013-14 MEXICO DF

2014-15 BOGOTA

◆ 2013. Expansion of the network secretariat

◆ 2013. First forum on electronic medical records (EMR) ◆ 2014. First session of the WHO-FIC Network in Spanish

◆ 2014. RELACSIS on social networks

◆ 2013. Countries of the English-speaking Caribbean incorporated into RELACSIS

◆ 15,000+ physicians access course on correct completion of death certificates

◆ 2015. Launch of Dr. Roberto Becker open forum

◆ 2015. Expansion of work areas and groups

◆ 2015. Workshop on intentional review of maternal deaths

Monitoring tutors y coders

ECU Leader: MEXICO

Results: Tutors and coders evaluated y re-trained

COURSE 1. ARG CHI COR ECU ELS GUT MEX NIC PAN PAR PER DOR URU Leader: ARG MEX
Piloting and implementation of the online course for 57 tutors through the PAHO virtual campus (VPHC).

COURSE 2 ARG CHI COR ECU ELS NIC PAN PAR PER DOR URU Leader: ARG MEX + CHI COR ECU ELS NIC PAN PAR PER DOR URU
Tutors replicate course in their countries for 20-25 coders per country through the PAHO virtual campus.

COURSE FOR TUTORS. ARG COL CHI COR ECU ELS MEX NIC PAN PAR PER DOR Leader: ARG MEX
Incorporation of ICD-10 updates up to 2014 into the online course and adaptation of the course. New exercises. Design of course to update 23 tutors trained in courses 1 and 2.

COURSE 3. Countries with MMDS (WG3) ARG CHI COL COR ECU ELS NIC PAN PAR PER DOR URU Leader: ARG MEX
Retraining with updates for 90 tutors and coders for WG3 countries and Bolivia through the PAHO virtual campus (VPHC).

2. ALL COUNTRIES Leader: ARG MEX URU
Course has been visited by countries selected through the PAHO virtual campus.
3. COUNTRIES OF THE ENGLISH-SPEAKING CARIBBEAN Leader: WG4
Course available in English through the PAHO virtual campus.

4. ALL COUNTRIES Leader: ARG MEX URU
Virtual course visited and approved by more than 30,000 health professionals through the PAHO virtual campus.
5. HAITI and FRENCH-SPEAKING COUNTRIES Leader: WG4
Curso disponible a fines del 1er semestre 2015.
6. HAITI and FRENCH-SPEAKING COUNTRIES Leader: WG4
New exercises added to the course exercise base. Proposal to make course compulsory in countries.

(MMDS) (WG3/WG2)

ROUND 2. COL GUT Leader: MEX
Software available in countries and road maps for its use and implementation
Countries implement MMDS in accordance with their particular conditions and requirements.

ROUND 3. PAN, HON, DOR Leader: MEX
Software available in countries and road maps for its use and implementation.
Countries implement MMDS in accordance with their particular conditions and requirements.

Intentional review of maternal deaths (BIRMM) (WG9)

BOL DOR HON ELS CUB NIC GUT ARG ECU PAN PAR PER Leader: MEX
Workshop in Mexico at which the conceptual model, techniques, and software application were presented.

2. CC and CNR Lead: WHO-FIC COLLABORATING CENTERS (CCs) AND NATIONAL REFERENCE CENTERS (NRCs)
3rd meeting in Mexico, 2013. NRC of Barcelona is included. Priorities set and responsibilities assigned.

3. CC and CNR Lead: WHO-FIC COLLABORATING CENTERS (CCs) AND NATIONAL REFERENCE CENTERS (NRCs)
4th Meeting in Chile. IofR, priorities, and management and communication mechanisms approved. Session in Spanish at annual meeting of WHO-FIC Network (Barcelona, 14)
4. COUNTRIES (TUTORS AND CODERS) Lead: WG8
Dr. Roberto Becker Forum is implemented through the RELACSIS portal.
5. CC, CNR, OMS Lead: WG8
ICD-11. Documents and tools translated into Spanish and timetable established for preparation of pilot for 2016.

FIC training program

COUNTRIES OF THE REGION Leader: ARG
Developed in ARG by SNR and CACE.

FORUM on electronic medical records, 2014

ALL COUNTRIES Lead: Secretariat
First FORUM (two months) with participation of members of the network.

Forum on methodology for analysis of health inequalities

ALL COUNTRIES Lead: SECRETARIAT
Forum with presentation of survey results to members of the network and discussions on concepts and methodologies relating to measurement of inequality.

FORUM on electronic medical records, 2015

ALL COUNTRIES Lead: Secretariat
2nd FORUM—6 Webinars (two months)—Presentation of experiences (5 countries and PAHO unit).

MEXICO Leader: MEXICO (INSP)
Countries of the region have access to BDSIS through INSP/MEX.

MEXICO Leader: MEXICO (INSP)
INSP/MEX offers blended online/face-to-face master's which countries of the region can access. Access through fellowship or institutional financing.

COURSE 3. CHI COR ELS PER COL PAN Leader: ARG MEX
Course presented to 25 participants and replicated in COR.
COURSE 4. CHI COR ELS PER COL PAN (support ARG y MEX) Leader: PAN MEX (support PAR)
Tutors replicate online course in their countries for some techniques from the course replicated in DOR. Other countries did not replicate.

COUNTRIES OF THE REGION Lead: SECRETARIAT
Design of institutional image. Redesign of portal. Migration. Maintenance and expansion according to WG needs. Support for dissemination and implementation of forums. Incorporation of SOCIAL NETWORKS.

✉ 1000 Subscribers

COUNTRIES OF THE REGION Lead: SECRETARIAT
Maintenance and expansion according to WG needs. Updating of portal design. Support for dissemination and implementation of forums. Strategic development and growth of SOCIAL NETWORKS.

✉ 3500 Subscribers

🐦 200 followers

👤 200 followers



Seven years in making difference to promote the strengthening of the WHO- Family of International Classifications in the region of the Americas

Authors: . P. L. Ruiz; A. Giusti; A. Jimenez; M. Yañez; O. Araya Umaña; N.Torres; L.S.Palacio Mejía; B.Ribotta; G. La Valle; F. Leiva
RELACSIS Secretariat; PAHO, USA; LMG, Argentina; DGIS/CEMECE-CC-FCI-OMS, México; INEC, Costa Rica; STP, Paraguay; INSP, México; CIECS-CONICET, Argentina; LMG, Argentina

16-21 October 2017
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C111-3



Abstract: This poster will present the roadmaps followed by leading and adherent countries in the development of RELACSIS Network biennial work plans, countries involved as well as the results and products of these activities...



2015-16

2017 MANAGUA

PRODUCTS

Informational materials produced in accordance with the RELACSIS Communications Plan 2017.

<p>◆ 60,000+ physicians trained through course on correct completion of death certificates</p> <p>2016. Third EMR forum</p> <p>2016. Coverage forum</p> <p>◆ 2015. Fifth Meeting of Collaborating Centers. Guatemala</p>	<p>2016. IRIS forum</p>
<p>COURSE 4. ARG-COL-CUB-DOR-ELS-HON-MEX-PER-URU-VEN Leader: ARG MEX Complete course for 66 coders with national tutors and CACE-CEMECE supervision.</p> <p>MORBIDITY COURSE CHILE. Leader: ARG MEX Course with 3 national tutors and CACE-CEMECE supervision for 28 national coders.</p> <p>MORBIDITY COURSE COLOMBIA. Leader: ARG MEX Course with 3 national tutors and CACE-CEMECE supervision for 12 national coders.</p>	<p>IN DEVELOPMENT/GOALS</p> <p>Development, design, and adaptation of three courses on the basis of contents from the current course offered since 2014, for three levels: basic, intermediate, and advanced.</p>
<p>70.000 trained professionals 80% approved</p>	<p>IN DEVELOPMENT/GOALS</p> <p>Adjustment/updates of content. Expansion of exercise base. Make course compulsory. Regional recommendations. Development of course apps for Android and IOS.</p>
<p>BRASIL Leader: WG4 Design of the course in PORTUGUESE</p>	<p>IN DEVELOPMENT/GOALS</p> <p>IRIS FORUM Forum on migration of MMDs to IRIS. Mexico spearheads the process and agrees with countries using MMDs to coordinate the migration process over the next several years, starting in 2018.</p>
<p>ROUND 1, 2, and 3 COUNTRIES Implement road map in accordance with national priorities and needs.</p>	<p>IN DEVELOPMENT/GOALS</p> <p>Preparation of 2nd Regional Workshop</p>
<p>Technical cooperation by MEX in URU financed by the Uruguayan Government. Includes monitoring of MMDs implementation.</p> <p>National workshop in MEX. Internship for BOL in MEX.</p>	<p>IN DEVELOPMENT/GOALS</p> <p>WHO FIC Network Mexico (OCT 2017) Definition of regional table. Redefinition of dynamic for the Becker Forum.</p>
<p>6. CC and CNR Lead: WHO-FIC COLLABORATING CENTERS (CCs) AND NATIONAL REFERENCE CENTERS (NRCs) 5th Meeting in Guatemala. Priority-setting and regional proposal for annual meeting of WHO-FIC Network (Manchester, 15).</p> <p>Dr. Roberto Becker Forum (6 consultations held/17 under discussion)</p> <p>ICD-11 pilot test group</p>	<p>IN DEVELOPMENT/GOALS</p> <p>Development of online course</p>
<p>COUNTRIES OF THE REGION Leader: ARG Design of basic document for converting the training program into an online course using the modality developed for the ICD-10 course.</p>	<p>IN DEVELOPMENT/GOALS</p> <p>Analysis of methodological proposals.</p>
<p>FORUM on coverage and quality. WEBINARS and discussion forum</p>	<p>IN DEVELOPMENT/GOALS</p> <p>Formulation of action plan. Permanent forum</p>
<p>ALL COUNTRIES Lead: Secretariat Development of WEBINARS. National experiences. ARG-MEX-BRA-PER-COL</p>	<p>IN DEVELOPMENT/GOALS</p> <p>Establishment of permanent forum</p>
<p>FORUM on electronic medical records, 2016</p>	<p>IN DEVELOPMENT/GOALS</p> <p>Formulation of action plan. Permanent forum</p>
<p>ALL COUNTRIES Lead: Secretariat 3rd FORUM—5 Webinars (a months)—Presentation of experiences (5 countries)</p>	<p>IN DEVELOPMENT/GOALS</p> <p>Establishment of permanent forum</p>
<p>BLZ-BOL-COR-DOR-ECU-ELS-GUT-HON-NIC-PAN-PER Lead: SECRETARIAT/ OPS Taller de medición de desigualdades. Workshop on measurement of inequality. Methodology transfer, formation of national teams, and development of health situation analysis with inequality focus.</p>	<p>IN DEVELOPMENT/GOALS</p> <p>Establishment of permanent forum</p>
<p>MEXICO Leader: MEXICO (INSP) Countries of the region have access to BDSIS through INSP/MEX.</p>	
<p>MEXICO Leader: MEXICO (INSP) INSP/MEX offers blended online/face-to-face master's which countries of the region can access.</p>	
<p>COUNTRIES OF THE REGION Lead: SECRETARIAT Maintenance and expansion according to WG needs. Incorporation into PAHO programming and server platform. Communication plan.</p>	<p>Biannual report</p> <p>Communication Plan RELACSIS</p>



RELACSIS Background
REGIONAL INITIATIVE FOR HEALTH INFORMATION SYSTEMS STRENGTHENING IN LATIN AMERICA AND THE CARIBBEAN: 2005-2010



Publications
ONLINE COURSE FOR CODERS OF MEDICAL INFORMATION
International Statistical Classification of Diseases and Related Health Problems



Publications
VIRTUAL COURSE ON PROPERLY COMPLETING AND FILING DEATH CERTIFICATES
Spanish / English / French



Publications
ELECTRONIC MEDICAL RECORDS IN LATIN AMERICA AND THE CARIBBEAN
Analysis of current situation and recommendations for the region

VIDEO. WHAT IS RELACSIS?
First in a series of five institutional videos





Ibero-American Forum of Discussions on the Family of International Classifications of the WHO (FCI-OMS) "Dr. Roberto A. Becker "

16-21 October 2017
Mexico City, Mexico

C112

M É X I C O

Authors: Amanda Navarro (CEMECE)

Abstract At the Third Meeting of the Ibero-American Network of Collaborating Centers for the Family of International Classifications of the World Health Organization (CC-FCI-OMS) and National Reference Centers of the Region of the Americas, held in Mexico City in April 2014, it was agreed to create the Ibero-American Forum of Discussions on the Family of International Classifications of the WHO (FCI-OMS) "Dr. Robert A. Becker ", a working group of the Latin American and Caribbean Network for Strengthening Health Information Systems (RELAC SIS), the PAHO cross-country component of the Regional Plan for Strengthening Vital and Health Statistics.

Introduction



In 1998, Dr. Roberto Becker (PAHO Regional Advisor for the Family of International Classifications) created the Latin American Forum of Discussions on the International Classification of Diseases (CIE) and the International Classification Family (FCI) (called the CIE Forum) . This Forum is operated and moderated by Dr. Becker himself, and until 2003 he worked via email.

The objective of the Forum was to exchange discussions on the uses of the classification and codified data, related definitions and concepts and other classifications, in order to reach standard recommendations for the Region.

After the painful death of Dr. Becker, the Forum ceased to function, and it is up to the Third Meeting of the Network of Collaborating Centers for the Family of International Classifications of the World Health Organization (FC Americas, in 2014, where there is a need to continue with the Forum to continue to support the users of the FCI-OMS in the doubts that arise from its use.

Methods & Materials

Forum Operation: 1998-2003.

For information: <http://www.paho.org/relacsis/index.php/foros-relacsis/foro-becker-fci-oms> .

Results

The reactivation of the Forum in 2015 made it possible to discuss topics of interest in various components of the FCI-WHO. The debate, the consensus and the consensus of ideas were encouraged. Around 20 consultations and some comments were made. The topics of the consultations were related to:

Specific coding queries:

- Codification of external causes of injuries and intoxications in morbidity.
- Symptomatic respiratory. What code to assign?
- Codification of rare or orphan diseases
- Coding of arterial hypertension and associated diseases.
- Tumors registered in part II of the Death Certificate.
- Mellitus diabetes.
- Down syndrome and patent foramen ovale.
- Chagas disease associated with complications in other organs.
- Direct obstetric causes of maternal mortality.

Queries related to short tab lists:

Updating of tabulations of causes of death or illness.

Consultations related to other health topics:

Disease burden, Regulation of Euthanasia, Deaths coincident with pregnancy, Accuracy of the stage of puerperal pregnancy cycle in which death occurs, Inclusion of new codes in ICD-10, Fetal death (legal and statistical management), Sexual violence and abortion.

The countries that participated in the discussion and in the debate were: Argentina, Chile, Colombia, Costa Rica, Mexico, Paraguay and Peru. The queries generated several dynamics of discussion and response to the user who raised it. The Collegiate Group integrated and responded to the consultations.



Discusiones Foro Dr. Roberto A.
Becker



Conclusions

Experience at this stage, demonstrated that the dynamics established in 2015-2016; I leave areas of opportunity to improve the Forum by the characteristics of the issues addressed in it.

Objectives of the Forum:

Support countries in the appropriate use of the WHO-FCI, with emphasis on coding for diagnosis of causes of death and disease using the ICD.

To seek consensus on controversial points regarding the codification of causes of death and of ambulatory or hospital morbidity, in order to obtain standard recommendations to improve consistency and comparability in the Statistics of Causes of Death and Sources of Illness.

Support the dissemination of regulations and updates of the Classifications, based on contributions made by the WHO Collaborating Centers for the FCI in Spanish.

Proposed Dynamics:

The Forum will be supported by the FCI-WHO CC of the Region, and CNR, as well as experts for conceptual questions or related to other FCI-WHO classifications.

1. The queries are now made through a form google in the portal RELAC SIS which forces to consign the data of the sender.
2. The queries are stored in an excel database, available to the moderator.
3. If necessary the collegiate group discusses internally in linkedin, and the moderator formulates the answer.
4. The moderator writes the response and sends it to the portal administrator. The writing of the response will be done in a standardized format, defining keywords or labels.
5. The administrator publishes every 15 days the responses on the page, and are also disseminated monthly through the "Dr. Roberto Becker Forum" newsletter by mail to all subscribers.
- 6.- The answers are published in a blog format. Which allows you to sort by tags or categories.

Acknowledgements or Notes

A great recognition to Dr. Becker for his noble and valuable work. This Forum is a tribute to his person and to his great trajectory in the field of health, we will try to follow the example to continue supporting the users of the FCI-OMS.



M É X I C O

DIFFERENT AGENCIES CONTRIBUTE TO THE LAC NETWORK FOR STRENGTHENING HIS (RELACSIS)

16-21 October 2017
Mexico City, Mexico

Authors: S. Weinstein, P. L. Ruiz, A. Giusti
MSH, Guatemala; PAHO, USA; MSH, Argentina

C113

ABSTRACT The Pan American Health Organization (PAHO), governments and academia from throughout the Western Hemisphere, the US Agency for International Development (USAID), the Leadership, Management and Governance (LMG) Project implemented by Management Sciences for Health (MSH) and other agencies (ECLAC and CELADE) leverage expertise and resources for improving health information quality and availability in national health information systems through the RELACSIS Network.

Introduction

PAHO coordinates activities between international agencies, member states and academia in the region to promote the field of Health Information and facilitate peer-peer cooperation in strengthening HIS.



Results

Officially launched in Lima, Peru in April 2010. RELACSIS is now implementing its 6th annual work plan.

A PAHO initiative supported by USAID, the Leadership, Management and Governance (LMG) Project of Management Sciences for Health (MSH), ECLAC, WHO-FIC-Collaborating Centers and National Reference Centers, RELACSIS, the inter-country component of the PAHO's Regional Plan for the Strengthening Vital and Health Statistics (PEVS), promotes horizontal cooperation between countries of the Americas.

The main practices developed by RELACSIS in the 2015-2016 work plan are:

- Online courses on ICD-10 Coding; implementation of an electronic system to codify mortality (MMDS);
- Online course for awareness of medical doctors in the adequate registration of the causes of death;
- 5th meeting of the AMRO and Spanish Network of the WHO-FIC Collaborating Centers and National Reference Center;
- Forum on Electronic Health Record (EHR);
- Forum on Inequities;
- Forum on Vital Statistics Coverage at the local level;
- Forum on IRIS;
- Workshop to disseminate a software and training in deliberate search of maternal deaths (BIRMM);
- Participation in the WHO-FIC Network annual meetings.

Four new working groups were defined for 2016: deliberate search of maternal deaths; VS coverage and adjustments at the local level; harmonization of sources of data and indicators and inequities.

Key Efforts in the Region

USAID www.usaid.gov supported the launch of RELACSIS in 2010 and continues to provide financial support to its ongoing activities. Strengthening health information systems continues to be a priority for USAID in LAC, towards ensuring that countries collect, analyze, disseminate, and use timely and high-quality health information. RELACSIS compliments USAID's bilateral support to HIS Strengthening.

USAID-supported technical assistance and coordination is carried out through PAHO and the Leadership, Management and Governance (LMG) Project led by **Management Sciences for Health (MSH)** www.msh.org. LMG works in over 35 countries around the world to strengthen health systems supporting senior leaders and managers by providing access to reliable and high quality health information systems so they are able to make timely, well-informed decisions. The **LMG Project** has contributed to RELACSIS by actively managing the network and contributing technical expertise in monitoring and evaluation and working with the **Pan-American Health Organization (PAHO)** on issues relating to HIS strengthening.

The **Economic Commission for Latin America and the Caribbean (ECLAC)** www.ecalc.org is a member of the RELACSIS Secretariat.

ECLAC contributes to the economic and social development of Latin America and the Caribbean by coordinating actions directed towards this end, and reinforcing economic relationships among the countries and with the other nations of the world. Established by the Economic and Social Council in 1948, ECLAC is one of the five regional commissions of the United Nations, and is headquartered in Santiago, Chile.

ECLAC cooperates with RELACSIS through both the Statistical Division and the Population Division (CELADE) in the field of improving quality and coverage of MDG indicators and in population estimations, as well as in vital statistics coverage.



In conjunction with country-led efforts, the collaboration between agencies with other donors has contributed to promoting exchange and collaboration among relevant professionals and organizations, as well as among key networks and alliances in the Latin America and Caribbean region. It is expected that this interagency collaboration will improve information and analysis, and will accelerate the reduction of health inequalities in the region.



LEADERSHIP, MANAGEMENT & GOVERNANCE PROJECT
Inspired Leadership. Sound Management. Transparent Governance.



Further information

Website: www.paho.org/relacsis.org
Contacts: secretariado@relacsis.org
Video: What is PAHO/RELACSIS ? (2 min)
<http://www.paho.org/relacsis/index.php/2014-06-13-19-13-11/que-es-relacsis>

DEVELOPING A NETWORK INSIDE A NETWORK: THE LAC EXPERIENCE

Authors: Patricia Ruiz,
Alejandro Giusti
(AMRO);(LMG)



16-21 October 2017
Mexico City, Mexico

C114

Abstract. The AMRO and Spanish Network for the WHO-FIC Collaborating Centers (CCs) for the American Region and the National Reference Centers (NRCs) –IB-PAHO/WHO FIC- was launched in 2011 under the framework of the Latin American and Caribbean Network for the Strengthening HIS (RELACSIS as its acronyms in Spanish). The poster presents activities developed by the network inside the network defined for training purposes in FIC, to promote a collective development of tools for strengthening HIS, to foster the creation of NRCs and establish common criteria among members to participate collectively the WHO-FIC Network and its different Committees.

Activities developed in the context of RELACSIS WP (2015-2016)

The WHO-FIC CC and NRC participated as a group in the last two WHO-FIC Network Annual Meetings in Manchester (2015) and Tokio (2016).



In its 5th meeting, held in Guatemala in May 2016, the IB-PAHO/WHO FIC members updated their situation at the national and international level and defined their 2016-2017 WP.



The most important activities evaluated, revised and updated were:

1. The "Dr. Roberto Becker Forum" under the RELACSIS site.

<http://www.relacsis.org/index.php/foros-relacsis/foro-becker-fci-oms> to support countries in the proper use of WHO-FIC emphasizing coding with ICD-10 and to find regional consensus in standard recommendations for consistency and comparability. The Forum was redefined according recommendations of coordinators and



2. WG developed a road map to implement a pilot in Spanish for the ICD-11.

The network is coordinating activities to translate documents and tools, to identify areas for field studies, to prepare and to test data base platforms and to train pilot's participants.

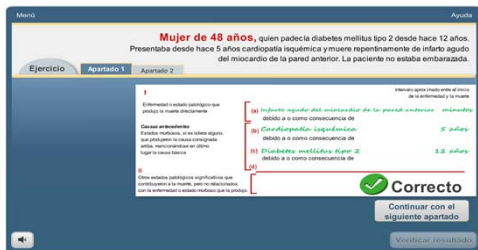
Activities developed in the context of RELACSIS WP (2011-2015)

2. The Coordination of training activities

Tutors training in ICD-10 lead by CEMECE with the collaboration of other CCs and NCR (Nov, 2015); **course in ICD-10 for morbidity** in Chile, lead by CACE (Jul, 2015); **four on line courses for coders in ICD-10** (the last two in 2015 and 2016 including ICD-10 updates for 110 tutors from 11 countries, lead by CACE and CEMECE; these courses were replicated by tutors for more than 330 coders in these countries; **online course for coders in ICD-10 (morbidity)** in Chile and Colombia lead by national tutors and coordinated by CACE and CEMECE; (June, 2016);



an online course for properly filling out the death certificate offered through PAHO's virtual campus attended by more than 60,000 medical doctors in its Spanish, English and French version (2014-2017);



a regional course for tutors in ICF, coordinated by CACE-SNR with the participation of CEMECE (Sep,2015);



a workshop to disseminate a software and training in **deliberate search of maternal deaths** was developed by Mexico for 10 countries (Jul,2015).

Management and communication

IB-WHO FCI will be governed by a **Committee** composed at least two representatives selected among its members and at least one member of the RELACSIS Secretariat.

The PAHO/WHO unit responsible for the topic will assume the role of **Secretariat** to facilitate exchanges among members and countries in the Region. It will be establish **task groups** assigned to priority issues as a part of the annual plan.

The RELACSIS website (www.relacsis.org) will be the way of **communication** through a private site with members access and a public section to use for holding public forums, communications with members, dissemination of documents, and use of other tools that the system provides.



Purpose of the network

Develop an annual work plan that includes training and quality HIS evaluation, promote the collective development of tools to strengthen HIS, foster the creation of NRCs, and establish common criteria among members to participate collectively in the WHO-FIC Network and its different Committees.

Membership

Its members include the WHO CCs in the Region of the Americas and Spain, the existing NRCs in the Region, the responsible Area Chief in the PAHO Regional Office, the RELACSIS Secretariat, as well as other future centers to be created, and other governmental and nongovernmental academic institutions that carry out activities related to WHO-FIC.

Further information

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WHO Collaborating Centres & Networks

C201 – C220

❖ WHO ID	❖ Title	❖ Author(s)
C201	The Argentine WHO-FIC Annual Report from Collaborating Centre (CACE), 2016	Argentine Centre for Classification of Diseases
C202	Australian Collaborating Centre Annual Report 2017	Hargreaves, Macpherson, Katte
C203	Annual Report from the WHO-FIC Collaborating Center in China, 2016-2017	Zhang, Yi Wang, Yipeng Wang
C204	Main activities of the CECUCE in the period 2016-2017	Bess, Martínez, Pérez, López
C205	2016-2017 Activity Report of the French CC	Rondet, Cuenot, Melin
C206	Report from the German Collaborating Centre	DIMDI, ICF Research Branch
C207	WHO CC India- Striving towards its goal	Madhu, Goyal, Sharma,
C208	Italian WHO-FIC CC annual report	Frattura
C209	Activity Report from WHO-FIC CC in Japan	Mori
C210	Collaborating Centre for WHO-FIC in Korea Annual Report 2017	Lim, Jeong, Jung, Kim, Bang, Yoon, Baek, Huh, et al.
C211	Kuwait WHO-FIC Collaborating Center	Alnajjar, Azzam, Alanani
C212	Annual Report from the Mexican WHO-FIC Collaborating Centre (CEMECE)	Jiménez, Yañez, Pérez, Alanis, Vazquez, et. al.
C213	Dutch WHO-FIC Collaborating Centre annual report 2016-2017	Coen, Gool, Napel

WHO Collaborating Centres & Networks

C201 – C220

❖ WHO ID	❖ Title	❖ Author(s)
C214	WHO-FIC Collaborating Centre for North America	Pickett, Denny, Wood
C215	Annual Report from the Nordic WHO- FIC Collaborating Centre	Berg
C216	Russian WHO-FIC Collaborating Centre Annual Report 2016-2017	Cherkasov, Shoshmin, Vaisman, Meshkov, et al.
C217	Barcelona Collaborating Centre (Spain) for WHO-FIC: Annual Report 2017	Estrada, Espallargues, Canela-Soler, Dedeu
C218	UK WHO-FIC Collaborating Centre Annual Report 2017	Bracewell, Glickman
C219	Activities of the Stanford University WHO Collaborating Center	Tu, Nyulas, Tudorache, Musen
C220	Annual Report Venezuelan Center for Disease Classification (CEVECE) May 2016-2017.	Cordero, Villegas, Ortega, Regalado, Moreno, et al.
C221	WHO-FIC Collaborating Centre in South Africa: 2017 Report	Hanmer, Bradshaw

THE ARGENTINE WHO-FIC ANNUAL REPORT FROM COLLABORATING CENTRE (CACE) 2016

16-21 October 2017
Mexico City, Mexico

C201

Argentine Centre for Classification of Diseases (CACE)
Direction of statistics and information in health (DEIS), Ministry of health.
Buenos Aires-Argentina.

Abstract

2016 was the second year of the Argentine Center for Disease Classification (CACE) as a WHO Collaborating Center on International Family of 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 System (RELACSIS) and PAHO/WHO. In addition, CACE was involved in pilot test for ICD 11 implementation. This poster briefly describes the main activities developed by the Centre on 2016

Introduction

DEIS and CACE have developed multiple activities aimed at promoting the use of the family of international classifications both in Argentina and Latin America. 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, research about quality of information and active cooperation with other centers.

Methods & Materials

Activities are grouped into four kind of items:

- Activities related to ICD-11
- Activities involving the implementation of FIC
- Activities regarding the improvement of quality of vital statistics with the use of ICD-10
- Other activities

Results

• Activities related to ICD-11:
During 2016, CACE continued with the joint translations of ICD-11. In november, the center was in charge of the first training session for the staff of encoders of the region WHO participated of the first stage of the pilot test of ICD-11. In addition the CACE contributed with five encoders WHO took part in that test.

• Activities involving the implementation of FIC:
Regarding ICD-10, the center organized several training at national and regional level. At the regional level, the CACE-CEMECE took part in the coordination and tutoring of the virtual regional course for the coding of medical information with the ICD-10, in wich where trained people from

Perú, Venezuela, Colombia, Honduras, Dominican Republic, Cuba, Panama, El Salvador, Mexico and Argentina.

Furthermore, CACE provided thechnical support to Chile and Colombia to enforce the development and supervision of virtual courses regarding codification of morbidity. At the local level, the center continued the training of encoders of the Statistical System of Argentina on the implementation of 2013 edition of ICD-10 in the codification of causes of death.

Regarding ICF, CACE implemented several activities in alliance with National Service of Rehabilitation. These task consisted of local and international training activities wich involved planning and development of teaching material for the virtual instructor course in ICF, as well as the advising and coaching to Costa Rica. The exchange forum was set up on the RELACSIS platform to follow up the work projects of the ICF trainers. Finally, new measurements instruments based on ICF where developed.

•Activities regarding the improvement of quality of vital statistics with the use of ICD-10:
Colaboration with areas of the Ministry of Health in studies on maternal mortality and infant mortality from congenital heart disease, studies aimed and understanding the underreporting of these causes and their structure in Argentina.

Moreover, a workshop was organized with experts on reproductive health in Argentina. There, definitions of maternal mortality were reviewed and at document prepared by CEMECE was discussed, concluding with a proposal that was sent to the collaborating center.

•Other activities:
Participation in the Iberoamerican Forum of Discussions on the Family of International Classification of WHO

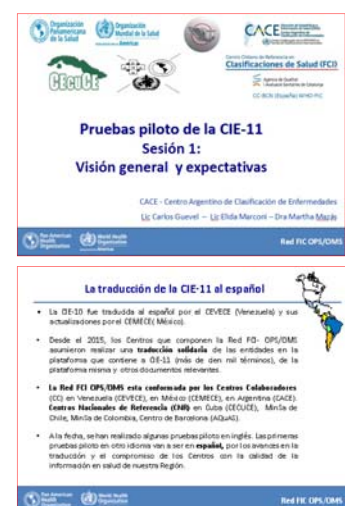
"Dr. Roberto A. Becker". On the other hand, progress has been made in the implementation of the assisted coding system for mortality information.



Development of teachin material for the virtual instructor course in ICF

Conclusions

Should be noted the importance of mantaining and consolidating spaces of exchange, sucha as RELACSIS dat allow equal acces to information and reduce the complexity of implementation tasks of the FIC in health statistic; insofar as they prioritize in a permanent way the articulation among different players.



Training in the first phase of the pilot test with the ICD-11.

Acknowledgements or Notes

CACE wish to espress it grattitude to PAHO, PAHO-ARG and WHO for their continued support and collaboration in the work of the center.



M É X I C O

Australian Collaborating Centre Annual Report 2017

16-21 October 2017
Mexico City, Mexico

C202



Jenny Hargreaves¹, Brooke Macpherson², James Katte²

¹Australian Institute of Health and Welfare and Australian Collaborating Centre, Head

²Australian Institute of Health and Welfare and Australian Collaborating Centre, Secretariat

Abstract

The Australian Institute of Health and Welfare has hosted the WHO-FIC Australian Collaborating Centre (ACC) since 1991. The membership of the ACC is Australian and New Zealand experts and organisations that have an interest and experience in working with classifications. This poster summarises the activities of the ACC that occurred between October 2016 and September 2017.

Introduction

The Australian Institute of Health and Welfare (AIHW) in Canberra, Australia, has hosted the Australian Collaborating Centre (ACC) since April 1991 and is designated until 2018.

The ACC is a collaboration of Australian and New Zealand experts and organisations with an interest in health classifications.

The ACC meets about twice a year enabling dissemination of 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 Centre is Jenny Hargreaves, Senior Executive of the Hospitals, Resourcing and Classifications Group at the AIHW.

This is the annual report of the ACC to the Network and summarises the activities which occurred during the October 2016 to September 2017 period.

This report incorporates information on specific activities of the ACC and its member organisations and experts relevant to the ACC Terms of Reference and the ACC work plan, as agreed with the WHO.

Contributions to WHO and Network Committees

The Head of the ACC served as Co-Chair of the WHO-FIC Network's Advisory Council and of the Update and Revision Committee for ICD. The ACC Secretariat also served as Secretariat of the Family Development Committee.

Other members of the ACC also continue to be actively involved in many of the Network Committee and Reference Groups and in the WHO's advisory groups for the WHO-FIC.

Acknowledgements

Thank you to all of the ACC members and organisations for their invaluable contributions to the ACC work plan activities during 2016-17.

Many of the activities occur through in-kind support from these individuals and their respective organisations.

ICD

Morbidity

The Australian Consortium for Classification Development (ACCD) have completed the development of, education for, and implementation of the Tenth Edition of the Australian Modification of ICD-10 (ICD-10-AM) for admitted patient activity from 1 July 2017. Development of the Eleventh Edition of ICD-10-AM has now begun, for implementation on 1 July 2019.

The Independent Hospital Pricing Authority has also developed an Emergency Department (ED) Principal Diagnosis Short List, using a subset of the ICD-10-AM Tenth Edition, for national reporting of ED data.



mortality purposes. ABS, QUT and AIHW have coordinated the trials and ACCD has contributed work for the WHO on the education materials.

The ACC assisted the Australian Government Department of Health in providing Australian Member State feedback to WHO on ICD-11. The ACC hosted a workshop in April 2017 and involved 30 stakeholders from the ACC and national info groups, where the feedback generated along with input from the Australian Health Classifications Advisory Committee contributed to the feedback provided to WHO in June 2017.

Western Sydney University are undertaking an exercise to create mappings between ICD-11, ICD-10 and ICD-10-AM.

ICF

ACC members have continued to promote the use and integration of ICF nationally and internationally.

This has included: using ICF and related data for parsimonious disability identification; presenting ICF-related lectures at the University of Columbia; hosting ICF workshops; and continued support for ICF education through the integration of ICF in university curriculum designs.

Activities planned for September and October include: provision of ICF education with the Indonesian Physiotherapy Association and conducting an ICF training workshop in the Solomon Islands, commissioned by the WHO Western Pacific Regional Office.

Mortality

The Australian Bureau of Statistics (ABS) and the Queensland University of Technology (QUT) jointly support the Australasian Vital Statistics Interest Group (AVSIG). The ABS was responsible for managing and hosting the AVSIG workshop in Canberra, in November 2016.

ABS and QUT have continued their active involvement in the work of the Brisbane Accord Group, supporting improvements in health information systems in the Pacific.

The ABS has assisted in the Philippines with the Data for Health initiative in a review of the mortality information system and the successful implementation of Iris for auto-coding.

ICD-11

ACC members continue to contribute to the WHO's ICD-11 development work including participation in the ICD-11 MMS Joint Task Force (JTF). James Harrison is the co-chair of the JTF.

The ACC has also been involved in coordinating the WHO's ICD-11 field trials in Australia, for both morbidity and

ICHI

The ACC continues to play a leading role in the development of the International Classification of Health Interventions (ICHI). Richard Madden co-chairs the new ICHI Task Force leading this work.

A content review workshop was held in Sydney in May 2017 and developments from this workshop informed ICHI-related discussions held during the mid-year FDC/ICHI meetings in South Africa in June 2017.

The Australian team has worked closely with the Italian Collaborating Centre in developing the ICHI platform, and used the platform for updating content in preparing the ICHI Beta version.



Annual Report from the WHO-FIC Collaborating Center in China, 2016-2017

16-21 October 2017
Mexico City, Mexico

C203

Authors: Meng Zhang, Yi Wang, and Yipeng Wang
WHO-FIC Collaborating Center, Peking Union Medical College Hospital, Beijing, China
Corresponding to: Yipeng Wang, Email: ypwang@medmail.com.cn, Address: 1 Shuaifuyuan, Dongcheng District, Beijing, 100730, China

Abstract The Collaborating Center for the WHO-FIC in China, hosted by Peking Union Medical College Hospital, Chinese Academy of Medical Sciences, was first designated in 1981, and re-designated in 2014. This poster presents the annual report of the ICD branch of WHO-FIC Collaborating Center in China, highlighting activities related to the implementation, education, and development of ICD in China.

Introduction

The Collaborating Center for the WHO-FIC in China, which falls under Peking Union Medical College Hospital (PUMCH), Chinese Academy of Medical Sciences, was first designated in 1981, and re-designated in February 2014 for the next four years. PUMCH, collaborated with China Rehabilitation Research Center and Center for International Classification Research on Traditional Medicine Clinical Conditions and Service Evaluation, take responsibility for the implementation and promotion of WHO-FIC in China.

Development of ICD-10 Chinese Modification

The ICD-10 Chinese modification, which is called Classification and Codes of Diseases, was developed by the center. It was approved to be national standard (GB/T 14396-2016) in 13th Oct 2016 and implemented from 1st Feb 2017. The center has been working on its update. ICD-10 Chinese Clinical Modification Version 1.1 has been released on 1st Aug 2017. Instructions to the national standard was also published on Jan 2017. The National Hospital Quality Monitoring System will collect data using the updated version of ICD-10 Chinese Clinical Modification. The modification was also used in DRGs for hospital performance assessment.

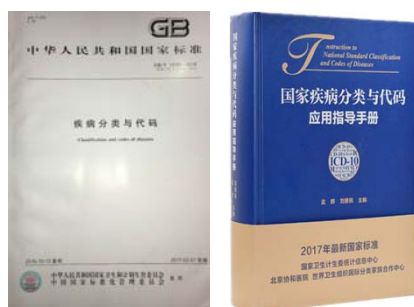


Chart 1. National standard classification and codes of diseases in China (GB/T 14396-2016) and publications on instructions to the standard.

Education and Training Activities on ICD

The center conducted 6 national education programs on ICD in 2016. Each program lasted for 10 days, with 923 attendees from hospitals, colleges, and companies in total.



Chart 2. Training program of ICD-10 in Wuhu, Anhui Province and Liuzhou, Guangzhou Province in China.

The center supported the Skills Competition of Medical Record Information Management in Medical Colleges in China in 2016, with 117 competitors from 14 medical colleges. Lecturers from the center were responsible for the pre-match training of competitors on ICD-10 and ICD-9-CM-3.

The center helped CDC conduct mortality reporting verification in October and November 2016, to spot check the chain of events leading to death and underlying cause of death according to medical records.

Introduction and Line Coding pilot testing of ICD-11

Nenad Kostanjsek from WHO HQ was invited to attend the 25th National Medical Record Management Conference in Zhengzhou, China and introduced the revision background and new features of ICD-11 to more than 400 attendees. An agreement was reached in the conference to initiate ICD-11 MMS line coding pilot testing. The work assignment and training started from Dec 2016. An experienced coder validated the 1st-3rd batch of

pre-coded diagnostic terms, in order to refine the gold standard of code assignment. Six raters participated in the testing, and completed 2376 code assignments of 396 cases with ICD-10 and ICD-11 in Apr 2017.



Chart 3. Nenad Kostanjsek from WHO introduced ICD-11 development and pilot testing on the 25th National Medical Record Management Conference in China, 2016.

Head of the center

Dr Aimin Liu has retired and no longer serves as head of the center. According to the resolution of Management Board of PUMCH, Professor Yipeng Wang succeeds Dr Aimin Liu as director and Dr Yi Wang serves as deputy director, to deal with the affairs of WHO-FIC CC China. Led by the new director, the center will implement the agreed workplan and continuously devote to the maintenance, development, and promotion of WHO-FIC.



Chart 4. Yipeng Wang, head of the WHO-FIC CC in China.

Acknowledgements or Notes

We are grateful for the financial and administrative support of PUMCH and National Health and Family Planning Commission of the People's Republic of China.



M É X I C O

Main activities of the CECUCE in the period 2016-2017

16-21 October 2017
Mexico City, Mexico

C204

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

Abstract The main activities developed by the Cuban Center for Classification of Diseases (CECUCE) during the years 2016 and 2017 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 pilot tests in its different stages, participation in meetings of RELACSIS and the Latin American Network of Collaborating Centers, training in ICD-10 and ICF, among others.

Introduction

The Cuban Center 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 2016-2017 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

- Eighth Meeting of the Latin American and Caribbean Network for Strengthening Information Systems in Health (RELACSIS), held in Nicaragua (2017) where 6 posters about quality of statistical information and use of electronic tools were presented. The Center joined 5 working groups for collaboration with the network.



- Participation in virtual meetings held by PAHO / WHO for the coordination of work in solidarity translation, in the RELACSIS working groups and in the planning of the ICD-11 pilot studies. (2016-2017)

Training

- National Training Workshop on the new program for automated information system and updating national mortality coders issues ICD-10. (Cuba, 2016 y 2017).



- Training of 12 coders in virtual course of the International Classification of Diseases ICD-10 in morbidity and mortality, led by collaborating centers in Mexico and Argentina. (2016).
- Provided a face-to-face course on correct filling of the Medical Certificate of Death for medical personnel. (Havana, 2016).
- Provided on-site training course for mortality coders using ICD-10. (Havana, 2016).
- Provided on-site training course for morbidity coders using ICD-10. (Havana, 2017).
- Training of residents of the specialty of Biostatistics in the codification of mortality and morbidity using ICD-10. (Havana, 2016 y 2017).
- Provided training and updating workshops in Statistical Information Systems of Surgery, Obligatory Declaration Diseases, Stomatology, External Consultation, Activity in Archive and Admissions sections directed to National Subordination Units. (Havana, 2016 y 2017).

Research

- The study is in the preparation phase for field work: "Quality of maternal mortality statistics. Cuba 2014-2015. "(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 chapters: "Traumatisms, poisonings and some other consequences of external causes" and "Diseases of the circulatory system" in conjunction with the Collaborating Centers of Venezuela and Chile. (2015-2017)
- Participation in Phase I and II of the ICD-11 pilot tests, using electronic tools to do this for coding diagnoses using precoordination and post-coordination. (2016-2017)
- Participation in Phase III preparation of the ICD-11 pilot tests for coding major morbidity condition.
- Nationally, participation was promoted in "Virtual course on correct completion of the death certificate," coursing the same doctors and coders (2016-2017)
- Health Statistical Yearbook was compiled and Basic Health Indicators 2016. (2017)
- Training of a specialist in Distance International Course of "Statistics and Indicators of Gender: Introduction (VIII version). (2017)
- Review and update of the Complementary Health Statistics Information System for 2017.



M É X I C O

2016-2017 Activity report of the French CC

Authors: Rondet C.¹, Cuenot M.², Melin N.³¹Inserm-CépiDc, ²EHESP, ³ATIH, France16-21 October 2017
Mexico City, Mexico

C205

Abstract This annual report highlights the activities of the French WHO-FIC Collaborating Center in relation to the different classifications of the WHO-FIC, mainly ICD-10, ICD-11 and ICF, and to the mission of developing them in French. This year has been marked by the re-designation of the Center.

Introduction

In 2017, after 50 years of existence, (first designation in 1967), the French Center has been re-designated (2017-2021) to promote the WHO-FIC classifications in French. The Heads are Claire Rondet (Inserm) and Marie Cuenot (EHESP School of Public Health). Once a year, a steering committee is organized to discuss the ongoing and future work. This poster summarizes the works done in 2016-2017.

ICD-10 related activities

The French Collaborating Center include ATIH for morbidity coding. Work on ICD-10 divided up as follow :

Promotion of the ICD-10 in France:

On April 2016, an updated 2016 French ICD-10 was sent to WHO organization for review.

The Center continues to translate the ICD 10 volume 2 in French.

A reflexion was conducted about the feasibility of an actualisation of volume 3 in French and the French dictionary used for mortality coding was sent to the WHO for implementation.

We diffused Mortality French dictionary to the Paris metropolitan area hospital.

Promotion of the ICD-10 in French speaking countries:

The Center continued helping medical doctor and statistician for mortality coding in Morocco, Algeria and Tunisia. We diffused standardisation tables and mortality French dictionary at Belgium and Luxembourg.

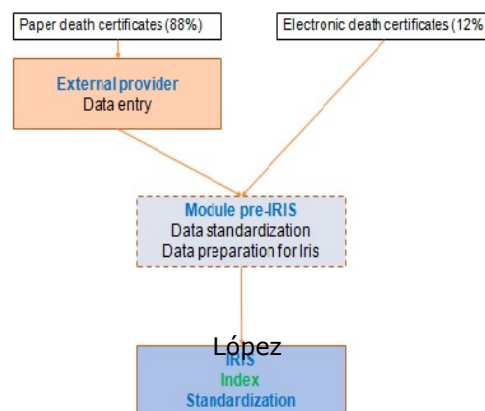
WHO-FIC related activities:

We participated to the evolution of the Muse version of Iris for Mortality coding and began the tests of its implementation in France.

We participated in works and meetings of MRG and table groups.

Improving mortality use of ICD

This activity takes place in the Iris Core Group. The Center works on the development of tools that could help the implementation of the French Index. We particularly work on a standardisation tool and a data preparation tool for IRIS. Here are presented first results of tools tests.



Number of standardization rules added since 2015	335
Iris batch average rate before 2015	45%
Iris batch average rate after 2015	57,5%
Number of dictionary entities before 2015	158241
Number of dictionary entities after 2015	149142

Interval detection	1,4%
Synonymy	2,5%
Expressions standardization	0,2%
Long expressions development	0,6%
Abbreviations	3,1%
Irrelevant terms	4,3%
Additions of separator	0,4%

Tables 1 and 2: Evaluation of standardization's amelioration

ICD-11 related activities

The French CC participated in ongoing ICD11 works:

-Mapping between ICD 11 primary care and ICPC2.

-French translation

-Case mix use case with ICHI

-ICD 11 JLMMS translation in French is ongoing for titles and definitions.

-Workshop were conducted with other French Unit in order to share translations tools.

ICF related activities

Promotion of the ICF in French:

-Courses on the ICF, biopsychosocial model and participation of people with disabilities

-Translation of the ICF Core Sets Manual for Clinical Practice : *Manuel d'utilisation de la CIF en pratique clinique (Batteries de codes CIF)* in relation with the ICF based documentation form <http://www.icf-core-sets.org/fr/page0.php>

WHO-FIC related activities:

Participation in works , meetings and teleconferences of:

- FDRG: ICF updates

- EIC: to prepare a version of the ICF e-learning introductory module in French

- URC: review of ICF updates and translation of newly implemented updates

Conclusions / Acknowledgements

The French WHO Collaborating Center participated in several meetings and teleconferences organized by WHO: EIC, FDRG, MRG, Council teleconferences and meetings.

The ICD revision process is one of the main activities at the moment. The French Collaborating Center participation complies with this organisation. The French Collaborating Center had also translate the ICD-10 volume 1 and began the translation of volume 2.

Publications

Bickenbach et al. (2017). *Manuel d'utilisation de la CIF en pratique clinique*, Cuenot M. & Rémy-Néris O. (ss dir.), adaptation française : Catherine Barral), Rennes: Presses de l'EHESP.

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Report from the German Collaborating Centre

DIMDI and ICF Research Branch
Germany and Switzerland

16-21 October 2017
Mexico City, Mexico

C206



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 2016.

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 2017 DIMDI worked on the adaptation and translation of the minor updates and their implementation into ICD-10-GM 2018 together with requirements from the national annual submission process. Release of ICD-10-GM 2018 is scheduled for the end of September together with the updated Index. Its implementation into health care systems is expected by January 1st 2018. As usual, results from the discussions with national experts were fed back to the URC as well as into the revision process.

A coding training was conducted for Mortality coders from Germany, Austria and Luxemburg. The training was well received and focused again on mortality rules. Another training will be performed right after the annual meeting in Mexico.

ICHI: In 2017 DIMDI involved a new team member into the ICHI work and a medical review of the content is under way. Lessons learnt from the German procedure classification were reported to the ICHI development team and changes proposed.

ICF: DIMDI continued in 2017 with national consultations on the planned updates for ICF. The ICF working group was consulted to discuss the updates for ICF.

Committee work: DIMDI has actively participated in person or via phone in meetings of the Mortality Reference Group (and its Table Group), the Family Development Committee, the URC for ICF purposes, the ITC and other WHO-FIC groups. Stefanie Weber has chaired the ICD-11-Task-Force and will continue to do so.

ClaML: In 2017 DIMDI moved the revision of the ClaML-standard in the respective ISO-Committee forward. It entered its second ballot in September. Results from this process will again be reported to ITC.

ICD-11: DIMDI assisted in the ICD Revision, specifically in the Joint Task Force and the Morbidity TAG. In February 2017 another meeting of the Task Force was hosted at DIMDI which resulted in a considerable amount of decisions and recommendation for the ICD-11. Based on the recommendation of the National Board for Classification in Health Care a working group on ICD-11 was initialized which will comment on content and structure of ICD-11 and prepare the implementation of ICD-11 in Germany. As well the recommendation to the German ministry of health on participation in field trials lead to the initialization of major validation studies performed by experts from the main medical fields. Results will be shared with WHO in late September and will be presented to the ICD-11 Task Force for discussion as well.

In one of the validation studies the functioning items in ICD-11 were tested in the field of the hand surgery using routinely collected clinical data. (See corresponding poster.)

The work of fTAG came to a close at the 2016 WHO-FIC meeting in Tokyo. The Branch will continue to provide the WHO network its expertise in functioning and health information in ongoing ICD-11 work upon request.

Work at the ICF Research Branch

ICF Updates within FDRG: Input on update proposals was given.

ICF eLearning Tool: At the Tokyo meeting, the responsibility for coordinating the finalization of the tool has been transferred to another member of the Branch. Since then, further developments have been agreed upon within EIC and FDRG.

Other Training Activities: The Branch has conducted ICF trainings in Switzerland and Malaysia. Since March 2017, the Branch has also been conducting German-language ICF workshops at Ludwig-Maximilian-University (LMU) Munich. In addition, external training workshops have been carried out in a variety of professional fields in Germany.

ICF Core Set Work: The first version of the ICF Core Set for major trauma has been developed. Furthermore, a version of the ICF Core Set-based Work Rehabilitation Questionnaire WORQ for Germany and a brief version of WORQ are now available at www.myworq.com.

Development and Implementation of Standardized ICF-based Tools:

ICF-INFO has made progress on common metric development. Methodological notes have also been published in the *Eur J Rehabil Med* in a paper series on applying the ICF in rehabilitation, and the corresponding concepts were briefly introduced at the *Metrics and Research Standards for Healthy Ageing working group meeting* at WHO in March 2017. In line with WHO's recent *Rehabilitation 2030* a call for action to scale up rehabilitation, these notes have laid the groundwork for developing ICF-based clinical quality management systems for rehabilitation (CQM-R) in Malaysia, Thailand, Japan and various European countries.

The **Lighthouse Hand project**, a project implementing the ICF Core Sets for hand conditions, is now completed. The project was introduced at WHO's *Rehabilitation 2030* meeting and a paper on the assessment tool ICF Hand_A was published in the *J Hand Surgery (Eur Vol)*. The Hospital Group of the Statutory Accident Insurance decided to use ICF Hand_A in clinical routine.

icfPROreha is a new project to establish an ICF-based prediction algorithm and tool to identify persons with severe musculoskeletal injuries and return-to-work problems in the rehabilitation setting.

International Surveys/Learning Health Systems: Branch members have provided expertise in developing the ICF-based international survey on spinal cord injury (INSCI). Aligned with the Model Disability Survey (MDS), WHO's Global Disability Action Plan and Learning Health Systems, INSCI was showcased in a paper series published in the *Am J Phys Med Rehabil*.

ICF in Education: Support continues to be provided on implementing an ICF-based evaluation tool in the Swiss education system for negotiating the educational plan and eligibility for special services.

Conclusion

With a strong focus on ICD-11 from DIMDI 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. In the next year the work will continue to be focused on finalisation of the ICD-11.



WHO CC India- Striving towards its goal

16-21 October 2017
Mexico City, Mexico

Raikwar Madhu *, Deepak Goyal* and R.K. Sharma*
Central Bureau of Health Intelligence (CBHI), Directorate General of
Health Services, Ministry of Health & Family Welfare, India

C207

ABSTRACT: Central Bureau of Health Intelligence (CBHI), India became WHO collaborating centre on FIC in 2008 with the objective to promote ICD-10 implementation in India. Since then CBHI, WHO CC on FIC, India is working towards to achieve its goal. India being a second most populous nation in the world with varied diversities poses a great challenge in achieving our goal. However, slowly but steadily we are moving towards it. This poster explains our efforts showing our successful endeavor.

Introduction

CBHI, established in **1961**, is the **health intelligence** wing of the Directorate General of Health Services in the Ministry of Health & FW, GOI with the **vision** to have "**A strong Health Management Information System in entire country**". The **Mission** of CBHI is "**To strengthen Health Information system for evidence based decision making in the Health Sector**".

The **Objectives** of CBHI are:

- To Collect, Analyze & disseminate Health Sector related data of the country for evidence based policy decisions, planning and research activities
- To develop Human resource for scientifically maintaining medical records in both Government & private medical institutes in India
- To Carry Out Need Based Operational Research for Efficient implementation of Health Information System & use of Family of International Classifications in India.
- To sensitize & create a pool of Master Trainers in Health sector for implementation of Family of International Classification in India
- To collaborate with National & International Institutes for imparting knowledge & skill development

Methods & Materials

CBHI maintains a regular work plan according to the activities to be performed under each objective to achieve the goals.

To sensitize & create a pool of Master Trainers in Health sector for implementation of Family of International Classification in India as one of the mandate of CBHI and is continuously striving to achieve its objectives. For this, we conduct various trainings and Sensitization work-shops in medical Institutions through our 6 Field survey Units (located at Bangalore, Bhopal, Lucknow, Bhuvneshwar, Jaipur & Patna) and 4 major Training centres (RML Hospital, SJ Hospital, JIPMER, Puducherry and RHSTC, Mohali) situated in different states of India.

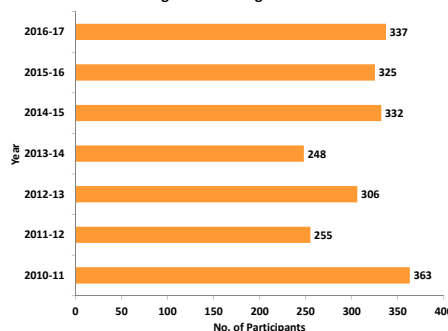
Results

Below is the overall number of doctors and paramedical professionals who had been trained through these training centres.

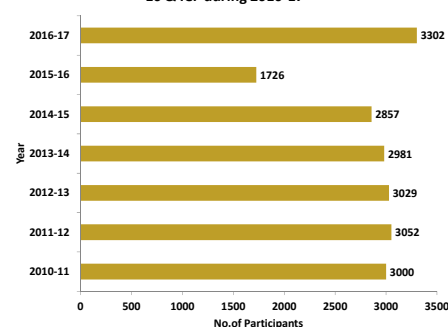
TOTAL NUMBER OF TRAININGS CONDUCTED AND MAN-POWER TRAINED DURING 2010-17

Year	ICD-10 Training		Workshops on ICD-10 & ICF	
	Trainings	Participants	Workshops	Participants
2010-11	21	363	27	3000
2011-12	17	255	29	3052
2012-13	16	306	27	3029
2013-14	16	248	32	2981
2014-15	21	332	30	2857
2015-16	22	325	18	1726
2016-17	21	337	33	3302
Total	134	2166	196	19947

Number of participants attended ICD-10 Training Programme during 2010-17



Number of participants attended workshops on ICD-10 & ICF during 2010-17



- National level refresher training of Trainers successfully conducted in India, at New Delhi on 24-26th August. Which was attended by 135 master trainers from all across the country
- Head of WHO CC, India attended meeting at Manchester with one ICD-10 expert

- Two representatives from CC India attended 9th WHO-FIC APN meeting from 28-29th August, 2017 at UKM Medical Centre, Kuala Lumpur
- With sustained efforts, till now India, CC has created a pool of 427 master trainers on ICD-10
- In 2016-17, 21 trainings on ICD-10 and 33 sensitization workshops conducted wherein 337 were trained on ICD-10 and 3302 candidates were sensitized.

Conclusion

- Through its continuous efforts, CBHI being WHO collaborating Centre for India has Successfully trained medical, paramedical man-power over the period from all across the country.
- Various training like Training of Trainers for medical officers on ICD-10 and ICF, Training for Paramedical personnel on ICD-10 and ICF, Training on medical Record management for Doctors and Paramedical personnel, Training on Hospital management, long term Trainings on medical Record Technician for 6 month and one year training on medical Record officers are the big steps taken by CBHI for ICD-10 implementation in the country.

Notes

The expected outcome of after FIC training is to create a human resource pool for unified coding of the diseases, functioning and disability for comparability both nationally & internationally for which India as WHO collaborating centre is committed for.

It hopes to continue these activities along with more innovative ideas in the period of re-designation with renewed vigour and sure about ICD-10 implementation in the Country in near future



Italian WHO-FIC CC annual report

16-21 October 2017
Mexico City, Mexico

C208

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 activities carried out over the last year (July 2016-July 2017) by the the Italian WHO-FIC CC.

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

Taking into account the new 2015-2019 TORs, a performance monitoring plan was defined to yearly assess the CC's performance. Five main criteria were used: (i) adherence to the relevant lines of work of the WHO-FIC Strategic Work Plan (SWP); (ii) outcomes of the activities; (iii) new partnerships; (iv) communication power; and (v) resource consumption.

Results

In the second year (21 July 2016-21 July 2017), the Italian WHO-FIC CC was active on five lines of work: (i) revision of the International Classification of Diseases (ICD-11); (ii) management of the ICD-10 and ICF update process; (iii) ICHI development; (iv) IT and Ontological developments for WHO-FIC; (v) national work on WHO-FIC. In the last year, Italian CC members served as co-chairs of ITC (until Oct 2016), FDRG (with a change in Oct 2016), MRG, and URC-ICF (from Oct 2016). The Italian Center also provided the URC Secretariat for ICD and ICF and participated in the ICF and ICD update process with two voting members.

The Italian FDRG co-chair also served as member of the SEG (until Oct 2016) and as coordinator of the «Functioning interventions» in the ICHI development process. New contracts were signed to monitor ICF implementation in Italy and abroad, and to support local use of ICD-10 and ICF.

Here some major activities of the Italian CC are introduced. More details can be found in the posters submitted at this meeting (Figure 1).

Table 1: The new TORs 2015-2019

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.

Electronic versions of ICF 2017

The Italian CC prepared the electronic version of ICF revision 2017 in order to update both the printed version and the browser.

For the printed version, the Center generated a ClaML version of the most recent ICF version from the one already maintained by the Centre as a support for the Italian translation. For the browser, a script was developed to convert the ClaML version to a CSV file compatible with the browser database schema, under Can Celik guidance.

meeting, ICD-FiT has been updated mainly on the dashboard, to help ICD-11 reviewers understand the most frequent coding mistakes made by the raters and thus adjusting ICD-11 where needed.

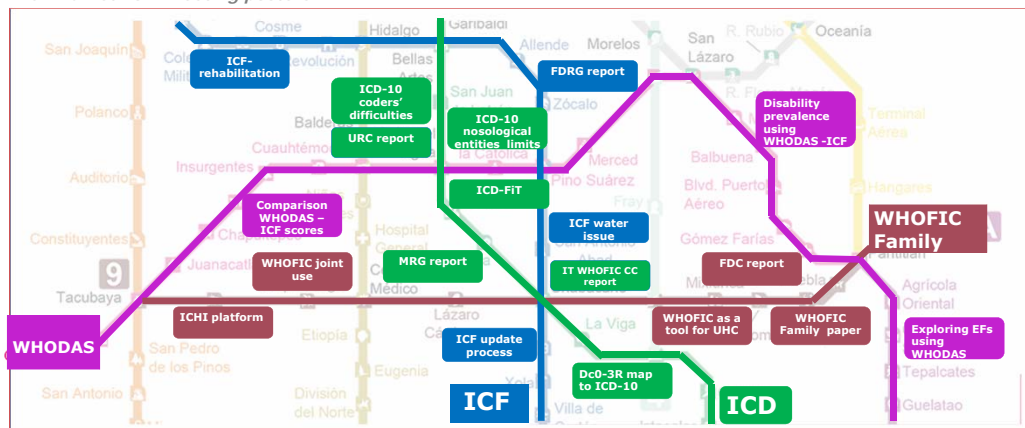
ICD-10 v.2016 Italian translation

The Italian CC will release at the end of 2017 the translation of the three volumes and the online version of ICD-10 v.2016.

ICD-10 Italian modification

The CC is involved in the preparation of the draft of the ICD-10 Italian

Figure 1: The Mexico city Map of some Italian WHO-FIC CC 2016-2017 activities (the stations are the 2017 WHO-FIC Network Meeting posters)



ICHI Platform

The Italian CC also worked on the renovation of the ICHI Platform, with the support and collaboration of the Australian and Chinese CCs. The platform was used at the FDC mid-term meeting (June 2017) for working on the ICHI classification. Up to now, there are 66 registered users, and 1543 comments have been produced for ICHI revision.

ICD-FiT

In order to support ICD-11 field trials, a web-based system (ICD-FiT) was designed and developed according to WHO requirements. Since the Tokyo

modification and in its implementation in regional health information system.

Support to Albania

The CC is also engaged in implementing the ICD-10 electronic version in Albania.

References

Italian WHO-FIC annual report, Udine, Sept 2017

Acknowledgements

1. All activities carried out by the Italian Centre were possible thanks to the deep understanding and funding by Friuli Venezia Giulia Regional Administration, national and other regional institutions and authorities.
2. Agreement between Italian Ministry of Health and Friuli Venezia Giulia Region, 2010-2012; 2013-2016



M É X I C O

Activity Report from WHO-FIC CC in Japan

16-21 October 2017
Mexico City, Mexico

C209

Author: Kei MORI, Head of Collaborating Centre for the WHO-FIC in Japan

Abstract

The Japanese Collaborating Centre mainly reports four events as below, "2016 WHO-FIC Network Annual Meeting and ICD-11 Revision Conference", "the 9th Asia-Pacific Network Meeting", "the 6th ICF Symposium and ICHI.

ICD-11

2016 WHO-FIC Network Annual Meeting and ICD-11 Revision Conference

WHO-FIC Network Annual Meeting and ICD-11 Revision Conference were held in Tokyo last October. The Annual Meeting was held since 2005 in Japan, and the ICD-11 Revision conference was held for the introduction of the major revision of the ICD for the first time in about thirty years, the exchange of the opinions, and so forth.

Noriko Furuya, the State Minister of Health, Labour and Welfare greeted first and gave her speech regarding a foundation of healthy people based on the introduction of significance of the ICD quoted from the G7 Kobe Communique held in last September, and Margaret Chan, the Secretary-General of WHO mentioned to expect the opening of health information in the new era at the joint opening ceremony. These meetings held about three hundred participants from about fifty countries, which were successfully closed with many hopeful voices to the revised ICD in the near future.



2016WHO-FIC Network Annual Meeting and
ICD-11 Revision Conference October 8-14,2016

ICD-10

The 9th Asia-Pacific Network Meeting has been continuously organizing the face-to-face meetings since 2006 and this year marked the 9th under the FIC Annual Meeting. In the 9th meeting, it was highly appreciated for the facts that the ICD-10 APN simplified version has been integrated with ICD-10 SMoL of WHO, then became the official product of WHO as "Startup Mortality List". It will also be published on the WHO website. The list will be used in the African region to introduce and implement the ICD.

ICHI

In 2007, International Classification of Health Interventions (ICHI) development was launched and in 2012 this work was adopted as a WHO project. The aim of ICHI development is to provide a basis for international comparisons of health interventions with a focus on the efficiency, structure and quality of health systems.

ICHI is still under development and now tentative version "ICHI Alpha 2015" is released. WHO-FIC Japan CC joined the ICHI development since 2016 collaborating with Hirokazu Kawase, the Task Force member of ICHI. As the Task Force member, we reviewed the sections of Intervention on the Digestive System, and Interventions on the Haematopoietic and Lymphatic System in ICHI Alpha 2015 and gave the suggestions into the platform. In addition to that review, we made the code-mapping between ICHI and Japanese Health Insurance Federation for Surgery Classification, one of the major classification of health intervention in Japan and calculated the concordance rate in the two sections we reviewed.

We're going to continue making the contribution to ICHI development, such as code-mapping and the field tests of ICHI Beta.

ICF

The 6th ICF Symposium

The 6th ICF Symposium was held as part of the promotion of the ICF as "common language" on various fields regarding health and welfare in this March.

The symposium was successfully done with about two hundred thirty participants. So far the symposium mainly had introduced various concepts and how to use of the ICF, this time we took up the introduction of the case studies and detailed uses on the fields such as nursing care for further promotion of the ICF.

The lecture with concrete case studies by the expert speakers from each field was very easy to understand. Although the possibility of using the ICF was realized, the issues that had to solve to disseminate the ICF widely on various fields were clarified. Especially the panel discussion by the dedicated specialists affected most of the participants with a big stimulus.

We always promote the information regarding the ICF Symposium by editing the report and publishing the webpage on the internet after the symposium.



Speakers of the 6th ICF Symposium:
March 18,2017



M É X I C O

Collaborating Centre for WHO-FIC in Korea

Annual Report 2017

16-21 October 2017
Mexico City, Mexico

C210

Authors: Lim Byung In¹, Jeong Chai Yong¹, Jung Young Cheol¹, Kim Segwon¹, Kim Ki Hyun¹, Bang Min Ho¹, Yoon Hee Won¹, Baek Seryon¹, Huh Bo Young¹, Kim Na-young¹, Ko Eun Jeong¹, Kim Wan Ho², Lee Jong Ran³, Hwang Eunjung⁴, Choi Sookjung⁴, Mun Kyungah⁴, Kim Duckho⁴, Baek Seolkyung⁵
¹Social Security Information Service¹, ²National Rehabilitation Center², ³Korea Institute of Oriental Medicine³, ⁴Health Insurance Review and Assessment Service⁴, ⁵Korean Medical Record Association⁵, Korea

Abstract The Social Security Information Service (SSIS) has been designated as the Korea Collaborating Centre of WHO-FIC in December 2012. The Korean CC reinforces its efforts to increase usability of health information standards by participating in WHO-FIC Classifications and to develop Korean Standard Terminology of Medicine (KOSTOM).

Introduction

The Social Security Information Service (SSIS) has hosted the Korean Collaborating Centre (Korean CC) since December 2012 and was re-designated in December 2016. The Centre takes part in developing WHO-FIC Classifications with 8 newly selected WHO-FIC members for the second term.

The activities of the Korean CC include: (1) development & utilization of WHO-FIC Classifications (2) development and maintenance of KOSTOM.

WHO-FIC Development & Utilization

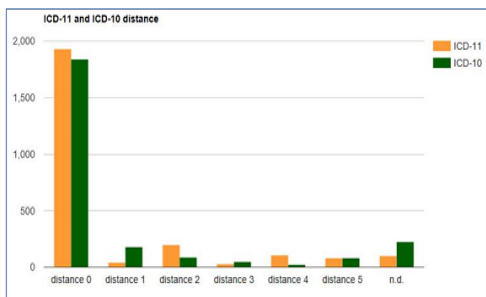
◆ ICD

Korea has been using ICD since 1952. To support the ICD-11 revision of WHO, the Korean CC and Korean Medical Record Association (KMRA) have been carrying out ICD-11 Field Trial projects for two consecutive years.

In 2016, the project aimed to (1) test and review ICD-11 in regard to reliability, accuracy, usability, and interoperability with ICD-10 and (2) provide recommendations through a use of ICD-11 tools and field trial protocols.

The results of the consistency with the gold standard of WHO showed that 96.1% of ICD-11 codes was equal (distance 0) to WHO's gold standard, while 91% of ICD-10 was equal to it.

< ICD-11 and ICD-10 Distances >

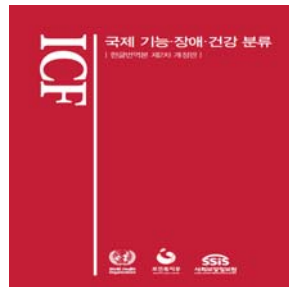


Note: Distance 0 means 'codes are equal to the gold standard', Distance 1~5 mean they are close to the gold standard, and n.d means 'unrelated'

In 2017, the project uses the same method as the previous year. However, this year the project covers not only line coding but also case coding. Also, Korean Traditional Medicine doctors code ICD-11 Traditional Medicine Field.

◆ ICF

The Korean CC published the Korean version of the second revision of ICF in February 2016, and distributed it to relevant medical institutions, universities and Healthcare Information Standard Management System (HINS).



< ICF in Korean (2016) >

The Korean CC plans to translate the e-learning tool into Korean and conduct an ICF Use Case Survey.

In cooperation with National Rehabilitation Center (NRC), the Korean CC is developing a questionnaire and the user guideline based on 7 codes from ICF Generic Set for domestic application.

◆ ICTM

In cooperation with the Korea Institute of Oriental Medicine (KIOM) operating the Korean ICTM Committee, the Korean CC held three official meetings to receive experts' comments regarding the overall ICTM project. Reviews of the ICD-11 TM Chapter contents and comments for an efficient international field trial were collected through the three official ICTM Committee meetings.

Both the Korean CC and KIOM have organized and participated in 14 teleconferences to discuss the preparation for the international field trial of ICD-11 TM Chapter with member countries including China and Japan. Discussions were made on harmonization of the field trial diagnostic terms and specific guidelines for conducting the international field trial. In late August, Korea will attend the ICTM meeting in Japan to compare coding results among member countries.

◆ ICHI-TM

To contribute to the ICHI project, a new Classification of Traditional Medicine Intervention is being developed by the Health Insurance Review and Assessment Service (HIRA) in collaboration with the Society of Korean Medicine (SKOM), using the axes of ICHI and the Korean procedure classification based on national fee schedule.

Development & Management of KOSTOM

◆ Notification of KOSTOM

The Korean CC has been developing and managing Korea Standard Terminology of Medicine (KOSTOM), and the Ministry of Health and Welfare announces KOSTOM Revision Notice every year.

The Health Information Standardization Committee is operating to improve the expertise, completeness, diversity and reliability of KOSTOM. The Committee is comprised of 107 expert members covering 11 areas of healthcare to develop and revise KOSTOM.



< Standardization Committee Meeting >

After considering comments collected from the government, medical associations, experts and users, the Ministry of Health and Welfare notified 280,098 terms and 540 diagnostic diagrams in February 2017.

The Korean CC plans to apply KOSTOM to Health Information Exchange (HIE) standards to facilitate its implementation as well as to foster advancement in KOSTOM by responding to feedbacks from user education, seminars, and other PRs.

◆ Notification of HIE Standards

In January 2017, HIE Standards were notified for the first time to exchange health records and image/video information between health institutions. This induces the use of KOSTOM in standardized templates to enhance semantic interoperability between institutions.

Acknowledgements

The Korean CC would like to gratefully acknowledge WHO-FIC members for the development of the WHO-FIC Classifications.

The centre also would like to thank the Ministry of Health and Welfare, Statistics Korea (KOSTAT), NRC, KIOM, HIRA, Korean Medical Association (KMA), KMRA, and related institutions and specialists for contributing to WHO-FIC activities.

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Kuwait WHO-FIC Collaborating Center



16-21 October 2017
Mexico City, Mexico

C211

Dr. Mijbel Alnajjar, Dr. Suhair Azzam, Budour Alanani

Abstract Kuwait WHO-FIC Collaborating center has fulfilled all the allocated terms of references (TORs) and expected deliverables, as per the schedule developed and agreed upon by WHO and MOH-Kuwait at the time of the WHO-FIC Network Meeting, Tokyo, Japan October 2016. Very important activities were conducted during 2016-2017. These activities and initiatives will pave the way to more strategic activities planned for the next four years after the re-designation of the center in January 2018. The Kuwait WHO-FIC CC will also focus on more capacity building for physicians and coders locally and regionally on the various classifications of the Family of International Classifications.

Introduction

- Under the WHO umbrella and under the supervision of the WHO Eastern Mediterranean Regional Office (EMRO) in Cairo, the Center institutionalized objectives with specific focus on supporting wider and more efficient utilization of ICD, ICF, and the proper certification of causes of deaths, including wider utilization of the new WHO deaths certificate.
- In brief, the Kuwait WHO-FIC CC developed multiple projects in collaboration with WHO- EMRO as follows:
- In 2017 the Arabic translation of ICD-10 according to ICD-10 2016 version, was completed.
- A Physician's Handbook for certification of deaths was developed in both Arabic and English.
- Capacity building for coders in ICD-10 was delivered locally and regionally.
- The Kuwait WHO-FIC CC conducted ICD-11 orientation and Field Testing for 8 EMR countries, namely Egypt, Iraq, Iran, Jordan, Libya, Syria, Tunisia and Saudi Arabia.
- ICF and disability assessment was introduced to disability authorities in the region.
- The Kuwait WHO-FIC CC participated in a WHO/EMRO organized workshop in automated Verbal Autopsy methods.
- The Kuwait WHO-FIC CC participated in a workshop Iris automated coding of deaths.

Activities

- Support was provided to GCC countries on issues related to WHO classifications
- Communications with the public authority of the disabled (PADA) in Kuwait are ongoing, in view of developing a digitalized disability assessment tool as an instrument for the measurement of severity of disability and collection of disability data. The tool will be developed in collaboration with WHO-HQ and WHO-EMRO.
- The center held periodic meetings for coordination and preparation of the ICD 11 field testing
- The center forwarded ICD 10 code updates to the vital and health statistics center in Kuwait.

Training courses and workshops provided by the center

- The center provided local training courses for physicians on ICD 10 compliant certification of deaths in March 2017
- The center provided local training courses for coders on how to code according to ICD 10 guidelines and standards in March 2017
- The center in collaboration with WHO experts: Dr. Nenad Kostanjsek (WHO/HQ) and Dr. Azza Badr (WHO/EMRO) conducted a workshop for ICF orientation and disability assessment to disability authorities in the region, namely public authority of the disabled (PADA) in Kuwait
- The Kuwait WHO-FIC CC conducted a workshop for ICD-11 orientation and field testing for 8 EMR countries, namely Egypt, Iraq, Iran, Jordan, Libya, Syria, Tunisia, and Saudi Arabia in Kuwait City, during July 2017.

The Arabic version of ICD 10 according to ICD 10 2016

- The center updated the 2003 ICD 10 Arabic version to reflect the changes introduced in ICD 10 version 2016
- The center updated the translated 2012 version of volume 2 of icd-10
- The updated translation was reviewed and approved by WHO in August 2017.

The physician's handbook for certification of causes of death

- In 2017, a physician's handbook for certification of deaths was developed in both Arabic and English.
- The handbook includes instructions on:
 - ✓ ICD-10 compliant death certification
 - ✓ ICD-10 coding instructions.
- The manual was reviewed and approved by WHO in August 2017.

Participations

- The center has participated in a capacity building workshop on automated coding of deaths using Iris software in Dubai, Emirates in December, 2016 with the intention of roll out in countries of the EMR
- The Kuwait WHO-FIC CC participated in a WHO/EMRO organized workshop in automated Verbal Autopsy (VA) methods with the intention of roll out in countries of the EMR in Amman, Jordan in April 2017

Quality assessment of cause of death

- Review of the death certificates in major hospitals with substantial number of reported deaths, to assess completeness, consistency, accuracy and the extend of ill-defined causes of death.
- The outcome of the study will further help in improving the overall mortality statistics and causes of death in Kuwait and the lessons learnt and recommendations will be shared with WHO

Future activities

- Application of ICD-11 when approved
- Continue communication with PADA to develop disability assessment tool and start implementation of an ICF program
- Continue participation in the development process of ICD and its tool
- Continuous review and updating of the physician's handbook in certification of cause of death
- Continuous review and updating of the translated Arabic version of 2016 ICD-10
- The center will make several attempts for expanding its presence locally and regionally
- The center will continue holding training courses for doctors and coders locally and regionally on ICD-10 material and causes of death certification
- Contribution in the translation process of ICD-11 to Arabic before its release.

Acknowledgment

Many thanks for Dr. Nenad Kostanjsek WHO/HQ and Dr. Azza M. Badr WHO/EMRO for their efforts. The center also gratefully acknowledges the contributions from Dr. Kasem Sara and wishes to thank the PADA for their efforts and cooperation



Annual Report from the Mexican WHO-FIC Collaborating Centre (CEMECE)

16-21 October 2017
Mexico City, Mexico

C212



M É X I C O

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

Abstract CEMECE is the Collaborating Center of the WHO-FIC in Mexico, 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 Latin America. Some of these duties are traslate updates 2016 of ICD 10 and collaborate with the trials of ICD-11. This poster summarizes their activity taken since 2016 WHO-FIC Annual Meeting in Tokyo.

Introduction

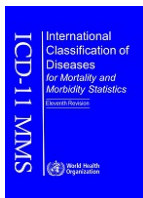
In order to strengthen the use of the Family of International Classifications of WHO, Mexican WHO-FIC-CC it has provided training, dissemination updating ICD-10 and ICF in Mexico to coders, users and decision makers in public health.

Activities

Within Mexico, training has been maintained as a priority activity. This training is mainly aimed at staff working within the areas that are responsible for the generation of health information. During this last year, significant efforts have been made to form new coders and update those who already have experience. This has been addressed both for Mexico and for the countries of the Region of the Americas that have requested support.

Of the courses are the national ones where for ICD-10 the coders were formed in Chiapas and Oaxaca and in Mexico City for personnel of the Ministry of Health and the Bureau of Statistics.

In addition to this, Mexico has participated as as Field Trial Site in ICD-11 test, where it has completed the second phase and have received and gave training from other countries of Latin America in coordination with PAHO.



Regional support includes the August 2017 course, where CEMECE provided training on ICD-10 in Lima, Peru, for mortality coders for statisticians, social security and the Ministry of Health in that country.

In addition, in cooperation with other Collaborating Centers, with the WHO-FIC-CC (CACE) in Argentina, in September 2017, ICD-10 training was provided to coders from Montevideo.

With respect to the ICF, the CEMECE within Mexico trained personnel involved with the issue of disability within the System for Integral Development for the Family (DIF)

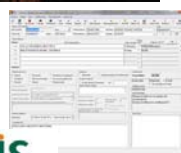


With the support of PAHO, in August 2016 the Mexican WHO-FIC-CC received a one-week course from the IRIS Institute coordinated by DIMDI. The above was with the purpose of making the change of Automated Coding System for Mortality, since it is currently using the MMDS.

Derived from this training, we focused on developing a dictionary with codes of the ICD-10 with the terms used by Mexican physicians, in order that once we have finished this work will be shared with users who speak Spanish to promote an easy and better implementation of this system.

As a result of this training, it was determined that it is very important to have the ICD-10 version 2016, since the IRIS version is based on these updates. Therefore, the CEMECE has dedicated efforts for the translation and adjustment of training material of ICD-10, 2016.

In the first phase, we worked with the Volume 1 and 2 of ICD-10 and we made the comparison between the current and new version.



In October 2016, CEMECE attended the WHO-FIC Network Annual Meeting in Tokyo, Japan. In this meeting, Mexico shown the welcome video to invite all the member to participate in next meeting in Mexico City.



RELACSYS network was created by PAHO/WHO for strengthening health information systems in Latin America and the Caribbean, and CEMECE leads most of the projects and these activities have been carried out with support of PAHO/WHO with the purpose of improve health information in Latin America. In May, 2017 CEMECE attended in Managua, Nicaragua the Meeting of the RELACSYS, where the results were exposed. Mainly, the Work-Group 2, 3, 4 and 9 that are related with ICD-10 Online courses on ICD-10 coding, Implementation of an electronic system to codify mortality, Online course for awareness of medical doctors in the adequate registration of the causes of death, The "Dr. Roberto Becker Forum and Training and software in deliberate search of maternal deaths (BIRMM as its acronym in Spanish).



In international cooperation, through the cooperative funds between Mexico and Uruguay, CEMECE carried out an advisory in Montevideo in April 2017, related to the implementation of the Implementation of an electronic system to codify mortality and of the BIRMM where the statistical staff participated.

Acknowledgements or Notes

All these productive activities were possible with support and advice of PAHO More information:

<http://www.dgis.salud.gob.mx/contenidos/comece/cindex.html>





M É X I C O

Dutch WHO-FIC Collaborating Centre annual report 2016-2017

16-21 October 2017
Mexico City, Mexico

C213

Coen H. van Gool, Huib ten Napel

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

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 2016 to October 2017 in relation to its Strategic Workplan.

Background

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 2013, for the period 2013 – 2017.

Strategic Workplan

With its re-designation in 2013 a new Strategic Workplan was implemented. 2017 marks the last year of this designation period. Re-designation has been applied for.

This poster highlights the activities of the Dutch WHO-FIC CC that took place from October 2016 to October 2017 along the six key activities in the Strategic Workplan 2013 - 2017:

1. Support revision of International Statistical Classification of Diseases and Related Problems (ICD);
2. International Classification of Functioning, Disability and Health (ICF) support, update work, guideline development and linking with ICD-11;
3. Supporting WHO-FIC related education and implementation work;
4. Supporting WHO-FIC related informatics and terminology work;
5. Support the development of other WHO-FIC Classifications, including the International Classification of Health Interventions (ICHI);
6. Coordination and management of national WHO-FIC activities.

1. Support Revision of ICD

One of the centre heads (HtN) serves on the Revision Steering Group, and participated in (teleconference) meetings.

ICD-11 advocacy was started in the domains of government, statistics and health care.



1. Support Revision of ICD (cont'd)

The Dutch CC intensified collaboration with the Dutch Centre of expertise for standardization and eHealth (Nictiz), to prepare for e-health application of ICD-11.

The Dutch CC also participates in the ICD-11 field trials (ICD-FiT) and preparations are underway to translate ICD-11 into Dutch on the WHO ICD-11 translation platform.

2. 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 (CvG) is member of the Initial Review Group (IRG).

Furthermore, the Dutch CC (YH) has been instrumental in formulating update proposals that aim at enriching the environmental factors chapter in the ICF.

The Dutch WHO-FIC CC participated in FDRG (teleconference) meetings. The CC also participates - with Statistics Netherlands - in the Washington Group on Disability Statistics, reporting uniform disability prevalence figures to both the UN and WHO.

3. Support WHO-FIC Education & Implementation

One of the centre heads (HtN) serves as EIC co-chair and prepared and participated in EIC (teleconference) meetings.

3. Support WHO-FIC Education & Implementation (cont'd)

Furthermore, several ICF training courses and workshops were held in the Netherlands and Belgium.

Finally, together with WHO HQ, the Dutch WHO-FIC CC maintains the WHO-FIC Implementation Database, developed by the Dutch CC.

4. Support WHO-FIC Informatics & Terminology

The Dutch WHO-FIC CC is involved in Informatics and Terminology Committee work, e.g. the revision of the ClAML standard (ISO 13120) and the ICF-ontology workgroup

5. Support Development of Other WHO-FIC Classifications

Both centre heads participated in FDC (teleconference) meetings. One of the centre heads (HtN) takes part in the further development of the WHO-Family paper.

One of the centre heads participated in the WHO-FIC Council Small Executive Group (Council SEG).

The Dutch WHO-FIC CC is involved in WICC/WONCA's development of the content-model of ICPC-3, which is planned to include personal factors.

6. (Inter-) National WHO-FIC Activities

The Dutch WHO-FIC CC participates in national and international projects:

- Pilot SNOMED CT to ICD-11 mapping together with SNOMED International and the Dutch Centre of expertise for standardization and eHealth (Nictiz);
- Validation and authorization of a National Coreset for Pediatric Nursing Practice;
- Validation and further development of the ICF Coreset for Co-Morbidity in Primary Health Care/General Practice;
- Consultancy work (HtN, MdK) for the UN: project "Strengthening Disability Statistics in Support of the 2030 Sustainable Development Agenda".



WHO-FIC Collaborating Centre for North America



16-21 October 2017
Mexico City, Mexico

C214

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 final 2015 U.S. mortality data in December 2016 and plans to publish final 2016 U.S. mortality data in the fall of 2017.
- Statistics Canada released 2013 deaths data, including detailed cause, summary list and leading causes of death, in March 2017 and plans to release 2014 deaths data in November 2017 and 2015 deaths data in February 2018.
- 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.

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 continue to serve on the Joint Task Force for ICD-11 as well as the Patient Quality and Safety TAG for the ICD-11 revision process.

Morbidity Data

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

- The U.S. implemented ICD-10-CM and ICD-10-PCS, effective October 1, 2015. ICD-10-CM and ICD-10-PCS files, effective October 1, 2017 (FY 2018), were posted in June 2017. General Equivalence Maps between ICD-10-CM/PCS and ICD-9-CM were posted in August 2017. First published in 2011 and updated annually, the GEMs will no longer be maintained; the FY 2018 GEMs will be the final release.
- Canada's V2015 of the ICD-10-CA and CCI classifications and National Coding Standards are available in pdf at www.cihi.ca in English and French.
- Canada's V2018 of the ICD-10-CA and CCI classifications and National Coding Standards are due for release April 1, 2018.
- In 2015/2016 CIHI conducted a data quality study focused on the quality of inpatient acute care administrative data for specific harm-related clinical groups. NCHS and CIHI participate in mapping activities between WHO-FIC and SNOMED International.

Disability Data

NACC facilitates the implementation and use of ICF in both the U.S. and Canada.

- CIHI conducted a literature review of ICF use by Canadian researchers.

Education, Technical Assistance

NCHS provided higher level learning opportunities for experienced mortality coding staff in the form of Targeted Training modules.

- NCHS provided basic ICD-10 cause of death coding training for new in-house staff.
- Statistics Canada continues to conduct basic ICD-10 multiple causes of death coding training and basic ICD-10 underlying cause of death coding training as required for provincial and in-house mortality classification staff. An ICD multiple causes of death coding course was conducted in April 2017 and an ICD-10 underlying cause of death coding course is planned for early 2018.

Education, Technical Assistance

Plans for basic ICD-10 underlying cause of death coding training have been made for November 2015.

- In fiscal year 2016-2017, CIHI held one new Education web conference to support accurate and consistent code assignment. This is available for download (www.chic.ca). All education is developed and delivered in both English and French. Over 4,600 HIMs accessed coding education products in 2016/17.
- Since 2002, HIMs have posted more than 28,000 coding queries to the CIHI eQuery Service. The most current questions (over 8,400 questions during 2012/13 - 2017/18) are maintained and accessible to all in a searchable database on the CIHI website.

WHO-FIC Network

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

- The Head of the NACC and an additional NACC member serve on the WHO-FIC Network Council and one member serves on the Council Small Executive Group.
- NACC members serve on the Education and Implementation Committee.
- NACC members serve on the Mortality Reference Group (MRG), including as Secretariat, and on the ancillary MRG Table Group.
- NACC members serve on the MBRG, including as one of three chairs.
- NACC members serve on the ICHI TaskForce.
- NACC members serve on the FDRG and the secretariat is now based at McMaster University, Ontario, Canada
- NACC members serve on the Update and Revision Committee (URC)
- NACC co-chairs the Informatics and Terminology Committee (ITC)



Annual Report from the Nordic WHO-FIC Collaborating Centre

16-21 October 2017
Mexico City, Mexico

C215

M É X I C O

Lars Berg

Head of Centre, Nordic WHO-FIC Collaborating Centre, Oslo, Norway

Abstract The Nordic Collaborating Centre for the Family of International Classifications was redesignated by November 1st, 2016 for a new four-year period. The Centre contributes to the work in the WHO-FIC Network with members in all seven Committees and Reference Groups and in the ICD-11 Joint Task Force and the ICHI development.

The Nordic (Norway) WHO-FIC Collaborating Centre

The Centre is funded by the Health Authorities in four of the five Nordic Countries (Denmark, Iceland, Norway and Sweden).

Due to financial reasons Finland finished their collaboration in the Centre by December 31st, 2016. The Nordic collaboration with health statistics continues as usual.

The Nordic Centre was

- established in 1987 hosted by Uppsala University, Uppsala, Sweden
- moved 2009 to Oslo, Norway hosted by the Norwegian Directorate of Health
- is since December 2015 hosted by the Norwegian Directorate of eHealth, Oslo, Norway.

Nordic Centre poster and information 2009-2016

- **2009-2012**, see link to WHO-FIC website, poster C201: <http://apps.who.int/classifications/network/meeting2012/en/>
- **2013**, see link to WHO-FIC website, poster C209: <http://apps.who.int/classifications/network/meeting2013/en/>
- **2014**, see link to WHO-FIC website, poster C211: <http://www.who.int/classifications/network/meeting2014/en/>
- **2015**, see link to WHO-FIC website, poster C215: <http://www.who.int/classifications/network/meeting2015/en/>
- **2016**, see link to WHO-FIC website, poster C215: <http://www.who.int/classifications/network/meeting2016/en/>

Web site and contact

Web site

Web site of the Nordic WHO-FIC Collaborating Centre:
www.nordclass.org

Contact

Lars Berg, Head of Centre
(lars.berg@primnet.se)

Solvejg Bang, Chair of the Board of the Nordic Classification Centre
(SMB@sundhedsdata.dk)



The work during this period

The Nordic Centre work October 2016 to September 2017 is described in this poster. Thirteen Experts from the Centre and from the Nordic Countries participated in the **Annual WHO-FIC Meeting** and the **ICD-11 Revision Conference** in the Tokyo October 2016.

EIC

- Ann-Helene Almborg and Solvejg Bang attended the EIC teleconference in March 2017.
- **EIC small group meeting** in Cape Town, South Africa, participation by Ann-Helene Almborg.
- **The Implementation Database** was updated for the Tokyo Meeting. Nordic reminders sent out August 2017 for next update.

FDC/ICHI

FDC

- Ann-Helene Almborg, Lars Berg and Solvejg Bang attended the FDC Teleconference May 26, 2017.
- Solvejg Bang, Ann-Helene Almborg and Marie Vikdal, participated in the **FDC mid-year meeting in Cape Town**, June 24-25, 2017.

ICHI

- Solvejg Bang, Ann-Helene Almborg and Marie Vikdal, participated in the **ICHI mid-year meeting in Cape Town**, June 26-27, 2017.
- Ann-Helene Almborg is a member of the **ICHI Task Force Group** and **ICHI Development Team**, and its subgroup **ICHI Functioning Technical Group**.
- The Nordic Centre is planning a **pilot mapping** of designated parts of the NCSP+ (NOMESCO Classification of Surgical Procedures, including also national non-surgical procedures) to ICHI.

ITC

- Lars Berg and Ann-Helene Almborg attended the ITC mid-year Teleconference.
- Øyvind Aasve, Norway is a new Nordic Centre voting member in ITC.

URC

- The update of **ICD-10** with Olafr Steinum, Lars Age Johansson and Martti Virtanen as voting members.
- Solvejg Bang, Ann-Helene Almborg, Heidi Anttila and Thomas Maribo participated in the **ICF** updates.

MbRG

MbRG had its first since 2010 in the South-West part of Sweden (Björntorp Castle, Kvänum) 19-21 March 2017. The meeting was organized by the Nordic Centre, by Olafr Steinum (one of the three co-chairs), Ralph Dahlgren and Gunnar Henriksson. Other nordic participants were Solvejg Bang and Øystein Hebnes. The focus was on ICD-11 and the Morbidity parts of the Reference Guide.

MRG

Anne-Gro Pedersen, Norway and Eva Strand, Sweden participated in the MRG/Table Group/IRIS meeting in Raleigh, North Carolina, USA 23-30 March 2017.

FDRG

- The May 2017 FDRG Teleconference was attended by Ann-Helene Almborg.
- Solvejg Bang, Ann-Helene Almborg, Thomas Maribo – and Heidi Anttila from THL, Finland - participated in the **FDRG mid-year meeting in Cape Town**.

ICD-11

Joint Task Force (JTF) meetings

- Teleconferences each month.
- 20-22 February 2017 in Cologne, Germany (participation by Solvejg Bang, Martti Virtanen, Olafr Steinum and Lars Berg).
- 11-14 July 2017 in Geneva, Switzerland (participation by Solvejg Bang, Olafr Steinum, Martti Virtanen and Lars Berg).
- The Nordic Centre participated in WHO the **ICD-11 Line Coding Test** with Olafr Steinum as project leader.

WHO-FIC Advisory Council

- Lars Berg attended the Council Meetings in Tokyo in October 2016 and the three Council Teleconferences during 2017.

Nordic work

Nordic Reference Group for Classifications meet in November 2016.

The Nordic Morbidity Group met in April 2017 and discussed ICD-11 and translation issues.

The Nordic-Baltic Mortality Group met in Riga, Latvia 15-16 May to regional meeting. Invited expert was Patricia Wood from Canada. Lars Age Johansson was responsible and attended the meeting for the last time and is now retired.



M É X I C O

RUSSIAN WHO-FIC COLLABORATING CENTRE ANNUAL REPORT 2016-2017

16-21 October 2017
Mexico City, Mexico

C216

Sergey Cherkasov ^{1,2}, Alexander Shoshmin ^{1,3}, David Vaisman ^{1,2}, Dmitry Meshkov ^{1,2}, Yanina Besstrashnova ^{1,3}, Evgeniya Berseneva ^{1,2}, Ludmila Bezmelnitsyna ^{1,2}, Anna Fedyaeva ^{1,2}, Valeria Oleinikova ^{1,2}

¹ WHO-FIC CC in Russia, ² National Research Public Health Institute after Semashko, ³ Federal Scientific Center of Rehabilitation of the Disabled named after G.A. Albrecht, Russia

Abstract Working groups for ICD (Moscow) and ICF (St.Petersburg) presents their joint report on the activities of WHO-FIC CC in Russia that took place from October 2016 to September 2017.

Support ICD

Preparation of the current version of ICD-10 (2016) in Russian

Currently completed translation and adaptation of all 3 volumes of the ICD-10 (2014-2016) has been accomplished by specialized teams established for each chapter and containing an interpreter of medical literature from English into Russian; a clinician specialized in the chapter-related area and a specialist in medical statistics and coding to achieve semantic identity with the original. The translation was also agreed with and approved by a key specialist in area diseases appointed by Ministry of Health of the Russian Federation (MoH). The final documents have been provided to WHO Headquarters for approval.

Support ICF

Draft version of the ICF-2 in Russian

A draft version of the ICF including all adopted updates and approved by WHO was prepared in Russian and published for the educational purpose.

National Guidelines on Rehabilitation of Persons with Disabilities

The National Guidelines on Rehabilitation of Persons with Disabilities has been prepared for publishing in 2017. They contain a chapter on WHO international classifications and ICF implementation in rehabilitation, ICF-based disability assessment and the most probable rehabilitation measures.

Experts participated in FDRG activities and teleconferences.

Support WHO-FIC Education & Implementation

ICD trainings

A training course and set of teaching materials for medical schools and postgraduate education of doctors of clinical specialties has been developed to support the implementation and proper use of the ICD in the country. Educational Internet portal and a database with certified professionals working with ICD-10 have been created. 6 educational workshops in the regions of the Russian Federation have been performed during 2016-2017 and 200+ specialists trained.

Establishing of ICD supporting centers

The number of statistical specialists and their geographical location requires creation of local support centers in regions supervised by the Russian WHO FIC CC. The first one has been opened in Samara region. Two more centers are planned to be opened in 2017 in Yakutia and Astrakhan regions.

Creation of local guidelines for ICD-10

WHO-FIC CC has already started preparing of National Guidelines in Russian responding to issues and questions revealed during training courses for ICD-10. Department of Monitoring, Analysis and Strategic Development of MoH takes part together with WHO-FIC CC and regional specialists.

Automated coding system for causes of death

Created web-based automated system for death coding is currently undergoing testing in medical institutions of Russia and under support of MoH to improve the reliability of the statistical information necessary for developing of effective healthcare measures achieving WHO goals of sustainable development.

ICF e-Learning Tool Introductory module

Drs Alexander Shoshmin and Yanina Besstrashnova prepared comments for quizzes and were involved into testing of the tool.

Conference 'Disability and Rehabilitation' (November 2016)

The staff of the WHO-FIC CC in Russia took part in organization of the conference 'Disability and Rehabilitation' with participation of international experts in St. Petersburg, Russia. About 200 participants and speakers were officials and professionals from federal and regional authorities, organizations of social protection, healthcare, education, culture and sports, research centres and universities, and NGOs from 12 countries. Among the others, presentations were devoted to activities of the WHO-FIC CC in Russia, cases of implementation ICF in Italy and Russia, and WHODAS assessment tool in Finland.

International conference and summer school on early childhood interventions (June 2017)

Dr Alexander Shoshmin was a member of the Program Committee of the conference and summer school on early childhood development in St. Petersburg, Russia. He presented the role of the ICF in implementing the national Concept on Early Childhood Development and conducted a workshop devoted to the best practices and understanding the ICF by professionals with different background. The target audience was social workers, professionals delivering medical, educational, psychological and social assistance to children and their families, parents and NGOs from 12 countries.

ICF trainings

According to the task by the Ministry of Labour and Social Protection of the Russian Federation trainings for 255 professionals from institutions of medical-social expertise have been conducting for March-November 2017. 80 professionals in medical and social expertise, health and social care, education, and from the Health Insurance Fund were trained ICF basics in Kyrgyzstan (March 2017).

National activities

Creation of the national (re)habilitation guidelines based on the ICF Core Sets for children and youth with cerebral palsy

The next stage of the project (2016-2018) includes feasibility studies on using tools in practice in Voronezh and Smolensk regions, and in Perm.

New criteria on child disability

In 2016 Dr Alexander Shoshmin took part in developing new criteria on child disability that assumed assessment of functions based on the ICF. Pilot projects are in process in Voronezh and Smolensk regions.

Creation of a typical regional program on rehabilitation system development and evaluation of regional rehabilitation system

Pilot projects are in process in Perm Krai and Sverdlovsk region.

Contacts:

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Dr Alexander Shoshmin, shoshminav@mail.ru



Barcelona Collaborating Centre (Spain) for WHO-FIC: Annual Report 2017

16-21 October 2017
Mexico City, Mexico

C217

Maria-Dolors Estrada Sabadell(1,23), Mireia Espallargues Carreras (1,24), Jaume Canela-Soler (2), Toni Dedeu Baraldes (1) on behalf of the CC-BCN (Spain) staff*

(1) Agency for Health Quality and Assessment of Catalonia (AQuAS), Spain

Abstract The initiative to work in the area of the WHO Family International Classification (WHO-FIC Network) was promoted by the Health Department of the Catalan Government (2010). Since then, the CC-BCN (Spain), under designation, has been responding to the requirements of the WHO with the clear objective to become a full Collaborating Centre. The CC-BCN (Spain) is located in the AQuAS and his staff is formed by a group of experts individually or in representation of local and Spanish scientific societies with interest and experience in the field of the FIC. This poster summarizes the activities of the CC-BCN (Spain) of the 2017..

Main activities

1. Governance:

Specific objectives: **a)** to update the personal and affiliation data of the CC-BCN staff (Spain), **b)** confirm their interest in being a member, **c)** identify new companies or entities that can be represented on the staff (all through a survey telephone), **d)** carry out the planned staff meetings (three x year) and **e)** improve group skills in the use of online platforms.

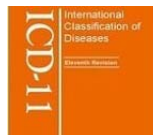


2. Strategic alliances:

Specific objectives: **a)** to keep the Ministry of Health, Social Services and Equality (MSSSI) of Spain and the National Institute of Statistics (INE) informed of the activities carried out, **b)** to promote the participation of CC-BCN staff in Spain, **c)** active participation of the CC-BCN (Spain) on the agenda of the Ibero-FCI Network, RELACSIS and the WHO-FCI Network and **d)** active participation of the CC-BCN (Spain) in state-level congresses in the field of epidemiology and public health and medical documentation.

3. ICD 11 pilot tests:

Specific objectives: **a)** to participate in all the tasks of the pilot tests of morbidity and mortality of the Spanish version of the ICD 11 and **b)** to participate in those that are possible from ICD-11 (English).



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Staff collaborators: Marta Arcas¹, Puri Molina¹⁵, Ona Niqui¹⁸, Magdalena Salom¹⁹, Adelaida González⁷, M José López Cabanas⁷, Mireia Miquel²⁰, Eugènia Sarsanedas²¹, Isaac García²²

¹AQuAS; ²Universitat de Barcelona; ³Institut Guttman; ⁴Servei Català de la Salut; ⁵Hospital Sant Joan de Déu (Barcelona); ⁶Hospital Universitario Virgen de la Victoria (Málaga); ⁷Sociedad Española de Documentación Médica (SEDOM); ⁸International Federation of Health Information Management Associations (IFHIMA); ⁹Hospital Clínic de Barcelona; ¹⁰Fundació Tic Salut; ¹¹Hospital de Bellvitge (Barcelona); ¹²Hospital Vall Hebrón (Barcelona); ¹³Corporació de Salut del Maresme i la Selva; ¹⁴Societat Catalana de Documentació Médica; ¹⁵Departament de Salut (Catalunya); ¹⁶Hospital Universitario Dr. Peset (Valencia); ¹⁷Universal Doctor.com; ¹⁸Estudiante de medicina; ¹⁹Registro mortalidad Illes Balears; ²⁰Hospital del Parc Taulí (Sabadell); ²¹Hospital del Mar (Barcelona); ²²Hospital de Santa Creu i Sant Pau (Barcelona); ²³Consorcio de Investigación Biomédica de Epidemiología y Salud Pública (CIBERESP); ²⁴Red de Investigación en Servicios de Salud en Enfermedades Crónicas (REDISSEC).

Main results

Objectives 1: a-c) response rate of 80%; it was agreed to broaden the staff's profile in terms of disciplines and scope of action (less local and more autonomous and state). To this end, it was considered of interest to participate in the congresses of disciplines such as medical documentation (SEDOM) and epidemiology and public health (SESPAS); **d)** three ordinary meetings were held in 2016 and 2017 were scheduled; **e)** after a training session, the first meeting of 2017 was carried out through an online platform (Webex), although participation was less than usual in face-to-face meetings. Improving this type of skills is crucial to increase the visibility of CC-BCN as it is one of the usual pathways in the WHO-FIC network.



Objective 2: a) b) a fluid communication channel has been established with the MSSSI as well as with the INE, which has made it possible to disseminate documents in Spanish about IRIS, the international automatic Causes of Death through the CC-BCN (Spain) web; **c)** participation in WHO-FIC 2016 (Japan) by Xavier Pastor and presentation of 6 posters of different topics; participation in the RELACSIS 2016 meeting (Guatemala) by Maria-Dolors Estrada as well as activities to promote RELACSIS (focus groups and surveys), update of the implementation database is coming soon; **d)** presentation of an oral communication and a poster in the SEDOM congress (Valencia, Spain - June 2017) by Maria-Dolors Estrada and a poster at the SESPAS congress (Barcelona -September 2017) by Anna Puigdefàbregas.

2017 Challenges

➤ Continue moving forward with the firm goal of becoming full-fledged WHO CC in the field of the WHO-FIC Network.

➤ Consolidate the staff of the CC-BCN (Spain) as well as the network of collaborators and partner with the MSSSI, INE, Red Ibero FCI, Relacsis and WHO-FIC Network.

➤ Continue to participate actively in the pilot tests of the ICD 11. In particular the Spanish version. Focused now on Morbidity. Specifically in studies 3 and 4 after completing studies 1 and 2.



UK WHO-FIC Collaborating Centre Annual Report 2017

16-21 October 2017
Mexico City, Mexico

C218

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

Abstract NHS Digital was designated a UK WHO-FIC Collaborating Centre in Jul-2014. This poster reports on the Collaborating Centre activities that took place since the last WHO-FIC Network meeting in 2016.

Introduction

The Head of the UK WHO-FIC Collaborating Centre served as Co-Chair of the WHO Network Advisory Council and the Council's Small Executive Group. Working closely with our partners at the Office for National Statistics (ONS) NHS Digital ensures the UK contributes to and is represented on WHO-FIC network committees as per our 2014-2018 work plan agreed with the WHO.

Contribute to the development of international classifications and other WHO products

NHS Digital, as the UK WHO-FIC Field Trial Centre, worked closely with the WHO to coordinate trials across England, Wales, Scotland and Northern Ireland. The trials ran from 4 April to 30 June 2017 and the majority of participants worked at NHS Trusts and held coding qualifications. A broad spectrum of practice was represented. NHS Digital produced training materials consisting of an overview of ICD-11, WebEx sessions covering the use of the ICD-11 Browser/Coding Tool and instructions on how to use the ICD-FIT Platform. **Figure 1** summarises participation.

Figure 1

UK ICD-11 Field Trial: activity	
Total number of participants	94
Total who undertook line coding	59
Total completed all line coding	24
Line coding cases assigned to each participant	298
Total line coding cases completed	11,141
Total who undertook case coding	48
Total completed all case coding	44
Case coding cases assigned to each participant	30
Total case coding cases completed	1,384
Participants who undertook line and case coding	44
Participants who completed line and case coding	22
Total number of unique contacts made during trials	188

Figure 2 shows the level of agreement among participants for selected chapters.

Figure 2

ICD-11 Chapter	% accord at 4 char ¹	% accord at 5 and 6 char ²
01 Certain infectious or parasitic diseases	73	98
02 Neoplasms	85	62
04 Diseases of the immune system	88	85
05 Endocrine, nutritional or metabolic diseases	79	94
11 Diseases of the circulatory system	85	89
12 Diseases of the respiratory system	81	93
13 Diseases of the digestive system	94	100
14 Diseases of the skin	66	37
15 Diseases of the musculoskeletal system or connective tissue	93	45
16 Diseases of the genitourinary system	87	75
23 External causes of morbidity or mortality	69	95

Notes

¹% accord at 4 character code with NHS Digital baseline codes

²Where 4 character code correct, % accord at 5 and 6 character with NHS Digital baseline codes

The actions listed below would address many of the reasons for divergent coding:

- Add directives, such as inclusions, exclusions, see also and other aids to the browser
- Ensure directives are at the level required for coding purposes
- Bring the Coding Tool into line with the ICD-10 Alphabetical Index
- Expand the entries in the Coding Tool
- Add cross-references to Coding Tool, e.g. 'Carcinoma - see also Neoplasm, malignant'
- Publish the Reference Guide and training materials
- Complete implementation of post-coordination and resolve any conflicting sequencing guidance between codes

- Provide sequencing guidance for conditions previously coded to dagger and asterisk combinations
- Resolve uneven granularity between and within chapters to meet basic tenet of a standardised classification.

The Browser and Coding Tool were well received subject to suggested improvements. The Field Trial Centre platform was easy to use and has the potential to become a powerful tool if further developed to give a more realistic coding experience. ICD-11 trials were seen as important across the NHS. The feedback from the trials gives a new impetus and urgency to the work already underway to prepare ICD-11 for approval.

Support ICD implementation and updates (morbidity)

In January 2017 NHS Digital launched a new collaboration and information sharing platform called Delen. It has proved very successful with over 20,000 unique users and c. 900 user sessions per day. Delen provides essential information to the clinical coding community and provides us with valuable feedback from the community. Type "Delen" in a search engine to find us.

NHS Digital continues to provide a coding query and wider helpdesk service to the clinical coding community. We have seen a significant reduction in the number of queries received since the launch of Delen. In the first 8 months of 2017 we have received 2041 classifications queries, down from 3285 for the same period in 2016. This represents a reduction of 38%. Although some of this reduction will be due to factors such as the reduced number of training courses being run, we have reason to believe that it is in large part due to Delen making it easier for coders and trainers to find the information they need.

NHS Digital continues to deliver the Clinical Coding Trainer and Auditor Programmes and there are currently 216 Approved Auditors and 118 Approved Trainers.

Contribute to the development and maintenance of ICD-10 (morbidity)

The first formal meeting of the MBRG was held 19-21 March 2017 in Kvänum, Sweden. The groups mandate is to review ICD-11 and promote action where we encounter ambiguity or unworkable concepts or mechanisms. NHS Digital contributed to the following specific topics and several draft documents:

- Main condition
- Medical Record documentation
- Examples in the Reference Guide
- Chapter 24 gaps and inappropriate content
- Quick reference guide for field trials
- X chapter content and extension code use

NHS Digital is a voting member of the Update Reference Committee and submitted 12 ICD-10 requests for change and reviewed/commented on all submissions during the first and second round of voting.

Contribute national expertise to WHO Electronic Tools Development

NHS Digital participated in the Informatics and Terminology Committee (ITC) meeting and continues to be involved in the ClAML-ISO-Standard revision. NHS Digital has also been liaising with UK system suppliers about the ICD-11 API services.

Contribute national expertise for ICD-10 maintenance (mortality)

ONS has continued to participate actively in the annual and mid-year meetings of the MRG, and to advise the UK URC member on proposals relevant to mortality. We raised or contributed to network discussion on several coding issues.

Develop / maintain international English coding dictionary for IRIS coding system (mortality)

Since April 2017, ONS has been a candidate Core Group member of the IRIS Consortium. We have begun a programme of development activities agreed with the group, particularly testing of IRIS-MUSE with a focus on:

- multi-causal tables
- preparation of standard test files of death records
- review and QA of documentation.

We continue to maintain the IRIS English dictionary and have worked this year with Canada, Australia, and Republic of Ireland on dictionary issues. ONS participated in the mortality line coding exercise in 2017. We have begun comparative analysis of historical deaths coded in ICD-10 with the current ICD-11 mapping and shared preliminary results with WHO and others. We took part in a Eurostat Task Force on ICD-11 and worked with experts from several EU countries to produce an assessment of progress from a mortality perspective.

Acknowledgements or Notes

The collaboration between NHS Digital and ONS has enabled the successful fulfilment of the UK WHO-FIC CC work plan for 2016-17.

NHS Digital website: www.digital.nhs.uk
ONS website: <http://www.ons.gov.uk/ons>



M É X I C O

Activities of the Stanford University WHO Collaborating Center

16-21 October 2017
Mexico City, Mexico

C219

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

Abstract The Stanford WHO Collaborating Center (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. Stanford continues to host the iCAT servers through which modifications to the draft ICD-11 are made and to make improvements to iCAT, especially in the area of post-coordination. In addition, we worked with WHO staff to document new informatics features of ICD-11.

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 Center is working on developing a common modeling framework and associated software tools for developing and maintaining WHO classifications. The modeling framework consists of a formal content model 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, 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. In the past year we focused on improvements to the iCAT authoring tool and the documentation of new informatics features of ICD-11. Together with ICD-11 staff, we have prepared two manuscripts that describe (1) the content model and linearization of ICD-11, and (2) the ICD-11 post-coordination model and submitted them to academic medical informatics journal for publication. We expect that, with the upcoming submission of the ICD-11 Morbidity and Mortality Statistics classification to the World Health Assembly next year, there will be a need for explanation the new ICD-11 information structures

Improvements to iCAT

Stanford continues to host the iCAT servers through which modifications to the draft ICD-11 are made and to make improvements to iCAT, especially in the area of post-coordination. This year we upgraded the server infrastructure on which iCAT is running and we extended the ICD-11 Content Model and iCAT to support the use of International Classification of External Causes of Injury (ICECI) to post-coordinate categories in the External Causes chapter of ICD. This involves the addition of a hierarchy of post-coordination axes, such as intent, mechanism of injury, and object or substance producing injury, that parallel the structure of ICECI. In addition, we separated out the 'causing condition' and 'manifestation' axes from the 'associated-with' axis and migrated the existing iCAT content to the new axes.

iCAT ICD Collaborative Authoring Tool

Csongor Nyulas | Sign Out | Options | Send feedback

My iCAT | ICD Content | Category Notes and Discussions | Reviews | Change History | Manage Hierarchy | Export and Import | Classes | Individuals | Scales

ICD Categories

Search: Type search string

- Diseases of the digestive system 4 5422
- Diseases of the skin 10 10200
- Diseases of the musculoskeletal system or connective tissue 7 10200
- Diseases of the genitourinary system 3 4732
- Conditions related to sexual health 3 10204
- Pregnancy, childbirth or the puerperium 3 10208
- Certain conditions originating in the perinatal period 3 1270
- Developmental anomalies 7 10212
- Symptoms, signs or clinical findings, not elsewhere classified 3 10216
- Injury, poisoning or certain other consequences of external causes 3 10220
- External causes of morbidity or mortality 6 10224
- Needing a decision to be made 1 10228
- To be retired - External causes of morbidity and mortality 1 10232
- Unintentional causes 1 10236
- Unintentional transport injury event 1 10240
- Unintentional fall 1 10244
- Unintentional contact with person, animal or plant 1 10248
- Unintentional exposure to weapon 1 10252
- Unintentionally struck by projectile from firearm 1 10256
- Unintentionally struck by projectile from firearm, handgun 1 10260
- Unintentionally struck by projectile from firearm, shotgun 1 10264
- Unintentionally struck by projectile from firearm, machine gun 1 10268
- Unintentionally struck by projectile from other weapon 1 10272
- Unintentionally cut or pierced by sharp weapon 1 10276
- Unintentionally struck by blunt weapon 1 10280
- Unintentional exposure to object, not elsewhere classified 1 10284
- Unintentional immersion, submersion or falling into water 1 10288
- Unintentional threat to breathing 1 10292
- Unintentional exposure to thermal manifestation 1 10296

Parents of Unintentional exposure to weapon

- Unintentional causes
- Selected Cause to All other external causes of morbidity and mortality in infant and child mortality rate

Details for Unintentional exposure to weapon

ICD-10 Linearization | Editorial Information | Post-coordination | Terms | Intent | Mechanism of Injury | Object/Substance | Place of Occurrence | Activity | Substance Use | ICD-10 References | ICD-10 Notes and links

Post-coordination axes

Linearization

ICD-10 Extension Codes	01 Morbidity	04 Research	05 Spec. Lin. Mental Health	06 Spec. Lin. Dermatology	07 Spec. Lin. Musculoskeletal	08 Spec. Lin. Neurology	09 Spec. Lin. Paediatrics	10 Spec. Lin. Occupational Health
0 Extension Codes	01 Morbidity	04 Research	05 Spec. Lin. Mental Health	06 Spec. Lin. Dermatology	07 Spec. Lin. Musculoskeletal	08 Spec. Lin. Neurology	09 Spec. Lin. Paediatrics	10 Spec. Lin. Occupational Health

Violence Descriptor

PERPETRATOR/VICTIM RELATIONSHIP

SEX OF PERPETRATOR

CONTEXT OF ASSAULT

TYPE OF LEGAL INTERVENTION

Mechanism of Injury

Puncturing, stabbing

Scratching, cutting, tearing, severing

Object or Substance Producing Injury

Weapon

iCAT screenshot showing the specification of Unintentional Exposure to Weapon as an ICD category that can be post-coordinated along ICECI axes (e.g., Violence Descriptor) with values constrained to be specific branches of the ICECI hierarchy.

Future Work

In the coming years, the Stanford CC plans to generalize the software components developed for maintaining WHO classifications into toolkits for managing other ontologies and terminologies. As part of this effort, we will also update the content model and software to the latest international standards.



Acknowledgements or Notes

We are grateful for the generous support of Ms. Marilyn Allen and the Council of Colleges of Acupuncture and Oriental Medicine (CCAOM). This work was also funded in part by a contract from WHO.



M É X I C O

Annual Report Venezuelan Center for Disease Classification (CEVECE) May 2016-2017.

16-21 October 2017
Mexico City, Mexico

Authors: Dr. Cordero, C. Lcda. Villegas, L. TSU. Ortega, N. TSU. Regalado, O. TSU. Moreno, S. TSU. Vásquez, J. and TSU. Morales, Y. Director and coders of the Venezuelan Center for Disease Classification. CEVECE. Directorate General of Epidemiology. Directorate of Health Statistics and Information, Ministry of Popular Power for Health; Caracas Venezuela .

C220

Abstract During this period CEVECE continues its training activities in the family of the international classification of diseases, with emphasis on the courses and updates of ICD-10, also with the centers that make up the Latin American Network of Collaborating Centers in the joint translation of ICD-11, creation of didactic materials, as well as the preparations for the pilot tests and their implementation; Keeping our advice activities on information systems and health statistics to all our users.

Introduction

The Venezuelan Center for Disease Classification (CEVECE) was created as a collaborating center in July 1955 and in May of 2016 was resigned, the objective of the present is to share a summary of the activities carried out by the center during its period 2016-2017, achievements and lessons learned.

Methods & Materials

1. Review of the International Classification of Diseases (ICD-11) Active participation in the translation and validation of the Spanish version of ICD-11 in conjunction with other centers in the network of collaborating centers in the Americas. Through the PAHO, two tutorials on the use of the platform and terminology, translation of the final questionnaire of the pilot tests and the development of the ICD-11 pilot test are developed and socialized with other networks of collaborating centers.

3. Coordination and management of the national activities of WHO-FIC? In order to evaluate the mechanisms to accelerate the loading of data to our health information system (SIS) MPPS, an interface called SIS-YEARBOOK is created, to be created performs a review of Becker's list in the system by CEVECE and coordination of mortality.

✓For the purposes of the preparation and publication of the 2013 Mortality Yearbook, two new lists were added: mortality in indigenous population by age and mortality in indigenous peoples by federative entity of residence, with the objective of providing quality inputs in order to pay off the debt in the construction of health indicators for our indigenous population, this interface is currently used for the preparation of a 2014 mortality yearbook, as well as elaboration of (1) Courses ICD-MM (2), Course ICD-O (1) Certification course (1) Courses offered: courses of morbidity (1) (4), as well as a course (1) for the training of trainers in CIF.

✓The #coditips are maintained, with material allusive to the FCI, which through the twitter platform are periodically tweeted through the account: @CIE_10_VE.

✓Regarding our participation in the Forum Dr. Becker we are part of a collegial group of consultants that involve three centers: CACE, CEMECE and CEVECE, to provide continuous advice to our users

✓Collaboration in consultation of terms by the committee FDRG

✓CEVECE is part of the Latin American network of collaborating centers RELACIS, so our terms are linked to the development of practices disseminated through this network,

✓We are part of working groups GT2 (Coding Courses ICD-10), GT3 (ICD-10 automated coding implementation), GT8 (Course of the correct medical certification of the death), GT11 (Network of Collaborating Centers) as well as the discussion forum Dr Becker.

✓We have held discussions with the Argentine Classification Center (CACE) with the intention of unifying the CIF courses of both centers and offering a unified course for our users.



Chart 3: CEVECE encoders

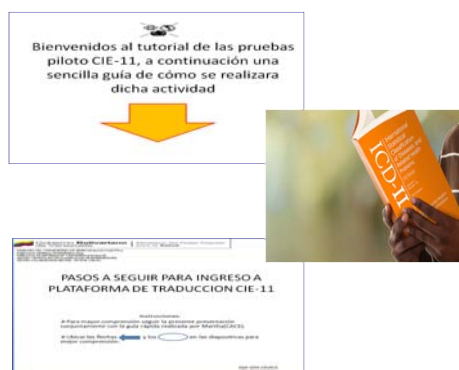


Chart 1: CEVECE developed and socialized with collaborating centers tutorials for ICD-11 pilot tests.



Chart 2: CEVECE Encoders

2. Promote the implementation of the WHO FIC in the PAHO region: Promote the use of the WHO-FIC through conversations and dissemination in social networks via twitter, as well as sending CIF course material to CACE for the unification and creation of a single course in CIF.

4. Strengthening of the WHO-FIC Venezolana Network and Contribution to the Activities of the WHO FIC -Network.

✓Virtual participation, in the education and implementation committee of FCI with the registration, in its platform, of course for CIF, in Spanish language, dictated by CEVECE.

✓Collaboration with a query group of doubts in WHO-FIC mortality coding.

Conclusions

- ✓Encoders with continuous updates that guarantee the quality of the data.
- ✓Promote and share experiences in the network through RELACIS optimizing CC performance
- ✓Commitment and dedication to strengthen CC's actions

Acknowledgements or Notes

Corresponding author on the original Dr. Cordero, C., Magister in Epidemiology (UDO) and Demographer. (UCAB).



WHO-FIC Collaborating Centre in South Africa: 2017 Report

16-21 October 2017
Mexico City, Mexico

C221

Lyn Hanmer¹, Debbie Bradshaw¹

¹South African Medical Research Council (SAMRC) and WHO-FIC Collaborating Centre in South Africa

M É X I C O

Abstract Colleagues associated with the WHO-FIC collaborating centre in South Africa (WHO-FIC SA) 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 and ICF in Southern Africa; and in support of strengthening civil registration and vital statistics (CRVS) in WHO-AFRO. WHO-FIC SA hosted mid-year meetings of the FDC, the ICHI development group and ICHI Task Force, and the FDRG in June 2017. The second ICF Education Symposium in Cape Town attracted approximately 150 participants.

Introduction

As the only WHO-FIC collaborating centre in the African region, the WHO-FIC collaborating centre in South Africa (WHO-FIC SA) supports the development, implementation and maintenance of the WHO-FIC across the region, and through the WHO-FIC network. Due to limited resources, activities beyond South Africa have been restricted. Improved cooperation with WHO-AFRO provides opportunities for strengthening virtual networks of WHO-FIC stakeholders in the region.

WHO-FIC SA stakeholders continue to participate in activities related to ICD, ICF and ICHI as WHO-FIC reference classifications.

Support for ICD-10 implementation & ICD-11 development

The ongoing implementation and maintenance of ICD-10 for mortality and morbidity coding remain a core focus of WHO-FIC SA. Inputs to the development of ICD-11 are essential to ensure that the classification meets regional needs.

ICHI for Africa?: Contributions to ICHI development

WHO-FIC SA contributes to the development of ICHI through participation in the FDC, the ICHI development group, and the WHO ICHI Task Force.

The planned availability of an ICHI beta version before the end of 2017 has elicited interest among South African stakeholders in testing ICHI as a potential procedure coding standard.

The hosting of ICHI and FDC meetings in South Africa in June 2017 (see Figure 1) provided the opportunity for local stakeholder participation.



Figure 1: Participants in FDC and ICHI mid-year meetings, Stellenbosch, South Africa, June 2017

ICF-related activities in South and Southern Africa

Colleagues in universities and other organisations continue to undertake education, research and service activities using ICF. The range of activities is reflected in the summary below, which was presented to the 2017 mid-year meeting of the FDRG.

The interest in ICF in South Africa is reflected in the participation in the FDRG meeting by South African and other African colleagues. The ICF Education Symposium attracted approximately 150 participants, with locally-based therapists, other clinical personnel and researchers in the overwhelming majority (see Figure 3).



WHO-FIC network mid-year meetings, June 2017

WHO-FIC SA successfully hosted mid-year meetings of the FDC, the ICHI Development Group and the ICHI Task Force, and the FDRG. A working meeting of the mICF project was held in parallel with the mid-year meetings.

Significant support was provided by Stellenbosch University (through Dr Stefanus Snyman), with the meeting venue providing a very supportive environment for the meetings.

The ICF Education Symposium held on 30 June 2017 (see Figure 3) was co-hosted by the SAMRC, the Western Cape provincial Department of Health, Stellenbosch University and the University of Cape Town.

WHO-FIC SA needs to build on the momentum and relationships generated by these activities.



Figure 2: Participants in FDRG and mICF mid-year meetings, Stellenbosch, South Africa, June 2017

WHO-FIC SA and WHO-AFRO joint activities

WHO-FIC SA, supported by SAMRC, has worked with Dr Hongyi Xu of WHO-AFRO to support the activities of WHO-AFRO for strengthening civil registration and vital statistics (CRVS) systems in the African region, with a focus on cause of death coding using ICD.

Joint posters submitted for the WHO-FIC 2017 annual meeting (see below) reflect a wide range of initiatives in multiple African countries, aimed at monitoring planning for and reporting on progress towards achievement of Universal Health Coverage (UHC;SDG target 3.8), and related SDG goals.

A current focus of WHO-FIC SA activities is on the development and maintenance of a virtual network of WHO-FIC stakeholders in the WHO African region. The establishment of a database of WHO-FIC educational resources in the region, including human resources, is also planned.



Acknowledgements

The input and support of numerous colleagues for WHO-FIC and WHO-FIC SA are gratefully acknowledged.

The South African Medical Research Council (SAMRC) provides baseline support for the activities of WHO-FIC SA at the SAMRC. SAMRC also provided part sponsorship for the ICF Education Symposium.



Figure 3: Attendees of the Second ICF Education Symposium, Cape Town, South Africa, 30 June 2017

ICD-11 C301 – C316

❖ WHO ID	❖ Title	❖ Author(s)
C301	The collaborative work in the Region of the Americas in the 11th revision of ICD	Gawryszewski, Hernandez, Palacios, et al.
C302	Virtual training: a case of success within the framework of pilot testing of the Spanish version of the 2016 ICD-11 on Morbidity	Marconi, Martínez, et al.
C303	ICD-11 Field Testing: Australian Experiences	Macpherson, James, et al.
C304	Phase 2 Morbidity Field Testing of ICD-11 MMS in Australia	Macpherson, Katte, Hargreaves
C305	Pilot testing ICD-11: Reasons for disagreement in code allocation using the results from two field trial centres	Steinum, Macpherson, Boreklev, Katte , et al.
C306	ICD-11 Field Trials A Canadian Perspective on Post-Coordination	Cullen, Speckeen, Wang, Henderson
C307	ICD-11 Field Trials in the English-speaking Caribbean	Hinds, Quesnel-Crooks, Martin
C308	Field Test of ICD-11 in Japan	Mizushima, Ogata, et al.
C309	Pre-test for developing model of ICD-11 field trial in Korea	Hwang, Kang, Kim, et.al
C310	2017 ICD-11 MMS Field Trial in Korea	Baek, Hong, Boo, Ham, et al.
C311	ICDfit: current status	Donada, Kostanjaek, et al.
C312	Training and Coding Using the WHO's Beta Version of ICD-11	Eastwood, Southern, Peng, Quan
C313	Study on ICD code for the specified intractable disease in Japan	Mizushima, Ikegawa, Ogata, Sato, Mori

ICD-11 C301 – C316

❖ WHO ID	❖ Title	❖ Author(s)
C314	Mapping ICD-10-AM map to ICD-11 Using Flat-file Maps	Smith, Ginige, Tran, O'Donnell, Boulamatsis
C315	Self-assessment on ICD needs and Transition requirements in the Region of the Americas	Gawryszewski, Soliz, D'Agostino, Cosio, et al.
C316	ICD-11 Practice of working in community of collaborating centers	Cordero, Villegas, Ortega, Morales, et al.



The collaborative work in the Region of the Americas in the 11th revision of ICD

16-21 October 2017
Mexico City, Mexico

C301

Authors: PAHO/WHO (1); WHO-FIC Collaborating Center in Mexico (CEMECE) (2); PAHO/WHO-FIC Collaborating Center in Argentina (CACE) (3); PAHO/WHO-FIC Collaborating Center in Venezuela (CEVECE) (4); Cuban Center for the Classification of Diseases (CECUCE) (5); National Reference Center in Chile (6); Barcelona Collaborating Centre (CC-BCN, Spain) (7); Ministerio de Salud de Colombia (8); World Health Organization (9)

M É X I C O

(1) Vilma Gawryszewski (2) Manuel Yañez Hernandez; Luis Manuel Torres Palacios; Bertha Vázquez; Amanda G. Navarro Robles; Rodolfo Alanís Fuenres; Carlos Andrade López. (3) Martha Mazás; Adriana Orellano; Karina Reviról; Érida Marconi; María Laura Martínez. (4) Cruz Cordero. (5) Miguel Ángel Martínez Morales; Sonia Bess Constantén. (6) Daily Piedra; Eugenia Guerra Marchant. (7) María-Dolores Estrada Sabadell; Adelaida González Gómez; María José López Cabanas; Mireia Miquel; Purificación Molina Puyo; Anna Puigdefàbregas Serra. (8) Víctor Hugo Álvarez Castaño. (9) Nenad Kostanjsek.

Abstract

This poster shares the experience of the collaborative work of PAHO/WHO and the Collaborating Centers (CC) and National Reference Centers (NRC) for the WHO-FIC in the Americas and in Barcelona (PAHO/WHO-FIC network) regarding the ICD-11 revision. Since 2015, many activities and accomplishments have been taking place in the Region with a growing interest from the countries to participate. The well-succeeded collaborative translation of the ICD-11 Beta draft into Spanish was a crucial factor to allow countries to carry out the first pilot test in a language other than English in Argentina, Chile, Colombia, Cuba, Mexico, Venezuela and Barcelona. All translation into Spanish was performed by the CCs and CNRs *ad honorem*. Regarding the English speaking countries, in the 2016 phase of the ICD-11 pilot testing, almost half of the globally participants countries (7 out of 15) were from the Caribbean: Barbados, Dominica, Jamaica, St. Lucia, St. Vincent & the Grenadines, The Bahamas, and Trinidad & Tobago. Despite of the distance and time zone differences, through regular virtual sessions this experience has contributed to enabling teamwork, sharing of knowledge and strengthening the commitment of the Region to count on high-quality health data to improve the health of the population.

Introduction

The Region of the Americas is taking an active part in a historic moment, the final revision of the ICD.

For the first time, the countries of the Region of the Americas have been able to contribute their experience at an early stage in the revision of the International Statistical Classification of Diseases and Related Health Problems (ICD).

Since 2015, the Collaborating Centers (CCs) for the WHO-FIC in Venezuela (CEVECE), Mexico (CEMECE) and Argentina (CACE), and the National Reference Centers (CNRs) in Cuba (CECUCE) (under designation), Chile and Colombia, and the Collaborating Center in Barcelona (CC-BCN) (under designation) that formed the **PAHO/WHO-FIC Network** has started a collaborative work to contribute to the ICD-11 revision and pilot testing.

The work with the English speaking countries has been done in collaboration with the Caribbean Public Health Agency and the Ministry of Health Jamaica.

Methods & Materials

This process is coordinated by PAHO through **regular virtual meetings** to follow up the progress of the activities, exchange experiences, discuss technical documents and be update with the global advances and plan. Three main activities carried were below.

1) Translation of the ICD-11 into Spanish. The CCs and CNRs assigned volunteer experts to translate each chapter. They have worked simultaneously and directly from the platform.

Methods & Materials

2) Development of technical materials for training, standardization of the translation of specific terms, and share experiences and preparations for the dissemination and implementation of the ICD-11.

3) Training for participants: to standardize concepts and methodology a first virtual training were hold for all participants. Then the Site Coordinator hold another training for each team.

4) Participation in the field testing in Spanish and English.

Results

The **collaborative translation** of the ICD-11 Beta draft allowed the Spanish-speaking countries carrying out the first pilot test in a language other than English, working with other colleagues in different countries and continent and familiarizing their team with the new classification.

Participants said they found the task gratifying and that continuous communication was key for these achievements.

Feedback on the new Classification has been continuously providing.

In the two phases of pilot testing in English in 2016, almost half of participating countries worldwide (7 out of 15) were from the Caribbean: Barbados, Bahamas, Dominica, Jamaica, Saint Vincent and the Grenadines, Saint Lucia, and Trinidad and Tobago.

The crucial factor for these achievements was the firm commitment of the Collaborating Centers to the credibility and proper use of the Family of International Classifications.

Acknowledgements or Notes

To all colleagues who collaborated voluntarily on this project. Special thanks to Can Celik (WHO).



Members of CEVECE (Venezuela)



Members of Reference Center in Chile



Members of CEMECE (Mexico)



Members of the Collaborating Center in Cuba



Members of the Collaborating Center in Barcelona



Members of the Collaborating Center in Argentina



Virtual training: a case of success within the framework of pilot testing of the Spanish version of the 2016 ICD-11 on Morbidity

16-21 October 2017
Mexico City, Mexico

C302

Authors/Affiliation, Location: (1) CACE, Argentine Centre for Classification of Diseases; (2) CHILE, Chilean National Reference Centre (Chile); (3) COLOMBIA, Colombian Ministry of Health and Social Protection; (4) CECUCE, Cuban Centre for Classification of Diseases; (5) CEMECE, Mexican WHO-FIC Collaborating Centre; (6) CC-BCN (Spain), Spanish WHO-FIC Collaborating Centre; (7) CEVEVE, Venezuelan WHO-FIC Collaborating Centre; (8) PAHO/WHO, Pan American Health Organization/World Health Organization; (9) CTS/WHO, Classifications, Terminologies, Standards.

Abstract The Latin American Network for the Family of International Classifications (FIC) (PAHO/WHO FIC Network) assumed the Spanish translation of the ICD 11 in 2015 ("Traducción Solidaria"). After that, first pilot tests of the Spanish ICD 11 focus on Morbidity started. With the objective to homogenize the Spanish pilot tests process among all participants it was designed a common strategy. This poster describes the strategy and its main results.

Introduction/Objective

The Latin American Network for the Family of International Classifications/Pan American Health Organization/World Health Organization (PAHO/WHO FIC Network) (**Figure 1**) set out to implement the use of e-learning technology tools (online teleconferences via Internet in a virtual classroom and in virtual courses) for the purpose of training participants in the pilot testing of the Spanish version ICD-11 (**Figure 2**) on Morbidity. In particular, these tools have been applied in the studies 1 (ICD-11 MMS Line Coding Pilot Testing) and 2 (ICD-11 MMS Line Coding Pilot Testing – 3rd term batch including post-coordination).

Methods & Materials

After the first two introductory sessions on the objectives of the pilot testing of the Spanish version of ICD-11 and the specific tasks to be conducted, the training course began, which was given in 4 sessions. The first three were given 7th, 9th, and 11th of November 2016, and the forth 14th of March 2017. They were all given through the PAHO-Webex platform and were coordinated from the PAHO/WHO, which sent all the information via e-mail and sent out personalized reminders. In the teleconferences, the speaker always covered the content in less than two hours. Lately, two practical sessions were carried out in April 2017. In addition to reducing the travel costs of personnel to attend meetings, personnel have access to the recordings of the meetings, and in some case these recordings are used as support material when training new personnel (**Figure 3**).

Figure 2: Development of the Spanish version of the ICD-11



Results

The balance of use of e-learning technology tools was positive. 39 evaluators from Venezuela, Mexico, Argentina, Cuba, Chile, Spain, and Colombia were trained. Since September 2016, training has been offered on subjects such as an overview and expectations of the pilot testing, components for the coding of ICD-11, an environment for the tools designed for the pilot testing. Very positive comments were received from the evaluators, a highlight of which is having been a new experience that allows receiving knowledge without having to move from the work place, or the country. The ease of use of the e-learning technology tools was also pointed out, thus dispelling the myth that the experience could be tedious and cumbersome. The aforementioned has allowed the creation of a community of users who, in general, have not missed the teleconferences that the PAHO/WHO FIC Network has scheduled between October 2016 and July 2017.

Figure 3: Theory & practice approach

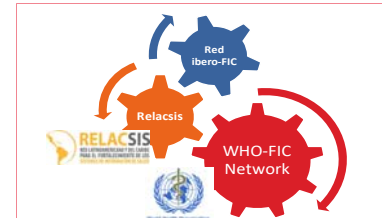


Figure 1: Strategic alliances

Conclusions

✓ Just like the Internet, virtual training has come to stay. Its advantages in benefit to organizations are readily apparent: reduction of personnel travel costs, opportunity to administer time better by developing training at the desired pace, and transfer of knowledge regardless of the distance, given that the only tools required are a computer, speakers, microphones, and an Internet connection.
✓ Good results got and quite high participants satisfaction are enough to continue with the same learning strategy in the next pilot testing studies on Morbidity. In particular, study 3 (ICD-11 MMS generic LINE Coding Testing 2017 and study 4 (ICD-11 MMS generic CASE Coding Testing 2017).

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- 1: Overview and expectations of the tool by CACE (48 minutes).
- 2: Explain the ICD 11 and the process to follow for encoding with this classification by CEMECE (1h).
- 3: Describe the tool environment with ICD 11 by CEVEVE (1h)
- 4: Coding by postcoordination by CECUCE (1h 30 minutes)



- CEMECE session:** Practical exercises and discussion about "Neoplasms" and Diabetes Mellitus (1h 25min).
CACE, CECUCE & CHILE session: Practical exercises and discussion about some difficult cases (2h)



ICD-11 Field Testing: Australian Experiences

16-21 October 2017
Mexico City, Mexico

C303

Authors: Brooke Macpherson¹, James Eynstone-Hinkins², Jenny Hargreaves¹,
James Katte¹ and Sue Walker³

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Abstract The Australian Institute of Health and Welfare (AIHW) as the Australian Collaborating Centre (ACC) for the World Health Organization Family of International Classifications (WHO-FIC) are coordinating the WHO's ICD-11 field tests for morbidity purposes in Australia. The mTAG, in consultation with the WHO are conducting a small field trial on ICD-11 MMS focussing on coding for mortality. James Eynstone-Hinkins (Australian Bureau of Statistics) is acting as the project's coordinator and is also coordinating the mortality field trials in Australia with assistance from Sue Walker (Queensland University of Technology).

The Morbidity Experience

The ICD-11 pilot test methodology and preliminary results for the Australian ICD-11 pilot testing were reported to the WHO-FIC Network in 2016 (Poster C304). The ACC has since gathered participant feedback via survey and teleconference on four main areas: the tooling environment, the education materials, the process of the pilot test and general feedback. Almost 3,000 diagnostic terms were coded in both ICD-10 and ICD-11. A total of eleven participants contributed during the pilot test that occurred between August 2016 and February 2017. A brief summary of these findings of this subjective feedback is presented here.

Tooling environment

ICD Browser Many participants reported often needing to tabular browse, when a code could not be found using the coding tool. This is not preferred practice in Australia as it allows for variation in code assignment.

Coding tool Half of the participants stated the tool was straightforward to use with the other half preferring to use the ICD Browser instead. Many reported the tool became easier to use with time.

ICD-FiT Participants rated this data entry tool easy to use. Some gave feedback questioning the amount of time allowed for inactivity before automatic log out occurred without alerting the coder that their data would not be saved.

As comments in ICD-FiT were only offered when a case was marked as difficult, a number of participants reported changing their rating of case difficulty in order to input a comment.

Education materials

Participants rated the education materials as easy to understand and relevant to the field trial. Some suggestions were made that additional examples would have been useful in guiding them through scenarios where assumptions were required due to the lack of coding rules or coding instructions.

Having the ICD-FiT Demo site to practice coding cases prior to starting the actual testing was invaluable, but participants suggested this could have been further enhanced by having the answers provided after coding was completed, to ensure participants were understanding the requirements of the task.

General feedback

Participants reported the demo version as being useful and necessary as preparation for the live site and indicated interest in the use of post co-ordination to capture high levels of specificity.

Pilot test process

In general, participants reported enjoying the pilot test experience, learning much about ICD-11 and its differences to ICD-10.

However, participants reported the diagnostic terms provided for coding were sometimes ambiguous with regard to context e.g. the case '*maternal pyrexia*' left participants choosing between two or more possible codes depending on whether they assumed this condition was during or following labour.

Coding guidance in the form of rules or standards was also identified as sometimes missing and it was felt this may have contributed to inconsistent code assignment (e.g. when to post-coordinate, apply coding conventions (e.g. dagger and asterisk) and guidance on double coding of concepts that lie in a specialty chapter and the extension code chapter.

The Mortality Experience

Small scale field trials on the ICD-11 MMS have been undertaken for mortality. James Eynstone-Hinkins (Australian Bureau of Statistics) and Sue Walker (Queensland University of Technology) have worked with representatives from several other countries to design and implement line coding trials that focus on those terms found most commonly on death certificates.

The line coding field trials were designed using the most frequently certified terms from several countries, combined into a single top 1,000 list of terms. The most common of those terms have been coded in ICD-FiT using both ICD-10 and the ICD-11 MMS.

Line coding trials have allowed raters to:

- Identify **missing** inclusion or index terms and **incomplete** inclusion or index terms (formerly non-essential modifiers).
- Highlight missing or incomplete **coding instructions** (i.e. code also notes).
- Identify issues with **mutual exclusivity** (often relating to automatically generated residual codes).
- Identify where there are problems placing **poorly specified terms** found on death certificates.
- Highlight problems with **results generated by the coding tool** (i.e. lengthy lists of possible codes with limited ability to identify the correct entity).
- Identify **structural** issues – i.e. a less specified term has no obvious place because more specified terms are spatially separated within the classification.

Field trials are being extended to cover the coding of sequences from death certificates. To accommodate these trials, ICD-FiT has been adapted to allow participants to provide feedback on the underlying and associated causes of death, as well as feedback on the use of post-coordination and clustering. These trials will extend feedback provided through line coding, and will progressively extend understanding of the interaction between the existing coding rules and the new structures and content of ICD-11.

Further testing of the ICD-11 MMS will continue in coming months as the mortality coding rules and Volume II instructions are updated for ICD-11. Discussions in the ICD-11 MMS Joint Task Force are highlighting opportunities to utilise the extended capabilities of ICD-11 to enhance future mortality data. It is likely some of these enhancements will have implications on coding instructions so an iterative process of updates is likely to lead to the best possible outcome.

Acknowledgements

The AIHW and ABS gratefully acknowledges the voluntary participation by the health classification experts during all field testing activities.



Phase 2 Morbidity Field Testing of ICD-11 MMS in Australia

16-21 October 2017
Mexico City, Mexico

C304

Authors: Brooke Macpherson, James Katte and Jenny Hargreaves

Australian Institute of Health and Welfare and Australian Collaborating Centre

Abstract The Australian Institute of Health and Welfare (AIHW) as the Australian Collaborating Centre (ACC) for the World Health Organization Family of International Classifications (WHO-FIC) was invited to participate in Phase 2 of the ICD-11 Field Testing for morbidity purposes. The number of participants increased compared to Phase 1 of field testing and represented a wide range of stakeholders from both Australia and New Zealand. This poster summarises Phase 2 testing in Australia for morbidity purposes and highlights select findings.

Introduction

After completing Phase 1 pilot testing activities in February 2017, the WHO invited the AIHW as the ACC to continue participating in its next round of field testing. Phase 2 was structured similarly to Phase 1, but focused on identified priority areas of the classification and testing the new post-coordination/clustering mechanism.

The ACC accepted the invitation and participated in Phase 2 between April and June 2017.

Materials

Participants

Coders in government, the public and private hospital sector, professional associations as well as health information university students participants. The total number of participants was 49.

Education materials

Participants were provided access to a new frozen version of ICD-11 MMS (2 April 2017) and ICD-10 2016 version. The AIHW revised and updated the education materials from Phase 1.

Diagnostic statements

The WHO provided 298 diagnostic statements for this field trial. The ACC split these into three groups to reduce the burden of coding on participants and maximise participation. An even spread of specialties to code were allocated to each group.

ICD-FiT

An online application was provided by WHO to enter all field trial results (ICD-FiT). A demo version of ICD-FiT was also provided for participants to practice test cases.

Methods

The ACC required that participants complete:

1. Attendance at an interactive webinar
2. Demonstration of correct usage of the post-coordination/clustering mechanism

Participants assigned both an ICD-10 and a ICD-11 MMS code to each diagnostic statement. Participants then rated the code assignment in terms of difficulty, level of specificity and ambiguity.

Acknowledgements

The AIHW thanks the clinical coding experts who volunteered to participate in this trial. Thanks also to the WHO for their support throughout this process.

Results

In total, 4,227 cases were coded in ICD-10 and ICD-11, averaging 86 cases per participant. Each diagnostic statement (n=298) was coded by a minimum of 10 and a maximum of 20 participants. Table 1 summarises the amount of time taken to code cases, and ratings on difficulty, specificity and ambiguity.

Extension codes

These codes are used to add additional detail to stem codes (codes that can be used alone). Over 25% of the cases in chapters 15 *Musculoskeletal*, 14 *Skin*, 22 *Injury*, 02 *Neoplasms* and 13 *Digestive* included at least one extension code to reflect the diagnostic statement. Chapters 03 *Blood*, 07 *Sleep*, 18 *Pregnancy*, 19 *Perinatal* and 20 *Developmental Anomalies* included no extension codes in participant's coding.

Post-coordination / Clustering mechanism

With the exception of one, all participants employed the post-coordination/clustering mechanism when coding the diagnostic statements. Participants used a variety of methods to post-coordinate / cluster codes together. The majority of these methods involved using the prescribed separators of the forward slash ("/") and the ampersand("&"). When other characters were entered such as spaces and backwards slashes the analysis of the data became more difficult due to lack of consistency.

Three of the most common patterns found where the post-coordination/clustering mechanism was used were: 1) somewhat consistent codes, but order differs [see case 1196]; 2) consistent first code but other codes differ [see case 1459]; and, 3) no consistency, all codes were different.

Table 1: Summary results for ICD-11 & ICD-10

	ICD-11	ICD-10
Time (seconds)	179 s	132 s
Cases rated as difficult	22%	12%
Cases rated with specificity, just right	70%	68%
Cases rated as non-ambiguous	69%	74%

Discussion

Two case studies assist in highlighting select findings from the Phase 2 results:

Case 1196 "Sepsis due to urinary tract infection"

The two concepts in this case are the sepsis and the urinary tract infection (UTI). There was consensus among participants when assigning the sepsis code (**MJ75.1 Systemic inflammatory response syndrome of infectious origin**) and the UTI code (**GC58.Z Urinary tract infection, site and agent not specified**).

However, where participants coded the UTI first (n=6) only 1 participant went on to code the sepsis. All who coded sepsis first (n=8) went on to code the UTI.

While both codes offer post-coordination in the browser, the optional nature of the instructional notes differ. The instructional note at MJ75.1 is "code also" whereas the instructional note at GC58.Z is "use additional code, if desired".

Case 1459 "Disruption of wound following an open reduction internal fixation of the humerus"

All participants (n=14) coded the same ICD-11 code for the injury component of this diagnostic statement, but varied in the assignment of the associated external cause code. This is illustrated in Figure 1. Similar findings were present with other post-procedural complication cases.

ICD-11 Code assigned with description		Cases
First code	NC91.2 Disruption of operation wound, not elsewhere classified	100%
Second code	PH19 Orthopaedic devices, implants or grafts associated with adverse incidents	36%
	PH00 Medical or surgical procedure associated with injury or harm in therapeutic use	29%
	PG80 Mode of injury or harm associated with a surgical or other medical procedure	14%
	PG81 Mode of injury or harm associated with a surgical or other medical device, implant or graft	14%
	NC93 Injury or harm arising from other device, implant or graft, not elsewhere classified, unspecified	7%

Figure 1: ICD-11 codes assigned for case 1459

Conclusions

While ICD-11 was rated more difficult than ICD-10, and took participants a longer amount of time to code diagnostic statements in. It may be that with time and experience, coding in ICD-11 becomes faster, as people become more familiar with it, and the rules and guidelines for coding in ICD-11 are finalised. It is likely that Australia will continue to field test ICD-11 in order to fully inform decision making as to whether ICD-11 will be a suitable product for use for morbidity coding in Australia.



M É X I C O

Pilot testing ICD-11: Reasons for disagreement in code allocation using the results from two field trial centres

16-21 October 2017
Mexico City, Mexico

C305

Authors: Olafur Steinum¹, Brooke Macpherson², Maria Boreklev³, James Katte²

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Abstract The WHO-FIC is supported by a network of Collaborating Centres around the world. The Collaborating Centres were invited to act as Field Trial Centres for the testing of the ICD-11. The Australian (including Australia and New Zealand) and Nordic Collaborating Centres (including Denmark, Finland, Iceland, Norway and Sweden) are two of the centres who agreed to participate. The Field Trial Centres were responsible for coordinating field trial activities in their respective countries.

Participants coded 308 diagnostic statements using ICD-11 for Mortality and Morbidity Statistics (ICD-11) and ICD-10 and then rated the difficulty, level of specificity and ambiguity found when coding each statement. Analyses suggest that there is higher agreement on selection of ICD-10 than ICD-11 codes, even across countries. However, some cases yielded a very diverse assignment of codes. The reasons for code disagreement are grouped and discussed with examples from the pilot study.

Introduction

During 2016, the World Health Organization (WHO) conducted a pilot study, known as Phase 1, which tested morbidity coding of ICD-11. A number of WHO-FIC Collaborating Centres took part, coordinating study activities in their respective countries. The Australian (ACC) and Nordic Collaborating Centres (NCC) are just two of the centres who participated.

WHO's aims for the pilot study were to:

- Assess selected components of ICD-11 in terms of reliability (consistency), goodness of fit (accuracy) and feasibility (usability) for basic morbidity coding.
- Ascertain the comparability between ICD-10 and ICD-11.
- Examine the testing process and instruments in order to determine where improvements are needed before starting more comprehensive testing.

Methods & Materials

Participants

The NCC had 14 participants, with a mix of both clinicians and coders. The ACC had 11 participants, who were all coders. Except for 2 participants from NCC, none other had prior exposure to ICD-11.

Materials

Participants used the 2 August 2016 frozen version of ICD-11, and the ICD-10 2016 version for code assignments. The WHO provided the 308 diagnostic statements and an online application in which to enter all field trial results (ICD-FIT). A demo version of ICD-FIT was also provided for practising test cases before the trial began.

Methods

Participants were given education on ICD-11. The NCC held a full day education workshop. The ACC held education teleconferences. Participants practiced using ICD-11, the coding tool and ICD-FIT on a test website before beginning the field trial proper.

Participants coded up to 308 diagnostic statements (or cases) using ICD-11 and ICD-10. Participants also rated the difficulty, level of specificity and ambiguity they found after coding each statement.

Acknowledgements

The Collaborating Centres thank the participants who contributed to this study.

Results

The number of cases coded and participants for the ACC and NCC are shown in Table 1.

Table 1: Numbers for each Collaborating Centre

	ACC	NCC	Total
Number of participants	11	14	25
Number of cases coded	2,471	2,641	5,112

Across both centres only 11 participants completed all assigned cases (n=308).

Cases of interest for this poster were identified by having three or more different answers between participants, i.e. code disagreement. If a participant assigned more than one code per case, only the first listed code was analysed.

Coding in ICD-11

Code disagreement was found in one third of all cases coded in ICD-11. The case with the greatest code disagreement (with 11 unique codes assigned) was 'Episode of abuse of MDMA ("ecstasy")'. The highest amount of code disagreement was found in Chapter 07 Mental and behavioural disorders.

Seven ICD-11 chapters had 10% or more of their code assignments from outside of the chapter. These included Chapter 16 Musculoskeletal (23%), Chapter 11 ENT (21%), Chapter 12 Circulatory (18%), Chapter 18 Pregnancy & Childbirth (18%), Chapter 3 Haematology (14%), Chapter 19 Perinatal (13%) and Chapter 17 Genitourinary (12%).

Comparing ICD-11 coding with ICD-10

The case 'Benzodiazepine abuse' had a comparatively high number (n=8) of unique responses in ICD-11. In comparison, the number of unique ICD-10 responses for this case (n=2) showed less variation in code assignment. Similar patterns were found in other cases on substance abuse.

Ambiguity in cases coded in ICD-11

Cases without sufficient context produced a number of different results in coding. The case of 'Maternal pyrexia' had participants (n=19) coding the pyrexia as during labour (42%) and also following delivery (47%).

When coding diagnostic statements in ICD-11, roughly 20% of cases revealed participants using a parent code and the parent's residual child code. Table 2 shows an example of this for the 'Oesophageal atresia' case (n=21).

Table 2: ICD-11 codes for 'Oesophageal atresia'

Code	Code Description	%
LB30.3	Structural developmental anomalies of oesophagus	5%
LB30.32	Atresia of oesophagus	50%
LB30.32Z	Atresia of oesophagus, unspecified	30%
Other	-	15%

Discussion

Analyses suggest that there is slightly higher agreement on selection of ICD-10 than ICD-11 codes, even across countries. Some of the cases yielded a diverse selection of codes, which may be interpreted as ambiguity in case interpretation or issues with the features of the classification.

The main issues identified affecting code allocation:

1. Lack of context for the statement
2. Ambiguous wording in the statement
3. Coding instructions, or lack thereof
4. Ambiguity on validity of codes
5. Gap in the classification system
6. Coder (data entry) error
7. Coder error/incorrect code

Lack of context for statement

Some of the diagnostic statements lacked context, causing a variety of code assignments. For example, the case 'Maternal pyrexia' did not specify whether the condition was experienced during pregnancy or labour, resulting in code assignments reflecting both scenarios. As there was no applicable residual ICD-11 code either, participants made an assumption on the context to select codes.

Ambiguity on validity of codes

A point of confusion for participants was determining which codes in ICD-11 were valid. While this rule is very clear in ICD-10, it is less so in ICD-11. The 'Oesophageal atresia' case demonstrated coder confusion as to whether parent or children codes are valid for assignment, especially when the parent is a better match, and there is no residual child code.

Coder error/incorrect codes

Code assignments for the case 'myocardial infarction, anterior NSTEMI' were evenly split between the correct code (acute non-ST elevation myocardial infarction) and an incorrect code (subsequent myocardial infarction, NSTEMI). Upon investigation, the coding tool was found to return only one option (the 'subsequent NSTEMI' code) after searching the exact case description. This demonstrates that coders will still need to employ usual coding techniques, that is, searching by lead terms, rather than copying and pasting text into the coding tool and relying on accurate results to be returned.

Conclusions

The results suggest that code assignment in ICD-10 was slightly better than ICD-11 as measured by the level of agreement on code selection. However, we have identified confounding factors in the test process that may have influenced this result.



ICD-11 Field Trials

A Canadian Perspective on Post-Coordination

16-21 October 2017
Mexico City, Mexico

C306

Authors: Denise Cullen, Jillian Speckeen, Lisa Burelle, Jin Wang, Tobi Henderson
Canadian Institute for Health Information, Canada

Abstract

The World Health Organization (WHO) has been conducting a series of field trials for ICD-11 which involved a series of studies, some with an emphasis on post-coordination and cluster coding. To investigate the reliability of post-coordination and clustering in ICD-11, The Canadian Institute for Health Information (CIHI) analyzed the coding output of two of these studies. The results of this analysis and comparisons will assist with understanding areas of inconsistency and provide insight into the requirements of training materials for ICD-11 implementation.

Introduction

CIHI is an independent, not-for-profit organization that provides essential information on Canada's health system and the health of Canadians. CIHI maintains the Canadian modification of ICD-10 (ICD-10-CA) and is part of the North American Collaborating Centre. In an effort to assess the consistency, accuracy and usability of ICD-11 for Mortality and Morbidity Statistics (MMS), the World Health Organization (WHO) invited representatives from many WHO-FIC Collaborating Centres, including CIHI, to participate in ICD-11 Field Trials, namely the line-coding pilot testing. One of the new features of ICD-11 is "post-coordination" - a mechanism that allows the user to combine several codes to describe a clinical condition to the level of detail required, resulting in a diagnosis cluster. In Canada, a clustering concept is already employed in certain circumstances to link two or more ICD-10-CA codes together (e.g. antibiotic resistant infections, post-intervention complications). A comparison is displayed in Table 1. The WHO field-testing exercise involved a series of studies, some with an emphasis on post-coordination and clustering. These new concepts were the focus of the analysis and comparisons done by CIHI.

Table 1: Comparison of Methicillin-resistant *Staphylococcus aureus* (MRSA) sepsis coding in ICD-10-CA and ICD-11

ICD-10-CA (clustered using alpha character)	ICD-11 (clustered using /)
A41.0 [A] Sepsis due to <i>Staphylococcus aureus</i> U82.1 [A] Resistance to methicillin	1B46 Sepsis due to <i>Staphylococcus aureus</i> /MJ81.11 Methicillin-resistant <i>Staphylococcus aureus</i>

Source: ICD-10-CA v2015 and ICD-11 Frozen Release April 2017

Methods & Materials

8 CIHI Classification Specialists, called raters for the purpose of this WHO field trial, assigned codes for 88 and 298 diagnostic term sets from two studies respectively. A frozen version of ICD-11 MMS and ICD-10 Version 2016 were used. Data was entered into ICD-FiT, a WHO web-based data entry tool. This tool was designed to support the implementation of the ICD-11 Field Trial core study protocols. In total, 1,959 records were completed with 5 or 6 raters coding each individual diagnostic term. CIHI analyzed the results of ICD-11 code assignment and clustering. Key areas of analysis and discussions included:

- Raters use of post-coordination clusters.
- Agreement rate for ICD-11 codes assigned with and without clustering.
- Raters' impressions with using clustering.

Results

Figure 1 displays the analysis of the use of post-coordination clusters. The results showed that 1 or more raters used a cluster in 59% of the cases in the first study. This increased to 67% in the second study. The results also showed an increase in the percent of all raters using a cluster in the second study (20%) than the first (8%).

Figure 1: Use of ICD-11 post-coordination clusters in 2 ICD-11 field trials

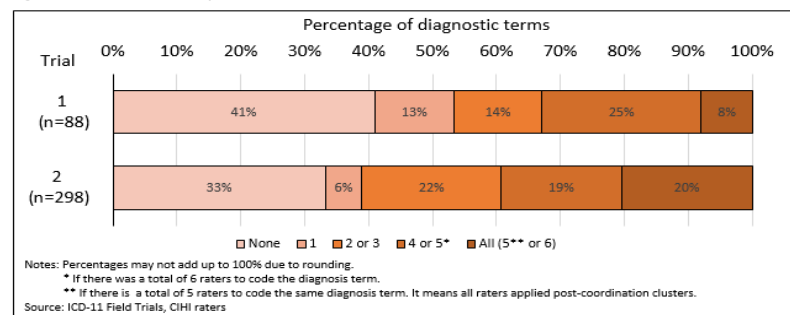
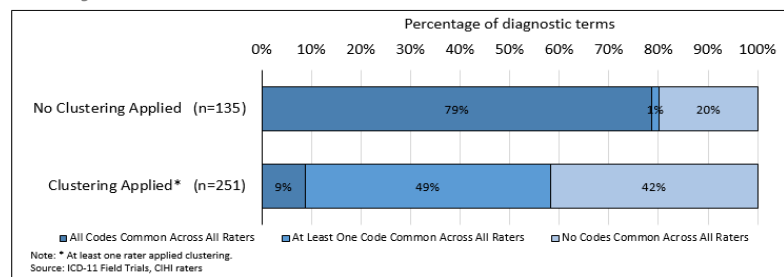


Figure 2 displays an analysis of commonality of codes across all raters showing whether all raters assigned all the same codes, where at least one code was common between all, and where there was no commonality between all raters (i.e. no instance of **all** the raters having a single code in common). The results showed an agreement rate for all raters of 79% when clustering was not applied (which meant only one code needed to match). If clustering was done, the agreement rate for all codes reduced to 9%, as more codes were required to match. The percentage of cases with no commonality across all raters increased from 20% for terms without clustering to 42% for terms that were clustered.

Figure 2: Comparison of ICD-11 coding between raters, with and without post-coordination clustering



Conclusions

The analysis showed many inconsistencies in coding among raters when clustering is involved. Upon discussion with the raters it was noted that issues encountered using post-coordination in ICD-11 were similar to known issues with our own Canadian clustering concept. These include the number of codes assigned within a cluster and what is, or is not included in the cluster. These issues make it difficult to analyze and compare the data on clustering. In some instances, a one to one case comparison is better to help decipher where and why differences between raters exist.

This study and its analysis shows there is a need for further development of standards and education for clustering in ICD-11 in order to ensure consistent and reliable data.



ICD-11 Field Trials in the English-speaking Caribbean

16-21 October 2017
Mexico City, Mexico

C307



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Abstract CARPHA viewed the participation of its member states in the ICD-11 field trials as a good opportunity to expose the coding community in the region to the new coding system and for the region to meaningfully contribute to the developmental process of ICD-11. The experience of hosting twenty-two participants in the ICD-11 field trials, has provided meaningful information towards the future implementation of ICD-11 in the English-speaking Caribbean.

Introduction

Although the ICD-10 revision was used in WHO member states from as early as 1994, all English-speaking Caribbean countries had not adopted the new classification for coding mortality data until 2001; use of the classification for coding morbidity data took several more years. With the strengthening of the coding practise in the region over the years, there is a heightened interest in the region to transition quickly and smoothly to ICD-11 for the processing of national mortality and morbidity data. One key aspect in the transition process would be to increase interest and familiarity with the ICD-11 classification. As the regional body that provides technical support for ICD implementation in the region, The Caribbean Public Health Agency (CARPHA) viewed the participation of its member states in the field trials as a good opportunity to:

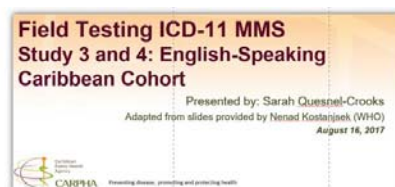
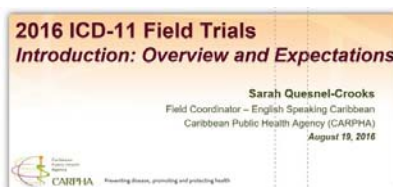
- generate interest
- increase familiarity
- build a cadre of trained persons in-country to help with future country-level training and implementation
- contribute as region to the development of ICD-11

Methods & Materials

Focal persons at CARPHA and the Ministry of Health, Jamaica were nominated as field coordinators for the implementation of the field trials in the English-speaking Caribbean. In addition to clinical coders from Jamaica, CARPHA invited coders from six countries to participate in the field trials. A total of 22 participants were identified from Jamaica (7), Bahamas (2), Barbados (1), Dominica (1), St. Lucia (6), St. Vincent & the Grenadines (2) and Trinidad & Tobago (3).



Training material was developed by CARPHA (based on the materials shared by WHO) and several virtual sessions were hosted and facilitated by the field coordinator at CARPHA. These sessions included an overview of the ICD-FIT system that would be used to facilitate the field trials as well as training in ICD-11 coding methodology.



Results

Twenty-two persons participated in the first pilot study and just over 50% of the participants continued to participate in the second pilot study. They have subsequently indicated their willingness to continue with the next two studies.

Participants responded positively to the trials and gave helpful feedback to the organizers of the trials. They found the coding system to be easy to understand and follow; and allowed for more specific coding of conditions.

However, participation by many was affected by competing work priorities. This was evidenced by the long period taken by some to complete a study and the high attrition. See Table 1 for the participation summary.

Table 1: Participation summary of the first two studies

Study	Persons Enrolled	Persons Completing Study	Time to Complete [Days]		Terms with codes assigned	
			Average	Range	Number	Percent*
Study 1	22	15	45	24 – 106	5617	86.1
Study 2	12	10	25	3 – 73	915	86.7

* Includes coders who partially completed either study

Overall, the use of virtual training methods was successful and well-received by participants. Major challenges faced included:

- technical difficulties in country in consistently accessing the virtual sessions;
- persons being unavailable to attend the virtual sessions.

All virtual training sessions were therefore recorded and the recorded sessions were made available to all participants.

Conclusions

Overall, participation in the ICD-11 field trials garnered interest in and great anticipation for the pending implementation of ICD-11 in the English-speaking Caribbean countries. Although virtual sessions are convenient and economical, the ability of many participants to find dedicated time to participate online suggests that a blend of face-to-face and online sessions may be more appropriate when training for ICD-11 is being considered. Despite the attrition rate, participants found the ICD-FIT platform user friendly and easy to understand.

As regional coordinators for the implementation of ICD-11 in the English-speaking Caribbean, coordinating the field trials and the challenges encountered, have given CARPHA an invaluable opportunity to learn and be better prepared for the implementation of ICD-11 in the Caribbean region.

Acknowledgements

We would like to express our sincere thanks to all of the clinical coders that participated in the field trials. Their interest and commitment has been invaluable to the successful participation of the Caribbean region.

A note on CARPHA



The Caribbean Public Health Agency (CARPHA) is the single regional public health agency for the Caribbean. It was legally established in July 2011 and began operation in January 2013.

CARPHA's mission is to provide strategic direction, in analyzing, defining and responding to public health priorities in order to prevent disease, promote health and respond to public health threats and emergencies.

CARPHA serves 24 member states, including all English- and Dutch-speaking Caribbean countries and Haiti.



Field Test of ICD-11 in Japan.

16-21 October 2017
Mexico City, Mexico

C308

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Abstract Field Test for ICD-11 and its pilot testing was performed in Japan. Pilot testing for ICD-11 MMS Line Coding was done in 2016 with 7 coders in Japan. 308 samples were provided from WHO and got 2169 answers. Field Test for generic LINE coding were performed in 2017. 390 coders entered the test for 298 samples, and got about 40,000 answers. Field Test for generic CASE coding were also performed in 2017 for 30 cases and got about 3500 answers. Analysis of these test will be reported.

Introduction

ICD-11 is coming to the final stage before releasing to the public in 2018. ICD-11 has been discussed for long period for its establishment, but it is important to have the total testing including not only classification, but also browsing and coding software. For this reason, WHO is performing Field testing in different country.

We have performed pilot testing in 2016 to know about the testing and how to deal with Japanese language. After this experience we performed generic LINE coding and CASE coding field testing in 2017 using the ICD-FiT system.

The analysis of this year is currently on going, and will be included at the conference.

Methods & Materials

Based on the draft version of the WHO protocols, the pretest was conducted according to the following process using the WHO's ICD-FiT server in Italy. 1) submission of the protocol for review by ethical review committee, 2) translation of reference guide, 3) translation of questions, 4) tutorial for training, 5) implementation of the pilot testing.

There were 308 diseases in the system. 7 raters participated in this pilot testing from Nov.2016.

Additionally, generic LINE coding and CASE coding was set up at the ICD-FiT server. To have a larger amount of testing, and also thinking about making aware of ICD-11 to the coder's society, we asked "Japan Hospital Association (JHA)" to have "Japan Society of Health Information Management (JHIM)" to engage in this study. By the recruitment from the organizing office, 400 raters applied for attending the testing.

However, due to the limited time frame which is Aug.1 2017 to Sep.11, and the English system, not enough numbers were collected.

Results

Title	Raters	answers	Year
Pilot Testing	7	2169	2016
LINE coding	390	39359	2017
CASE coding	369	3457	2017

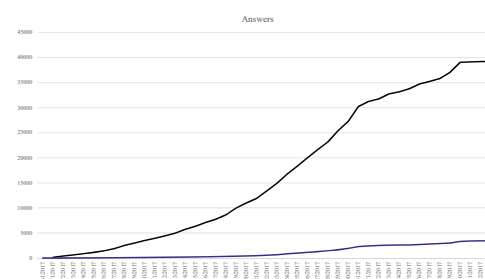
Table 1: Numbers of Answers in ICD-FiT system for Pilot and Line, Case Coding testing in Japan as of 2017/9/19.

Pilot testing was performed by seven well trained coders in Japan. However, they were not so good in English. We made translation for the reference guide questions and answers, so they could make answers to them, however, the disease name, browsing tool, and the coding tool was in English. It is important to see the listed candidate codes, so we felt this will be the issue.

The coding time was slightly faster for ICD-11 than ICD-10. Also, answer was less distributed in ICD-11 than ICD-10.

Generic LINE and CASE coding had large number of participants. We coordinated training course in Tokyo and Osaka. The growth of numbers of answers for Line and Case coding in shown in Chart 1. First deadline was 8/31 and extended deadline was 9/11. The analysis of the results are currently in progress, and so with the evaluation of the ICD-11. English difficulty was the main issue by the messages after the trial, and Japanese local system is essential.

Chart 1: Increase of Numbers of Answers in ICD-FiT system for ICD-11 Line and Case Coding field testing in Japan (2017/7/31-9/13).



Conclusions

Pilot testing and following generic Line coding and Case coding was performed in Japan. The testing was successful with about 400 volunteers.

Pilot testing resulted in shorter time and targeted codes in ICD-11 than ICD-10.

Due to the English language of the system, not only for the ICD-FiT, but also the ICD-10/ICD-11 browser and coding tools, raters took time and difficulties finding the actual codes. We asked their English skills after the testing to see if it relates with the quality and time of the answers (currently under investigation). Japanese Language translation will be the key to overcome this issue.

Main purpose of this field test was to see the total testing of ICD-11, but it was also very good chance to tell and feel how ICD-11 is now developing, and know its concept of data models and digital friendliness.

As the data is currently analysed, we will report the details at the conference, and following documentation.

Acknowledgements or Notes

We would like to thank "Japan Hospital Association (JHA)", "Japan Society of Health Information Management (JHIM)" and the coders engaged in this field trial for their cooperation for this testing. Especially, Dr. Aizawa president of JHA, and Ms. Yokobori, Mr. Yamanaka for their support conducting this testing. Without their generous voluntary work during the summer period, this result was not possible.

This work was supported by Grants in Aid from Ministry of Health, Labor, and Welfare.



M É X I C O

Pre-test for developing model of ICD-11 Field Trial in Korea

16-21 October 2017
Mexico City, Mexico

C309

Authors: Kuiyoun Hwang¹, Sunghong Kang¹, Yoomi Kim¹, IlSoo Park¹,
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Abstract The Statistics Korea (KOSTAT) has been designing and evaluating its own field trial (FT) methodology in Korea in order to review the feasibility and the adoptability of ICD-11 to be released in 2018. As a preliminary step, a pre-test has been conducted for the purpose of developing questionnaires for investigation and measuring the amount of resources to be utilized. Preliminary survey has been conducted by 16 coders having more than 10 years of experience at 6 university hospitals from June 11-20, 2017

Introduction

The KOSTAT, which announces the Korean version of the ICD, has ordered its own FT study on the Korean Medical Record Association (KMRA) for the systematic introduction of ICD-11. The main content of the study is the actual coding using ICD-11 for patients discharged from hospitals in Korea. The purpose of the pre-test is to develop a questionnaire that can identify the problems of ICD-11 and calculate the total number of records to be performed by the FT.

Methods & Materials

- Period of investigation: June 11 to 20, 2017
- Subject: 80 discharged patient cases, with 338 diagnosis
- Raters: 16 coders (more than 10 years careers)
- Survey Method: Review of medical records
- Applicable Applied ICD-11: Frozen version (Apr 2, 2017)
- The questionnaire are as follows :
Difficulty in assigning codes ,
Level of detail of the code comparing with that in ICD-10,
Distinct from Korea-specific classification,
Post-coordination, Problems of using the browser, etc.

Results

1. Problems when using ICD-11(N=338)

Problem	Yes	No
Difficulty when assigning codes	43	295
Not detailed enough comparing with ICD-10	34	304
Problems in post-coordination coding	47	291
Problems when using browser	48	290
Problems when using coding tool	14	324

- Not detailed enough comparing with ICD-10* :
ICD-11 classification is not detailed in 34 cases (10%),
ICD-11 classification is more detailed in 36 cases (12%),
ICD-10 and ICD-11 are at the same level in 268 cases(79%)

2. Comparison detail level of ICD-11 and Korea-Specific Classification (N=80)

Category	N	%
Same as ICD-11 and Korea-Specific Classification Code	54	68
ICD-11 is more detailed than Korea-Specific Classification Code	9	11
Korea-Specific Classification Code is more detailed than ICD-10	17	21

- Korea-specific classification codes refer to Korean Modification (KM) codes used only in Korea for more detailed classification than ICD-10. Among the KM codes, 17 out of 80 cases were not found in ICD-11.
- The 2 cases were as follows :

Diagnosis	KCD-7	ICD-11
Tuberculosis of lung, confirmed	A15	1B20.1
Tuberculosis of lung without cavitation	A1501	none
Liver cirrhosis	K746	DB34.2
Liver cirrhosis Child-Pugh A	K7460	none

Conclusions

The result of this study, a comparison of ICD-10 and ICD-11, shows that ICD-11 is a more detailed classification system. Therefore, it can be seen that more sophisticated statistics can be generated and utilized when ICD-11 is introduced. Based on the results of the pre-test, the following suggestions are made. First, the ICD-11 browser is needed to enhance and support improved coding accuracy. Second, in ICD-11 browsers, there is no guide for post-coordination, so detailed guideline should be developed. Based on the results of pre-test, FT is underway for 2,400 patients' medical records. All diagnoses (principal and additional diagnoses) from 2,400 medical records are coded with KCD-7(ICD-KM), ICD-10, and ICD-11, respectively. The questionnaire developed based on the pre-test is helpful to develop ICD-11.

Case study of ICD-11 coding

<Case 1> Necessity of post-coordination guide

Diagnosis	ICD-10	ICD-11
Cerebral infarction due to embolism of middle cerebral artery	I634 Cerebral infarction due to embolism of cerebral arteries	8A61.Z Cerebral ischaemic stroke, unspecified

- ICD-10 allows coding of the detailed cause and anatomy, but it's impossible in ICD-11

<Case 2> Problems in the browser

Diagnosis	ICD-10	ICD-11
Sepsis due to enterococcus	A418 Other specified sepsis	1B4_ No proper code found

- Need to make the codes Y(.Y) and Z(.Z) to classify 'other' and 'unspecified'

Acknowledgements

This work was supported by the Statistics Korea, SSD-4919 (April 10, 2017). The authors are also grateful for 16 coders who participated in FT .



2017 ICD-11 MMS Field Trial in Korea

16-21 October 2017
Mexico city, Mexico

C310

Authors: Baek Seol Kyung¹, Hong Joon Hyun¹, Boo Yoo Kyung¹, Ham Seung Woo¹, Yang Ji Hyun¹, Baek Se Ryon², Kim Na Young², Huh Bo Young², Lee Jong Ran³, Han Gyu Cheol⁴, Hong Soon Cheol⁵
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Abstract The WHO-FIC Korean Collaborating Centre participated in the WHO's 2017 ICD-11 MMS Field Trial followed by that of 2016. In addition to the ICD-11 morbidity and mortality coding, this study includes the test of ICD-11 Traditional Medicine cases by TM doctors and review the contents model of given cases by TM doctors and clinical doctors. This study will contribute to the revision of ICD-11, help to build-up ICD-11 knowledge and coding skills, and developing the educational plan for practitioners and to provide solid foundation for successful transition to ICD-11 in Korea.

2016 ICD-11 Pilot Field Trial

From June 2016 to February 2017, WHO-FIC Korean CC(SSIS, Social Security Information Service) and KMRA (Korean Medical Record Association) had completed 2016 ICD-11 Pilot Field Trial and the following main comments were presented:

• Advantages of ICD-11

Increased accessibility and convenience through online searching

- It is more segmented, detailed specific, and convenient than ICD-10 that it would provide higher practicality.
- Search tool is linked conveniently to the contents which enables finding the codes easily in reduced coding time.

• Omissions in ICD-11

- Classification of other (Y) and unspecified(Z) codes are insufficient.
- Need to improve search function and supplement information of drugs in Psychologic chapter.

• Opinions on the electronic tool

As coders became comfortable with the coding tool and browser, they acknowledged of the convenience, but also suggested that many of the terms were not searched in the coding tool.

- Need to improve the function of easy searching in browsers freely as well.

• Coding instructions and explanations in ICD-11 Reference Guide

- It helps greatly selecting the code.
- ICD-10 suggests only code and it's title, but ICD-11 provides various and detailed descriptions (definition, included terms, etc.) of each diagnostic term that it is a good reference when checking for synonyms or assigning codes.
- Range of extension code differs greatly from ICD-10, so clear and specific guideline on the assignment of extension code is required.

• Other recommendations to improve ICD-11

- Need additional function in the coding tool searching by options such as code, medical term, abbreviation, and in all.
- Add the function that enables search of synonyms at the same time in the coding tool.
- May require sufficient time for education and practical training.

2017 ICD-11 MMS Field Trial

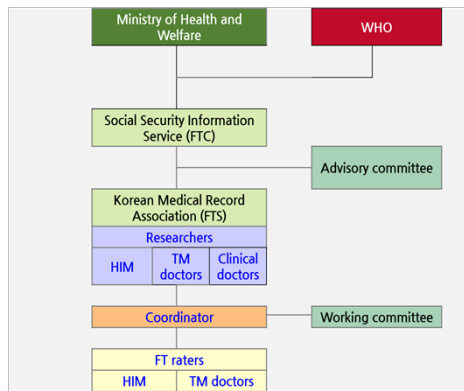
From July 2017, Korean WHO-FIC CC is conducting the 2017 ICD-11 MMS Field Trial.

This year FT covers ICD-11 case coding including Traditional Medicine. Also, we review the contents model and chapter composition of given cases by clinical doctors and TM doctors.

6 coding experts of KMRA and 6 TM doctors are participating in this FT as coding raters.

The number of cases given by WHO is as follows:

- Line coding : 298
- Case scenario coding : 30
- TM chapter case coding : 40



<Organization chart of 2017 ICD-11 MMS Field Trial>

Training, Coding and Discussion

In July, we performed two training sessions including traditional medicine chapter. After completion of coding on August 20, participants and researchers discussed difficulties and relevant issues related to coding at the working-level meeting.

- Suggestions presented
 - : 111 cases out of 298 line coding
 - : 11 cases out of 30 case scenario coding

- In many cases, several different diseases(all index terms) are included in one code, so need to create individual codes for each disease. Ex.) 1C4Z Human immunodeficiency virus disease, clinical stage unspecified : all index terms [84 terms are included]

- In case of post-coordination, the term 'if desired' allows coders to decide to assign the code of post-coordination or not which results in the different assignment of codes .

- In some cases, there were no suitable subclass ICD-11 code.

Case : Clostridium difficile diarrhea code : 1A04 Enterocolitis due to Clostridium difficile

Subclass : 1A04.1 Pseudomembranous colitis

The code 1A04 has only one subclassified code, 1A04.1. There should be .Y and .Z codes for classifying other and unspecified conditions.

On Going Study for ICD-11

The 2017 ICD-11 FT is currently in progress in Korea. We will continue to study, build-up knowledge and issues of ICD-11 consistently. We hope to contribute to the revision of ICD-11 and proactively respond to future domestic initiatives and smooth transition.



<(right) 1st education on July 1, 2017
(left) Working Committee conference on Aug 26, 2017>

Acknowledgements

We would like to thank to raters and researchers who actively participate in professional insights.

Also, we are gratefully acknowledge the Ministry of Health and Welfare, KMA(Korean Medical Association), KIOM(Korea Institute of Oriental Medicine), KMRA for sufficient supporting and feedback this FT.

And we are grateful for support of Nenad Kostanjsek, who has been providing helpful guidance of FT.

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ICDfit: current status

16-21 October 2017
Mexico City, Mexico

C311

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1 University of Udine and Italian WHO-FIC Collaborating Centre, Udine, Italy
2 WHO, Geneva, Switzerland

Abstract The web-based system developed to support field testing of ICD-11 has been further enhanced during the last year, and many studies have been started on it. The present poster visually describes its current status, with data on its usage.

Introduction

The ICDfit web application has been developed to support the systematic testing of ICD-11 in different settings, across the world.

In 2016/17 ICDfit was used in the line coding pilot testing of ICD-11 MMS.

Based on the pilot test experience the ICDfit functionality has been further enhanced in order to support the following testing activities in 2017:

- Generic line coding (morbidity)
- Generic case coding (morbidity)
- Specialty specific line and case coding (e.g. International Association for the Study of Pain, Traditional Medicine, German Medical Societies etc.)
- Mortality line- and underlying cause coding

The interface used in line and case coding are shown in Figure 1 & 2. Some of the analytical visualization features of ICDfit are displayed in Figure 3-5.

Future plans for ICDfit include the transformation into an ICD-11 coding training, testing and (self-) assessment platform which will form part of an ICD-11 implementation package.

Figure 1 – line coding interface

Figure 2 – case summary interface

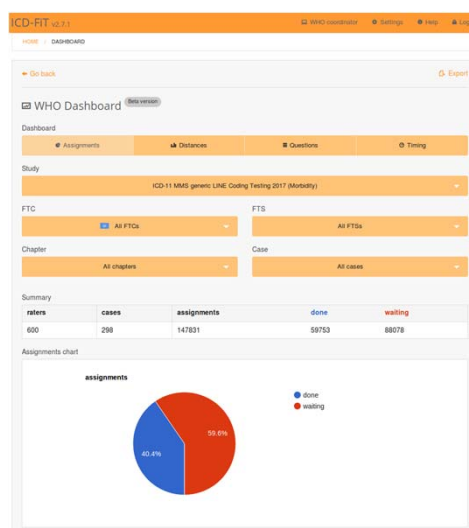


Figure 3 – Coordinator dashboard: main screen

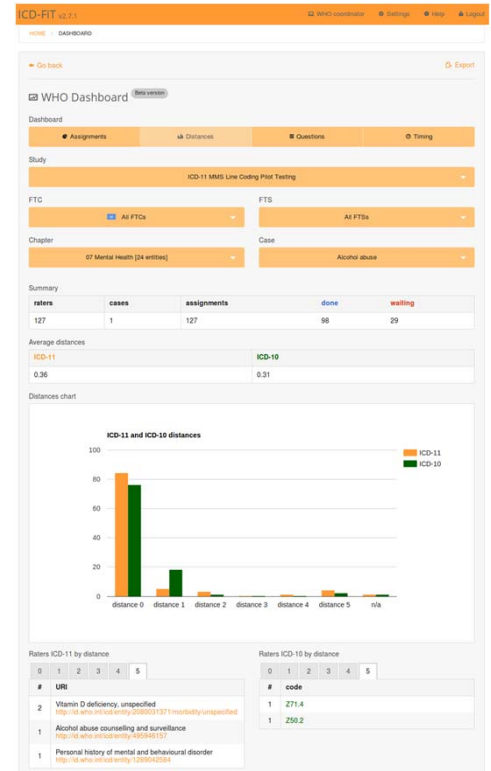


Figure 4 – dashboard: list of rater codes for a case, by distance

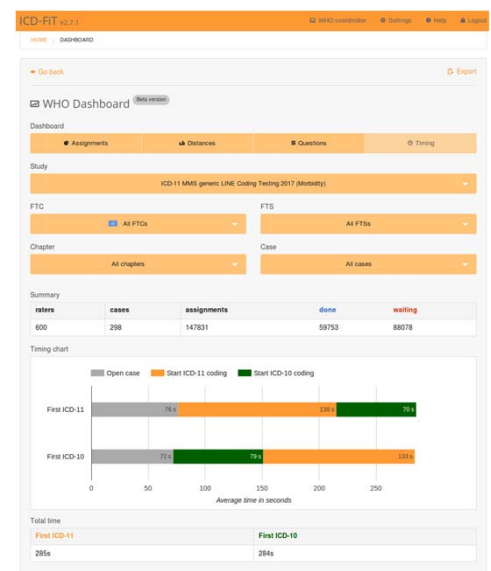


Figure 5 – dashboard: time for coding

Usage data

At present, ICD-FIT activity can be described as follows:

- FTC: 29 (31 countries involved)
- FTS: 49
- Users: 1673 (86 nationalities)
- Studies: 61
- Case summaries and terms for line coding: 1933
- Coded instances: 112383



Training and Coding Using the WHO's Beta Version of ICD-11

16-21 October 2017
Mexico City, Mexico

C312

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Abstract The study focuses on the 1) extensive coder training required for the **ICD-11 Field Trial**, which is testing the 'goodness of fit' of ICD-11, and 2) coder agreement in the identification of main conditions, clustering codes, and coding patient safety events. Next steps include assessing the agreement between ICD-10-CA and ICD-11 coding of 50 medical conditions and patient safety events, as well as coder experience with the new system.

Introduction

Coding inpatient records using ICD-11 Beta Version is new and requires testing before full implementation.

Coding specialists require orientation to new features such as:

- clustering conditions,
- diagnosis timing,
- post-coordination with related and extension codes, and
- coding patient safety events that occur in hospital with codes for harm, cause, and mode.

As one of three WHO Collaborating Centers, we are training coding professionals for testing ICD-11 codes and identifying improvements before full adoption of the new classification system.



Objective 1: Coder Training

Coders were provided with training materials including

- 3 presentations on ICD-11 coding,
- 2 poster presentations,
- 3 sets of clinical scenarios for practice coding, and
- a test bank of coding scenarios with ICD-11 terminology and principles.

Challenges of training:

- 1) Training coders while codes are being built as codes change
- 2) Minimal coding rules are available to assess quality (e.g. 'if...then' statements)
- 3) Limited code descriptions available for ICD-11

Recommendations for future training:

Coders need:

- 'Gold standard' codes for hospital harms (i.e., correct answers)
- Coding rules for consistent coding
- Code descriptions
- Post-coordination rules

Objective 2: Coder Agreement

Coding Team

- Hired 6 trained coding specialists, certified for coding ICD-10-CA
- 1-5 years experience
- 7 2-hr training sessions for ICD-11
- Will code with usual coding speed
- Blinded to ICD-10-CA coding and chart review data
- Code mandatory conditions based on Alberta, Canada standards

Example of Coding Scenario:

"A patient was admitted from home unconscious due to an accidental overdose of codeine (took two doses by mistake)."

HARM: MB21 Coma

CAUSE: PH80 Drugs, medicaments or biological substances associated with injury or harm in therapeutic use & **XM1633360427** Codeine

MODE: PB50 Unintentional exposure to or harmful effects of opioids or related analgesics & **XE1670965842** Home

Training Evaluation

- Quiz (e.g., what is a stem code? What is a cluster in ICD-11?, scenarios to code with ICD-11)
- Survey of coder experience
- Inter-rater reliability testing

Results of Hospital Chart Review

- 3074 charts were reviewed by a team of six nurses
- 50 medical conditions were assessed
- Inter-rater reliability was ≥ 0.80 for the majority of main conditions

Chart review team with Hude Quan



Outputs

Dissemination of Findings

Examples of manuscripts:

- Change in ICD-10 coding over time;
- Agreement between ICD-10 and ICD-11 coding
- Coders' experience (time to code charts, ease or difficulty finding codes, post-coordination)
- Chart quality measurement
- Agreement between coders for diagnosis timing and type
- Validity of coded data for hospital harms

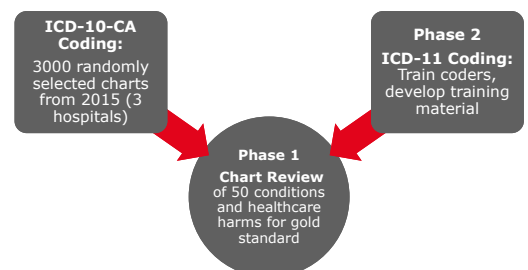
Summary

This study created opportunities to develop training materials for coding ICD-11, and assess the agreement between coders in coding medical conditions. These recommendations are being shared in dialogue with WHO-FIC members.

Next steps include measuring the comparability between ICD-10-CA and ICD-11 in recording conditions, and evaluating coder experiences with ICD-11.

This study will provide research evidence for decisions regarding adoption of ICD-11 in Canada and internationally.

ICD-11 Field Trial: Phases



Acknowledgements



We acknowledge the expertise and hard work of Denise Cullen and Margaret Penchoff of CIHI.



Study on ICD code for the specified intractable disease in Japan.

16-21 October 2017
Mexico City, Mexico

C313

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Abstract By the Intractable disease Act (enforced January 2015), the target disease has expanded from 56 and became to 330 diseases this year. In terms of analyzing various kinds of administrative statistics, it is important to accurately assign the code based on the ICD (International Statistical Classification of Diseases and Related Health Problems), however, intractable and rare diseases have not assigned the corresponding ICD code so much. This time, we assigned 306 specific intractable diseases to the ICD code for use in a unified manner. For 7000 rare diseases of that described in international rare disease database "Orphanet", ICD code can support only part of them, and, either using an extension code or using Orphanet code is taken for the national medical statistics analysis. As no extension code for ICD is used for the Japanese disease survey, it became so obvious problem not having unified ICD code. To solve this issue, we created the ICD definition table for specified intractable disease.

Introduction

By the Intractable disease Act ("Law on medical treatment for patients with incurable diseases," established May 2014, enforced January 2015), the target disease has expanded from 56 and became to 330 diseases this year. In terms of analyzing various kinds of administrative statistics, it is important to accurately assign the code based on the ICD (International Statistical Classification of Diseases and Related Health Problems), however, intractable and rare diseases have not assigned the corresponding ICD code so much.

Methods & Materials

There are 330 specified intractable disease currently. We assigned 306 specific intractable diseases to the ICD code for use in a unified manner. For 7000 rare diseases of that described in international rare disease database "Orphanet", ICD code can support only part of them, and, either using an extension code or using Orphanet code is taken for the national medical statistics analysis. As no extension code for ICD is used for the Japanese disease survey, it became so obvious problem not having unified ICD code. To solve this issue, we created the ICD definition table for specified intractable disease.

Results

Part of Matching table is shown in Table.2.

There are some disease which is not listed in ICD, and assigned as "other", such as Spinal and Bulbar Muscular Atrophy(SBMA).

Amyotrophic lateral sclerosis(ALS), spinal muscular atrophy(SMA), primary lateral sclerosis(PLS) are 3 specified intractable disease in Japan, however, they have same code G12.2 in ICD.

Primary immunodeficiency diseases is one disease but includes several disease and ICD codes such as D84.1, D84.8 and others are assigned.

Also, some disease has different criterial for diagnosis, and also severity stage is set for some diseases.

Additionally, criteria for each disease change both in Specified intractable disease and ICD-10, so matching is confusing.

As some of the major Japanese disease statistics are taken by ICD codes, it is important to have a matching definition of ICD codes with the specified intractable disease to have actual demographics for the political and academical research.

Table 2 : Part of Matching table between Specified Intractable Disease in Japan and ICD numbers, ICD disease name and inclusion/part-of status (in Japanese).

指定難病名称	ICD10	ICD病名	備考
1 脊髄性筋萎縮症	G12.1	その他の遺伝性筋性筋萎縮症	病名あり 全世疾患
2 筋萎縮性脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり 全世疾患
3 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり 全世疾患
4 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり 全世疾患
5 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり 全世疾患
6 ハーキンソン病	G20	パーキンソン病	病名あり
7 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり
8 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり
9 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり
10 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり
11 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり
12 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり
13 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり
14 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり
15 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり
16 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり
17 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり
18 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり
19 脊髄性筋萎縮症	G12.2	運動ニューロン病	病名あり

Conclusions

It became obvious that the matching between Japanese Specified Intractable Disease and ICD-10 is not well organized. Some disease are not listed, some has several codes, some has one code for several diseases. These will not make good statistical analysis for evidence based public health policy or epidemiological research.

Further, it became clear that various names are used in every society and institutions, such as English and katakana notation, with prepositives (such as congenital, idiopathic, progressive, mixed-recurrent, systemic lupus, etc.), generic name or name of a group of diseases, syndromic name. This situation makes doctor confused at diagnosis. In this study, we examined a comparison with the international standard names and ontologies.

One way to solve this issue is to make a guideline for coding the specified intractable disease to ICD-10 code. It might be necessary to have extension code to distinguish different disease in one ICD code, or additional information for diagnosis of different ICD code.

We are expecting for the ICD-11 to overcome this issue, and further investigate if the current ICD-11 will solve this issue.

Acknowledgements or Notes

This work was partially supported by Grants in Aid from Ministry of Health, Labour and Welfare of Japan.

Period	Number of disease in Specified Intractable Disease
Before 2014	56
Jan. 2015-	110
Jul. 2015-	306
Apr. 2017-	330

Table 1: Expansion of Specified Intractable Disease in Japan.



M É X I C O

Mapping ICD-10-AM map to ICD-11 Using Flat-file Maps

16-21 October 2017
Mexico City, Mexico

C314

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Abstract As the clinical classification systems evolve, it is important to keep mappings between previous and current versions, and WHO base versions and country specific modifications. In this view, there are flat mapping files generated with each release in the format of csv or text files. Currently, there are two sets of such mapping files between (a) ICD-10 and ICD-11, and (b) ICD-10 and ICD-10-AM (International Classification of Diseases Version 10 Australian Modification). However, there are no maps done between ICD-11 and ICD-10-AM. This poster presents the programming experience of creating maps between ICD-11 and ICD-10-AM using the above mentioned two flat file maps.

Introduction

The Australian Consortium for Classification Development (ACCD) was commissioned by IHPA to maintain and develop the ICD-10-AM/ACHI classification and publications.

The consortium consists of National Centre for Classification in Health (NCCH), and Western Sydney University. As part of the consortium, Western Sydney University provides supportive IT-based expertise to aid NCCH with their ongoing work as an integral component in the development and management of their assigned standards and classifications.

As part of the publications there are code mapping files created to map ICD-10-AM to ICD-10 which are manually managed. There are ongoing efforts to expand internal systems to allow managing mappings:

- Between ICD-10 and ICD-11 using directly entered mapping data
- Between ICD-10-AM and ICD-11 which can be inferred through existing mappings

Australia is expected to eventually adopt ICD-11, thus mappings will be required to ensure a smooth transition. ICD Code mappings are not only used for ICD classifications, but also classifications that relies on ICD. AR-DRG is one such example of this.

Motivation

WHOFIC has stated ICD-11 will be due by 2018, and Australia is expected to adopt ICD-11 at a later date. Thus resources is required to transition from ICD-10-AM to ICD-11. As part of that transition, ACCD are developing a tool to map and obtain maps from ICD-10-AM to ICD-11, using existing ICD-10 and ICD-11 maps. There are no direct mappings from ICD-10-AM to ICD-11, however there are existing mappings with ICD-10-AM to ICD-10, and ICD-10 to ICD-11. Currently the ICD-10-AM to ICD-10 maps are maintained manually as spreadsheet files. This does limit the flexibility, and would not meet the end goal to map ICD-10-AM to ICD-11 via inferred maps. Thus, there is a need to move the mapping data to reside within a system as to allow flexibility in both accessing and manipulating the mapping data.

Methods & Materials

There are three sets of mapping files to map between ICD-10, ICD-10-AM and ICD-11. These files map from:

- ACCD Files
 - ICD-10 to ICD-10-AM
 - ICD-10-AM to ICD-10
- WHO Files
 - ICD-10 to ICD-11 forward map
 - ICD-11 to ICD-10 backward map

Notice that there are no direct mappings between ICD-10-AM to ICD-11. A Web application will be created to enter mappings into a database. Once this task is complete, mappings between ICD-10-AM and ICD-11 can be inferred in an automated fashion, utilising existing mapping information.

The Experience

A system has been created to store mappings between ICD-10, ICD-10-AM and ICD-11. There are special maps which does not fit perfectly into our generalised cases, namely the Place of Occurrence Code and Activity Code Mappings. In ICD-10-AM Place of Occurrence is coded with Y92.- and Activity is coded with codes in the section U50-U73. In ICD-10 the Place of Occurrence is coded by the use of a subdivision of the code placing two extra digits one for Place of Occurrence and one for Activity.

The Mappings from ICD-10 to ICD-10-AM were a challenge due to the fact that ICD-10-AM aims for granularity in their classification. Thus it is common for ICD-10 to have many possible maps to ICD-10-AM codes in addition to having additive maps.

The mapping from ICD-10 to ICD-11 created by WHO proved to be a challenge to understand due to the mapping between ICD-10 to ICD-11 having different sets of data compared to ICD-10-AM to ICD-10. Unlike its predecessors, ICD-11 also have a multi-parent hierarchical structure, allowing for the concept of linearization. With multi-parenting, the concept of various types of mappings were introduced, thus giving a steeper learning curve to understand the mapping from ICD-10 to ICD-11.

Inferred Mappings

The inferred mapping will map between ICD-10-AM to ICD-11. This would not be a pure direct mapping approach as there are no existing mapping file from ICD-10-AM to ICD-11. This will require a logic where for each ICD-10-AM code, there will be a lookup for the ICD-11 map within the ICD-10 map to create an inferred map to display. This is illustrated in the figure below. The goal of this is to save resources which would otherwise be spent on creating direct maps from ICD-10-AM to ICD-11.

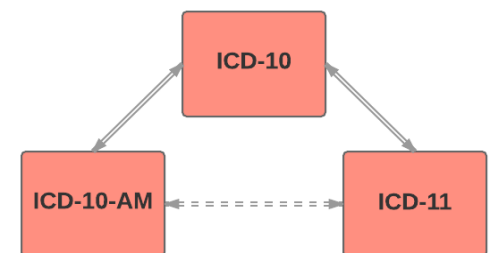


Figure 1: Showing the mapping between ICD versions and the inferred map from ICD-10-AM to ICD-11

Conclusions

The Mappings for ICD-10-AM are not full maps as if there is no code in ICD-10 with the same meaning the code is not mapped thus the code cannot be mapped to any code in ICD-11, this would require human intervention to try to find a new ICD-11 code to map the ICD-10-AM code.

With the system each map is a single item and updating one does not effect others, with the system only the new code map has to be checked, improving efficiency.

With the mapping information available in a centralised location accessible by systems, new opportunities arises. With this transition, mapping information can be integrated into other systems, such as the ICD-10-AM browser to display code mappings.

Acknowledgements or Notes

R. Bernard, V. Dimitropoulos, Y. Guo, R. Madden, K. May, P. Nicolau, F. Pretty, N. Rankin, M. Tun

Self-assessment on ICD needs and transition requirements in the Region of the Americas

16-21 October 2017
Mexico City, Mexico

C315



Authors: Gawryszewski V¹, Soliz P¹, D'Agostino M¹, de Cosio G¹, Jakob R² Kostanjsek N²

¹ Pan American Health Organization, ² World Health Organization

Abstract

The Pan American Health Organization (PAHO) in collaboration with the World Health Organization (WHO) has carried out a self-assessment on International Statistical Classifications of Diseases and Related Health Problems (ICD) needs and transition requirements among Member States of the Americas. The objectives were to identify ICD needs in the countries and the status of the requirements for the transition from ICD-10 to ICD-11 in a systematic and structured manner. Fifteen countries participated. The results showed the strong adoption of the ICD in different settings of the Information Systems for Health (mortality, surveillance, hospitalizations, electronic medical records, etc.). Among main problems are lack of human financial resources, insufficient number of trained personnel in ICD, and fast turnover of information staff. The respondents expected that ICD-11 implementation generates more benefits than costs.

Introduction

Countries will implement ICD-11 at their own convenience. PAHO/WHO has started to discuss with countries a regional transition and implementation plan to facilitate the processes taking into account the upcoming classification dates and the lessons learned from the ICD-10 implementation in the Region of the Americas.

Methods & Materials

The objectives of the self-assessment were:

- to identify and analyse transition requirements across Member States in a systematic and structured manner;
- to make recommendations for development of a classification support infrastructure;
- to develop a roadmap to guide the transition on the Country and Regional levels

ICD-10 → ICD-11

We used the smart survey tool to send out to countries fifty questions to assess the status of the current implementation and uses of ICD-10 in the country.

Structure and content

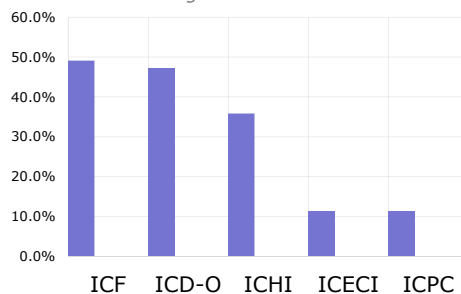
1. Training for ICD
2. Information technology infrastructure available
3. ICD Implementation level / current uses
4. WHO Family of International Classifications (WHO FIC)
5. ICD-11
 - Potential benefits of implementation
 - Potential costs of implementation
 - Knowledge and importance of the online and offline tools
 - Important elements for facilitating the transition from ICD-10 to ICD-11
 - Other elements you would consider essential for a non-disruptive and seamless transition from ICD-10 to ICD-11

The respondents were relevant professionals from Ministry of Health and National Institutes of Statistics from fifteen countries.

This poster shows the main results of this regional approach.

Results

1. Classifications currently used in different countries and settings:

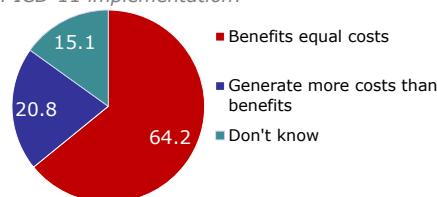


2. Past and present problems to implementation ICD are:

Lack of human and financial resources (funds for training, purchasing ICD manuals etc)	1
Insufficient number of trained personnel in ICD	2
Fast turnover of information staff	3
Lack of awareness on the part of top management on the implications and importance of using ICD-10	4
Lack of training	5
Lack of simplified manuals	6
Inadequate coding books	7
Shortage or total absence of national experts having adequate expertise in ICD	8
Lack of support from national administrations/decision makers	9
Internet access	10
Lack of access to the updated versions of ICD	11

The main problems identified were the lack of human financial resources, insufficient number of trained personnel in ICD, and fast turnover of information staff. However, there are other difficulties to implement the ICD.

3. How would you assess the overall cost-benefit of ICD-11 implementation?



Other results:

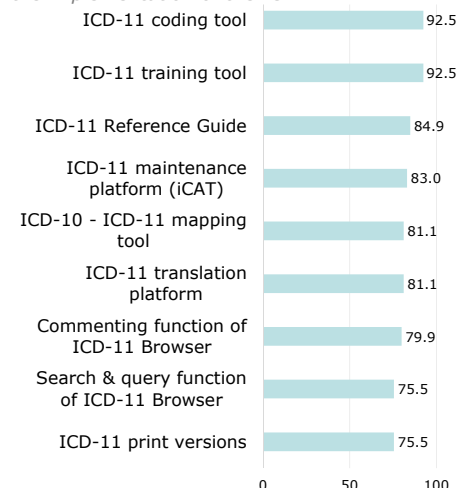
- Most of respondents do not know the costs of ICD implementation
- The classroom training with instructor is the preferred mode to ICD training
- Improve the quality of health information, better understanding of health care outcomes and improved disease management are ranked very significant uses of ICD

Results

4. Rank the importance of the following elements for facilitating the transition

Allocation of financial resources	1
Staff allocation to build capacity in coding with ICD-11	2
Set a transition date after which records have to be codes in ICD-11	3
Double coding in ICD-10 and ICD-11 during the transition period	4
ICD-10 to ICD-11 crosswalk	5
Allow for a two to three year transition period	6
Licensing & copyright	7

5. How would rank the importance of the following online and offline tools for facilitating the implementation of the ICD-11?



Towards ICD-11

- There are many excellent and important national experiences in the Region, at the same time there are important gaps to overcome.
- In order to analyze the results of the self-assessment, to update countries on the ICD-11 preparation process and field testing at regional levels and to coordinate efforts among countries, CC, CARPHA, PAHO and WHO, a regional meeting will be held from September 13 to 14 in Bogota, Colombia

Acknowledgements

We would like to acknowledge the tireless efforts of countries implementing the WHO FIC and for participating in this Regional project.

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ICD-11 practice of working in community of collaborating centers

16-21 October 2017
Mexico City, Mexico

C316

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Abstract With the passage of time medical advances and new technologies have led to the appearance of new terms, which allowed the enrichment of the CIE. Nowadays advances in technological tools allow the CIE to go one step further and the user to experience the changes that are established almost in real time, this is what brings us the ICD-11

Introduction

The advance in international classifications goes hand in hand with medical and technological advances, and ICE-11 was born, for the Spanish-speaking countries it is necessary to advance at the same pace of English speaking, which is why, from OPS, it is proposed to carry out the translation of the CIE-11 to Spanish in early 2015, the network of collaborating centers meets and agrees to carry out this task in the so-called Solidarity of Translation, with the participation of the CC and CNR of Argentina (CACE), Mexico (CEMECE) Chile (CNRChile), Cuba (CECUCE) Spain (AQuAS) and Venezuela (CEVECE), with contributions from Colombia and technical advice from PAHO and WHO. It also has a portal space RELACSIS in which are placed support materials developed and / or translated by centers throughout this process. CEVECE has participated in the joint translation and tutorials that have been created to support the progress of this joint task

The ICD-11 brings us innovations based on medical advances - technology and greater participation of the users. the network of collaborating centers grouped in RELACSIS with OPS supervision has worked with solidarity in the translation and preparatory pilot tests for the implementation of the ICD-11 being a successful experience for all the participants. The challenge posed by the network today is the culmination of the pilot tests which will give an idea of the strengths and weaknesses that can be presented at the time of the implementation of ICD-11 in the Spanish-speaking countries



Methods & Materials

The CIE-11 brings us, in addition to its novelties in terminology and technology, a series of terms that are necessary to understand for a better management of the same: **specificity, ambiguity, postcoordination, linearization**, all this leads us to a dream almost real : the use of multiple coding will already be a reality. For the comprehension of this whole area, it required the elaboration of material that would allow the coders the adequate understanding of terms as well as the use of the translation platforms for ICD-11

For the realization of the pilot tests it was necessary to create support material that was socialized with all the evaluators to facilitate the understanding of the use of the platforms, terminology and the tests themselves. The following part of this material:



Chart 1: Support materials for pilot tests ICD-11

Subsequently, the pilot tests for CIE.11 were started, with active participation of the CC network that groups RELACSIS (CEMECE, CACE, CNR of Chile, CECUCE, AQUAS and CEVECE, with subsequent incorporation of personnel from Colombia) under supervision of PAHO and WHO-FIC. The objectives to be fulfilled in the pilot tests are as follows:

- ✓Evaluate the selected components of ICD-11 MMS in terms of consistency, accuracy and ease of use for basic morbidity coding.
- ✓Determine comparability between ICD-10 and ICD-11.
- ✓Examine the testing process and instruments to determine the necessary improvements before beginning the most complete test scheduled for 2017.
- ✓Acquire coding skills with ICD-11 among participating coders; as this will help reduce the bias of having well-trained coders in ICD-10 evaluating the new ICD-11.

At present the CCs have performed two levels of pilot tests and a third level is in preparation, the participants have seen the development actively, posing doubts, offering points of view that further enrich this experience.

Conclusions

- ✓The clinical-epidemiological approach of the ICD-11 will allow a greater understanding of the FCI by health personnel.
- ✓The ICD-11 will allow the use of a more complete classifier with the use of technological tools and the possibility of real-time updates.
- ✓The immediate challenge of the CC network is the training and dissemination of the ICD-11 for the strengthening of the countries of the FCI.



Acknowledgements or Notes

Thanks to WHO-FIC for allowing us to be part of history. PAHO and RELACSIS for leading and accompanying in this experience, to our brothers of CEMECE, CACE, CECUCE, CNR of CHILE, AQuAS every meeting is a win for all.

Corresponding author on the original Dr. Cordero, C., Magister in Epidemiology (UDO) and Demographer. (UCAB).

ICD-10

C401 – C420

❖ WHO ID	❖ Title	❖ Author(s)
C401	Strengthening Mortality and Cause of Death ICD Data: The Implementation Updates from the Africa Region	Xu, Hanmer, Bradshaw
C402	Use of Cause of Death data coded in ICD to support measurement of progress towards the SDGs in Africa: Updates and selected case studies	Xu, Bradshaw, Hanmer
C403	Quality of maternal mortality statistics. Cuba, 2013	Martinez, Bess, Alonso, Fernandez, López, et al.
C404	MMDS to IRIS a necessary change in mortality system in Mexico	Yañez, Pérez, Andrade, Alanis, Vazquez, et al.
C405	MMS vs IRIS Coding: Comparative analysis of results	Yañez, Pérez, Andrade, Alanis, Vazquez, et al.
C406	Replace VALCOD-MMDS by IRIS in coding process at INEGI	Luévano, Enrique
C407	Evaluation of the Effectiveness of IRIS Software for Use in Brazil	Martins, Buchalla
C408	Association of mentioned diagnosis and underlying causes of death	Tardelli, Paulo, Anção'
C409	On the online course on properly completing Death Certificates	Yañez,
C410	Mortality data coverage and quality at local levels: the urgency in e-learning training courses	Ribotta, Giusti, Ruiz

ICD-10 C401 – C420

❖ WHO ID	❖ Title	❖ Author(s)
C411	ICD - 10: New Proposal for Medical information encoders through Virtual Courses	Orellano, Navarro
C412	Reporting the performance of online courses in FIC developed by RELAC SIS	Ruiz, Giusti, Ribotta, Yañez , Navarro, Orellano, Reviról
C413	Utilization of ICD classification in Japan Comparative analysis between ICD and a disease classification for clinical practices	Ogawa, Takizawa, Oikawa, nakayama, Niihata, ootsubo, Mori, Tajima, Imamura
C414	National Health Resource Repository- A Way for Evidence based Planning	Madhu, Goyal, Manik
C415	ICD-10 updates looking at ICD-11: nosological entities limitations	Zavaroni, Tonel, Frattura
C416	How to code mental disorders in 0-3 years old children using ICD-11	Frattura, Bruno
C417	Discharge abstract data quality changes over time: Comparing validity of 2003 and 2015 ICD-10-CA coding of Charlson and Elixhauser conditions	Eastwood, Southern, Quan
C418	Strengths and Barriers to Hospital Chart Coding Quality from Health Information Manager Perspectives: A Qualitative Study	Doktorchik, Lu, Quan, Eastwood
C419	ICD-10 coders' difficulties: "clinical manifestations and differential diagnosis" update proposals looking at ICD-11.	Zavaroni, Tonel, Frattura
C420	International Classifications: Tool for Epidemiological Surveillance	Cordero



STRENGTHENING MORTALITY AND CAUSE OF DEATH ICD DATA: THE IMPLEMENTATION UPDATES FROM THE AFRICA REGION

16-21 October 2017
Mexico City, Mexico

C401

Authors: Hongyi Xu¹, Lyn Hanmer², Debbie Bradshaw²
1. WHO-AFRO, Brazzaville, Republic of Congo. 2. South Africa WHO-FIC
Collaborating Centre and South African Medical Research Council, Cape Town

Abstract The movement in Africa to improve civil registration including birth and death registration data is strong. Despite financial constraints, the SDG agenda and the enabling global and regional environment present opportunities to establish functioning CRVS systems. We report on some successful implementation experiences in Africa which can serve as inspiration to the many countries with weak CRVS systems and recommend essential actions to improve CRVS.

Introduction

The WHO Regional Office for Africa, at the 66th Regional Committee meeting in 2016, endorsed twin priorities in its SDG agenda in terms of health information systems: **strengthening vital registration systems** and **routine health facility information** to improve data availability and timeliness for SDG/Universal Health Coverage tracking.

In addition to high-level advocacy, regional and global initiatives to improve mortality data have focussed on strategy, methodology and technology for low resource settings. Priority actions and roadmaps need to be identified to accelerate concerted efforts at all levels and demonstrate further improvements on the system in the coming year.

Methods & Materials

This poster reviews recent experiences and challenges, using data from health facilities in ten African countries, a rapid National Health Information System landscape survey for all 47 WHO AFRO member states, as well as assessments, reviews and follow-up discussions from the regional network. The role of the health sector and regional partners in improving mortality statistics and cause of death recording and its linkages to CRVS systems is examined particularly.

Results

Considerable achievements have been made in the region. 11 countries out of the total 54-member states have met the 2020 regional targets of registering at least 60% of death. Many countries, including Ethiopia, Ghana, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda, and Zambia, are now aided by both domestic and external resources to start or improve CRVS systems. Around 10 countries have now prepared to produce its vital statistics report. Among them, Kenya has for the first time produced its reports and made its ICD cause of death data available to WHO.

Country efforts have focused on medical certification of deaths in health facilities with notification/linkage to the civil registration authority while others have implemented systems for real-time cause of death data from facilities. The achievements and areas for improvement are highlighted in the table.

Implementation of Medical Certificate for Cause of Death (MCCD) in 10 selected countries¹

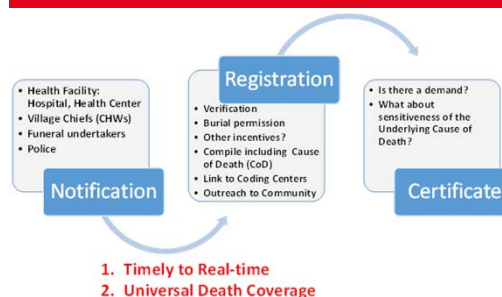
Achievements	Areas for improvement
<ul style="list-style-type: none"> Many countries have received initial international training of trainers eLearning tools with online, offline, interactive version, are available from WHO http://www.who.int/classifications/icd/en/ Five countries have national start-up and roll-out training for physicians to fill out MCCD and certify cause of death. 	<ul style="list-style-type: none"> Four countries do not use a WHO MCCD standard form or an adapted MCCD form. Four countries have financial costs to the family on registration of deaths or cause of death. Only Kenya, Tanzania and Zambia mentioned being able to obtain MCCD and other registration papers immediately, almost in the same place, or even in after work hours. In some countries, paper work cannot be obtained on the same day. Five countries indicated receiving benefits or support to the deceased family, burial permits, or insurance claims as part of the registration of deaths. Mozambique listed further incentives including funeral support and disbursement-linked indicators through a World Bank project. All those countries have a parallel HMIS system to report death on specific disease.

Towards Real time mortality

Achievements	Areas for development
<ul style="list-style-type: none"> Automation and institutionalization are common characteristics in countries with internationally recognized vital registration systems, such as Egypt and South Africa. Ghana has recently launched the DHIS2 system for tracking death statistics nationwide. This means the country is not just able to use real-time routine health service data in all 216 districts to track its health system performance and UHC progress, but also can use real-time integrated population denominators and mortality data for population planning, health trend calculations and estimation, and link to the disease surveillance and early warning. 	<ul style="list-style-type: none"> In Kenya, there is a need to improve the coverage of death registration, which has been between 40-50% for some years. This may be possible through reengineering mobile-based applications or through an innovative system approach, for better tracking and cause of death data quality verification, as well as real-time death notification both at health facilities and community level. Targeted intervention to some geographic hard reach with poor infrastructure should be considered. In Rwanda, the E-CRVS is a web-based system that was launched in 2015 by the National Institute of Statistics and is operational at both administrative sector level and health facility level. It is being refined and currently collects a minor proportion of deaths reported through the Rwanda HMIS (R-HMIS) at health facilities. The E-CRVS was recently upgraded with the WHO's ICD Start-up Mortality List. However, Rwanda has not started implementation of MCCOD - a critical step to producing quality statistics. Kenya, Mozambique, and Rwanda are now looking at e-Health architecture, big data standards and interoperability issues while endeavouring to improve the data system for better UHC tracking and policy decision-making guidance, and the linkage to other system such as citizen ID and voting system.

1. Botswana, Cameroon, Kenya, Lesotho, Malawi, Mozambique, Rwanda, Tanzania, Uganda, Zambia

Conclusions



The SDGs agenda and the enabling global and regional environment present opportunities to establish functioning CRVS systems.

Recommendations

We recommend three essential actions on policies and training:-

- 1) use/adapt WHO standard cause of death form as an entry point for any mortality and cause of death data collection as first step;
- 2) train physicians/health workers to use the MCCD form and follow up the implementation; and
- 3) ensure that implementation and enforcement provides incentives for improving cause of death collection at health facilities (burial permits, insurance, disbursement-linked indicators, etc.).



Use of Cause of Death data coded in ICD to support measurement of progress towards the SDGs in Africa: Updates and selected case studies

16-21 October 2017
Mexico City, Mexico

C402

Hongyi Xu¹, Debbie Bradshaw², Lyn Hanmer²

¹WHO-AFRO, Brazzaville, Republic of Congo

²South African Medical Research Council (SAMRC) and South African WHO-FIC Collaborating Centre, Cape Town

Abstract SDG indicator tracking requires a CRVS system which provides reliable data on mortality and causes of death (COD). This poster updates and examines the African region early efforts of tracking SDGs using ICD, particularly for cause of death data, and presents ways forward at both policy and implementation level.

Introduction

CRVS is linked to 15 out of the 17 Sustainable Development Goals (SDGs). While some countries such as Botswana, Ghana, Mauritius, Namibia, Rwanda, South Africa, and Swaziland, have produced reports on vital statistics and cause of death, including quality of its mortality and cause of death data, many countries are far off from global standards which requires more than 90% deaths registered into the CR system, and less than 15% deaths assigned an ill-defined/non-specific cause. High level advocacy for CRVS featured in the WHO-AFRO Regional Committee 66th Session held in Addis Ababa, Ethiopia, from 16 to 23 August 2016.

SDG17: CRVS performance is vital to other SDGs

- **Kenya** has a strong drive to analyze and use the data. The country is now working with WHO on its second vital registration and cause of death report.
- A life-course people-centred health care system is envisioned by **Cape Verde** with an ambitious eGovernance and eHealth agenda.
- As many countries in the region pursue Universal Health Coverage, **Rwanda** is now looking at the joint use of ICD morbidity and mortality, as well as medical intervention standards, to guide its health policy and programme monitoring.
- **Swaziland** has critically examined the quality of current vital registration system using the WHO ANACoD method [1].
- The vital registration system in **Egypt** is able to record notifications of digital data in real-time to be used at national level for vital statistics purposes, but also to be used to follow-up vaccinations and other related activities such as surveillance investigation and response (Figure 1) [2].

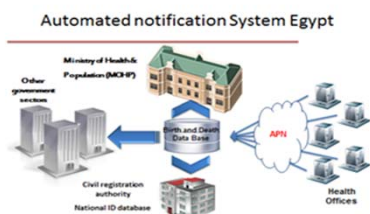


Figure 1

SDG17: CRVS performance (cont)

- **Liberia** has now reported on an unexplained cluster of deaths through its surveillance group [3].
- With the application of DHIS2, **Ghana** is now empowered to report real-time mortality data directly while integrating event surveillance and outbreaks response data [4].

Ghana: the Honourable Minister of Health has recently launched the DHIS2 system for tracking death statistics nationwide. This means the country is not just able to use real-time routine health service data in all 216 districts to track its health system performance and UHC progress, but also can use real-time integrated population denominators and mortality data for population planning, health trend calculations and estimation. This is a good example of health information accountability.

Health research institutes can play an important role in terms of routine and ad hoc vital statistics quality control, long-term sustainable training, and health district or sub-district mortality profiling. The SAMRC, which hosts a WHO-FIC Collaborating Centre, is an example of a health research institute in the African region that supports and monitors the implementation of the CRVS system.

Target 3.1: Reduce premature mortality from NCDs

The SDG targets for premature mortality attributed to NCDs (cardiovascular disease, cancer, diabetes, and chronic lower respiratory diseases) can be monitored regularly through statistical releases and mortality profiles, as in the case of South Africa (see Figure 2) [5].

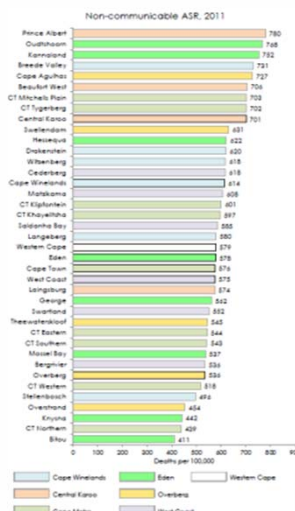


Figure 2

Leaving no one behind

Health inequality monitoring becomes feasible and powerful using cause of death data coded in ICD, for example in Kenya and South Africa. Mortality impact indicators from CRVS can be analysed by race, gender, age, geographic location, and even risk factors such as smoking status.

The recent Cause of Death report from South Africa indicated an increasing trend of the age 15-25 male-to-female mortality ratio in the 2011 to 2015 period (Figure 3). In addition to the overall trend, the cause of death pattern among young males (leading causes assault and injury), and young females (leading causes TB and HIV/AIDS) are now providing robust evidence for policy and programme intervention at both national and subnational level [6].

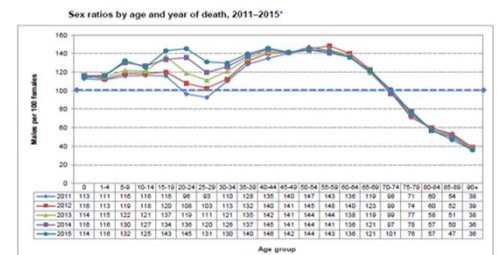


Figure 3

Conclusion

The crucial next step is to link the data to national health policies, strategies and plans to incorporate the 'leave-no-one-behind' focus into programmes. Budgetary allocations at all levels of the government system including the health system can be informed for best resource allocation. This will also drive the real demand for data generation and form a virtuous cycle of health information system and accountability in the region [7].

There is a need to continuously improve the quality and interoperability of morbidity/mortality data while using ICD in the region. Forging partnerships with health research institutes, and collaboration through regional and sub-regional networks, could greatly facilitate this process.

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Quality of maternal mortality statistics. Cuba, 2013

16-21 October 2017
Mexico City, Mexico

C403

Authors: Martínez MA., Bess S., Alonso I., Fernández MR., López LM., Mazorra V., Álvarez R., Piloto M., Gran MA.
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Abstract A cross-sectional, nationwide study of women deceased of reproductive age in the year 2013 was carried out. The integrity of the maternal deaths report was practically complete. It was reported by the study, only one maternal death more than by continuous recording. The adjustment factor resulting from the RAMOS study was 1.02.

Introduction

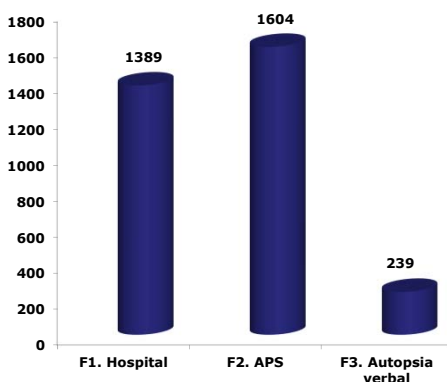
The reduction of maternal mortality is one of the main objectives of the National Health Programs, representing one of the most important challenges for Health Systems and that requires the participation of all sectors of society. For a more complete picture of maternal mortality, various sources of information should be used and alternative methodologies applied. The difficulty of measuring it at the global level is clear, influenced significantly by the coverage of mortality information systems and the difficulties of classification. Cuba has a Statistical Information System on Deaths and Births based on the single continuous record of the data, with national coverage. Deaths occurring during pregnancy, childbirth and the puerperium are reported directly by telephone and through the nominal surveillance system. WHO, UNICEF and UNFPA have developed maternal mortality estimates as a way to adjust reporting and classification errors of data provided by countries. The United Nations Interagency Panel on the Prevention of Maternal Mortality (MMEIG) in a pilot study published in 2013 described Cuba as one of the countries with good information on the civil registry and recommended that the study on deaths women of childbearing age to update knowledge and feed into decision-making, both at the national level and in the MMEIG estimation process.

Methods & Materials

A descriptive and retrospective observational study was carried out taking the year 2013, with a national scope that covered all the women who died between 12 and 49 years (2 731). A form was applied for those who died while being admitted to a hospital unit, taking the medical record as a source of information. For the deceased outside the hospital, another form was used for the family medicine team that cared for the woman. In cases where the results of the application of these questionnaires did not give conclusive information regarding the existence of a pregnancy in the year prior to death and the possible relationship of death with pregnancy, delivery and puerperium, a verbal autopsy directed at a close relative. A team trained at the central level of the Ministry of Public Health re-evaluated all cases where a possible association was found or the results of which were inconclusive for classification.

Results

Results of the application of forms, according to type. Cuba, 2013



F 4 made by the national commission. Cuba, 2013

Cause	No.
+ F1	63
+ F2	33
+ F3	1
F3 no concluyente	20

Results

Maternal deaths by type and method of reporting. Cuba, 2013

Type of death	Reporting method	
	Continuous recording	RAMOS study
Direct maternal	27	30
Indirect maternal	22	20
Other related to pregnancy childbirth and puerperium	9	8
Late	7	8
Total	65	66

Change of causes of death recorded in medical death certificates and those derived from the RAMOS study

Change	Cause registered in Continuous Registration system	Cause derived from the RAMOS study
Muerte materna indirecta por RC, pasa a directa por el estudio RAMOS	0994 Diseases of the circulatory system complicating pregnancy, childbirth and the puerperium	095X Obstetric death of unspecified cause
Muerte materna indirecta por RC, pasa a directa por el estudio RAMOS	0101 Pre-existing hypertensive heart disease complicating pregnancy, childbirth and the puerperium	085X Puerperal sepsis
Muerte clasificada en otras relacionadas con embarazo parto y puerperio por RC, pasa a directa por el estudio RAMOS	N10X Acute tubulointerstitial nephritis	0048 Medical abortion with other and unspecified complications
Muerte de causa no materna pasa a tardía.	C763 Malignant neoplasm of pelvis	0960 Maternal death from direct obstetric cause occurring more than 42 days but less than one year after delivery

Conclusions

The attention to sexual and reproductive health provided by the national health system, together with other sectors, explains the low maternal mortality, an event of rigorous measurement in health and that the study shows. The integrity of the report of maternal death in Cuba is practically complete and the classification of the causes that cause it is adequate, finding an adjustment factor in the RAMOS study of 1.02.



MMDS to IRIS a necessary change in mortality system in Mexico

16-21 October 2017
Mexico City, Mexico

C404

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

M É X I C O

Abstract The WHO-FIC Network promotes and recommends Automated Coding Systems. The most advanced and consolidated so far are for mortality and refer to ICD-10. Until now, in the Region of the Americas, experience has been developed in the adaptation and use of the Mortality Medical Data System (MMDS); However, the current needs force to migrate to the new software developed for the same purpose, called Iris. While there are advantages to this transition, it is necessary to perform prior tasks prior to their adoption. This work poses the strategy to follow of this activity.

Introduction

For more than 15 years, the INEGI (National Institute of Statistics and Geography), with the support of the CEMECE, made the necessary adjustments for the operation of the MMDS in Mexico for automated coding in mortality, with the following activities:

- It developed the dictionary corresponding to Mexican Spanish.
- It created a mechanism for the treatment of information through an orthographic recognition.
- The linking of the terms Spanish to English.
- Training for coders.
- Comparative studies between manual and automated coding.

This work had the result that the system obtained an effectiveness of 87%. The system was shared with some countries of the Region of the Americas to add effort and improve their processes.

Methods & Materials

Iris software is a system with the same objective. Just as MMDS builds upon the international model of death certificate and encodes multiple causes and selects the underlying cause based on the mortality rules contained in Volume 2 of ICD-10. This system has been developed by the Iris Institute coordinated by the German Institute for Documentation and Medical Information (DIMDI), which is the WHO Collaborating Center for the FCI, which also coordinates the development of the Iris system in collaboration with France, Hungary, Italy and the United States.

There are several advantages that the Iris system has over the MMDS, among them, it has a more open structure in terms of the dictionary of medical terms as in the application of rules through the MUSE and within each country could increase the efficiency of the coders in the times invested in the process and can homologate coding criteria.

In August 2016, through the cooperation of PAHO, the CEMECE received the Iris course from European experts working with the Iris V5.3.1 (preliminary) version.

Results

This course covered topics on the operation of this software aimed at the main institutional actors of the country, to know its basic operation, components, advantages, coding updates and other related topics. Noteworthy is that, although the Iris system is free, it has a central base that users must develop for their optimal operation: the dictionary of medical terms in the language that will be used. This dictionary should contain the phrases and words that will be converted into ICD-10 codes so that they in turn interact with MUSE to determine the basic cause of death. In addition, the most recent version of Iris operates with ICD-10, 2016.

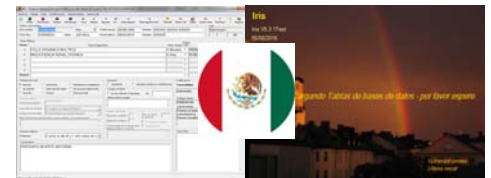


Based on the training received and considering the activities of CEMECE as a WHO Collaborating Center, it was concluded that efforts will be focused on developing the necessary experience; however, we are aware that they require certain steps to follow to achieve success in this task: Among the highlights are:

- ✓ Analyze and evaluate by the CEMECE the dictionary that is currently available, provided by Spain.
- ✓ Review of new diagnostics for integration into the dictionary.
- ✓ Standardization of terms.
- ✓ Review of the coding in the correct selection of the basic cause.
- ✓ Training of coders in the use of Iris software.
- ✓ Update to the coders in the ICD-10 2016 at the national level.

- ✓ Perform the process of integrating the DB for its codification (export and import).
- ✓ Process for controlling the unified dictionary at the national level (server).
- ✓ Adjustment in health information systems.

Mexico will adopt an overview about software Iris, and is going to migrate MMDS encoding system to IRIS.



Conclusions

It is expected that the rest of 2017 Mexico will develop experience to implement the IRIS encoder in the country's mortality information systems. Among the priority tasks is to enrich the dictionary with medical terms to increase the effectiveness of coding and subsequently the selection of the basic cause, in addition to the Spanish translation of the ICD-10, 2016 for official use within Mexico. Since we received this course today, our efforts have focused on further understanding the system and reviewing the impact it will have on mortality statistics within the country in moving from one system to another. Mainly because of the change represented by the use of a new version of ICD-10 (2016). In addition to the significant change in the name of the selection rules for the basic cause of death, there is a significant change in some rules.



Acknowledgements

This work was possible with the support provided by PAHO to carry out this course in Mexico for the members of CEMECE. In the same way the permanent advice that we have received from the experts of the Iris Institute, Francesco Grippo and László Pelikan. Thank you.



M É X I C O

MMDS VS IRIS CODING: COMPARATIVE ANALYSIS OF RESULTS

16-21 October 2017
Mexico City, Mexico

C405

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

Abstract In Mexico, the migration of the Mortality Medical Data System (MMDS) to the Iris system is accompanied by a number of tasks, including evaluating the results of a mortality base with real data both in the recognition of medical terms and in the application of the selection rules of the Cause in both systems. A first approach that the CEMECE carried out was a comparative work regarding a sample of the base of deaths of the year 2015. This work shows in general form the main findings.

Introduction

In the last 15 years and on the initiative of INEGI, Mexico has developed extensive experience in the MMDS, even today this system operates in the Ministry of Health and is the engine for the codification of death certificates. Although a significant percentage of effectiveness (87%) has been reached in this task, the advance of information systems forces necessary updates in this area. Currently, a system called Iris is available, which performs the same function with a better opening in terms of maintenance and operation. This system comes from the Iris Institute which is a cooperation of different European countries coordinated by Germany. In the framework of cooperation, Mexico received a dictionary of Spanish terms from the National Institute of Statistics of Spain, with which it was possible to carry out the first tests to work with the Iris and have the comparison with the results obtained from the MMDS with the same database.

We should mention and thank the Spanish Institute of Statistics that kindly provided us with the dictionary in Spanish with which these comparability tests could be carried out.

It is important to mention that this dictionary has a high level of effectiveness, however, although we can say that Mexico and Spain speak the same language, it is a fact that the handling of medical terms is different for both countries. The purpose of this work is only comparative.

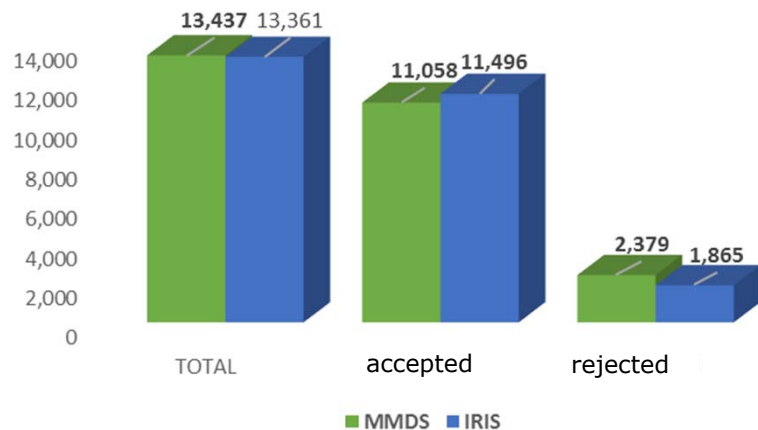
Methods & Materials

This analysis is part of the strategy to migrate to Iris and had the purpose of analyzing and assessing the medical terms in Mexican Spanish to strengthen the chapters of ICD-10 where Iris showed less effectiveness.

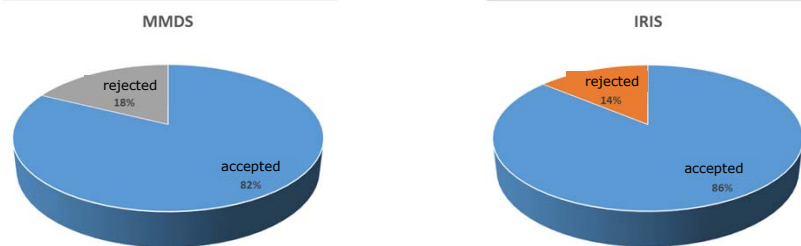
A sample of 5,000 death records from the 2014 mortality database in Mexico was taken, which contained 12,780 medical terms in multiple causes. This was codified by both the MMDS and the Iris in order to compare the results of the recognition of medical terms (dictionary) for both cases. The results are shown below with an overview.

Results

MMDS vs IRIS Analysis



According to the dictionary in Spanish with which it was counted at the time of the test.



Conclusions

As a result of the effectiveness of coding in assigning CIE-10 codes to multiple causes, the following data were obtained:

Of the total of the cases processed with 12,780 causes of death, taken from 5,000 records, codified by MMDS and Iris in a fully automatic process, it was verified its effectiveness with the following points to highlight:

- The MMDS evaluates the 5,000 records, the number of causes of death are 13,437 of which assigned ICD-10 code to 11,058 causes and remained unassigned 2,379 which represents 82.3% and 17.7% respectively
- The IRIS of the 5,000 records according to its interpretation evaluates that it has 13,361 causes, where it could assign ICD-10 code to 11,496 causes that represent 86.0%, but could not assign code to 1,865 causes that represents 14.0%

Although the MMDS in its dictionary has been worked for years, with this sampling it is observed that it has a lower effectiveness in the assignment of codes, while the dictionary provided by Spain has a greater effectiveness. Remembering that this last dictionary is being terminated to be able to eliminate those terms that are not used in Mexico and to extend the number of terms according to those terms that are more frequent and are not in the dictionary. For both systems it is considered the spelling errors of capture that could influence the recognition of the term at the time of coding. This forces the revision and amplitude of the dictionary in Spanish to assure the quality of the codification and in turn increase the allocation of the basic cause of death.

Acknowledgements

The next steps within the migration strategy will be to consolidate a database of medical terms in Spanish within the Mexican context. We thank the INE of Spain for the valuable contribution of the dictionary in Spanish to be able to carry out the first tests in Mexico.



Replace VALCOD-MMDS by IRIS in coding process at INEGI

16-21 October 2017
Mexico City, Mexico

C406

Authors: Navarro Luévano, Enrique

Statistics and Geography National Institute, member of the Mexican Collaborating Center, Aguascalientes, Mexico

Abstract ICD-10 mortality coding process at Statistics and Geography National Institute in Mexico (INEGI), incorporates several phases which includes manual coding (mainly for external causes of death), automating coding, interactive coding, sample supervision for automating coding and supervision during all of the process. Automated coding started in 2007 with the use of VALCOD-MMDS, which has been replaced by IRIS in 2016.

Introduction

VALCOD-MMDS was incorporated since 2007 in the INEGI coding process with very successful results that lead Mexico to share experience among several countries in the latin-american region. VALCOD-MMDS works in a stand-alone environment over an IT platform (Foxplus) which lacks of technical support and it's obsolete. Every ICD update and change in operating system implied some challenges with the risk of having no success as a result. Besides, MMDS core applications lack of any support as well. Hopefully, decision tables have been updated by MRG and IRIS Institute. Considering all of this factors, in 2016 INEGI replaced VALCOD-MMDS by IRIS as the component of automated and interactive coding to identify the underlying cause of death (UC). This was possible mainly because National Statistics Office in Spain (INE) shared its dictionary with spanish entries.

Methods & Materials

Replacing process included:

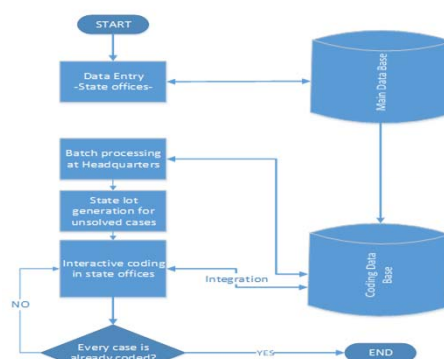
- 1.Designing a conceptual model. Experience in coding process not only in automated coding was the first element to be considered as well as the chance to integrate better coding process with the other processes involved in the mortality statistics process. Taking advantage of INEGI IT platform and coders profile were two additional key factors.
- 2.Self-study of IRIS manuals. Getting first contact with application and realize some of its potential and versatility.
- 3.Testing IRIS. Creating lots for batch and interactive processing. Lots included cases solved by VALCOD-MMDS and manual coding.
- 4.Formal training. Coders profile drove us to design a particular user manual and training course which describe IRIS coding process step by step.
- 5.Coders testing, coaching, and feedback. After training, coders did intensive testing which required help from a multidisciplinary team, besides they provided very useful feedback for modifying dictionary entries.

Methods & Materials

6. Adjustments in dictionary. Testing let us identify the need to make adjustments in dictionary to replace ICD-10 codes and to add new ones.
7. Dealing with resistance to change. Coders testing and their feedback reduced resistance to change. It was necessary to make evident the importance of the coders in the coding process because their experience is a key success factor. Testing and evaluating in parallel VALCOD-MMDS and IRIS results was also really helpful.

Results

Implementation of the replacing model required transformation procedures according to IRIS lot structure requirements for variables sex, age (less than 1 year old and less than 1 day old), duration, as well as those describing manner of death, external causes and maternal death. Coding process includes a matching verification between results for UC in VALCOD-MMDS and IRIS batch processing, uneven cases are subject to interactive coding by using IRIS where coder plays a critical role in verifying codes for multiple causes, evaluating the UC selected by IRIS or defining it. Interactive coding takes place at 32 INEGI state offices all over the country.



For 2016 data, interactive coding rate was between 35 and 45 percent depending on lot features.

Conclusions

Among main advantages of IRIS integration into INEGI mortality coding process, we have:

- 1.IRIS versatility: customazing interface, modifying existing entries in dictionary to be associated to other ICD codes (according to updates), adding new entries, and standardization tools to improve coding efficiency.
- 2.IRIS suits and take advantage of INEGI IT platform and it's supported by IRIS Institute.
- 3.Mortality statistics process has improved integration of all of its components including UC coding.
- 4.Controls for coding process have had a possitive impact in quality and have revealed some gaps in training for manual and interactive coding.
- 5.There is certainty about the way of solution of each case (automated, interactive).
- 6.User experience is driven to an interface that contains all of the tools he needs to solve every case: solve misspellings in conditions, modify/assign ICD codes for multiple causes, query dictionary and ACME tables, review coding process for getting UC, modify/assign UC code.

Coders have realized all of the advantages of IRIS by themselves.

Road ahead, IRIS will be used for coding supervising process at the 10 INEGI regional offices, wich now is implemented through other software applications.

Acknowledgements or Notes

We thank to IRIS Institute and the National Statistics Office in Spain (INE) because of their sharing of software, user manual, user interface, spanish entries dictionary and standardization rules for IRIS, because they were a key input for INEGI's Project to replace VALCOD-MMDS by IRIS as the automated coding component in the mortality coding process.



M É X I C O

EVALUATION OF THE EFFECTIVENESS OF IRIS SOFTWARE FOR USE IN BRAZIL

16-21 October 2017
Mexico City, Mexico

C407

Authors: Renata C Martins, Cassia M Buchalla

Postgraduate Program in Public Health–School of Public Health, University of Sao Paulo, Brazil

Abstract The Iris Portuguese dictionary have 46,773 terms and 644 standardization rules. 904 death certificates (DC) were tested. Iris finalized 45.9% of this DC. Iris agreement with manual coding at the 4-digits and 3-digits levels of ICD-10 codes was 73.3% and 78.2%, respectively. The concordance of the underlying cause of death with the Underlying Cause of Death Selection System (SCB, in Portuguese) at chapter level was 91.8%. After small corrections, Iris finalized 66.6% of the DC, similar to countries that use Iris in their routine. Iris is compatible to Brazil mortality system.

Introduction

In Brazil, death certificates (DC) are manually coded but the Underlying Cause of Death (UCD) is selected by the SCB (Brazilian UCD selection system). As the coding is decentralized, the quality of the mortality statistics depends on the work done in more than 5000 cities. Among several strategies to improve the quality of the mortality statistics, Iris, a system that codes the causes mentioned at the DC and selects the UCD, has the advantage of being a language independent software. This facilitates the use in countries with different languages. Since 2010, we are developing the Portuguese dictionary for Iris. This research aimed to finalize the Portuguese dictionary (phase 1), to test Iris and to compare it with manual coding and with the selection of the SCB (phase 2).

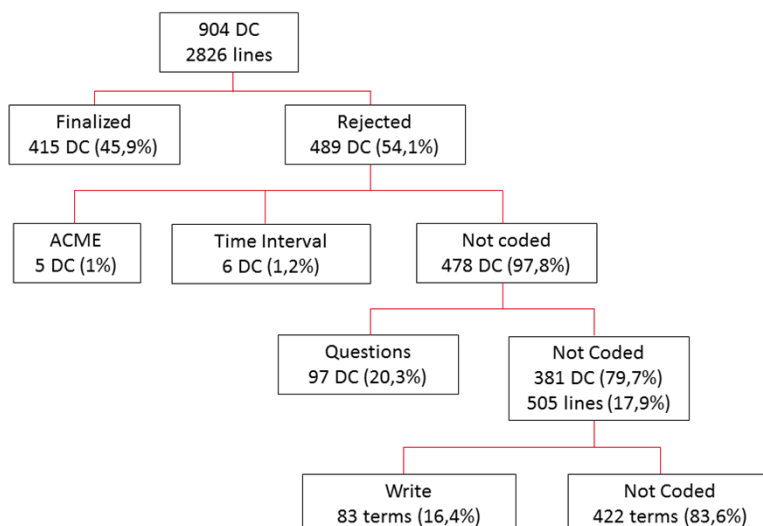
Methods & Materials

We studied DC from nine cities representing all five regions. Inclusion criteria were death due to ordinary causes, mention of communicable diseases, maternal and infant deaths, and those DC were external causes or surgery were mentioned. The Iris version used was 5.0.2 with MUSE module. The SCB version used was 4.1.0.0 (federal SCBweb).

Results

We studied 1,848 DC, with an average of 3.1 lines filled by DC. The median age was 59 years and 55.9% were males. In phase 1, we applied the 944 DC to Iris and we made 618 adjustments or additions to dictionary tables or standardization tables. By the end of phase 1 the dictionary was considered finalized, containing 46,773 terms and 644 standardization rules. In phase 2, we tested 904 DC that contained 2826 lines of causes of death (Chart 1). Iris finalized 45.9% of this DC, meaning that all causes of death were coded and the UCD was automatically selected. The rejected by "questions" (97 DC) those questions made to verify if the coding are corrected could not be answered as the process was by batch. There were 83 lines not coded because of abbreviations, misspelled, parentheses and others signs. After these corrections, Iris finalized 66.6% of the DC. Iris agreement rates are displayed in Chart 2. The most frequent Iris disagreement reason with manual coding was a different coder's choice (35.6%): in 20.7% manual coding used a specific code and Iris used a more generic one. Brazil has an extra-official consensus on how to code septic shock and cardiac arrest, which represent 27.6% of the disagreement.

Chart 1: Iris rejection chart of 904 death certificates batch coded.



	ICD-10 4-digit level	ICD-10 3-digit level	ICD-10 1-digit level
Causes of death	72.5% (70,7% to 74,3%)	77,9% (76,2% to 79,5%)	83,0% (81,5% to 84,5%)
Underlying Cause of Death	74.9% (70,8% to 79,1%)	85,1% (81,6% to 88,5)	92,0% (89,4% to 94,7%)

Chart 2: Agreement percentages (95% CI) on causes of death (Iris x manual coding) and on underlying causes of death (Iris x SCB).

Septic shock in Brazil is coded as A41.9 (Sepsis, unspecified), but the ICD-10 index code as A41.9 and R57.2 (Septic shock). In Brazil, cardiac arrest is always coded as R09.2 (Respiratory arrest) despite the standardization that in most of the cases it should be coded as I46.9 (Cardiac arrest, unspecified). Only 5.3% of the disagreement are because Iris' systemic errors, i.e. Iris inability to do associations between lines or manner-of-death. The UCD selected by Iris or SCB had a higher agreement rate (Chart 2). The main cause of discordance (71%) was the use of different codes for the same cause of death. Per example: the UCD was hepatitis B, and there was a disagreement on how to code this condition: Iris code as B18.1 (Chronic viral hepatitis B without delta-agent) and Brazilian coders use B16.9 (Acute hepatitis B without delta-agent and without hepatic coma), consequently the UCD also have different codes.

Conclusions

Iris finalization rate (66,6%) is similar to countries which use Iris in their routine. Strategies to improve the results of the use of Iris are: to update Iris (we used a previous version), to revise SCB decisions tables, to regularly review and update the Iris' Portuguese dictionary. In addition, mortality statistics also will be improved by a regular medical education on how to fill the death certificate. A revision of the Brazilian coders extra-official standardizations and to provide continuing education for coders.

Acknowledgements

Financial supported by FAPESP.



M É X I C O

Association of mentioned diagnosis and underlying causes of death

16-21 October 2017
Mexico City, Mexico

C408

Authors: Adalberto Otranto Tardelli^{1,2}, Paulo Bandiera-Paiva¹, Meide Silva Anção¹¹Escola Paulista de Medicina, Universidade Federal de São Paulo – EPM/UNIFESP, Brazil²Grupo de Estudos da CID-10 e da CIF, Faculdade de Saúde Pública – FSP/USP, Brazil

Abstract There is a huge amount of data generated by the computerized mortality systems, which allows the creation of quantitative rules associating sets of mentioned diagnosis (MD) and underlying causes of death (UCD). We generated a set of rules based on five years of mortality data from the State of São Paulo, Brazil. Then we “predicted” UCDs applying such rules, for a full year “future” data. Combined results from different types of MD representation, including sequences and pairs of mentioned diagnosis, matched 84.4% of the UCD selected by the Brazilian mortality system.

Introduction

The ACME System, launched in the 70's by the U.S. National Center for Health Statistics, introduced the automated processing of all diagnosis mentioned in the death certificates. The data generated by such computerized systems is a unique knowledge source for analysis of sets of mentioned diagnosis and their associated underlying cause or causes of death.

We analyzed five years of mortality data from the State of São Paulo, Brazil, and created a large number of quantitative rules associating each occurrence of mentioned diagnosis (MD) with its corresponding underlying cause of death (UCD). Then we applied such rules for a full year “future” data and compared the predicted UCDs to those selected by the national system.

Material & Methods

The Brazilian death certificates data is available at the *Departamento de Informática do Sistema Único de Saúde - DATASUS* public website. As a training set, we chose the death certificates data of the State of São Paulo residents occurred in the period 2009-2013, performing a total of 1,339,357 records. As a “future” data, we processed all the 280,881 deaths occurred over 2014 in the State.

From the training set data, we generated a set of rules as “Mentioned Diagnosis equal to XY occurs *n* times – or with some weight or probability measure – along with Underlying Cause of Death equal to Z” (MD=>UCD rules).

A different set of MD=>UCD rules was generated for each of the following type of MD representation:

- I. lines separated by a slash, Part I and Part II by an asterisk, and diagnosis by a space;
- II. diagnosis separated by a space;
- III. diagnosis sorted by ICD code and separated by a space;
- IV. all pairs of diagnosis; and
- V. all pairs of diagnosis, sorted by ICD code.

While representation I preserves the structure that diagnosis are informed, representation II discards it. Notably, representations III and V ignore the order diagnosis are mentioned.

The MD=>UCD rules for sequences of MD (sets I to III) were weighted by a single proportion: #cases with both the sequence of MD and the UCD divided by the total #cases with the sequence of MD.

The MD=>UCD rules for pairs of MD (sets IV and V) were weighted by the product of two proportions: #cases with both the pair of MD and the UCD divided by the total #cases with the pair of MD, times the #cases with both the pair of MD and the UCD divided by the total #cases with the UCD.

Thus, given a death certificate, for each of the above type of MD representation, all corresponding rules were applied and the most weighted UCD was taken as the “predicted” UCD for that type of MD representation.

Finally, a combined “predicted” UCD was selected. For a given death certificate, the combined “predicted” UCD is the one with higher relative weight among the UCDs selected by each type of MD representation.

Results

Considering the total of 1,339,357 (100%) death certificates represented as type I, 672,317 (50.2%) unique sequences of diagnosis were identified, 88% of them occurring just once.

Represented as type IV, 360,640 (27.0%) unique pairs of diagnosis were identified, 44% of them occurring in two or more death certificates, as illustrated in Chart 1.

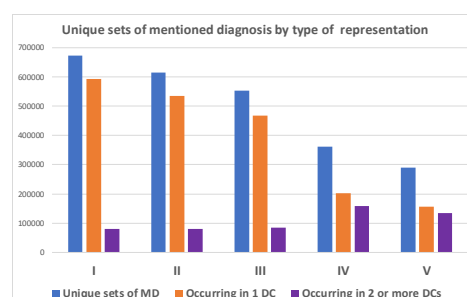


Chart 1: Unique sets of mentioned diagnosis by type of MD representation. Total of 1,339,357 death certificates.

Regarding the total of 280,881 (100%) death certificates from the year 2014 and the combined “predicted” UCD assigned by this methodology, some UCD was assigned to 279,172 (99.4%) cases, whereas 236,935 (84.4%) matched the UCD selected by the national mortality system. Results follow in Table 1.

MD Representation	predicted UCD (*)		Hits (*)		Accuracy
I	153,787	54.8%	153,138	54.5%	99.6%
II	167,459	59.6%	156,867	55.8%	93.7%
III	181,885	64.8%	166,029	59.1%	91.3%
IV	247,555	88.1%	189,546	67.5%	76.6%
V	248,104	88.3%	189,342	67.4%	76.3%
Combined result	279,172	99.4%	236,935	84.4%	84.9%
(*) Total DCs	280,881				

Table 1: Assigned Underlying Causes of Death compared to those selected by the Brazilian mortality system.

Conclusions

The information held by a structured and ordered representation of the MD from a death certificate (type I) is relatively higher when compared to sequences of diagnosis (type II) or sequences of diagnosis sorted by ICD code (type III), respectively 9% and 22% in terms of unique sequences of diagnosis we have identified. In this sense, pairs of diagnosis (type IV) carry 25% more information than the pairs of sorted diagnosis (type V).

The performance of this method relies on the size of the training set, so its sensibility should be improved by using a larger training set. Likewise, only the diagnosis mentioned in Part I could be considered, provided enough diagnosis are mentioned in Part I.

Taking into account the regular use of mortality statistics, the applicability of the method might also be evaluated at ICD Category level.

Acknowledgements

This work is part of an ongoing research project at *Departamento de Informática em Saúde da Escola Paulista de Medicina/UNIFESP*, in collaboration with the *Departamento de Epidemiologia da Faculdade de Saúde Pública/USP* through the *Grupo de Estudos da CID-10 e da CIF*.



ON THE ONLINE COURSE ON PROPERLY COMPLETING DEATH CERTIFICATES

16-21 October 2017
Mexico City, Mexico

C409

M É X I C O

Authors: Yañez, M. WHO-FIC-CC Mexico; Giusti, A. LMG/MSH, Argentina

Abstract The objective of this online training material is for physicians to have the basis for adequately filling out a certificate of death in accordance with the standards established by the World Health Organization in ICD-10, taking into account national regulations, such as legislation, deadlines and duties. The course is currently available on the PAHO's Virtual Campus of Public Health and is available in Spanish, English and French. The poster shows an overview of course performance with metrics of the total number of participants enrolled and approved.

Introduction

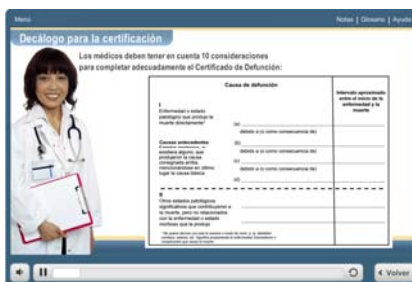
The Virtual Course for Correct Filing of Death Certificates of RELACSIS came up with clear purposes: to provide the countries of the Region with a virtual course to raise the awareness of physicians for the adequate recording of causes of death and to contribute to the improvement of certification of the deaths that would result in obtaining statistics on mortality and more precise causes of death, which contribute to the evaluation of public policies and assertive decision making for the health of the population. This work aims to highlight the total number of personnel that has been involved in this training that has been achieved since its launch.

The objective of this training material available online is that physicians have the bases to adequately fill a Certificate of Death according to the standards established by the World Health Organization, taking into account national regulations in the field such as legislation, deadlines and responsibilities.

Methods & Materials

After its launch and considering its demand, the course is currently available in the regional node of the Virtual Campus of Public Health of the Pan American Health Organization (CVSP / PAHO). Although it was thought in the Spanish-speaking countries, the interest shown by the related areas forced the translation into English and French languages.

<https://www.campusvirtualesp.org/>



Results

Below is an overview of results with that of the total number of participants enrolled, approved and per language. The data were obtained from the generated report of the CVSP / PAHO until September 2017.



It should be mentioned that although the final results are shown, the detail corresponds to the following figures: in the Spanish course, the countries with the highest prevalence of enrolled were Mexico 53112; Ecuador 15155; Colombia 4542 and Honduras 1069; of which passed course 45610, 13286, 3732 and 869 respectively.

As for the English language course, the first five places of registration correspond to the United States of America 1305, Mexico 340, Granada 267, Trinidad and Tobago 134 and Canada 116, of which they approved 1291, 120, 262, 123 and 115 correspondingly.

In the case of the French language, in general there are 66 enrolled and only one approved. This forces the review of the enrollment process and the terminal efficiency of physicians in this language in order to be able to access the evidence that is self-generated upon satisfactory completion of the course.

Conclusions

One reason why Mexico has the largest number of participants in this course is due to the mandatory training for medical personnel. This commitment was an agreement between the General Directorate of Health Information and the General Directorate of Epidemiology of the Ministry of Health of Mexico, backed by the Official Mexican Standard 035 in the field of Health Information where it is possible to read "Every health professional or person empowered by the corresponding sanitary authority issuing a Certificate of Death or a Certificate of Fetal Death must be qualified for its correct filling and is held responsible for the information contained therein for the purposes of this standard and other applicable legal provisions".

In the case of Ecuador it was a similar case to encourage the use of this course for physicians and thus provide the tools to increase the quality in the generation of mortality information.

In the modality of the course in English corresponds to the interest shown by the countries of North America but mainly the users are countries of Caribbean English.

On the other hand, the results in figures for the case of participants in the French language inevitably draws attention and requires a detailed review in the dissemination and explanation of the importance of finishing the course for the countries involved.

Acknowledgements

Through this training course, RELACSIS offers an agile and useful mechanism aimed at physicians. Now with the versions in the English and French languages it would be expected that the users increased and, similarly, those approved with their respective certification. The second step for all participating countries is that they adopt and replicate the exercise carried out by the countries to promote the compulsory nature of this course for all doctors, including establishing it from curriculum design in universities. Thanks to the agencies belonging to RELACSIS that have financed the preparation of this course and make it available for free to physicians in order to have quality mortality information.



M É X I C O

Mortality data coverage and quality at local levels: the urgency in e-learning training courses

16-21 October 2017
Mexico City, Mexico

C410

Authors: B. Ribotta; A. Giusti; P.L. Ruiz

CIECS, Argentina; MSH, Argentina; Health Information Analysis, PAHO/WHO)

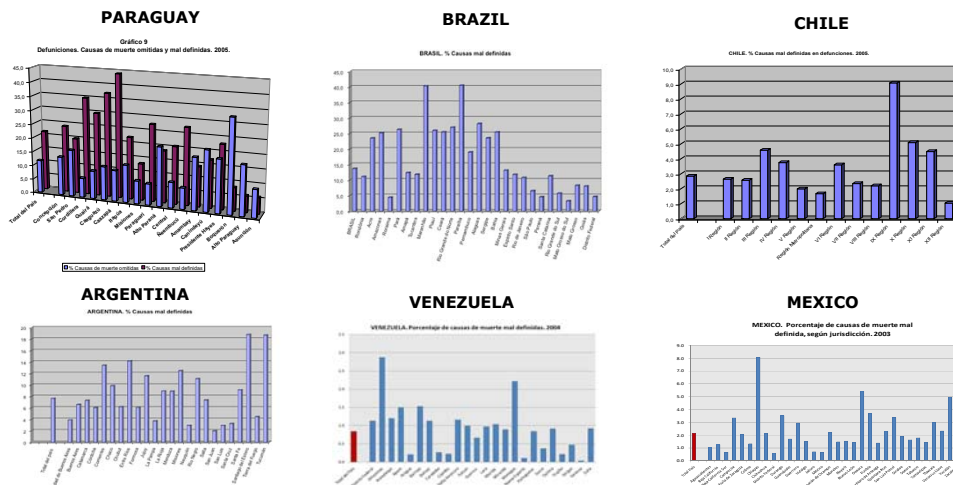
Abstract. The problem of coverage and quality of mortality data clearly affect the definition, monitoring and evaluation of health policies and specific goals. Training needs and awareness of technicians and health professionals, both coding and the correct filling of the cause of death become difficult to carry out in countries, particularly at the local levels, given the high cost of installation and sustainability of classroom programs. This poster shows the **RELACIS** proposals of e-learning strategies and other strategies that provide fast and efficiently different resources to train personnel in service.

Background

The Latin American and Caribbean Network for the Strengthening HIS (**RELACIS** for its acronym in Spanish) is the **inter-country** component of the PAHO Regional Plan for the Strengthening Vital and Health Statistics (PEVS). The network has developed several online courses and expected to expand its dissemination in different fields. This poster presents background information on death coverage and the quality of indicators as ill-defined causes of death at national and subnational levels. This gives an overview of the seriousness of some situations and the effort required in training using virtual media and other training strategies.

Assesing HIS / Quality indicators

The network has increased its potential by integrating the results of the assessment of countries HIS made in the AMRO Region as the first objective of the PEVS. Based in the use of tools (HMN, PRISM, and PAHO initiatives) that allowed the definition of priorities for the strengthening the information system. **Ill defined causes of death** is the quality indicator the network estimated to define a strategic plan for training purposes. Figures from different countries shows the situation by 2005.



A survey developed by PAHO in 2005 also showed below the weak situation in the field of **training people in FIC-WHO, specially ICD-10**.

Activities implemented in the last three years	Países	Total
Courses for coders in ICD-10	ARG-BAH-BOL-BRA-CHI-COL-CUB-ECU-ELS-HON-MEX-NIC-PAN-PAR-RDO	15/29
Training seminars for coders in causes of death	ARG-BAH-BAR-BOL-BRA-CHI-COL-CUB-ECU-HON-MEX-NIC-PAN	13/29
Regional training seminars	ARG-BOL-BRA-CHI-COL-CUB-HON-MEX-NIC-PAN-PAR	11/29
Training courses for medical and paramedical staff.	ARG-BOL-BRA-CHI-COL-CUB-HON-MEX-NIC-PAN-RDO	11/29
National training seminars	ARG-BOL-BRA-CHI-COL-CUB-HON-MEX-NIC-PAN	10/29
Specific investigations are carried out to monitor the quality of certification of causes of death	ARG-BAH-BRA-CHI-COL-CRI-CUB-MEX-PAN	9/29
Recording sample statistical reports to verify quality	ARG-BAH-BOL-COL-CUB-HON-MEX	7/29
Training courses for civil registrars	BAR-CHI-COL-ELS-HON-PAR-RDO	7/29
Seminars on legal medicine	ARG-BRA-CHI-MEX-NIC-RDO	6/29
Systematic monitoring and advise local civil registry offices (primary registration units)	CHI-COL-CUB-TRI-RDO	5/29

The problem of coverage and quality of mortality data clearly affect the availability of valid epidemiological profiles of deaths in countries, also affecting the definition, monitoring and evaluation of health policies and monitoring specific goals overall mortality, child and maternal.

Training needs and awareness of technicians and health professionals, both coding and the correct filling of the cause of death become difficult to carry out in countries, particularly at the local levels, given the high cost of installation and sustainability of classroom programs. Thus it becomes important today have e-learning strategies that provide fast and efficiently different resources to train personnel in service.

Training decisions

The Coordination of training activities for the region such as: **Online courses with tutors on ICD-10 coding** (led by Argentina and Mexico).

Two courses were given in 2014 for coders through the PAHO's virtual campus (150 technical staff members). Some of them replicated as tutors a course to 400 coders from more than ten participating countries. **More:**

<http://www.relacsis.org/index.php/2014-06-13-19-23-01/codificacion-con-cie-10>.

In 2015 ICD-10 updates to 2014 were included in the online course for 110 tutors from 11 countries; the course was replicated by tutors for more than 330 coders in these countries.

In 2016 two on line courses in ICD-10 focusing in morbidity are offered to Chile and Colombia for more than 40 coders; an online course for morbidity and mortality is implementing by 7 tutors for more than 100 coders in 10 participating countries.

An online course for awareness of medical doctors in the adequate registration of the causes of death (led by Uruguay, Argentina and Mexico).

The course is offered through the PAHO's virtual campus (more than 50,000 health professionals participated from 2014, 80% of them were approved an evaluation). The data base of exercises and simulations for the online course is now updating. There is an English and a French version and it is translated into Portuguese in 2016.

Participants: All Spanish and English speaking countries in The Americas. See <http://www.relacsis.org/index.php/2014-06-13-19-23-01/correcto-llenado-del-certificado-de-defuncion>

A software and training in deliberate search of maternal deaths (BIRMM as its acronyms in Spanish). Was developed by Mexico and trained 10 countries (July 2015). It is planned to develop a new regional workshop during 2017. In developing a proposal for an online course for Maternal Mortality coding.

Notes-Credits

For more information:

ruizpatr@paho.org

www.paho.org/relacsis.org

secretariado@relacsis.org

Video (2 min): What is **RELACIS**?

<http://www.paho.org/relacsis/index.php/2014-06-13-19-13-11/que-es-relacsis>



ICD - 10: NEW PROPOSAL FOR MEDICAL INFORMATION ENCODERS THROUGH VIRTUAL COURSES

16-21 October 2017
Mexico City, Mexico

C411

MÉXICO Authors: : Adriana Orellano (CACE), Amanda Navarro (CEMECE)

Abstract Distance Education has been shown to be an effective training method with ICD-10. Between 2014 and 2016, 6 courses have been given to coders and other CIE users from different countries in the region. The results obtained indicate the need to rethink the proposal. The following courses will be dictated according to the profile and needs of the student (Basic, Intermediate and Advanced). According to the training requirement, Morbidity and Mortality can be trained jointly or each subject separately.

Introduction

In response to the needs raised by the countries of the region within the Latin American and Caribbean Network for Strengthening Health Information Systems (RELACIS), related to the training and updating of ICD-10 encoders, and of the problem with the teaching methods used, it was proposed, the alternative of training through virtual environments. The Mexican Center for Disease Classification and Collaborating Center for the Family of International Classifications of the WHO in Mexico (CEMECE), and the Argentine Center for Disease Classification and Collaborating Center of the PAHO / WHO for the Family of International Classifications (CACE) , were responsible for the design, development and coordination of the following courses between 2014-2016:

1: Morbidity and mortality (ICD-10, Ed. 2008): 10 March / 31 May / 2014. Tutors: CEMECE and CACE. Students: 73 (Argentina, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Nicaragua, Panama, Paraguay, Peru, Dominican Republic, Uruguay).

2º: Morbidity and mortality (ICD-10, Ed. 2008): 15 September / 20 December / 2014. Tutors: ex-students of the first course. Students: 202 (Argentina, Colombia, Costa Rica, Chile, Ecuador, El Salvador, Nicaragua, Panama, Paraguay, Peru, Dominican Republic and Uruguay).

Prior to the delivery of the third course that would include the 2013 ICD-10 updates, an online training of 20 tutors from the 2nd. Course, given by the coordinators of CACE and CEMECE, between August 10 and 14, 2015.

3º: Updates to 2013 of the ICD-10, addressed to graduates of the second: Same tutors of the 2nd. Course. given from August 31 to October 9, 2015.

4º: Morbidity (ICD-10, Ed. 2015): July 11 / September 28/2016. Tutors: 3 from Chile. Students 28 students from Chile.

5º: Morbilidad (ICD-10, Ed. 2015): August 8 / November 2, 2016) Tutors: 4 from Colombia, 12 students from Colombia.

6º: Morbidity and mortality (ICD-10, Ed. 2015): 15 August / 20 December / 2016. Tutors: CEMECE and CACE. Students: 100 from: Argentina, Colombia, Cuba, El Salvador, Honduras, Mexico, Peru, Dominican Republic, Uruguay and Venezuela.

Methods & Materials

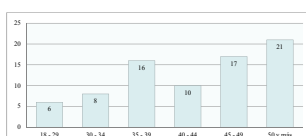
For the dictation of the courses there are 8 modules as study material, depending on the type of course selected:

- MODULE 1. Basic concepts of distance education
- MODULE 2. Medical Terminology
- MODULE 3. Overview of the International Classification of Diseases
- MODULE 4. Basic Structure of ICD-10
- MODULE 5. Diagnosis and its coding
- MODULE 6. Rules and Guidelines for recording and coding mortality
- MODULE 7. Rules and Guidelines for morbidity registration and coding
- MODULE 8. Statistical presentation

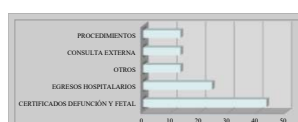
Results

In the evaluation of these results and attentive to the specific needs required, the different training options were revised and reformulated, emerging new options, from a Basic Course to an intermediate one of morbidity or mortality and also advanced morbidity and mortality.

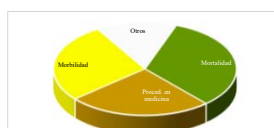
STUDENTS BY AGE GROUP



CODING ACTIVITIES BY STUDENTS



THEMES IN WHICH THE STUDENTS NEED TRAINING



Conclusions

The new proposal for distance training in ICD-10, includes:

1.- Basic Course: The participant will learn how to use ICD-10 volumes and apply the procedures for assigning codes to the diagnoses recorded in health formats and in automated coding systems (MMDS, IRIS); based on the regulations established in the Classification.

2.- a) Intermediate Course of Codification of Morbidity: The participant will know the guidelines for the registration and codification of the "Primary Condition" and the other conditions; will learn to identify or reselect the main condition based on the application of morbidity rules.

2.- b) Intermediate Course of Mortality Codification: The participant will know the procedure for the certification of the causes of death and the steps for the selection of the basic cause of death through the application of the General Principle and the rules of selection and modification of the original antecedent cause.

3.- a) Advanced Course of Morbidity Codification: Deepens the knowledge of ICD-10 by forming personnel to codify and solve complex problems and become coders trainers. You will learn to apply the "Specific Notes per Chapter" in the reselection of the Primary Condition.

3.- b) Advanced Course of Mortality Codification: It deepens the knowledge of the ICD-10 forming personnel to codify and to solve complex problems and to become trainers of coders. They will learn to apply the "Interpretation Notes on the Diagnosis of Causes of Death" in the selection of the "basic cause of death". The duration of each will be 2 months - 130 hours practical theoretical.

Acknowledgements or Notes

We are grateful for the support of: RELACIS / PAHO, USAID and the authorities of the different countries of the region that have granted the facilities for their staff to participate, as well as the tutors who have supported the courses.



Reporting the performance of online courses in FIC developed by RELACSIS

16-21 October 2017
Mexico City, Mexico

C412

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AMRO, USA; MSH, Argentina; CIECS-Argentina; CEMECE, Mexico; CACE, Argentina

Abstract RELACSIS, the Latin American and Caribbean Network for Strengthening Health Information Systems develops from 2014 two online courses on International classifications through the AMRO Virtual Campus of Public Health: one with tutors for coders in ICD-10 and another for medical doctors *Properly Completing Death Certificates*. This poster shows metrics related to the access and performance of the participants in these courses.

Introduction

RELACSIS, the Latin American and Caribbean Network for the Strengthening HIS (as its acronyms in Spanish) is the regional component of the AMRO Regional Plan for the Strengthening Vital and Health Statistics, under the South-South cooperation context. From 2010 the purpose of PAHO/RELACSIS is to develop a mechanism to coordinate regional efforts aimed at contributing to the ongoing improvement of HIS in countries included in the Network. The network is now implementing its 6th BWP, supported by PAHO, USAID, Leadership, Management and Governance (LMG)/Project of Management Sciences for Health (MSH), ECLAC, WHO-FIC-AMRO CC and National Centers of Reference.



Methods & Materials

It allows over 5000 members from more than 25 countries to have on line access to information and innovations in health information systems and exchange ideas with other members that helps to improve each country's capacity to manage health information using different tools: public and private forums and courses.

One of the most successful tools used to manage the RELACSIS network is its Website (www.relacsis.org). In alliance with the Virtual Campus for Public Health (VCPH) the network develops and offers two types of on line courses related with the WHO-IFC: 1. To strengthen ICD-10 coding; 2) To raise physicians awareness about proper recording of cause of death.

VCPH is presented as a central strategy of technical cooperation of PAHO. The virtual classrooms are described and the growth in users especially of self-learning courses is reported. The fundamental challenge of all the activities of the VCPH is to accompany in the development of competencies of the workforce towards Universal Health.



Online courses

Online courses to strengthen ICD-10 coding (led by CACE, Argentina and CEMECE, Mexico).

Looking for training for strategies for training on coding using ICD-10, the online courses were designed based on those available and valid in Mexico and Argentina. Four courses were conducted from 2014 and attended by 13 countries in the Region of the Americas. The last one included 2009-2013 ICD-10 updates.

A total of 397 technical officers were selected for these courses; 293 of them (78%) were approved (Table 1). Coders from each country were selected to replicate courses at the subnational level and more than 500 coders were trained.

Table 1. On Line Course in ICD-10. Students Approved 2014-2015 (%)

Country	Registered	Approved	% Approved
ARG	26	24	92,3
CHI	37	23	62,2
COL	23	18	78,3
COR	39	32	82,1
ECU	35	30	85,7
ELS	18	10	55,6
NIC	32	22	68,8
PAN	20	14	70,0
PAR	44	32	72,7
PER	33	25	75,8
DOR	37	19	51,4
URU	43	37	86,0
GUT	10	4	40,0
Total	397	293	73,8

75% of students were women; 52% were under 40, ensuring a longer presence of active work in their institutions and countries and also they could provide support in their countries for future courses.

65% perform coding functions; for 71% of them is their main activity. They mainly code death certificates, hospital discharges and outpatient.

A good experience in accessing the e-learning environment was 86%; 53% said the understanding of the modules was easy and adequate; only 8% felt it difficult to understand; 97% considered the results were satisfactory and would recommend the course.

The e-learning option has proven to be effective; it also allows access to training to people all over a country and enables people from different countries have the same opportunity to receive it.

Relacsis is now developing a three level learning courses (basic, intermediate and advanced) based on the experience of the current course.

Conclusions

Online course to raise physician awareness about proper recording of cause of death (led by Uruguay, Argentina and Mexico).

Based on an uruguayan version, the network was devoted to the development of a teaching tool online in a regional perspective, designed for sensitization and training of physicians in Spanish-speaking countries on the proper registration of causes of death on the death certificate as critical to improve the quality of mortality statistics.

The course is available for all Spanish speaking countries from 2014, which involved more than 60,000 professionals and technicians from the countries concerned. Almost 80% of them passed the course and got a certificate.

Online Course on Properly Completing Death Certificates. Approved participants (2014-15) by Occupation				
	Medicine Student	Medical Doctor	Other	Total
Approved*	82,3	84,9	70,5	83,2
Total	15851	33633	3369	52853

* 80% or more correct answers

Online Course on Properly Completing Death Certificates. Approved participants (2014-15) by Sex				
	Female	Male	Unknown	Total
Approved*	83,8	83,8	81,0	83,2
Total	18884	22000	11969	52853

* 80% or more correct answers

It is also available in English (from 2015) and in French (2016); It is now been translated into portuguese.

Nowadays the data base of questions and simulations is being expanded and a document with recommendations is being developed to propose strategies to promote the adoption of a mandatory course in the medical studies curriculum or early exercise of the medical profession in the countries of the Region.

A conceptual document is included in the course available at

<http://www.paho.org/relacsis/index.php/biblioteca-usuarios/publicaciones-relacsis/at4-registro-adequado-de-causas-de-muerte/117-gt4-curso-correcto-llenado-eng/file>

Further information

See

<http://www.relacsis.org/index.php/2014-06-13-19-23-01/codificacion-con-cie-10> and

<http://www.relacsis.org/index.php/2014-06-13-19-23-01/correcto-llenado-del-certificado-de-defuncion>



Utilization of ICD classification in Japan

16-21 October 2017
Mexico City, Mexico

Comparative analysis between ICD and a disease classification for clinical practices

C413

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Abstract The purpose of this study is to compare the structure of two disease classifications utilizing in clinical practices in Japan, namely ICD and MDC, and to consider appropriate disease classification in Japan. Although ICD and MDC have been developed based on the different purposes, this research indicated that there would be the similarity of the structure between ICD and MDC whereas there are some differences. It is better to incorporating the concept of clinical practices in addition to the classification for the mortality and morbidity statistics.

Introduction

In Japan, ICD is used not only for the mortality and morbidity statistics but also for the clinical practices, including a Japanese style diagnostic related groups (DRGs) with payment system introduced in 2003, so-called Diagnosis Procedure Combination (DPC). Although the classification of disease is incorporated in a part of the 14 digits' code of DPC, ICD codes are not directly used and converted to MDC (Major Diagnostic Category) codes, which are developed as the disease classification for clinical practices.

The purpose of this study is to compare the structure of two disease classifications utilizing in clinical practices in Japan, namely ICD and MDC, and to consider appropriate disease classification in Japan.

Methods & Materials

Twenty-two chapters of ICD-10 (2003 version) and eighteen groups of MDC were matched by the ICD codes. The number of MDC groups as well as the number of ICD codes per MDC group corresponding to each ICD chapter were analysed (Chart 1).

Chart 1: MDC (Major Diagnostic Category) groups

MDC codes	MDC Title
MDC01	Diseases and Disorders of the Nervous System
MDC02	Diseases and Disorders of the Eye
MDC03	Diseases and Disorders of the Ear, Nose, Mouth and Throat
MDC04	Diseases and Disorders of the Respiratory System
MDC05	Diseases and Disorders of the Circulatory System
MDC06	Diseases and Disorders of the Digestive and Hepatobiliary System and Pancreas
MDC07	Diseases and Disorders of the Musculoskeletal System and Connective Tissue
MDC08	Diseases and Disorders of the Skin
MDC09	Diseases and Disorders of the Breast
MDC10	Endocrine, Nutritional and Metabolic Diseases and Disorders
MDC11	Diseases and Disorders of the Kidney and Urinary Tract
MDC12	Diseases and Disorders of the Female Reproductive System
MDC13	Diseases and Disorders of the Blood and Blood Forming Organs and Immunological Disorders
MDC14	Pediatric Diseases and Disorders
MDC15	Newborn and Other Neonates with Conditions Originating in the Perinatal Periods
MDC16	Injuries, Poisonings and Burns
MDC17	Mental Diseases and Disorders
MDC18	Others

Results

The number of MDC groups varied between ICD chapters (Chart 2 and 3).

Chart 2: ICD and MDC comparison

ICD Chapters	No MDC	No. diseases
I (A00-B99) Certain infectious and parasitic diseases	11	752
II (C00-D48) Neoplasms	14	739
III (D50-D89) Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	2	162
IV (E00-E90) Endocrine, nutritional and metabolic diseases	3	355
V (F00-F99) Mental and behavioural disorders	3	424
VI (G00-G99) Diseases of the nervous system	5	332
VII (H00-H59) Diseases of the eye and adnexa	2	262
VIII (H60-H95) Diseases of the ear and mastoid process	1	113
IX (I00-I99) Diseases of the circulatory system	10	385
X (J00-J99) Diseases of the respiratory system	2	231
XI (K00-K93) Diseases of the digestive system	4	413
XII (L00-L99) Diseases of the skin and subcutaneous tissue	4	338
XIII (M00-M99) Diseases of the musculoskeletal system and connective tissue	6	3,923
XIV (N00-N99) Diseases of the genitourinary system	3	434
XV (O00-O99) Pregnancy, childbirth and the puerperium	4	420
XVI (P00-P96) Certain conditions originating in the perinatal period	3	338
XVII (Q00-Q99) Congenital malformations, deformations and chromosomal abnormalities	11	653
XVIII (R00-R99) Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	5	9
XIX (S00-T98) Injury, poisoning and certain other consequences of external causes	8	1,451

The ICD chapters could be divided into two groups by the number of ICD codes per MDC group as:

- Chapters accounted for more than 90% of ICD codes with a single MDC group, e.g., Chapter 5 and 11.
- Chapters consisted of multiple MDC groups, e.g., Chapter 2 and 9.

Conclusions

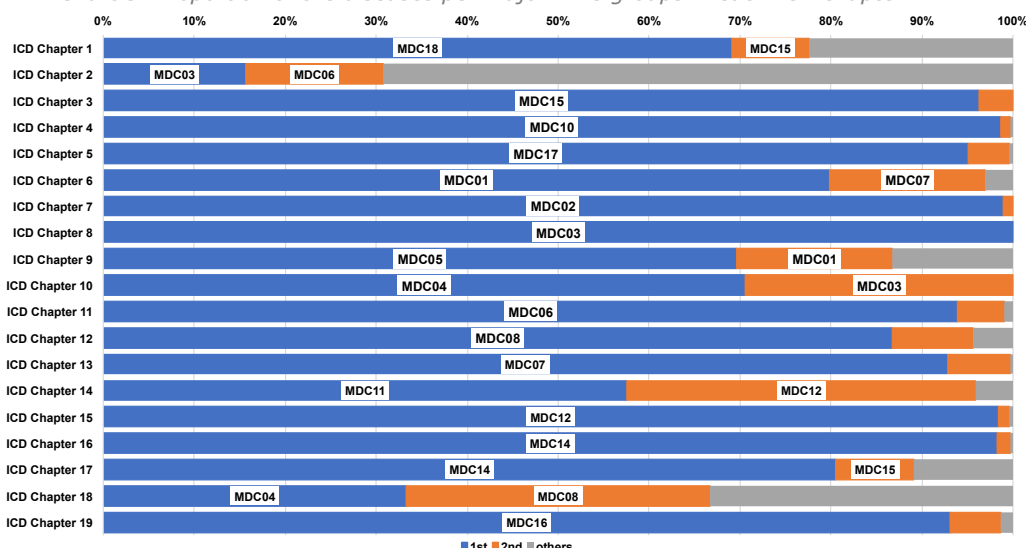
The research indicated that there would be the similarity of the structure between ICD and MDC particularly in the ICD chapters from 5 to 14, which consisted of diseases by anatomical lineage. However, there were some differences even in these chapters. For example, cerebral infarction is classified into Chapter 9 "Diseases of the circulatory system" of ICD whereas it is classified as a part of "nervous system disease" in MDC (Chart 4).

Chart 4: ICD chapter 9 with MDC groups

ICD	MDC codes	no.	%
ICD Chapter 9 (I00-I99) Diseases of the circulatory system	MDC01 Diseases and Disorders of the Nervous System	66	17.1%
	MDC03 Diseases and Disorders of the Ear, Nose, Mouth And Throat	1	0.3%
	MDC04 Diseases and Disorders of the Respiratory System	9	2.3%
	MDC05 Diseases and Disorders of the Circulatory System	268	69.6%
	MDC06 Diseases and Disorders of the Digestive and Hepatobiliary System And Pancreas	17	4.4%
	MDC07 Diseases and Disorders of the Musculoskeletal System And Connective Tissue	9	2.3%
	MDC08 Diseases and Disorders of the Skin	2	0.5%
	MDC10 Endocrine, Nutritional And Metabolic Diseases and Disorders	7	1.8%
	MDC11 Diseases and Disorders of the Kidney And Urinary Tract	4	1.0%
	MDC12 Diseases and Disorders of the Female Reproductive System	2	0.5%
	Total	385	100.0%

It might be caused by the different purposes of classifications between ICD and MDC. This research suggested that, for increasing the utilization of ICD, it is better to incorporating the concept of clinical practices in addition to the classification for the mortality and morbidity statistics.

Chart 3: Proportion of the diseases per major MDC groups in each ICD chapter





M É X I C O



National Health Resource Repository- A Way for Evidence based Planning

16-21 October 2017
Mexico City, Mexico

C414

Authors: Dr Raikwar Madhu*, Deepak Goyal* Kwatra Manik** (*Central Bureau of Health Intelligence (CBHI), Ministry of Health & FW, India, **PWC, India

Abstract India is committed to ensuring Universal Health Coverage by providing accessible, affordable, equitable and patient centric quality health care services to the community. To achieve this, it is imperative that limited resource allocation is based on real time comprehensive information regarding both public and private sector. Though information on public health sector is available to some extent, there are huge gaps in private sector information. CBHI, through the National Health Resources Repository (NHRR) program, aims to bridge these gaps and develop a single health information platform for both public and private sector to enable evidence based policy formulation and decision making. This paper talks about the NHRR program plan along with its objectives and expected outcomes.

Introduction

To achieve Universal Health Coverage, India is faced with a huge challenge to ensure that all people have access to good quality and affordable preventive, curative, rehabilitative and palliative health services. However, given the resource constraint scenario, it has become imperative that judicious utilization of limited health resources is made based on complete, accurate and real time information regarding both public and private health sector.

Currently, CBHI extensively collects public sector data from States and UTs, disease control programmes and other organizations/agencies, however, there exist gaps due to non-reporting, under reporting and delays in transmission. The data for private sector, which accounts for 80% OPD and 60% IPD care, is largely unavailable. In addition, currently no baseline data for usage of ICD-10 is available in the country. As a result, public health resource planning and allocation lacks evidence based decision making.

It is essential that health data for both public and private sector is connected and easily accessible for scientific decision making. CBHI, M/o Health & FW through National Health Resources Repository (NHRR) program, is committed to develop an integrated health informatics platform which will provide comprehensive national health information to enable evidence based policy & decision making.

NHRR Program

CBHI has set ambitious targets for the NHRR program to (1) exhaustively map the healthcare facilities, and (2) collect data on important health metrics such as manpower, infrastructure, drug availability, equipment, ICD-10 usage etc. from both public and private sector which will be hosted on a single platform. This NHRR platform is envisioned as single source of healthcare resource information that contains information on healthcare resources of both public & private sector in the country.

A pilot study was successfully completed in the year 2014 to test the feasibility of NHRR whereby street-by-street census was conducted to collect data and comprehensively map 2098 public and private health facilities across 4 districts of different states - Dimapur (Nagaland), Dungarpur (Rajasthan), Hazaribagh (Jharkhand) and Vellore (Tamil Nadu). A national roll out for the NHRR program was announced by the Union Minister of Health & Family Welfare in 2015.

Methodology

A national level census would be carried out for health resource enumeration to obtain data from all public and private health facilities for 29 States and 7 UTs, concurrently, and mapping all healthcare establishments in 688 districts across the country. The census would be carried out in two phases operationally-

1. Intensive phase- This signifies the active approach for line-listing all healthcare establishments and then subsequently enumerating them by engaging a dedicated pool of enumerators.
2. Continuous phase- This signifies a passive approach as enumeration under this phase would be done based on the request of the owner/occupier of the healthcare establishment. This will also involve updates of healthcare establishments in NHRR on account of any up-gradation/degradation of any services, infrastructure, HR, etc. as provisioned under NHRR.

Data collection method –**Canvasser Method**, where enumerator physically approaches every health establishment and details captured will be used for the census.

Data will be collected through a Mobile App which will be hosted on server directly.

Once the data is collected and processed, advanced analytics would be applied to develop dashboards to gain insights from the data.

Expected Outcomes

NHRR platform is expected to bridge the data gaps in the health related indicators for both public and private sector enabling evidence based planning and decision making. This platform is designed to serve certain other objectives as well, such as:

- Provide visibility of private sector resources to facilitate public private partnership initiatives
- Obtain baseline data on usage of ICD-10 for medical record keeping, to help plan and implement ICD-10 across the country
- Harmonization of health information for judicious health resource allocation, management and monitoring through real world intelligence
- Provide technology solutions to improve efficiency of health systems
- Improve decision making and community awareness by allowing access to holistic information on healthcare resources
- Promote meaningful use of data collection and exchange services; promote convergence between similar programmes by providing interoperability
- Enhance effectiveness of programme planning and implementation at center, state and district level
- Furnish standardized data, distribution of resources and trends on the global platform, using regularly updated health status indicators

Conclusion

CBHI, through its ambitious NHRR program, is expected to considerably improve health outcomes in the country through efficient planning and management of health resources.



M É X I C O

ICD-10 updates looking at ICD-11: nosological entities limitations.

16-21 October 2017
Mexico City, Mexico

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C415

Abstract This poster presents our ICD-10 update proposals dealing with ICD-10 limitations about some nosological entities. We proposed supplementary subclassifications taking into consideration the international classifications and ICD-11. The level of granularity considered the limited possibilities to extend ICD-10 codes to completely follow ICD-11.

Introduction

Some ICD-10 code titles are limited about the nosological entity which they classify. They are outdated towards the state of the art. At international level we cannot wait ten years, the time likely to be needed to fully implement ICD-11 for an operational use.

Methods & Materials

In order to correctly distribute the nosological entities among the different homogenous groups of resources, the update proposals follows: a) ICD-11 Beta Draft classification [1]; b) formal international classifications of some nosological entities; c) standardized (but not formal) classification systems of some nosological entities, universally accepted in the international scientific community; d) state of the art on each issue. Supplementary subclassifications are proposed taking into consideration international classifications and ICD-11. Moreover, the limited possibilities to extend ICD-10 codes [2] to completely follow ICD-11 are sometimes considered. These supplementary subclassifications follow the optional use currently present in ICD-10 that concerns 4-character subcategories and therefore it leads to the construction of 5-character codes. If applicable, in any proposed update, disorders are specifically classified with progressive optional numbers, with the aim to facilitate the choice between similar alternatives.

Results

The update proposals regard very important disorders classifiable in two groups: a) diseases with higher impact on the biopsychosocial condition of the person, family and society (e.g.: motor neuron diseases; acute myocardial infarction); b) diseases with lower impact, but more frequent (e.g.: thalassaemias, other hemoglobinopathies, double heterozygous sickling disorders and other sickle-cell disorders, that affect hundreds of millions of people, in particular, people living in South Europe, Middle East, South-West Asia and North Africa; sleep apnoeas). Figure 1 presents the supplementary subclassification of motor neuron diseases (in blue font).

Motor neuron diseases are diseases of high relevance with a catastrophic impact on the biopsychosocial condition of the person, family and society. The differential diagnosis allows to differentiate nosological pictures [3,4,5,6,7] that are extremely useful to define the needed resources, both when using health services or health and social services (hospital, nursing home, hospice, home care, etc.) and when planning and programming health and social protection systems at regional and national level. Moreover, at international epidemiological level it is important to identify - in prevalence and incidence terms - the most severe types, also to promote studies on etiology, prevention and treatment, and to improve and refine current studies.

Figure 1: Supplementary subclassification of motor neuron diseases.

G12.2 Motor neuron disease
[...]
The following supplementary subclassification to indicate the type of motor neuron diseases is provided for optional use with subcategory **G12.2**.

- 0 Amyotrophic lateral sclerosis
- 1 Progressive bulbar palsy
- 2 Monomelic amyotrophy
- 3 Progressive pseudobulbar palsy
- 4 Progressive muscular atrophy
- 5 Primary lateral sclerosis
- 6 Amyotrophic lateral sclerosis-Plus
- 8 Other specified
- 9 Unspecified

Figure 2 illustrates the supplementary subclassification of sleep apnoeas (in blue font). According to the International Classification of Sleep Disorders (Third Edition) [8], Sleep Related Breathing Disorders should be grouped into "Obstructive Sleep Apnea Disorders", "Sleep Sleep Apnea Syndromes", "Sleep Related Hypoventilation Disorders" and "Sleep Related Hypoxemia Disorder" but this choice would lead to other subclassifications in further subcategories that cannot be proposed for ICD-10. Therefore, the update proposal does not group the proposed conditions into these groups, but classifies them with progressive numbers, reconciling the international classification itself, ICD-11, and the necessity of mutual exclusivity intrinsic to the distribution of different disorders in different homogeneous groups of resources that correspond to a single organ system or cause and that are

generally associated with a particular medical specialty. The proposed numerical order meets the criteria of contiguity among sleep disorders that belong to different groups of the international classification with the aim of facilitating the ICD-10 code choice between similar alternatives.

Figure 2: Supplementary subclassification of sleep apnoeas.

G47.3 Sleep apnoea
[...]
The following supplementary subclassification to indicate the type of sleep apnoeas is provided for optional use in **G47.3**.

- 0 Central with Cheynes-Stokes respiration
- 1 Central without Cheynes-Stokes respiration
- 2 Central due to high-altitude periodic breathing
- 3 Central due to substances including medications
- 4 Primary central of adults
- 5 Obstructive
- 6 Congenital central alveolar hypoventilation
- 7 Non-obstructive alveolar hypoventilation
- 8 Other specified
- 9 Unspecified

For other proposals please refer to the ICD update platform [9].

Conclusions

The proposed subclassifications are in line with the state of the art. Their use and related statistical data processing are the basis for planning and programming health and social protection systems aimed at satisfying the needs of people.

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M É X I C O

How to code mental disorders in 0-3 years old children using ICD-10.

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C416

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Abstract In order to facilitate the ICD-10 use by the clinicians and coders who use the *DC:0-3R Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood* for describing mental conditions in infancy, a regional working group was created. A crosswalk table from *DC:0-3R* to ICD-10 was prepared taking into account some similar tables made by experts from Minnesota. The final crosswalk table is slightly different and clarifies which modifications could be made in the Italian ICD-10 version. Practical tests have been scheduled.

Introduction

ICD-10 has limits for coding health conditions under Chapter V in 0-3 years old infant and toddlers. The *DC:0-3 Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood* (DC:0-3R) was meant to complement, but not replace, the DSM-IV-TR and the ICD-10 (1). It was intended to enhance the understanding of young children by making it possible to assess, diagnose, and treat mental health problems by allowing the identification of disorders not addressed in other classifications. This paper presents specific activities carried out by the Italian WHO-FIC CC (LF) to implement the full use of ICD-10 in the Emilia Romagna region (Italy) where in 2015 a long lasting training programme was started by involving professionals from children neuropsychiatry services who use DC:0-3R (1) and WHO Multiaxial Classification of Child and Adolescent Psychiatric Disorders. The aim was to set up a consensual crosswalk table from the Axis 1 (Clinical disorders) of the DC:0-3R to ICD-10.

Methods & Materials

In 2017, a regional working group was created with neuropsychiatrists and psychologists from public health services of Emilia Romagna Region (2). A draft of a crosswalk table from DC:0-3R clinical disorders to ICD-10 was compared to the most updated Minnesota crosswalk table (3) and other available crosswalk tables (4). Some changes were discussed and the table was tested.

Results

A draft of a crosswalk table from DC:0-3R Axis 1 to ICD-10 was set up (Figure 1). Some modifications were proposed for some .8 ICD-10 codes in order to explicit how to include some DC:0-3R diagnostic concepts.

Conclusions

The crosswalk table will be used to implement regional information systems, to update the draft of the Italian ICD-10 Clinical modification, and to be shared in the Italian professional community. The crosswalk table should be updated considering the new DC:0-5 version (4).

Figure 1: Draft of the Italian DC:0-3R crosswalk to ICD-10.

DC: 0-3R Axis I Clinical disorders	DC: 0-3R code description	ICD-10 consensual code	ICD-10 code description
100	Posttraumatic Stress Disorder		
		F43.0	Acute stress reaction
		F43.1	Post-traumatic stress disorder
150	Deprivation/Maltreatment Disorder		
		F94.1	Reactive attachment disorder of childhood Incl: Deprivation/maltreatment disorder, pattern 1 (0-3)
		F94.2	Disinhibited attachment disorder of childhood Incl: Deprivation/maltreatment disorder, pattern 2 (0-3)
		F94.8	Other childhood disorders of social functioning Incl: Deprivation/maltreatment disorder, mixed pattern (0-3)
210	Prolonged Bereavement/Grief Reaction		
		F43.8	Other reactions to severe stress
220	Anxiety Disorders of Infancy and Early Childhood		
221	Separation Anxiety Disorder	F93.0	Separation anxiety disorder of childhood
222	Specific Phobia	F93.1	Phobic anxiety disorder of childhood
223	Social Anxiety Disorder (Social Phobia)	F93.2	Social anxiety disorder of childhood
224	Generalized Anxiety Disorder	F93.8	Other childhood emotional disorders
225	Anxiety Disorder NOS	F93.8	Other childhood emotional disorders Incl: Anxiety Disorder NOS of infancy and early childhood
230	Depression of Infancy and Early Childhood		
231	Type I: Major Depression	F32.8	Other depressive episodes Incl: Major Depression of infancy and early childhood
232	Type II: Depressive Disorder NOS	F33.8	Other recurrent depressive disorders Incl: Major depression of infancy and early childhood, recurrent episodes
		F32.9	Depressive episode, unspecified
		F32.0	Depressive conduct disorder
		F32.8	Other mixed disorders of conduct and emotions
		F32.9	Mixed disorder of conduct and emotions, unspecified
		F32.8	Other childhood emotional disorders
		F32.9	Incl: Mixed Disorder of Emotional Expressiveness of infancy and early childhood
		F32.9	Childhood emotional disorder, unspecified
300	Adjustment Disorder	F43.2	Adjustment disorders
400	Regulation Disorders of Sensory Processing		
		F88	Other Disorders of Psychological Development
410	Hypersensitive (see codes for subtypes)		
411	Type A: Fearful/Cautious		
412	Type B: Negative Defiant		
420	Hyposensitive/Underresponsive		
430	Sensory Stimulation-Seeking/Impulsive		
500	Sleep Behavior Disorder		
510	Sleep-Onset Disorder (Protdyosomnia)		
520	Night-Waking Disorder (Protdyosomnia)		
600	Feeding Behavior Disorder		
601	Feeding Disorders of State Regulation		
602	Feeding Disorder of Caregiver-Infant Reciprocity		
603	Infantile Anorexia		
604	Sensory Food Aversions		
605	Feeding Disorder Associated with Concurrent Medical Condition		
606	Feeding Disorders Associated with insults to the Gastrointestinal Tract		
700	Disorders of Relating and Communicating		
		F84.0	Childhood autism
		F84.1	Atypical autism
		F84.2	Rett syndrome
		F84.3	Other childhood disintegrative disorder
		F84.4	Overactive disorder associated with mental retardation and stereotyped movements
		F84.5	Asperger syndrome
		F84.8	Other pervasive developmental disorders
		F84.9	Pervasive developmental disorder, unspecified
710	Multisystem Developmental Disorder (MSDD)		
		F89	Unspecified disorder of psychological development
800	Other Disorders (DSM-IV-TR or ICD-10)		Other mental health-related classification in ICD 10

References

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- (2)Frattura L., Bruno L. ICD-10 use in children psychiatry between old approaches and ICD-11. WHOFIC Annual Network meeting booklet 2016
- (3)Minnesota DC:0-3 crosswalk to ICD codes. 2014-2015
- (4)<https://www.zerotothree.org/resources/1540-crosswalk-from-dc-0-5-to-dsm-5-and-icd-10>

Aknowledgments

Working group

Emilia Romagna coordinator: Bruno Licia (AUSL BOLOGNA), ICD-10 consultant: Frattura Lucilla (IT WHOFIC CC)
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M É X I C O

Discharge abstract data quality changes over time: Comparing validity of 2003 and 2015 ICD-10-CA coding of Charlson and Elixhauser conditions

16-21 October 2017
Mexico City, Mexico

C417

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Abstract The purpose of this study was to compare trends in the validity of coded data over time. We reviewed 2219 randomly selected inpatient charts from Calgary hospitals for Charlson and Elixhauser conditions and compared them to a similar chart review done in 2003 to compare the validity over time. Conditions coded in ICD-10-CA (2015 data set) were compared to those captured through chart review using ICD-11 Beta definitions. Based on the findings from this extensive validation study recommendations will be shared with the WHO.

Introduction

The World Health Organization (WHO) has been developing the 11th version of the International Classification of Disease (ICD-11), to enhance the data captured from hospital records. As a WHO Collaborating Centre, we are testing the "fitness of ICD-11" for improvements before full adoption by the WHO in 2018.

- As a first step, the purpose was to assess agreement between ICD-10-CA and chart review using ICD-11 concepts of medical conditions.
- Using coded administrative health data for research requires an assumption that the validity of the conditions' coding is stable over time.
- Previous work showed that the implementation of ICD-10 coding has not significantly improved the quality of administrative data relative to ICD-9-CM.
- Therefore, we assessed validity of ICD-10 coded data, as coders have gained experience with the coding system.

Methods & Materials

Objectives:

- 1) To compare trends in coding of conditions over time, and
- 2) To compare ICD-10-CA coded data to ICD-11 concepts through chart review to assess potential improvements to the classification system.

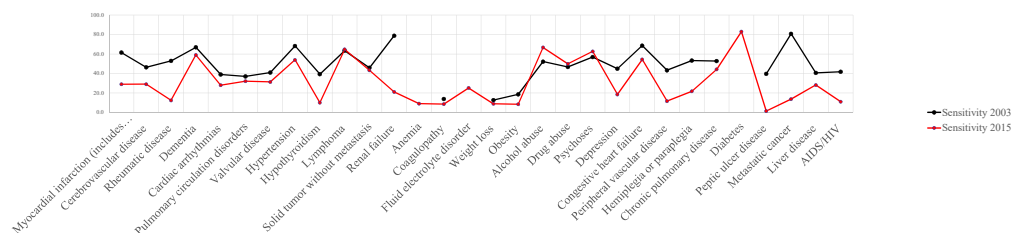
Methods:

- Previously, we reviewed 4,008 randomly selected inpatient charts from 2003 at hospitals in Calgary, Canada, that had been coded with ICD-9-CM for the Charlson and Elixhauser conditions.
- We recently reviewed 2219 randomly selected inpatient health records from 2015 at hospitals in Calgary, for the same conditions. These records were previously coded using ICD-10-CA; the chart reviewers were blinded to the ICD-10-CA coding.
- Validity of ICD-10-CA coding in 2003 was compared with the validity of ICD-10-CA coding of 2015.
- Conditions coded in ICD-10-CA were compared to those captured through chart review using ICD-11 Beta definitions.

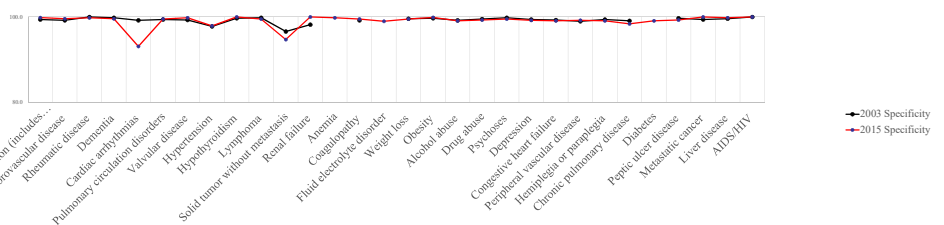
Results

Conditions	2003 Chart Data (%)	2015 Chart Data (%)	2003 ICD-10 (%)	2015 ICD-10 (%)	2003 Difference Charts to Admin Data	2015 Difference Charts to Admin Data
MI	12.8	12.6	8.4	3.8	4.4	8.8
Cerebral VD	8.1	12.8	4.5	4	3.6	8.8
Rheumatic	2.6	5.1	1.4	0.8	1.2	4.3
Dementia	3.3	6	2.4	3.9	0.9	2.1
Arrhythmia	21.8	21.4	9.1	9.4	12.7	12
Pulmonary Circ Ds	2.7	5.9	1.6	2.3	1.1	3.6
Valvular	7	5.9	3.5	2.1	3.5	3.8
Hypertension	30.2	49.7	22.2	27.9	8	21.8
Hypothyroidism	8.8	14.8	3.7	1.5	5.1	13.3
Lymphoma	1	1.5	0.8	1.5	0.2	0
Cancer no mets	9.5	15.6	7.4	11.3	2.1	4.3
Renal	4	14.6	4.9	3.2	-0.9	11.4
Anemia	3	15.9	2	1.6	1	14.3
Coagulopathy	7.7	9	1.8	1.2	5.9	7.8
Weight loss	3.7	6.6	0.9	1.1	2.8	5.5
Obesity	8.3	23	1.9	2	6.4	21
Alcohol abuse	7.4	5.8	4.6	4.7	2.8	1.1
Drug abuse	4.9	3.5	2.8	1.7	2.1	1.8
Psychoses	2.9	2.7	1.8	2.1	1.1	0.6
Depression	11.9	15.6	5.8	3.6	6.1	12
CHF	8.3	10.9	6.3	6.7	2	4.2
Peripheral Vasc Ds	4.3	4.3	2.8	1.3	1.5	3
Paralegia	1.6	2.1	1.4	1.4	0.2	0.7
COPD	15	14.4	8.7	7.7	6.3	6.7
Diabetes	14.6	18.4	12.8	16	1.8	2.4
PUD	2.5	32.3	1.3	1	1.2	31.3
Cancer mets	4.4	6.4	4.1	4.3	0.3	2.1
Liver	5	7.7	2.4	2.3	2.6	5.4
AIDS	0.6	0.4	0.3	0.05	0.3	0.35

Sensitivity (%) for conditions derived from ICD-10 hospital discharge abstract data relative to chart review data as the "reference standard" 2003 vs 2015



Specificity (%) for conditions derived from ICD-10 hospital discharge abstract data relative to chart review data as the "reference standard" 2003 vs 2015



Conclusion:

- This study highlights changes in validity of ICD-10-CA in recording the Charlson and Elixhauser conditions over a 12-year period. The best data quality is essential for identifying disease prevalence, trend analysis for chronic disease surveillance, and health services planning. Recommendations for ICD-11 based on findings from this extensive validation study, will be communicated to the WHO.

Future directions: The same 2219 hospital charts will be coded using Beta Version of ICD-11.

Acknowledgements or Notes



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Strengths and Barriers to Hospital Chart Coding Quality from Health Information Manager Perspectives: A Qualitative Study

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C418

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Abstract Clinical documentation coding must be of high quality in order to produce accurate healthcare data for research, hospital administration, and surveillance purposes. *The current study qualitatively assesses the strengths and barriers of coding quality from the perspective of health information managers across Canada.*

Introduction

- By using the International Classification of Disease system, hospital charts can be coded to produce health data used for research and reporting
- In Canada, high quality administrative coded hospital data is essential for surveillance reporting, policy makers, researchers, and clinicians
- There is limited understanding of the facilitators and barriers to producing high quality coded data
- It is essential that we gain qualitative insight from Canadian Health Information Management (HIM) departments for an in-depth understanding of coding quality



Results

Box 1: Facilitators and Barriers of High Coding Quality

Facilitators of High Coding Quality

- Charts are completed, and include well-written discharge summaries, operative notes, and progress notes
- Coders are aware of standards and resources; they are resourceful, thorough, consistent, and well trained
- Coders have experience with little turnover in staff
- Teams work together well, with some teams being specialized in certain areas of health (e.g., obstetrics)
- Feedback is regularly provided to coders, via reabstraction studies (Canadian Institute for Health Information, (CIHI))
- Regular communication with physicians and medical directors is promoted to emphasize importance of thorough documentation

Barriers of High Coding Quality

- Chart documentation lacks clarity, completeness, and legibility, which can cause under-coding
- Communication with physicians is limited and reduces ability to provide feedback or obtain clarification of conditions
- Resources are limited (i.e., staffing and budget) despite an ever-expanding workload (due to increasingly complex charts, program expansion, and additional projects)
- Technological issues (e.g., software updates) are frequent and delay coders
- Hybrid charts (electronic and paper) reduce the ability to find all of the necessary information, and cause delays
- Standardized hospital charts and discharge summaries are needed, including standardized terminology
- Limited opportunities are provided for coder training and continuing education

Results (continued)

- Interviewees were responsible for managing staff, quality assurance, audits, reporting, budget, data collection, and transcription
- High quality coding is directly influenced by completeness, accuracy, and organization of the hospital chart
- Some provinces have been experiencing budget cuts and/or losing quality assurance analyst positions, affecting coder burden
- Provincial Health Ministries, in addition to CIHI, provide deadlines, productivity standards, and coding guidelines to enhance quality but remain inconsistent across provinces
- Feedback mechanisms are limited to audits via CIHI reports and reabstraction studies

"Having that collaboration with coding and physicians would really benefit to increase quality"

"Coding is taking more and more resources, but we are not getting more resources"

"Physician documentation has an impact on data quality"



Methods

- Nine health information managers and/or coding quality coordinators who oversee coding specialists were recruited from nine provinces across Canada
- Semi-structured interviews were conducted over the telephone. Information was collected on participant demographics, responsibilities, data quality, costs and budget of coding, continuing education for coders, suggestions for quality improvement, and barriers to quality improvement
- Interviews were recorded and transcribed. Three researchers (CD, ML, and CE) extracted and analyzed the transcripts using Directed Content Analysis methodology

Box 2: Current Initiatives and Suggestions for Improving Coding Quality

Current Initiatives to Improve Coding Quality

- Clinical information systems are currently being developed for automated data collection, such as synoptic reporting automatically coded electronic charts
- Site-specific quality initiatives are in place, where feedback is solicited from other coders and CIHI
- Physician feedback on chart quality for specific units is available in one province
- A data quality tool is currently being tested that identifies errors in coding

Suggestions for Improving Coding Quality

- Improve physician communication and involvement in chart quality and coding procedures
- Advance interactive training and continuing education for coders (e.g., physical attendance of yearly CHIMA conference, hands-on training)
- Provide higher budget for hiring staff, training and education
- Increase the availability of resources as the workload increases
- Streamline sources of information from charts (i.e., transitioning to standardized electronic charting)
- Improve productivity and coding standards at provincial and national levels

Conclusions

- Coding quality is generally regarded as high across Canada
- Quality is limited by incomplete and inconsistent chart documentation, and increasing workload without equal resources allocated to HIM departments
- Results will be validated by participants, and disseminated to venues such as CIHI
- This qualitative study emphasizes strengths and barriers, and provides suggestions on improving coding quality across Canada

Acknowledgements

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M É X I C O

ICD-10 coders' difficulties: "clinical manifestations and differential diagnosis" update proposals looking at ICD-11.

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Mexico City, Mexico

C419

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Abstract In order to support the coders, Italian WHO-FIC CC submitted on the ICD-10 platform some proposals dealing with limitations and restrictions about the clinical manifestations in different organs and systems, and differential diagnosis among nosological entities. The proposals followed ICD-11 and considered the limited possibilities to extend ICD-10 codes.

Introduction

ICD-10 has limitations with regard to some nosological entities which it classifies. It is outdated because it is not able to make a differential diagnosis among certain similar nosological entities and it does not unravel the heterogeneity of the nosological entities that are classified under the same category. ICD-10 includes in the same sub-category nosological entities that are very different at the epidemiological, care, and resource absorption levels. Unfortunately, ICD-11 will be fully operational only in a decade. At international level we cannot wait ten years, because of the consequences at epidemiological, clinical, and health and social protection system levels, including resource absorption.

Methods & Materials

The update proposals follows:

- ICD-11 Beta Draft classification [1];
 - formal international classifications of some nosological entities;
 - standardized (but not formal) classification systems of some nosological entities, universally accepted in the international scientific community;
 - state of the art on each issue.
- Moreover, they consider the limited possibilities to extend ICD-10 codes [2] to completely follow ICD-11.

Results

The update proposals regarding clinical manifestations (e.g.: specified crisis of sickle-cell disease and compound heterozygous sickling disorders; sphingolipidosis; bone pathological fractures) and differential diagnosis (e.g.: disorders of consciousness; bone-marrow transplant rejection vs graft-versus-host reaction or disease) look at ICD-11 differentiations, subclassifications and definitions of some disorders. These update proposals are in line with the state of the art and consider the ongoing international debate and the continuous gradual refinements of the disease definitions. De facto, the conditions present in proposed updated classification structure require a different clinical and health and social protection approach and involve a different absorption of resources, in care and rehabilitation terms.

Figure 1 presents the Volume 3 update proposal about the clinical manifestations in different organs and systems of specified crisis of sickle-cell disease and compound heterozygous sickling disorders. It shows in blue font the introduction of new terms into the Alphabetical index.

Figure 1: Volume 3 update proposal about the clinical manifestations in different organs and systems: e.g. specified crisis of sickle-cell disease and compound heterozygous sickling disorders.

Sequestration – see also Sequestrum
 - disk - see Displacement, intervertebral disk
 - lung, congenital **Q33.2**
 - splenic in
 - - other sickle-cell disorders **D57.80† D77***
 - - sickle-cell anemia **D57.0† D77***
 - - sickle-cell thalassemia **D57.20† D77***
Syndrome – see also Disease
 ...
 - acute abdominal **R10.0**
 - acute chest syndrome in
 - - other sickle-cell disorders **D57.80† J99.8***
 - - sickle-cell anemia **D57.0† J99.8***
 - - sickle-cell thalassemia **D57.20† J99.8***

Figure 2 illustrates the Volume 1 update proposal about differential diagnosis among disorders of consciousness. In particular, it

Figure 2: Volume 1 update proposal about differential diagnosis between nosological entities: e.g. disorders of consciousness.

R40 Somnolence, stupor and coma
Excl.: coma:
 • diabetic (**E10–E14** with common fourth character .0)
 • hepatic (**K72.-**)
 • hypoglycaemic (nondiabetic) (**E15**)
 • neonatal (**P91.5**)
 • uraemic (**N19**)
R40.0 Somnolence
 Drowsiness
R40.1 Stupor
 Semicoma
Excl.: stupor:
 • catatonic (**F20.2**)
 • depressive (**F31–F33**)
 • dissociative (**F44.2**)
 • manic (**F30.2**)
R40.2 Coma, unspecified
 Unconsciousness NOS
R40.3 Persistent vegetative state
R40.4 Permanent vegetative state
R40.5 Minimally conscious state
R40.9 Disorders of consciousness, unspecified

[...]

G83.5 Locked-in syndrome

[...]

G93.8 Other specified disorders of brain

Postradiation encephalopathy

Use additional external cause code (Chapter XX), if desired, to identify cause.

The following supplementary subclassification to identify the type of other specified disorders of brain is provided for optional use with subcategory **G93.8**.**0 Brain death****8 Other**

compares the proposed changes (in blue font) with the pre-existing situation.

For other proposals please refer to the ICD update platform [3].

Conclusions

The achievement to update ICD-10 according to the state of the art would encourage and support appropriate epidemiological studies that can facilitate the identification of new treatments, the prevention of complications and comorbidities, and the planning and programming of health and social protection systems to meet the needs of a great number of people.

At international level we cannot wait ten years, the time likely to be needed for an operational use of ICD-11.

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

INTERNATIONAL CLASSIFICATIONS: TOOL FOR EPIDEMIOLOGICAL SURVEILLANCE.

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Mexico City, Mexico

C420

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CEVECE. Directorate General of Epidemiology. Directorate of Health Statistics and
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Abstract International classifications are officially used in Hispanic countries by defining the universe of diseases, disorders, injuries and other health-related conditions, which are listed in a complete and hierarchical way in epidemiological surveillance systems, allowing monitoring of incidence and prevalence of diseases, observing trends in resource allocation, factors that influence the health status, external causes of the disease, and monitoring the safety and quality guidelines in the population.

Introduction

A Health Information System (SIS) is a set of components and procedures organized with the objective of generating information that improves the decisions for health management at all levels of the health system (Lippeveld, 2000)

The Health Information Systems constitute an integrated effort to design and develop data collection instruments that, after verification and processing of the information obtained, allow, in a timely manner, evidence-based decision-making in order to optimize health programs and research in our communities. For the elaboration of formats that collect information of epidemiological interest, the health information systems use the international classifications, this way it registers, tabulates and analyzes trends of diseases of obligatory notification, events suggestive of natural disasters and evaluation of deaths by trivial causes, these last allow to create alerts against possible deaths that should not occur, is surveillance for diseases with "garbage codes."



planning processes, four categories of "junk codes" have been identified:

- 1.- Those included in Chapter XVIII, referring to symptoms, signs and abnormal clinical and laboratory findings, which are not classified elsewhere (R00-R99).
- 2.- The so-called intermediate causes of death such as: Heart Failure, Septicemia, Peritonitis, Osteomyelitis, Pulmonary Embolism.
- 3.- Immediate causes of death: Disseminated Intravascular Coagulation, Defibrillation Syndrome, Cardio-Respiratory Parameters and Respiratory Insufficiency.
- 4.- Unspecified causes in a larger cause grouping: Tumors.

The World Health Organization (WHO) has recognized these lists of codes of the International Statistical Classification of Diseases and Health-Related Problems (ICD-10) as diseases of unlikely conditions that may result in death. The four disease lists classified as "junk codes" are four and are classified as follows:

- ✓List Type I, is formed by the causes that should not be considered as underlying causes of death.
- ✓List Type II, are intermediate causes of death.
- ✓List Type III: Understands the immediate causes of death. Additional information regarding certain symptoms, which in itself represent problems in medical care.
- ✓List Type IV: Nonspecific causes grouped into larger causes.
- ✓Although it is not considered as a list, the group conformed as "Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified" and forming the so-called R00-R99 codes in ICD-10 of the Tenth Revision

Conclusions

Our information systems collect epidemiological data weekly, both referring to morbidity and mortality, however we sometimes find data that require research, even though they may initially not give warnings of interest in public health, as well as seeing between causes of death tonsillitis could mask death by diphtheria, a notifiable disease notifiable, preventable by an intervention measure such as a vaccine. the same case can occur with the increase in deaths due to acute renal failure without another triggering morbid state, hence the importance of not rejecting garbage codes without an exhaustive investigation, remember the premise of epidemiological surveillance: INFORMATION FOR ACTION, taking into account the classifications a universal language that allows: storage, retrieval and analysis of health information for evidence-based decision making; sharing and comparing health information between hospitals, regions, environments and countries; and comparisons of data in the same location in different time periods

Results

The optimal use of all the resources provided by the international classifications to the SIS allows the availability of epidemiological surveillance systems comparable in time, space and person, capable of triggering early warnings to health events that require immediate response in order to generate quality of life in our communities, beyond a system of codes, international classifications should be seen as a key tool for monitoring and evaluating the health indicators of our peoples and the objectives of sustainable development

Methods & Materials

"Junk codes" or "junk coding". They refer to deaths assigned to codes that must be redistributed to improve the validity of the analysis performed in the health area. Thus, in order to facilitate in practice the assignment of causes of deaths to conditions that are not useful in public health analysis and



Chart 1: CEVECE encoders

Acknowledgements or Notes

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ICF C501 – C531

❖ WHO ID	❖ Title	❖ Author(s)
C501	The ICF update process: suggestions for improving outcomes.	Frattura L., Tonel P.
C502	How is ICF used around the world?	Leonardi, Lee, Camargo
C503	Implementation of ICF and WHODAS 2.0 in the Czech Republic.	Zvolský, Sládková, Vašková, Švestková
C504	ICF Implementation in KYRGYZSTAN.	Leonardi, Shoshmin, Monolbaev, Ismatova
C505	Who speaks ICF? Implementation of ICF in early childhood intervention centers in Germany.	Simon, Kottysch, Bröning, Mevs, Paulsen
C506	The ICF water issue: analysis and proposals looking at SDGs and ICHI.	Frattura L.
C507	Development of a core set of International Classification of Functioning, Disability and Health (ICF) for geriatric patients in primary care.	Tomandl, Schaffer, Burggraf, Heinmüller, Roos, Schedlbauer & Kühlein
C508	ICF as a planning tool for childhood rehabilitation in Uttar Pradesh: a way through lights and shadows.	Martinuzzi A, Toldo M, Manjhi, Kushwaha, Sharma, Singh
C509	To evaluate the usability of a selected set of ICF categories in patients after stem cell transplantation: a feasibility study.	Stallinga, Bakker, Haan, Os-Medendorp, Kars, Overgoor, Stewart, Roodbol
C510	Catalog of rehabilitation to improve the registry of the functioning in the national institute of rehabilitation.	Avendaño-Badillo, Soria-Bastida, Contreras-DelToro, Torres-Vazquez, Nava-Bringas, Cruz Medina

ICF C501 – C531

❖ WHO ID	❖ Title	❖ Author(s)
C511	Development of case studies to illustrate the standardized data collection and reporting of functioning in persons with hand conditions.	Kus, Dereskewitz, Rudolf, Erhard, Coenen
C512	Predicting the rehabilitation outcome after trauma based on the ICF: conceptualization of the project icfPROreha.	Coenen, Simmel, Esteban , Kirschneck, Kus, Seyfried, Bühren
C513	Work-related environmental factors: a prerequisite for using ICF in occupational health care.	Heerkens, Brouwer, Engels, Gulden, Gool, Kant
C514	Identifying the factors related to functioning, health, and well-being of community-dwelling persons living with spinal cord injury in Mexico.	Guzman JM, Stucki G Bickenbach J, Devesa I
C515	ICF INFO –Its application to Swiss national rehabilitation quality management.	Maritz R, Hodel J, Tennant A, Stucki G, Prodinger B
C516	The Development of New Assessment tool of Speech-Language-Communication in children - An Attempt to promote the use of ICF-CY's concept and items in Japan.	Tamai, Hashimoto, Yamada, Oikawa, Niihata, Otsubo, Takahashi, Mori
C517	Graphical modelling – a tool for describing und understanding functioning of people living with a health condition.	Ehrmann, Bickenbach, Stucki
C518	Strengthening Disability Statistics in the 2030 Agenda for Sustainable Development	Napel, Vrankrijker, Mbogoni

ICF C501 – C531

❖ WHO ID	❖ Title	❖ Author(s)
C519	FunctionMapper : Centralised content modelling tool for ICanFunction mHealth Solution (<i>mICF</i>).	Stallinga, Anttila, Weckström, Steiner, Maribo, Camargo, Snyman
C520	Annual Progress Report 2016/17 ICanFunction mHealth Solution (<i>mICF</i>).	Snyman, Camargo, Anttila H, Stallinga, Van Greunen
C521	Update on the development of the ICF e-learning tool.	Coenen, Kus, Ricci, Selb
C522	Going viral : ICFEducation.org in 94 countries and spreading.	Sykes, Snyman, Slabbert
C523	The ICF training workshops of the ICF Research Branch.	Coenen, Kirschneck, Kus, Selb
C524	Learning from South African experiences 2nd International Symposium: ICF Education.	Anttila, Hanmer, Jelsma, Camargo, Maart, Snyman, Sykes
C525	Disability determination using WHODAS 2.0 and ICF: first results.	Frattura, Morassutto
C526	Environmental factors in disability assessment: how to combine WHODAS and ICF.	Frattura, Morassutto
C527	WHODAS 2.0 Scale and Primary Health Care: thoughts and notes about using the Brazilian version.	Balco, Araújo, Marques,
C528	Reliability and Validity of the WHODAS 2.0 and WHOQOL Bref within a South African Context.	Maart, Jelsma, Amosun

ICF C501 – C531

❖ WHO ID	❖ Title	❖ Author(s)
C529	Comparison between two different ways to calculate disability scores using WHODAS 2.0 and ICF: impact on the disability prevalence.	Frattura, Morassutto
C530	Predictors of quality of life in ageing populations: results from a cross-sectional study in three European countries.	Leonardi, Quintas, Raggi, Sattin, Chatterji, Frisoni, Haro, Koskinen, Martinuzzi, Miret, Tobiasz-Adamczyk, Bartesaghi, Guastafierro, Guido, Scaratti, Schiavolin, Minicuci, Corso
C531	Training of trainers in CIF : Sense need.	Dr. Cordero, Villegas, Ortega, Regalado, Chavero

The ICF update process: suggestions for improving outcomes.

16-21 October 2017
Mexico City, Mexico

C501

Frattura L., Tonel P.

Central Health Directorate, Classification Area – Friuli Venezia Giulia Region
Italian WHOFIC CC – URC ICF Co-Chair and Secretariat

Abstract After the phase in which URC has processed ICF-CY proposals, and before entering a new phase, some needs should be analysed in order to make the ICF update process more efficient.

Introduction

After the phase in which URC has processed ICF-CY proposals (only 4 2010-2016 accepted proposals were new proposals), and before entering a new phase, we would like to briefly analyse 4 needs:

1. need to optimize the ICF update process lifecycle;
2. need to involve more people in proposing updates;
3. need to dedicate specific time during the year to make collaborative proposals;
4. need to prepare “comprehensive” ICF update proposals taking into account some priorities.

Main aim: to make the ICF update process more efficient.

Methods

We analysed how the process was implemented over the last years, considering the steps defined in the methodological document and the use of the update platform.

Results

People at work on the ICF Update Platform (1).

The current lists of Closed Groups in the ICF update platform are only two and are not updated. The URC list is not present (Figure 1).

Figure 1: List of Closed Groups

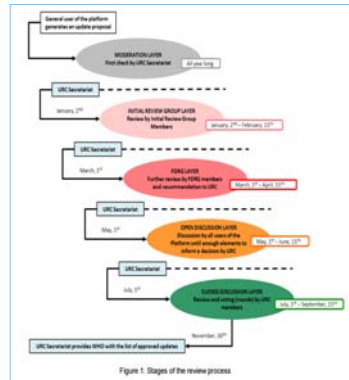


FDRG group

In the ICF Platform user guide it is explained that «after review by the IRG, the proposal is passed on to the second closed group, the FDRG. FDRG members further review and discuss the proposals and decide if there are enough review elements to move the proposals to the next layer. When possible, they express a recommendation (approval, rejection, approval with modification).

The group is coordinated by the FDRG co-chairs and its Secretariat, with the assistance of the IRG moderator(s).

Figure 2: The ICF update process lifecycle



Initial review group (IRG)

In the ICF Platform user guide it is explained that IRG works in «the second layer of the platform, where the review work begins. Review is here carried out by a closed group of FDRG reviewers. The concept of closed group has been created to allow a selected group of experts to first review a proposal before opening it up to the general public». The list in ICF update platform is not updated and the criteria for creating the IRG group are not communicated in the ICF update process user guide.

URC members involvement

In the ICF Platform user guide it is explained that in the Closed Discussion layer «commenting on proposals is done only by URC members. A voting process with two or three rounds is used as a consensus building mechanism. This is the last step in the proposal review process on the platform». In the current proposal lifecycle, the URC voting members are involved with a specific role in the Closed Discussion layer, starting their active involvement in July, but they are invisible to the users of the ICF update platform.

Proponents

Two WHO-FIC groups with more than 100 members, with some overlaps, could submit update proposals:

- ✓ FDRG: nearly 50 members;
- ✓ URC-ICF: nearly 50 members.

WHO-FIC network members who submitted proposals up to now are nearly 20%.

Proposals in the new phase (2017-)

In 2017, a new course has started. Update proposals dealing with the EF component have been submitted, as well as ‘comprehensive’ proposals, in which issues that affect more than one part of ICF are addressed.

Conclusions

Suggestions:

About the life cycle

1. Revise the timetable
2. Change some points on the Platform that refer to the ICD update process.
3. To make the process fully transparent, we need FDRG updated lists with respective role, comprising the co-chairs and Secretariat.
4. The current list of IRG members on the Platform has to be verified and updated. To make the process fully transparent, the criteria for selection of IRG members and IRG moderator(s) have to be made explicit in the ICF update process user guide. The moderator(s) could be shown in the IRG list.
5. The URC voting members need be present in the current closed groups lists, and the URC list should also include ICF URC Co-chair and Secretariat.
6. It would be suggestive to imagine:
 - ✓ collaborative (very small/small) groups made up of FDRG and URC members;
 - ✓ proposal “sessions” during the year, as the MRG does for updating ICD;
 - ✓ involving FDRG in proposing updates;
 - ✓ reduce the “inactive time” in the process.

About the content

Prepare “comprehensive” ICF update proposals taking into account some priorities that in the short term could be related to:

- ✓ the EF component;
- ✓ the BF component, taking into account the block of proposals submitted this year;
- ✓ the rejected proposals coming from ICF-CY.

Different ways and timing to analyse these proposals should be required.

References

- (1) <https://extranet.who.int/icfrevision/nr/loginICF.aspx>
- (2) URC report, 2017



HOW IS ICF USED AROUND THE WORLD?

16-21 October 2017
Mexico City, Mexico

C502

Authors: Matilde Leonardi¹, Hae-Jung Lee², Olaf Kraus de Camargo³

¹Istituto Besta, Italy ²Silla University, Korea ³McMaster University, CanChild Centre for Childhood Disability Research (corresponding author on behalf of FDRG)

Abstract We report the results of a global survey among users of the ICF. 40 questions were provided and we obtained 437 responses from 32 different countries. It seems that the use of qualifiers is difficult for many users (only 81 responses indicated making use of qualifiers). The need for additional development of tools and guiding principles is discussed.

Introduction

We report the results of a global survey among users of the ICF. The survey was co-created by members of FDRG and the final version edited and approved at the 2017 FDRG mid-year meeting in Stellenbosch. The survey started at July 1st and stayed open until end of August.

Methods & Materials

40 questions including demographic and professional background, setting where ICF is being used, use of the different components, qualifiers, core-sets and adaptations were provided. The questionnaire was posted on SurveyMonkey and the link distributed through the WHO-FIC network of Collaborating Centres as well as local professional networks in each country. The analysis consists of simple statistics regarding the response options and secondary analysis by country, setting and professional background, where applicable.

Results

437 responses were obtained from 32 different countries (Chart 1). A wide variety of different usages was reported. From the results, it seems that the use of qualifiers is difficult for many users (only 81 responses or 24% indicated making use of qualifiers).

Chart 1: Responses by Country (N = 437)

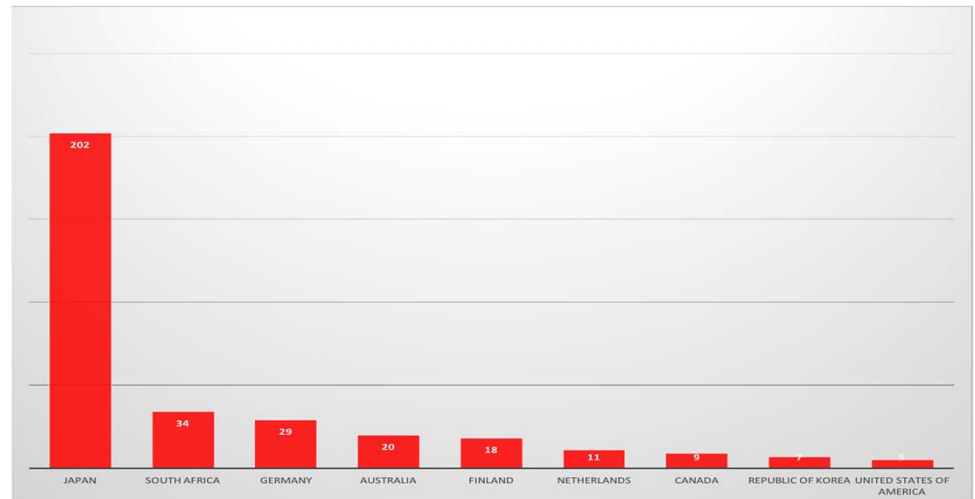
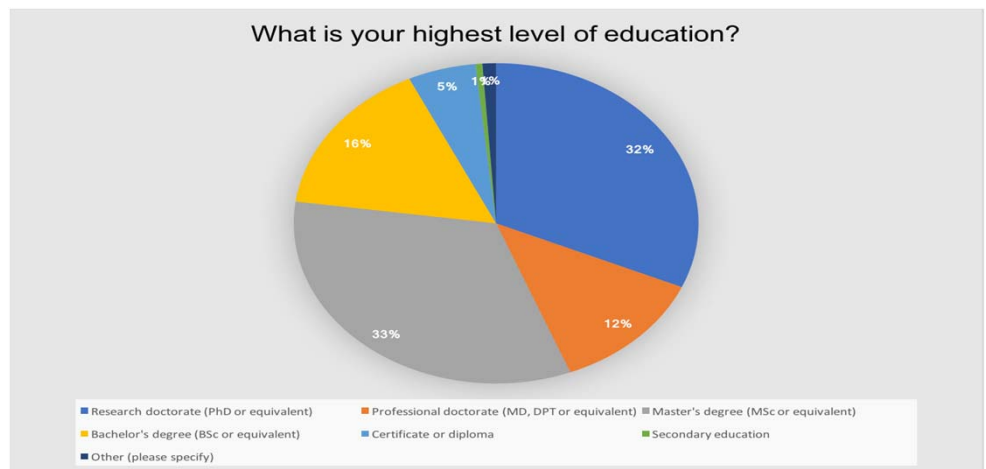


Chart 2: Level of Education of respondents (N= 184)



Conclusion

16 years after the initial launch of the ICF, this classification has been disseminated worldwide and is being used in clinical, educational, administrative and research settings. The use is varied and usually includes all its components. The greatest difficulties identified seem to be related to the use of qualifiers, indicating the need for additional development of tools and guiding principles.

Acknowledgements or Notes

We thank the members of FDRG (Functioning and Disability Reference Group) for participating and disseminating the survey among their WHO Collaborating Centres and professional networks. Special thanks go to the Japanese CC for translating the survey.

Do you use ICF Qualifiers in your project or experience? Please choose only one of the following:

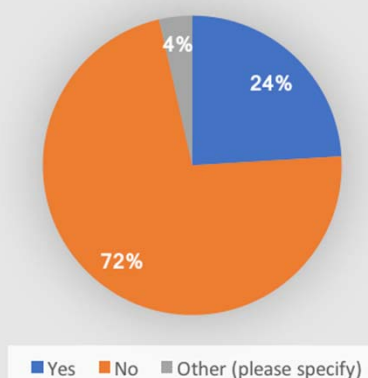


Chart 3: Use of ICF qualifiers (N = 337)

Miroslav Zvolský¹, Petra Sládková², Jitka Vašková¹, Olga Švestková²

²⁾ Department of Rehabilitation Medicine, First Faculty of Medicine, Charles University and General University Hospital in Prague, Czech Republic

In recent year we have realized few steps helping the implementation of ICF into the clinical practice in the public. Electronic tools can help to introduce use of ICF in clinical setting. Therefore structured electronic files of translation of ICF were published and we are trying to develop or support tools for using ICF Core Sets in electronic translation in the Czech Republic. We translated WHODAS 2.0 into Czech language and published Czech translation as table form and web form of Simple Scoring Sheet.

Results

We also translated and published WHODAS 2.0 tool (in DOC and PDF formats) and created an interactive web form for WHODAS 2.0 Simple Scoring Sheet. These files and supportive materials (Szech translation of manual and explanatory presentation) are published on web page <http://www.uzis.cz/katalog/klasifikace/WHODAS> (in Czech).



Mezinárodní
klasifikace
funkčních
schopností,
disability
a zdraví

MKF

Úvod	3
Český překlad	3
Úvod	3
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99. Úvod	3
100. Úvod	3

ICF CHECKLIST (česká verze)

Verze 2.1a, Klinický formulář

Pro Mezinárodní klasifikaci funkčních schopností, disability a zdraví (MKF)

Tento formulář je checklist klasifikací kategorií Mezinárodní klasifikace funkčních schopností, disability a zdraví (MKF) a funkčních schopností ICF Světové zdravotnické organizace. ICF checklist je praktický nástroj k získání a zaznamenání informací o funkčních schopnostech a disabilitách jedince. Tuto informace mohou být samostatně pro zaznamenání případů (např. v klinické praxi nebo sociální praxi). Checklist použijte spolu s knižním vydáním MKF v plném znění nebo kapsetní verzi.

H 1. Při vyplňování tohoto checklistu užívejte všechny dostupné informace. Prosím zaznamenejte, kteří byli použiti:

[1] **psané záznamy** [2] **přímáří odpovědi** [3] **jini informátoři** [4] **přímé pozorování**

Pokud nejsou likitáře k diagnostické informaci dostupné, je doporučeno zkompletovat appendix 1: stručná informace o zdraví (strana 9 – 10), které může být respondent.

H 2. Datum ____/____/____ **H 3. ID přípádu** ____ **H 4. č. účastníka** ____

Dne Měsíc Rok

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 DĚLKA FORMALNÍHO VZDĚLÁNÍ (v letech) ____

A.6 SOUČASNÝ RODINNÝ STAV: (označte pouze jedno, které nejvíce odpovídá)

(1) Někdy nesedící/a	[]	(4) Rozvedený/á	[]
(2) V současnosti vdáná/zemý	[]	(5) Ovdovělý/á	[]
(3) Žijící oddělen	[]	(6) Žijící ve společné domácnosti	[]

A.7 SOUČASNÉ ZAMĚSTNÁNÍ (označte jednu nebo více)

A1	Zaznamenejte pozorované pohľady	Ženské	1
		Mužské	2
A2	Jaký je Váš vek?	_____let	
A3	Kolik let celkom jste strávil <u>študiem</u> ve školách či v učení?	_____let	
A4	Jaký je Váš <u>souborný rodinný stav</u> ? (Vyberte jednu nejlepší volbu)	Nikdy v manželském vzťahu	1
		V manželstvi	2
		V manželstvi, ale odděleně	3
		Rozvedení/a	4
		Vdovec / vdova	5
		S druhem / družkou	6
A5	Jaká charakteristika <u>nejlépe</u> popisuje Vaše <u>hlavní pracovní postavení</u> ? (Vyberte jednu nejlepší volbu)	Placená práce	1
		Osoba samostatně výdělečně činná	2
		Neplacená práce (charita)	3
		Student	4
		V domácnosti	5
		Důchodce	6
		Nezaměstnaný/a (zdravotní důvody)	7
		Nezaměstnaný/a (jiné důvody)	8
		Jiná situace (upřesnění)	9

Identifikace pacienta Jméno: _____ Příjmení: _____	Skóre
Porozumění a komunikace	
D1.1 Soustředit se na činnost po dobu 10 minut?	0
D1.2 Zapamatovat si důležité věci, co je třeba udělat?	0
D1.3 Rozebrať a vyřešit problémy v každodenním životě?	0
D1.4 Naučit se něco nového (nový úkol), například jak se dostat na nové místo?	0
D1.5 V obecném smyslu rozumět tomu, co lidé říkají?	0
D1.6 Začít a udržet rozhovor (konverzaci)?	0
Potřeba se pohyblivost!	
D2.1 Vydržet stát delší dobu, například 30 minut?	0
D2.2 Vstát ze sedu?	0
D2.3 Pohybovat se po bytě?	0
D2.4 Vylít ze domu?	0
D2.5 Uklít delší vzdálenost, například 1 km (nebo ekvivalent)?	0

During the last year DRM and IHIS made a great progress supporting ICF , WHODAS and related tools implementation in Czech clinical practice. We are going to continue with the ICF implementation especially in electronic documentation and data collection hopefully with defined legal framework for its use in the future.



M É X I C O

ICF IMPLEMENTATION IN KYRGYZSTAN

 16-21 October 2017
 Mexico City, Mexico

 Matilde Leonardi ^{1,2}, Alexander Shoshmin ^{3,4}, Kubanychbek Monolbaev ⁵,
 Chinara Ismatova ⁶

C504

¹ Fondazione IRCCS Neurological Institute Carlo Besta, Italy, ² Italian WHO-FIC CC Research Branch, Italy, ³ Federal Scientific Center of Rehabilitation of the Disabled named after G.A. Albrecht, Russia, ⁴ Russian WHO-FIC CC, Russia, ⁵ WHO Country Office in Kyrgyzstan, Kyrgyzstan, ⁶ World Bank, Kyrgyzstan

Abstract From 15 to 17 June 2016 WHO Regional Office for Europe organized a three day mission on ICF introduction and on disability issues to Kyrgyzstan. According to mission team recommendations trainings aimed at introducing ICF and its implementation in health and social care practices were conducted in March 2017.

Mission on Introduction of ICF in 2016

According to the request by the Ministry of Health and Ministry of Labor and Social Development of Kyrgyzstan WHO Regional Office for Europe organized a three day mission on the International Classification of Functioning, Disability and Health (ICF) and on disability issues from 15 to 17 June 2016 in order to support the reform of the disability assessment system. The Government planned to use the provisions of ICF in work with persons with disabilities and on disability issues.

The mission consisted of meetings at the Ministry of Labor and Social Development, the Ministry of Health, the National Statistics Committee, the Center of Medical and Social Expertise, visits to WHO Country Office, Project Office of the World Bank in Kyrgyzstan (project "Health and Social Protection"), rehabilitation organizations, and NGOs (Association of Persons with Disabilities, Association of Parents of Disabled Children and others).

During the workshops experts of the mission team, Dr Matilde Leonardi and Dr Alexander Shoshmin gave consultations on using the ICF in connection with the ratification of the Convention on the Rights of Persons with Disabilities, in disability statistics and in assessment of health of the nation, and in practices of health care, social protection, education, employment, and development of individual programs of rehabilitation (IPRs).



Drs Matilde Leonardi and Alexander Shoshmin

Mission Team Recommendations

The mission team recommended that the following activities are considered by the Ministry of Health and Ministry of Labor and Social Development and other appropriate Ministries and authorities in Kyrgyzstan.

- To map the national legislation to the ICF concept as the framework.
- To develop a system for cross-sectoral cooperation in rehabilitation.
- To conduct a survey of population health status using the ICF assessment tools to get an objective picture of disability in Kyrgyzstan.
- To implement an integrated national information system that contains ICD-10 and ICF for describing health conditions of citizens.
- To organize joint trainings for professionals who develop and implement IPRs (medical-social expertise, education, social protection, labor service, and the others) including all professionals working with children with disability and representatives of NGOs.
- To elaborate a procedure for development and implementation of IPRs based on ICF and a disabled person's opinion.
- To support a transition for disability evaluation that considers the ICF biopsychosocial model, so as to have a full picture of functioning of a person.
- To use the ICF-based criteria for disability assessment after learning the ICF for development, implementation and control IPRs.
- A specialist in rehabilitation, a psychologist and a social worker need to join a medical-social expertise commission for comprehensive multidisciplinary assessment of needs of in social support.
- To organize continuous ICF training for professionals in medical-social expertise.

Participants of the final meeting in Kyrgyzstan, June 2016



Trainings in 2017

In March 2017, in accordance with the recommendations by WHO mission team (2016) and the request by the Government of Kyrgyzstan Dr Alexander Shoshmin conducted trainings for two groups of professionals. Trainings were aimed at introducing ICF and its implementation in health and social care practices.

The first group consisted of 65 professionals from medical and social expertise commissions and regional health coordinators.

Heads of departments and leading specialists from the Ministry of Labour and Social Development, the Ministry of Health, Health Department of the city Bishkek, the Ministry of Education and Science, Fund of Compulsory Medical Insurance, State Agency for Local Self-Government and Interethnic Relations, UNICEF, and heads of a number of NGOs were trained in the second group.

After the training participants from of the latter one demonstrated higher results of knowledge, and agreed on further ways for cooperation.

Participants of the second training group in Kyrgyzstan, March 2017



Acknowledgements

The mission to Kyrgyzstan was organized by the Ministry of Health of Kyrgyzstan, Ministry of Labor and Social development of Kyrgyzstan, Project Office of the World Bank Project 'Health and Social Development', the WHO Regional Office for Europe, and the WHO Country Office in Kyrgyzstan.

Trainings were arranged by the WHO Country Office in Kyrgyzstan and Project Office of the World Bank Project 'Health and Social Development'.



M É X I C O

Who speaks ICF? Implementation of ICF in early childhood intervention centers in Germany

16-21 October 2017
Mexico City, Mexico

C505

Authors: Liane Simon, Sven Kottysch, Sonja Bröning, Alexander Mevs, Julia Paulsen
ICF Research Institute at MSH Medical School Hamburg Germany

Abstract Within the last year, the International Classification of Functioning, Disability and Health (ICF) has become well known in early childhood interventions centers (EICs) in Germany. To date, its usage has not yet been systematically reviewed. Here, we present the results of a survey (Summer 2017) sent to all early childhood intervention centers in Germany (N= 1000).

Introduction

Since Germany passed a new participation law (Bundesteilhabegesetz - BTHG), in which use of the ICF was declared mandatory for rehabilitation and social institutes in Germany starting in 2018, ICF has become well known. However, only few ICF based methods and instruments exist yet. The ICF Research Institute at MSH Medical School Hamburg started the project "ICF Mapping" in 2016. The primary objective is to explore the status of ICF use for all EICs (N= 1000) in Germany and learning/training needs of professionals.

Methods & Materials

The online survey took place in July 2017. A questionnaire with seven closed questions was developed. We sent a link of the online survey to all leaders of early childhood intervention centers (EIC's) in Germany (N=1000). Data collection was conducted in summer 2017. 329 questionnaires were returned, rendering a response rate of 32,9 %. These questions were asked:

1. The zip code
2. The amount of employees
3. What kind of EIC (3 possibilities)
4. The way they use the ICF
5. The extent of using the ICF per child/year
6. The number of employees using the ICF
7. The number of ICF training or instruction classes taken

Results

Within our sample (n=329), 154 EICs are using the ICF in different ways (46,8 %):

- 111 EICs use ICF as a framework/attitude (72,1%)
- 44 EICs use the ICF-checklists (28,6%) and
- 69 EICs use codes or the ICF Items for intervention plans (44,8%)

(multiple answers possible)

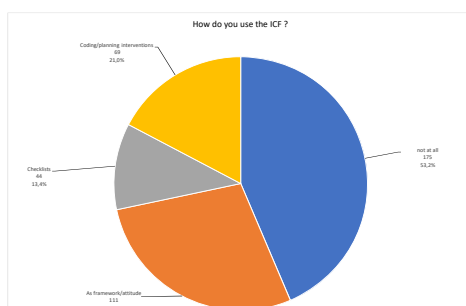
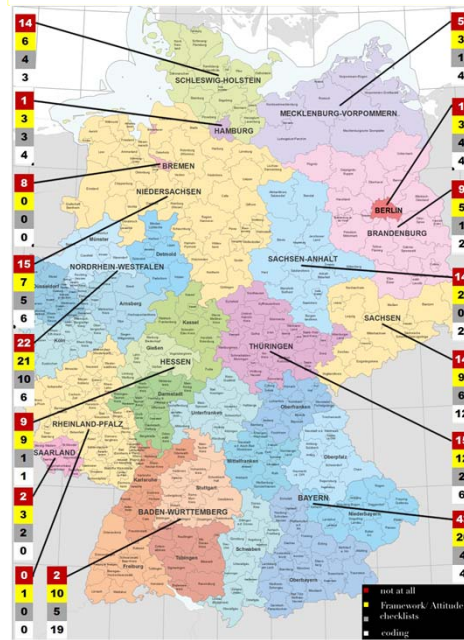


Chart 1: How do you use ICF? Answers of 329 EICs in Germany (multiple answers possible)

Results

Germany consists of 16 federal states. The EICs within these federal states are in various stages of an ICF implementation. The 329 returned answers can be allocated to federal states, showing regional differences in usage (see chart 2).



© GeoBasis-DE / BKG (2017), data changed

Chart 2: use of ICF in the 16 provinces of Germany (multiple answers possible)

Within the sample (n=329), 175 EICs do not use the ICF in any way yet. The majority has not participated in ICF training or introduction classes yet, either (60,6 %).

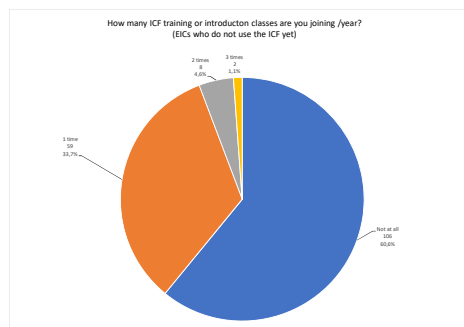


Chart 3: 104 of 175 EICs not using the ICF have also not yet participated in introduction classes.



Results

Within the sample (n=329) 154 EICs use the ICF in some way. Most of them participate in ICF training or introduction classes at least once a year (79,7 %).

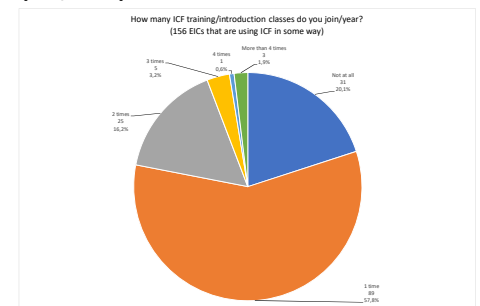


Chart 3: 79,9 % of 156 EICs that use the ICF participate in introduction classes as well.

Conclusions

The German participation law explicitly requires the use of the ICF in the determination of restrictions of participation from next year onwards. It is planned to completely restructure the social system over the next five years. Nevertheless, the ICF is not widely used in EICs yet. The majority of those who do make use of it only apply it as a framework and underlying attitude, while using the ICF for coding does not seem to be a common practice yet. We conclude that there is a compelling need for special ICF based tools or instruments adapted to the daily routine in EICs. Within the next years, all EICs are required to implement the ICF. Together with the previous results within the project "ICF Mapping" (Simon et al., 2017) these findings indicate that the use of ICF as a common language needs to become more attractive to EICs in Germany. In addition, we observe a strong need for training and introduction classes. The next important goal of ICF Mapping is the development of recommendations for specific programs that facilitate the implementation of the ICF.

Acknowledgements or Notes

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ICF Mapping is funded by MSH Medical School Hamburg, IRIs (icf-research-institute)
<http://www.icf-research-institute.de>

The ICF water issue: analysis and proposals looking at SDGs and ICHI.

16-21 October 2017
Mexico City, Mexico

C506

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Abstract Two 2017 ICF update proposals open a “water issue” inside the ICF that is very similar to a Pandora’s box, which, once opened, asks for a lot of different decisions in many ICF EF parts. A lot of suggestions were found for improving the current classification of water in ICF and for making comments on the two 2017 proposals, in order to submit other new proposals and review some other ICF concepts linked to the “water issue”. Here only the first set of options are presented.

Introduction

Since ICF publication in 2001 no updates have been made relative to Chapter 2 of the EF component. The ICF-CY, published in 2007, shows no changes in this Chapter compared to ICF (2001). For the first time, in 2016, a proposal was submitted regarding Chapter 2 of the EF component. The proposal was initially the addition of a new code for “water quality”. The history of the proposal is summarized by the Author in the ICF update platform. In 2017, the revised proposal is currently under evaluation. At the same time, in 2017, we have another proposal for adding “drinking water” in Chapter 1 of the EF Component (1). Both the proposals open a “water issue” inside the ICF. The “ICF water issue” is very similar to a Pandora’s box, which, once opened, asks for a lot of different decisions in many ICF EF parts.

Methods

Some policy sources published by WHO and UN around the «water issue» were considered, without any systematic ambition. Web pages of international bodies active on sustainable environment were also considered (2-8). In order to harmoniously improve ICF, attention was paid to the classification coherence with regard to parent-child relationships and among different chapters (9). Relationships with ICHI were also considered with regard to the section of public health interventions. ICF was considered regarding the EF definition and the coding rules for facilitators and barriers. In particular, some sentences from page 171 of ICF were selected to guide the introduction of a new EF or the revision of the current ones.

Results

Different kinds of water exist and they could have a place in ICF. A first set of options are presented: **water is classified in the ICF EF Chapter 2, but where?**

Step 1: Review e210.

The proposed new code for water is e270. This is a very bottom position for a basic life element as water is.

The first place in which the current ICF speaks about water is in e2101. Considering the thesaurus of terms found in the above analysed documents, we need to distinguish freshwater. Where in ICF?

e210 Physical Geography is also affected by a problem regarding the title: Physical Geography is a science that studies the “physical features of the Earth”.

To better describe water bodies in e210, we could also modify the parent code.

Step 2: A Freemind scheme and the concept of “resources”

A Freemind scheme was created, taking into account the ICF description of Chapter 2 of the EF component: “This chapter is about animate and inanimate elements of the natural or physical environment...”

It would be possible: (i) to introduce the construct of “natural elements and resources”, as an intermediate step before distinguishing inanimate and animate resources (instead of inanimate and animate elements as it is written in the current – and original – ICF version); (ii) to define a hierarchy of the new concepts (Figure 1).

Step 3: Add the concept of “Earth water” (Earth’s hydrosphere)

The UN glossary proposes the following definition: “Water quality refers to the physical, chemical, biological and organoleptic (taste-related) properties of water”. It seems evident that the water properties define water. The term “properties” could substitute the term “characteristics” used in the proposal.

Step 4: Additional options

Some additional materials came from the new EU Water Framework Directive (WFD), just as an example of concepts that are around the “water quality”. The WFD aims to solve the problems derived from the use of water, a limited natural resource, by extending the scope of protection to all water uses. It seems important to assess “water quality parameters” in order to distinguish water according to usage. For example, only after “water quality assessment” we can assure drinking water safety. The other aspect to consider is water quantity, and water supply quality assessment.

Step 5 : Specific additions to Chapter 5: Services, systems and policies as new targets for ICHI

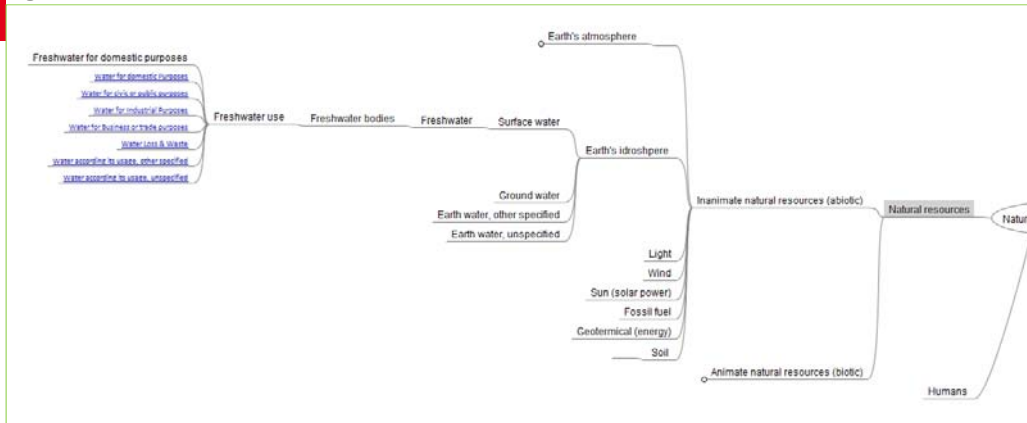
e530 *Utilities services, systems and policies* is a very generic code, as usual in this chapter. The analysis about water suggests to add a specific code for freshwater sector, using terms and content provided by Agenda 21 and other reference policy documents on water. We could define parent and children as appropriate.

Conclusions

A lot of suggestions were found for improving the current classification of water in ICF and for making comments on the two proposals, in order to submit other new proposals and review some other ICF concepts linked to the “water issue”. The possible updates would concern three different EF chapters: 1, 2, 5 (see a summary in the ICF update platform, Open Discussion layer, proposal ID 306). The study of these proposals required a lot of time and it will require time for discussion. A vis-a-vis meeting is not fit for such a study process. But we need such a study process for preparing, submitting, discussing and voting a valid update proposal.

Minimal changes could be made to the proposal ID 306 (and consequently to the proposal ID 307), taking into account that water quality is not a part (a subclass) of water. The characteristics of water define the water itself. The inclusions could become subclasses. The exclusion has to cite the code with its precise description. The same analysis would affect code e260 *Air quality*, which describes the characteristics of the atmosphere/air inside building, and proposal ID 307.

Figure 1: A Freemind scheme for the classification of water



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Development of a core set of International Classification of Functioning, Disability and Health (ICF) for geriatric patients in primary care

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C507

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M É X I C O

Abstract As long as the medical focus is on disease and the norm to be related to the youth, the problem of overmedicalization grows with ageing. Functionality of the individual patient might be the best measure to discriminate between necessary and unnecessary medicine. Describing patients in terms of functioning and disability might not only guide appropriate care but research on these patients as well. The ICF is the best tool available to achieve this. However, it is too big to be used in primary health care. Therefore we aim to identify suitable codes within the ICF for a core set for geriatric patients in primary care.

Introduction

Describing life instead of disease

Due to increasing focus on medical progress and disease-oriented medicine older patients in particular have to undergo unnecessary medical interventions aiming at combating the disease, not necessarily at relieving patients' suffering. The application of the International Classification of Functioning, Disability and Health (ICF) can help to overcome this issue by focusing on the person's every day life instead of the disease (see figure 1).



References source [1]

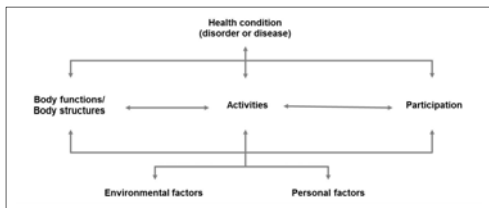


Figure 1: Framework of the International Classification of Functioning, Disability and Health (ICF) [2].

Methods

In this study, a core set of the ICF will be developed for the very elderly patients (≥ 75 years) according to the internationally accepted guideline for developing ICF core sets [3]. Relevant codes will be identified from different perspectives in four different preparatory studies.

- **Systematic review** to represent the researcher's perspective
- **Qualitative study** (semi-structured interviews and focus groups) to capture the perspective of geriatric patients
- **Expert survey** to capture the perspective of health professionals
- **Empirical multicenter study** to represent the clinical perspective

The results of each study will be linked to the ICF using established linking rules so that each preparatory study will end with the development of one preliminary core set.

Methods - continued

In a possible follow-up project one comprehensive core set could be developed (Phase I) and implemented (Phase II) based on the results of the four preparatory studies (see figure 2).

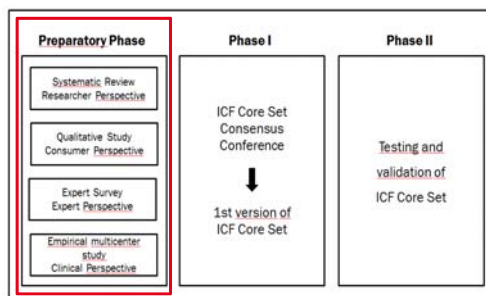


Figure 2: Process of ICF core set development (based on Selb et al, 2015).

Results

For the **systematic review** the databases PubMed, CINAHL, PsycINFO, Embase and Scopus have been searched. The query achieved a total of 10.043 records across all five databases. After having removed all duplicates, 5.060 records were included in the title and abstract screening. Currently, title and abstracts are being screened – based on predefined inclusion and exclusion criteria – in order to identify relevant articles for full text screening.

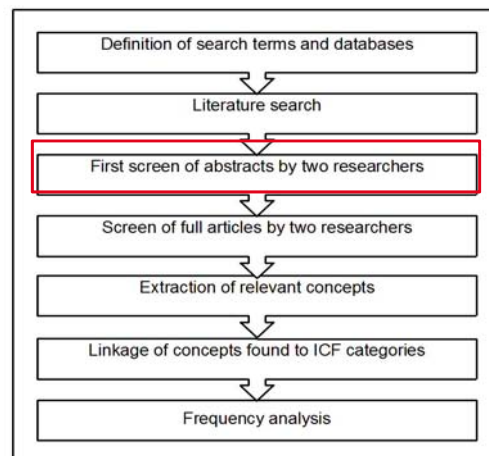


Figure 3: Process of systematic review (based on Selb et al, 2015)

Results - continued

Participants for the **qualitative study** were recruited from 77 primary care practices ("Forschungspraxen Franken"), the medical care unit affiliated to the Institute of General Practice, the senior citizen's council Nuremberg, as well as the senior citizen's advisory council of the city of Erlangen. Currently 35 persons have been recruited to participate in the study. Of these, ten have already been interviewed. The focus groups are planned for the beginning of 2018.

The **expert survey** as well as the **empirical multicenter study** will start in the beginning of 2018.

Conclusions

It is expected that working with this ICF Core Set in a primary care setting can shift the focus from solely combating diseases to supporting the patients and their resources. The underlying hypothesis is that a more patient-centered medicine might contribute to the reduction of overtreatment amongst geriatric patients. The project is embedded in the network PRO PRICARE (*Preventing Overdiagnosis in Primary Care*) which aims at identifying and preventing overdiagnosis.

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M É X I C O

ICF AS A PLANNING TOOL FOR CHILDHOOD REHABILITATION IN Uttar Pradesh: a way through lights and shadows

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Mexico City, Mexico

C508

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Abstract

Objective: The biopsychosocial model embodied by the WHO International Classification of Health Interventions (ICF) offers many potential advantages when implemented in a rehabilitation setting, but its complexity and the departure from more usual approaches hinder its diffusion especially in low resource settings. A stepwise strategy was devised to test the feasibility of the introduction of ICF as master planner for the multiprofessional rehabilitation programs in a childhood rehabilitation Center in Varanasi.

Methods: Kiran Society is a centre for rehabilitation and education / vocational training of disabled children and youths. The primary school (nursery to 8th class) has an inclusive setting; it gives education and rehabilitation to children mainly affected by cerebral palsy and/or cognitive delay. The multi-professional team includes special educators, physio- and occupational therapists, a speech therapist, a clinical psychologist and a neurologist. The introduction of ICF was planned as a medium term strategy (3 years) identifying three steps: information/training, pilot simplified testing using a well-established methodology (Martinuzzi et al 2013), evaluation and diffuse implementation. Nine professionals were directly involved in the plan. A mid-project check was carried on by reviewing the ICF based programs, completed on 23 children affected by cerebral palsy, and by probing the response of the involved professionals. **Results:** The implementation plan was well received by all participants and ICF identified as a tool easing communication and transparent connection between needs and interventions. Use of the ICF components was appropriate but environmental influence was sometimes underreported. Use of the qualifiers in A&P still poses the harder challenge. **Conclusions:** Stepwise introduction of ICF in a multi-professional setting requires careful medium term planning and monitoring but has the potentiality to greatly improve rehabilitation efficiency and team cohesion.

Introduction

After the its approval and even more after the publishing of the -CY version was in 2007, ICF use has been reported in various sectors, exploring the strengths and challenges associated with its comprehensive and powerful framework. However, its complexity and the departure from more usual approaches has hindered its diffusion, especially in low resource settings. Positive experiences have been reported implementing an original methodology in the use ICF as a framework to plan a rehabilitation project and program in order to describe and quantify the needs to be targeted by rehabilitation team in a neuropaediatric hospital setting. Rehabilitation project was used to plan the medium to long term goals and to identify relevant environmental modulators. The rehab program details the implementation plan of the project. The introduction of ICF was felt important in Kiran Society, a childhood rehabilitation center in Varanasi (India), so as to improve the dialogue, mutual understanding and integrated team work among professionals and intervention effectiveness, by assuming a common language and a shared rehabilitation program. A stepwise strategy was devised based on the approach and methodology used in the study conducted by Martinuzzi et al. considering the factors applied in low resource settings. Therefore, the aim of the study was to test the feasibility of the introduction of ICF as a master planner for the multi-professional rehabilitation programs in low resource settings.

Nine professionals were directly involved in the plan. Four of them underwent a week-long basic training on ICF organized by WHO's Indian Collaborative Centre for ICF-ICD at Lucknow (India) in Nov 2016. This step was followed in Feb. 2017 by a practical introduction to categorization and coding rules by Dr. Toldo (using teaching material provided by the Italian WHO-FIC CC). In April 2017 the first assessment of 26 CP children was performed using ICF framework. In June 2017 all the projects-programs were revised after the first functional assessment using ICF language and categories. At the end of the first functional assessment and after the framing of the rehabilitation project/program, in July and August 2017, the nine professionals had focused sharing and discussion meetings regarding the difficulties encountered, solutions applied, and persistent issues in the implementation of the ICF concept framework. Then, to quantify the pros and cons of the new methodology, they filled up an individual questionnaire with Likert grading of 1 to 5 (1 for "not at all" and 5 for "completely").

Cerebral Palsy Sub classification	Age (mean, yrs)	Male/Female
Diplegic	13	11.2 (range 6-16)
Quadriplegic	7	19/7
Hemiplegic	2	
Dystonic	4	

Chart 1: The demographic and diagnostic details of the patients

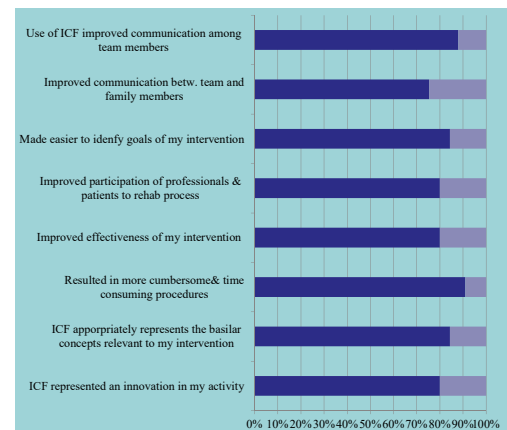


Fig 1: Results of the questionnaires filled up by team professionals

Methods & Materials

Kiran Society is a centre for rehabilitation and education / vocational training of disabled children and youths. The primary school (nursery to 8th class) has an inclusive setting; it gives education and rehabilitation to children mainly affected by cerebral palsy and/or cognitive - speech delay. The multi-professional team includes special educators, physical and occupational therapists, a speech therapist, a clinical psychologist and a neurologist. The introduction of ICF was planned as a medium term strategy (3 years) identifying three steps: information/training, pilot simplified testing using a well-established methodology (Martinuzzi 2013), evaluation and diffuse implementation. A mid-project check was carried on by reviewing the ICF based programs, completed on 26 children affected by cerebral palsy, and by probing the response of the involved professionals.

Results

The implementation plan was well received by all participants and ICF identified as a tool easing communication and transparent connection between needs and interventions. Use of the ICF components was appropriate but environmental influence was sometimes underreported. Use of the qualifiers in A&P still poses the harder challenge. Communication between team and families/ children was improved, but we expect further improvement by virtue of the empowered relation among them. At present, the only negative aspect reported by all professionals has been increased time consumption in coding and filling up files. However, knowing that this drawback has been common to all centers at the beginning of ICF implementation and has been solved by the following increased acquaintance with the procedures, we are confident that the same will occur with our team.

Conclusions

Stepwise introduction of ICF in a multi-professional setting requires careful medium term planning and monitoring but has the potentiality to greatly improve rehabilitation efficiency and team cohesion. No specific difficulties are found in low- resource setting compared to what has been reported in secondary and tertiary care centers of high resource Countries. In the coming clinical follow-ups we shall use a similar questionnaire to evaluate the changed level of satisfaction felt by parents after introduction of ICF.

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Abstract We present the results of an evaluation of a preliminary set of 53 International Classification of Functioning, Disability and Health (ICF) categories for patients with a hematopoietic stem cell transplantation (HSCT) from the perspective of nurses. The use of ICF categories has been explored by using a Dutch ICF-based mHealth application.

Introduction

A HSCT has major impact on patient's functioning and perceived quality of life. To describe functioning, a set of 53 categories of the (ICF) has been selected earlier as relevant for HSCT patients. To determine the feasibility of this preliminary set for use in clinical practice, pilot testing is required.

Methods & Materials

Five nurses of a hematologic ward of a University Medical Centre in the Netherlands were trained to use and register patients' functioning in ICF categories. They applied the preliminary set during anamnesis and daily patient consultations in HSCT patients hospitalized between January 16th and March 31st 2017.

An explanatory mixed methods research design is performed. Qualitative data is collected cross-sectional by semi-structured interviews based on specific topics related to feasibility of using ICF (n=10 nurses, Table 1). Quantitative data is collected longitudinal by a Dutch mHealth application based on ICF (Bettery Institute, Figure 1) in which trained nurses registered patients' functioning.



Figure 1. Display Dutch mHealth application. Overview of a patients' status of functioning by using the ICF framework including ICF categories and qualifiers (smileys). <http://www.betterv.nl/>

Table 1. Background characteristics of nurses

	ICF trained nurses (n=5)	Untrained nurses (n=5)	p-value
Gender (female) n (%)	5 (100)	4 (80)	1.000*
Age, years, median	38 (28-53)	39 (31-61)	0.421**
Work experience years, median	6 (5-35)	17 (6-40)	0.310**

*Fisher exact test. **Mann-Whitney U Test

Table 2. Background characteristics of patients

	Autologous-tx (n=12)	Allogeneic-tx (n=12)	p-value
Gender (male) n (%)	9 (75)	10 (83)	1.000*
Age, years, mean (SD)	60 (8)	56 (17)	0.422**
Hospital duration, days, mean (SD)	19 (5)	21 (10)	0.573**

*Fisher exact test. **Independent t-test

Results

Qualitative analysis indicated that using the preliminary set of ICF categories is practical and acceptable for providing information about HSCT patients' functioning. In addition, nurses indicated a demand for this information due to its impact on multidisciplinary meetings and clinical-decision making by involving relevant aspects of patients' daily lives.

Quantitative analysis demonstrated that the most used 30% (n=17) ICF categories are included in the preliminary set of ICF categories for HSCT patients (n=24, Table 2). Energy (b130) was the most used ICF category. Family relationships (d760) was the most frequently and highly positive associated ICF category with very large effect (Table 3).

Table 3. Associations (Phi (ϕ) correlation coefficient) between the 30% (=17) most used ICF categories ordered by frequency (1=most used - 17=less used) in patients (n=24)

17 Immun. funct.	b435																		1.00
16 Immedi. fam.	e310																	1.00	.24
15 Handl. Stress	d240																	1.00	.49*
14 Taste	b250																	.50*	.24
13 Exerc. tolera.	b455													1.00	-.06	.18	.18	.18	-.01
12 Health prof.	e355												1.00	-.37	.35	-.10	-.10	.10	.18
11 Family rel.	d760											1.00	-.29	.26	.32	.60*	.60*	.60*	.60*
10 Sleep	b134									1.00	.63*	-.06	.20	.51*	.73*	.29	.29	.29	.29
9 Medication	e110							1.00	.19	-.12	.45	-.45	.24	.03	-.19	.19	.19	.19	.19
8 Work	d845							1.00	-.19	-.12	-.19	.33	-.34	.15	-.06	-.06	-.06	-.06	-.06
7 Ingestio. funct.	b510						1.00	.06	.00	.25	.19	-.06	.20	.07	.07	.07	.07	.29	.29
6 Hemat. funct.	b430					1.00	.49*	-.10	-.13	.12	.08	.02	.49*	-.02	-.02	.40	.19	.19	.19
5 Pain	b280					1.00	.07	.06	-.17	-.19	.41	.26	-.22	.24	.35	.56*	.15	.15	.15
4 Nausea	b535				1.00	.34	.27	.12	-.16	-.02	.47*	.19	-.15	.34	.27	.47*	.27	-.15	-.15
3 Emotions	b152			1.00	-.08	.25	.00	.00	-.25	.09	.35	.43	.09	.00	.10	.31	.10	.31	.31
2 Defecation	b525		1.00	.08	.34	.16	.07	.24	-.17	-.02	.59*	.49*	-.22	.05	.36	.36	.36	.15	.15
1 Energy	b130	1.00	.54*	.09	-.02	-.15	.31	.37	.02	.07	.18	.35	.12	-.15	.19	-.03	.40	.19	.19
		b130	b525	b152	b535	b280	b430	b510	d845	e110	b134	d760	e355	b455	b250	d240	e310	b435	

*Significant associated: $p < 0.05$ Fisher exact test. ϕ .10 small effect, .30 medium effect, .50 large effect; bold printed are significantly and highly associated with very large effect.

Conclusion

From the perspective of nurses, the preliminary set of ICF categories for HSCT patients is feasible and relevant in gaining information regarding functioning. Applying this set of selected ICF categories in the anamnesis and the daily consultations contributes to this information. Further research is needed to look at the perspective of other professionals and HSCT patients themselves.

Including functioning as relevant aspect of health, will help to go from a disease based biomedical model toward a broader biopsychosocial model in health care. In addition, registering information related to functioning by using an ICF-based mHealth application will facilitate research related to improving one's health.



Development of case studies to illustrate the standardized data collection and reporting of functioning in persons with hand conditions

16-21 October 2017
Mexico City, Mexico

C511

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Abstract This poster presents the conceptualization and content of five case studies developed within the Lighthouse Project Hand. The aim of the Lighthouse Project Hand was to implement the Brief ICF Core Set for Hand Conditions in the treatment and rehabilitation of persons with hand injuries and diseases in Germany. Within the project we developed data collection, scoring and reporting tools to assess and report on functioning information in a standardized way. The ICF Hand_A contains a series of outcome measures and clinical tests to be used to systematically assess the categories of the Brief ICF Core Set for Hand Conditions. In addition, ICF-based treatment guidelines and an ICF-based scoring and reporting tool were developed. The application and use of the ICF Hand_A, the treatment guidelines and the scoring and reporting tool are illustrated in five case studies aiming to support the standardized data collection and reporting on functioning in patients with hand injuries and diseases.

Introduction

Within the Lighthouse Project Hand we developed the ICF Hand_A [1] based on a multi-step and evidence-based procedure [2]. The ICF Hand_A is an assessment set covering the aspects of functioning included in the Brief ICF Core Set for Hand Conditions [3]. ICF-based treatment guidelines for selected injuries and diseases of the hand were developed. In these treatment guidelines, the time points for the assessment of the ICF Hand_A were defined for each of the injuries and diseases. In addition, an ICF-based scoring and reporting tool has been established outlining the status of functioning assessed with the ICF Hand_A along the continuum of care. Case studies were developed to illustrate the use of the Hand_A, the treatment guidelines and the scoring and reporting tool.

This poster reports on the conceptualization and content of the case studies developed within the Lighthouse Project Hand.

Methods & Materials

We set up case studies to highlight and explain the application of the Hand_A, the ICF-based treatment guidelines and the scoring and reporting tool using real-life stories and the software Articulate Storyline®. Patients with the following hand injuries and disorders were selected:

- Traumatic amputation of finger(s)
- Fracture of finger(s)
- Arthrosis of the carpometacarpal joint (rhizarthrosis)
- Dupuytren's contracture
- Complex regional pain syndrome (CRPS)

Data were collected using the ICF Hand_A according to the time points defined in the treatment guidelines. In addition, semi-structured face-to-face and telephone interviews were performed.

Results

We set up five case studies using real-life stories of persons with the selected hand injuries and disorders. Information retrieved from the semi-structured interviews were used to create the case stories and to illustrate the individual case histories.



Case study 1 – Mr. Schulze, 57 years



Traumatic
amputation of
finger(s)



Case study 2 – Mr. Fritsche, 48 years



Dupuytren's
contracture



Case study 3 – Mrs. Tausch, 68 years



Rhizarthrosis



Case study 4 – Mr. Stoeckel, 35 years



Fracture of finger(s)



Case study 5 – Mr. Loeffler, 45 years



Complex regional pain
syndrome

Fig. 1: Case studies: Five real-life stories

Case studies are presented as an electronic resource on the homepage of the Lighthouse Project Hand.



Only in German language available

Results continued

Data on functioning assessed with the ICF Hand_A according to the treatment guidelines were presented using interactive features of Articulate Storyline®.

Changes in functioning along the continuum of care are displayed and shown using the standardized scoring tool.

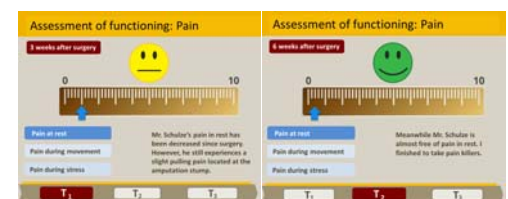


Fig. 2: Case study 1: Mr. Schulze - traumatic amputation of the finger; screenshots displaying the assessment and scoring of pain according to the ICF Hand_A.

Conclusions

With the five case studies we provide real-life stories of persons with hand injuries and disorders to illustrate the use and reporting of the ICF Hand_A.

Acknowledgements

The Lighthouse Project Hand was a cooperation project of the Department of Hand Surgery, Plastic and Microsurgery, BG Trauma Hospital Hamburg (Germany), the Ludwig-Maximilians-Universität (LMU) Munich (Germany) and departments of hand surgery of nine trauma hospitals in Germany. The project was funded by the German Social Accident Insurance (DGUV). The responsibility for the content of the poster lies with the authors.

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Predicting the rehabilitation outcome after trauma based on the ICF: conceptualization of the project icfPROreha

16-21 October 2017
Mexico City, Mexico

C512

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Abstract In April 2017 a joint effort of ten German rehabilitation clinics and departments started with the aim of establishing an ICF-based outcome prognosis tool to predict return to work of patients with severe musculoskeletal injuries in orthopaedic and trauma surgical rehabilitation. Aim of this poster is to present the conceptualization and methods used in this effort. In a first step, aspects of functioning and contextual factors to be considered when assessing inpatient rehabilitation outcome of these patients will be determined. Based on this, measures that should be used to assess these functioning aspects and contextual factors will be specified. Data of 1,200 patients will then be collected in the ten collaborating inpatient rehabilitation clinics and departments using the measures specified. Based on these data multivariate analyses will be applied to predict time off work and return to work. These analyses are expected to enable an outcome prognosis at admission to inpatient rehabilitation that is based on functioning information and contextual factors.

Introduction

Patients with severe musculoskeletal injuries experience a wide range of impairments, limitations and restrictions, as well as reduced quality of life. It is known that a considerable number of patients have difficulties to return to work or have a prolonged time off from work even after rehabilitation. Thus, the prediction of return to work (RTW) of patients with severe musculoskeletal injuries is of utmost importance in order 1) to identify patients with a potential problematic outcome (e.g., prolonged time off work or no RTW) and 2) to intensify or adapt patients' rehabilitation at an early stage. There is evidence that a wide range of determinants are relevant to predicting RTW in these patients. Most studies focus on a limited number of predictors (diagnoses, work-related aspects). Studies examining potential predictors covering the entire bio-psycho-social framework of the International Classification of Functioning, Disability and Health (ICF) are missing. In April 2017, *icfPROreha* – a joint effort of ten German rehabilitation clinics and departments started with the aim of establishing an ICF-based outcome prognosis tool to predict RTW in patients with severe musculoskeletal injuries who are admitted to orthopaedic and trauma surgical inpatient rehabilitation.

Aims of *icfPROreha* continued

- 2 To establish an algorithm to predict RTW and prolonged time off work based on the identified determinants;
- 3 To make recommendations on how to employ the identified determinants to considerably shorten time off work and to facilitate sustainable RTW.

Conceptualization and Methods

icfPROreha is a 44-month project that is being carried out using a wide range of methods.

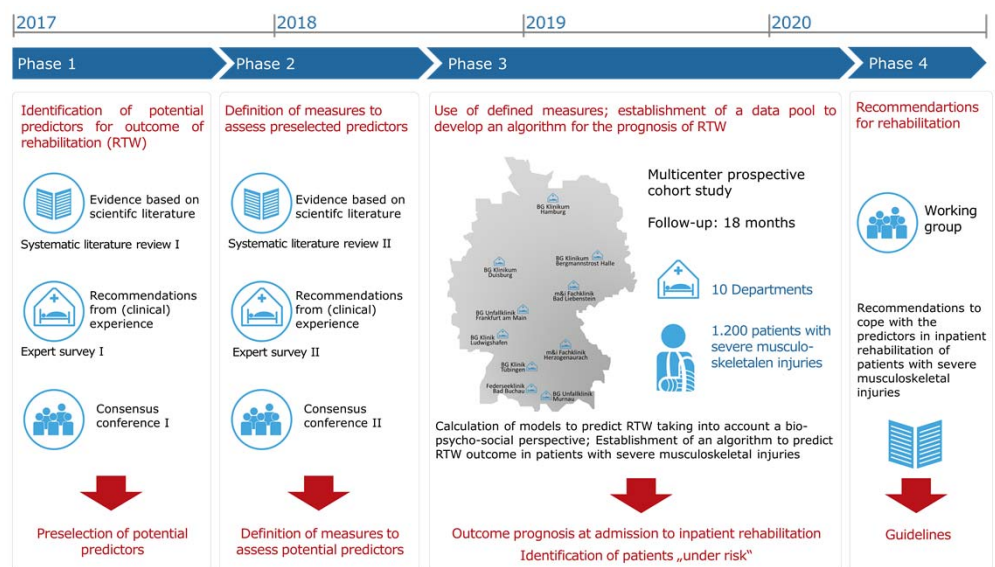


Fig. 1: Conceptualization of *icfPROreha*: timeline, methods used and deliverables.

Status of the Project

Phase I of the project is going to be finalized in October 2017. So far, the results of the systematic literature review and the expert survey were presented at the consensus conference which took place from 28-29 September 2017. In total, 20 participants pre-selected potential predictors of outcome in inpatient rehabilitation of patients with severe musculoskeletal injuries.

Aims of *icfPROreha*

- 1 To identify determinants that have an impact on successful outcome (sustainable RTW) of patients with severe musculoskeletal injuries when admitted to inpatient rehabilitation. The bio-psycho-social framework of the ICF is taken into account to gain a broad understanding of the impact of functioning and contextual factors on the outcome of rehabilitation and more specifically RTW and quality of life.

Acknowledgements

The project is a joint effort led by the Berufsgenossenschaftliche Unfallklinik Murnau (Germany) and the Ludwig-Maximilians-Universität Munich (Germany) in cooperation with ten clinics and departments for musculoskeletal rehabilitation in Germany. The project is funded by the German Social Accident Insurance (DGUV). The responsibility for the content of the poster lies with the authors.



Work-related environmental factors: a prerequisite for using ICF in occupational health care

16-21 October 2017
Mexico City, Mexico

C513

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Joost van der Gulden^d, Coen van Gool^e, IJmert Kant^c

Affiliation, Location: ^a Research Group Occupation & Health, HAN University of Applied Sciences, Nijmegen; ^b Dutch Institute of Allied Health Care, Amersfoort, ^c Department of Epidemiology, Maastricht University; ^d Department of Primary and Community Care, Centre for Family Medicine, Geriatric Care and Public Health, Radboud University Medical Centre, Nijmegen; ^e Dutch WHO FIC Collaborating Centre, Bilthoven; all in the Netherlands

Abstract In the field of occupational health care there are some attempts to use the ICF framework to describe workability and work disability. However, because so many relevant work-related environmental factors are missing, it is quite difficult to apply the ICF. For this reason we have draw up a structured list of work-related environmental factors.

Aims of this poster are to present an overview of this structured list of work-related environmental factors and to give indications how this list can be used in occupational health care research, practice and education.

Introduction

In 2017 the WHO pays special attention to the classification of environmental factors as these factors can have an important positive or negative influence on functioning. Recently there are attempts to apply the ICF framework in the field of occupational health care, e.g. to describe workability and work disability, and to come up with an ICF core set for vocational rehabilitation. However in the ICF classification many relevant work-related environmental factors are missing. This makes it quite difficult to apply the ICF within occupational health care. For this reason a structured list of work-related environmental factors was developed (Heerkens et al., 2017).

Method

By using the ICF in research and teaching from 2004 onwards, we developed a concept list of work-related environmental factors. Over the years, we added factors found in the literature and suggestions from researchers and students in the field of occupation and health. To check for missing items, we performed a scoping literature review in the fall of 2015 to map our concept list to the existing literature in the field of work participation in terms of the nature and characteristics of environmental factors relevant to work. No systematic search was made, as many reviews are already available. We chose not to perform a quality assessment since we were interested in detecting the factors, not weighing their importance. As the list presented is still in development and has not yet obtained any official status, we decided to refrain from coding.

Results – work related environmental factors

Task content

Autonomy / job control
Decision authority
Job demands (mental, physical, emotional)
Job rotation
Job tasks
Responsibilities
Role ambiguity
Skills required for task
Variation
Work pace

Terms of employment

Career opportunities / possibilities
- possibilities for education / development
- promotion possibilities / opportunities
Contract / remuneration package
- job security / certainty
- salary / remuneration package
Secondary benefits
- child care provided by organisation
- leave arrangements
Working time arrangements
- (flexibility in) working hours
- (flexibility in) working schedules
- shift work

Social relationships at work

Attitude (colleague, subordinate, superior)
Communication
- means of communication
- structure in communication / consultative structure (participants, frequency / duration)
- communication skills of employer / superior
Conflict (with superior, colleague, subordinate)
Management style (general within organisation, superior)
Support (from colleague, subordinate, superior)

Working conditions

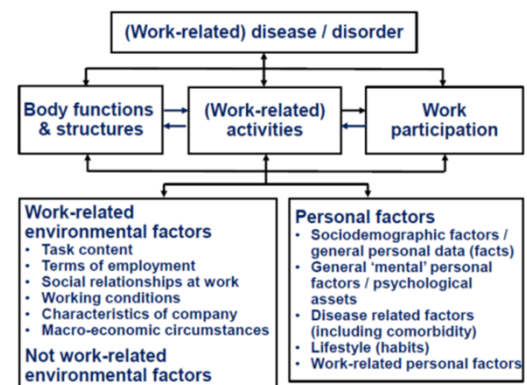
Biological and chemical agents
Dangers / safety
Emotional conditions workplace (discrimination, sexual harassment, violence)
Ergonomic conditions workplace
- accessibility of building
- furniture
- input devices for computers: mouse-like devices, computer joysticks, keyboard
- tools and machinery
Hygiene
Mental conditions workplace (boring or defiant work, time pressure)
Personal safety equipment
Physical conditions workplace (dust, humidity, light, noise, radiation, temperature, vibrations)

Characteristics of employment organisation / organisational characteristics

See for further elaboration: Heerkens et al., 2017

Societal level / macro-economic circumstances

See for further elaboration: Heerkens et al., 2017



Application / use

In our opinion, the list of work-related environmental factors is useful in the context of bringing people with a distance from the labour market to work, helping people to maintain their job, and improving reintegration of people after short- and long-term absence.

The list can be used in:

- ✓ research to determine which factors influence the productivity and workability of different groups, including people with a chronic disease and elderly people
- ✓ research into the most effective interventions to improve sustainable employability
- ✓ assessment of work (dis)ability, including the selection of proper instruments, and taking decisions about reimbursement
- ✓ determining the necessary changes in the working situation of people to keep them employable or to make them employable again
- ✓ developing curricula for professionals in (occupational) health care (see e.g. De Brouwer et al., 2017)
- ✓ updating and/or revising the ICF classification of environmental factors.

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Identifying the factors related to functioning, health, and well-being of community-dwelling persons living with spinal cord injury in Mexico

16-21 October 2017
Mexico City, Mexico

C514

Guzman JM (INSCI National Coordinator in Mexico)¹, Stucki G (Chair of INSCI Scientific Committee)^{2,3,4}, Bickenbach J (INSCI Senior Advisor)^{2,3,4}, Devesa I⁵

¹Mexican Society of Physical Medicine and Rehabilitation, ²Swiss Paraplegic Research (Switzerland), ³Department of Health Sciences & Health Policy, Univ. of Lucerne (Switzerland); ⁴ICF Research Branch, a cooperation partner within the WHO-FIC Collaborating Centre in Germany (Switzerland); ⁵Mexican Social Security System

Abstract Published in 2013, the *International Perspectives on Spinal Cord Injury (IPSCI) Report* summarized comprehensive information on spinal cord injury (SCI), including the burden of SCI both at an individual and a societal level. It also made recommendations, including the promotion of better data collection and research. It also emphasized the need to learn from good practice models across countries at different income levels and social development. In response to these recommendations, the International Survey on Spinal Cord Injury (INSCI) initiative, the first international survey on community-dwelling persons with SCI, was launched in 2015 with data collection starting in 2017. Grounded in the ICF, the survey was developed with the overall aim of identifying the factors that explain functioning, health, and well-being of persons living with SCI in the community. INSCI involves 27 countries all over the world, including Mexico. The objective of this poster is to introduce Mexico's efforts within the INSCI initiative.

Introduction

Based on evidence on various topics, e.g. epidemiology, services, policies, related to spinal cord injury (SCI), WHO, in collaboration with the International Spinal Cord Society (ISCOS), published recommendations for action in the *International Perspectives on Spinal Cord Injury (IPSCI) Report*. This includes the promotion of better data collection and research. Having comprehensive and accurate data also helps to address the need to learn from good practice models across countries at different income levels and social development.¹

In response, the **International Survey on Spinal Cord Injury** initiative (INSCI) was launched in 2015, the first international survey on community-dwelling persons with SCI. With full support of WHO, INSCI is aligned with the three objectives of WHO's Global Disability Action Plan 2014-2021.^{2,3}

*To strengthen collection of relevant and internationally comparable data on disability and support research on disability and related services.*²

Twenty-seven countries all over the world are involved, including Mexico.



Objective: To introduce Mexico's efforts within the INSCI initiative.

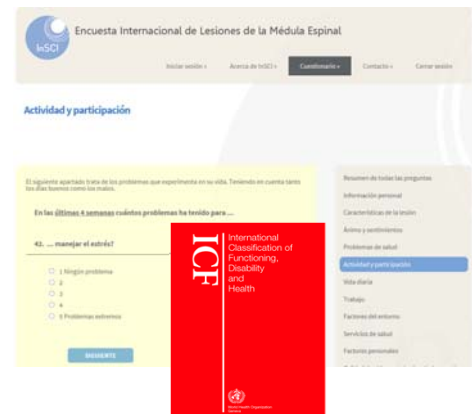
Methods & Materials

Study Design

Cross-sectional, multi-national, community survey

Mix-mode data collection options:

- Self-reported questionnaire
- Interviewer-administered (face-to-face, telephone)



Example of INSCI Survey question derived from ICF category d240 Handling stress and other psychological demands and MDS question 14030

Study Population

Inclusion criteria:

- Traumatic or non-traumatic SCI (incl. cauda equina syndrome)
- ≥ 18 years old
- Living in community
- Ability to respond in available language and signed consent form

Exclusion criteria:

- Congenital spinal cord damage
- Neurodegenerative disorders, multiple sclerosis, Amyotrophic lateral sclerosis
- Peripheral nerve damage
- Persons in first acute care or inpatient rehab

Self-reported Questionnaire

The INSCI Survey is grounded in the International Classification of Functioning, Disability and Health (ICF) - the ICF Core Sets for SCI long-term context and the ICF Generic-30 (also known as ICF Rehabilitation Set), and is linked to the

Model Disability Survey.³⁻⁵ The INSCI Survey was developed with the overall aim of identifying the factors that explain functioning, health, and well-being of persons living with SCI in the community.

Implementation in Mexico

What has been done so far...

- The Mexican report on its INSCI activities was presented at the International Society of Physical and Rehabilitation Medicine congress 2017 in Buenos Aires
- The survey has been translated into Spanish for Mexico
- The ethics approval has been acquired by the Research Coordination of Mexican Social Security System

The data collection in Mexico is expected to begin in the Fall of 2017.



Acknowledgements

Muchas gracias to Melissa Selb, ICF Research Branch Coordinator, for her support in preparing this poster.

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²World Health Organization. Global Disability Action Plan 2014-2021. Available at: <http://www.who.int/disabilities/actionplan/en/>

³Cieza A. Editorial: The International Spinal Cord Injury Survey and the Learning Health System for Spinal Cord Injury. Am J Phys Med Rehabil. 2017; 96(2): S1.

⁴World Health Organization. Model Disability Survey. Available at: <http://www.who.int/disabilities/data/mds/en/>

⁵Fekete C, Post MWM, Bickenbach J, Middleton J, Proding B, Selb M, Stucki G. International Spinal Cord Injury Community Survey (INSCI) group. A structured approach to capture the lived experience of spinal cord injury: Data model and questionnaire of the International Spinal Cord Injury Community Survey. Am J Phys Med Rehabil. 2017; 96(2): S5-16.



ICF INFO –Its application to Swiss national rehabilitation quality management

16-21 October 2017
Mexico City, Mexico

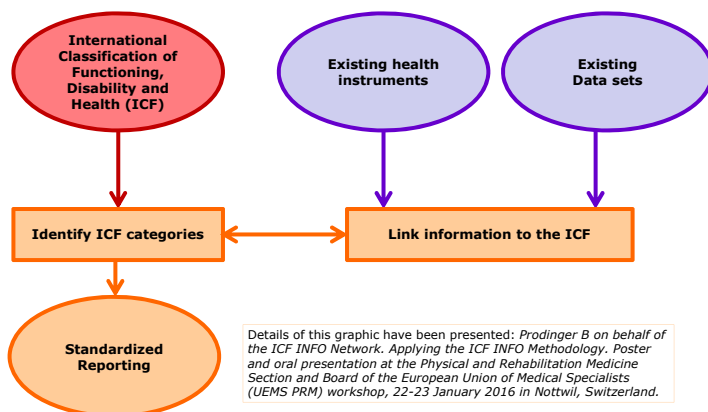
C515

Maritz R, Hodel J, Tennant A, Stucki G, Prodinger B
Swiss Paraplegic Research Nottwil, Switzerland

Abstract In rehabilitation, functioning information is collected with various tools, including clinical tests and questionnaires, forming the basis for clinical decision-making and the assessment of outcome quality. The absence of a standardized reporting system in Swiss rehabilitation makes the task of comparing and aggregating functioning data difficult. To address this issue, a project funded by the Swiss National Science Foundation National Research Program "Smarter Health Care" has been initiated. The first step in Part A of this project will be to harmonize functioning data routinely collected with existing tools following the principles developed within ICF INFO, an international collaborative project that was introduced in previous WHO-FIC meetings. The ICF will serve as the frame of reference for this harmonization task.

Introduction

- The **primary aim of rehabilitation** for people with chronic disease¹ is not to find a cure but to optimise **functioning** in everyday life. Functioning is defined and classified by the International Classification of Functioning, Disability and Health (ICF)².
- In clinical practice **functioning information is systematically collected** using clinical tests and assessments, and forms the basis for clinical decision-making and the assessment of outcome quality. These data often have to be compiled from different systems.
- The **absence of a standardized reporting system** makes the task of comparing functioning data from different systems or clinics more difficult.



Objectives

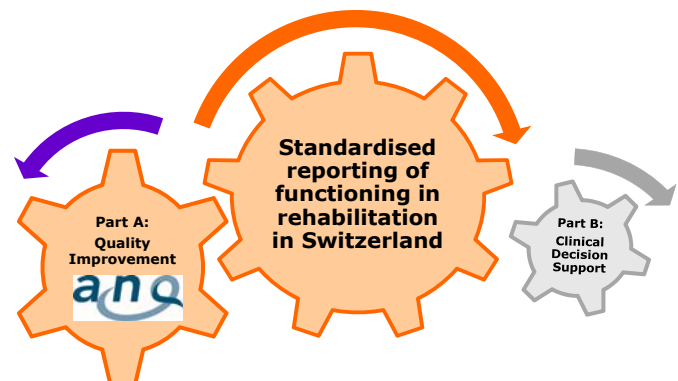
Develop a multi-purpose standardized reporting system for functioning information in **quality improvement in rehabilitation services (Part A of the project and focus of this poster)** and clinical decision-making (Part B).

Aim 1: Harmonize existing routinely collected functioning data from specialized rehabilitation centers across Switzerland.

Aim 2: Identify functioning trajectories of people throughout inpatient rehabilitation in specialized rehabilitation centers based on the harmonized data set.

Aim 3: Design a multi-purpose standardized reporting system for functioning information.

Aim 4: Develop strategies for implementing this reporting system in quality improvement and supported clinical decision-making.



Part A: Quality Improvement

This part uses data routinely collected for national quality management by the **National Association for Quality Development (ANQ)**³. Rehabilitation clinics use different instruments to collect functioning data of people with musculoskeletal or neurological health conditions for the ANQ. To compare the data from the different clinics, the development of a common interval-scale is needed.

Methods

- Rasch Measurement Model**⁴ and **ICF Linking**⁵ to harmonize the different instruments
- Mixed Models with Repeated Measurement**⁶ to observe and analyze changes in functioning status within and across health condition groups
- Stakeholder dialogues**⁷ to set up an action plan on strategies for optimizing quality monitoring and improvement based on standardized reporting

Impact and expected Results

The project will establish a standardized reporting system for the rehabilitation of chronically ill people, building upon established documentation methods. It will make an important contribution to **monitoring targeted, individual rehabilitation** and to achieve fundamental improvement in the **quality of rehabilitation**.

2017	Kick-off Meeting and preparatory phase
2018	Consultation with implementation partners about the results of the analyses
2019	Key stakeholder interviews and stakeholder dialogues
2020	National symposium with implementation partners

To follow the progress of the project: <http://www.nfp74.ch/en/projects/healthcare-across-sectors>

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The Development of New Assessment tool of Speech-Language-Communication in children - An attempt to promote the use of children-related categories of ICF in Japan

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C516

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Abstract Objective: The purpose was to devise a speech-language-communication scale for disabled children that could be applied by various medical professionals, family members, and personals in treatment and education institutes and to assess the validity and reliability of that scale. The scale is "Ability for Basic Language and communication Scale for Children" (ABLS-C). Method: Subjects were 28 children who visited the National Center for Child Health and Development from August 2015 to January 2016. They were examined using the Kyoto Scale of Psychological Development 2001 (KSPD-2001) and the ABLS-C composed of 5 items (wakefulness, lalognosis, speak, intelligibility, and sociality). Validity was evaluated according to correlations of the ABLS-C with KSPD-2001. Reliability was assessed by a parent's pre-post rating (test-retest reliability). Result: The KSPD-2001 total score (developmental age in month) was significantly correlation with the total ABLS-C scores, lalognosis, speak, intelligibility, and sociality but not with wakefulness. Test-retest reliability was demonstrated for all items expect wakefulness. Conclusion: There were significant correlations between the total ABLS-C scores and KSPD-2001, which suggested that ABLS-C is useful assessment tool of children's individual speech, language, or communication functions.

Introduction

There is possibility that language and communication impairment in early childhood could continues to be prevalent throughout the school years. To support child's language and communication development properly, we must not only assess child's levels of language and communication development, but also identify planning way to improve his/her language and communication ability. However, In Japan, the number of specialist for child's language development, such as speech-language-therapist, is not adequate. We therefore developed the ABLS-C to provide a simple scale that could easily assess child's language and communication ability in daily life.

The aim of this study was to develop a new assessment instrument for language and communication function in early childhood. The tool is "Ability for Basic Language and communication Scale for Children" (ABLS-C), which can be useful to child's primary parents as well as various specialists in this field.

Methods & Materials

Subjects. 28 children who were randomly selected out of all children who were seen at the National Center for Child Health and Development between August 2015 and January 2016 (median 23.5 months, 12boys and 16girls).

Variables. Developmental age in month based on the Kyoto Scale of Psychological Development 2001 (KSPD-2001), score of each item on the ABLS-C and the total score of ABLS-C.

Analysis. (1) Validity: The spearman rank method was employed to explore correlation between items on the ABLS-C or the total scores of ABLS-C and the KSPD-2001 developmental age. (2) Reliability: To evaluate reliability, we employed test-retest reliability. Evaluation was made by child's primary parent using the ABLS-C at the first time visiting and in about a week later.

Ability for Basic Language and Communication Scale for Children (ABLS-C)

ABLS-C (Ability for Basic Language and communication Scale for Children)

Grade	0	1	2	3
Wakefulness	No response to pain stimulus	Wakes up when shaken	Wakes up when called to	Awake
Lalognosis	No response when spoken to	Turns and looks in the direction when spoken to	Follows commands when communicated with gestures and pointing	Follows verbal commands without gestures or pointing
Speak	No speech	Makes vowel sounds like "aah" and "oh"	Points their finger	Utters meaningful words
Intelligibility	Able to speak, but completely unintelligible	Able to speak, and sometimes intelligible	Sometimes intelligible	Everything is intelligible
Sociality	No eye contact	Smiles when spoken to	Waves goodbye	Plays with friends
Grade	0	1	2	3

- ❖ It is a new assessment scale to provide information concerning child's language and communication ability.
- ❖ The ABLS-C is composed of 5 items regarding a child's language and communication ability, i.e. wakefulness, lalognosis, speak, intelligibility, sociality.
- ❖ This tool is derived from the ICF component of Activities and Participation and Body Function and Structures (with a particularly focus on language and communication functions).
- ❖ Each item was rated on a 4-point scale from 0 to 3, which indicated the best performance at that time.
- ❖ This measure allows users to check out child's language and communication ability in a short time.

Results

	N=28	Median	Range	KSPD-2001		Cognitive-Adaptive		Language-social		Total	
				<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>
Wakefulness	3	0-3	0.204	0.297		0.275	0.157	0.216	0.270	0.251	0.198
Lalognosis	3	0-3	0.423*	0.025		0.460*	0.014	0.539**	0.003	0.491**	0.008
Speak	3	0-3	0.462*	0.013		0.675**	0.000	0.735**	0.000	0.708**	0.000
Integebility	2	0-3	0.315	0.102		0.768**	0.000	0.830**	0.000	0.754**	0.000
Sociality	3	0-3	0.267	0.170		0.598**	0.001	0.708**	0.000	0.633**	0.000
Total scale of ABLS-C	13	0-15	0.473*	0.011		0.805**	0.000	0.866**	0.000	0.819**	0.000

ABLS-C: Ability of Basic Language Scale for Children

KSPD-2001: Kyoto Scale of Psychological Development 2001

* $p < 0.005$

** $p < 0.001$

- ❖ The KSPD-2001 total score was significantly correlation with the total ABLS-C score ($R=0.819$), lalognosis ($R=0.491$), speak ($R=0.708$), intelligibility ($R=0.754$), and sociality ($R=0.633$) but not with wakefulness($R=0.251$).
- ❖ In addition, the total scores of ABLS-C significantly correlated with the cognition-adaptive KSPD-2001 ($R=0.805$) and the language-social KSPD-2001 ($R=0.866$).
- ❖ Scores on speak ($k=0.633$), intelligibility ($k=0.653$), and sociality ($k=0.737$) indicated strongly test-retest reliability, while lalognosis ($k=0.469$) and total score ($k=0.556$) had moderate reliability. On the other hand, wakefulness showed no significant test-retest reliability ($k=0.054$).

Discussion

- ❖ The total scores of the ABLS-C had significant correlation with the total scores of KSPD-2001, the cognition-adaptation KSPD-2001 and language-sociality KSPD-2001. As a result of this finding, (1) It is possibility that this implement enable child's primary parents to easily assess state of their child language and communication development. (2) Moreover, the child's development specialist may obtain information about child's language and communication impairment by using this tool.
- ❖ Test-retest reliability of ABLS-C was verified in 4 items: lalognosis, speak, intelligibility and sociality. On the other hand, such reliability was not demonstrated in wakefulness, one of possible reason for this finding is thought that rating of this item was depending on the rater's subjectivity. Therefore, to improve the validity and the reliability for wakefulness, the assessment process for wakefulness should be reviewed.



Graphical modelling – a tool for describing und understanding functioning of people living with a health condition

16-21 October 2017
Mexico City, Mexico

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C517

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Abstract The objective of this poster is to familiarize rehabilitation clinicians and scientists with the graphical modelling approach for describing, understanding and influencing people's functioning. This is based on a methodological note that demonstrates the potential of graphical modelling and the interpretation of results with data gathered in the Swiss Spinal Cord Injury Cohort Study using the Spinal Cord Independence Measure-Self Report. Furthermore, the potential of graphical modelling for the planning of studies that expand the understanding of functioning and for rehabilitation interventions is presented.

Background

- A comprehensive understanding of people's functioning is fundamental for rehabilitation clinicians and scientists¹.
- Research has shown that the graphical modelling approach can contribute to identifying 1) complex associations between domains of functioning and 2) potential interventions targets for improving functioning².

Objective of this poster: To familiarize rehabilitation clinicians and scientists with the graphical modelling approach for describing, understanding and influencing people's functioning.

Introduction to graphical modelling

Figure 1 shows an example of a directed acyclic graph (DAG) and its skeleton (DAG with no information about direction). The nodes represent the items of the SCI Independence Measure-Self-Report (SCIM-SR)³, while:

- the arrow between *Bowel management* and *Eating/Drinking* indicates that *Bowel management* influences the variable *Eating/Drinking* (Figure 1a);
- no edge (i.e. dependence relationship) between *Bowel management* and *Grooming* indicates conditional independence (Figure 1b); *Bowel management* gives us no information about *Grooming*, when we have knowledge of *Eating/Drinking*.

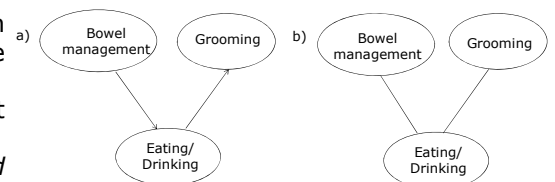


Figure 1. A simple example of a DAG and its skeleton

Interpretation of results using graphical modelling

1) Associations identified using undirected graphs

Figure 2 shows the association structure of the items of the SCIM-SR using the cross-sectional data from the community survey of the Swiss Spinal Cord Injury Cohort Study⁴. The results showed:

- A strong conditional dependence among variables: all variables are connected
- A list of conditionally dependent variables: Example - *Grooming* and *Eating/Drinking*
- A list of conditionally independent variables: Example - *Bowel management* and *Grooming* given the information we have on *Eating/Drinking*
- A list of confounder variables: Example - Triangle formed by *Eating/Drinking*, *Grooming* and *Dressing upper body* indicates that any of these three variables may be a confounding variable in the association between the other two variables
- Subsets of variables for prediction analysis: Example - for predicting *Eating/Drinking*, it is sufficient to look at the functioning categories that are conditionally dependent on *Eating/Drinking*

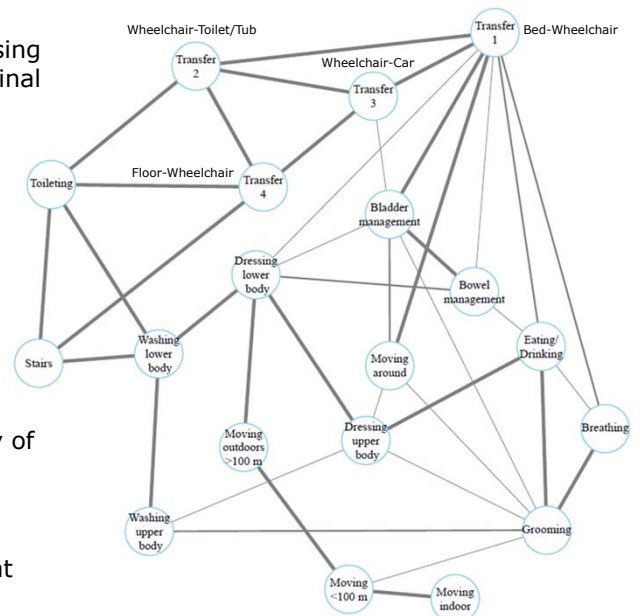


Figure 2: The association structure identified among items of the SCIM-SR

2) Using DAGs to identify potential intervention targets for improving functioning

- Using the Pearl's Calculus of Intervention, a clinical intervention for each variable is statistically simulated by forcing the variable's values from 'problem' to 'no problem' one after another⁵.
- The top five potential interventions targets for improving functioning in *Eating/Drinking* identified using the same data were *Grooming*, *Washing upper body*, *Dressing lower body*, *Dressing upper body*, *Transferring (Bed-Wheelchair)*.

Potential research applications of the graphical modelling approach

Graphical modelling may be used:

- 1) To formulate research hypotheses about conditional independence cases, confounder variables, subset of variables for prediction analysis, potential constructs and scales and the potential intervention targets;
- 2) To estimate, visualize and thereby compare the dependence structure of subpopulations (e.g. paraplegic and tetraplegic SCI subpopulations).

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M É X I C O

Strengthening Disability Statistics in the 2030 Agenda for Sustainable Development

16-21 October 2017
Mexico City, MexicoHuib Ten Napel^{1,2}, Marijke de Keijl-de Vrankrijker^{1,2}, Margaret Mbogoni²¹ WHO-FIC Collaborating Centre, the Netherlands; ² United Nations Statistical Division, United States

C518



Abstract In the context of the 2030 Agenda for Sustainable Development and of the 2020 World Population and Housing Census Programme, the United Nations Statistics Division (UNSD), with funding of the Department of Foreign Affairs and Trade (DFAT) of the Government of Australia, has relaunched its disability statistics programme so as to enhance the capacity of national statistics offices to produce and disseminate good quality and fit-for-purpose statistics on disability for all-inclusive development planning and monitoring taking into account the situation of persons with disability.

This poster presents how the ICF served as a framework for the analysis of census-questions on disability.

Introduction

The 2030 Agenda for Sustainable Development recognizes persons with disability (of whom more than 80 per cent live in poverty) as one of the vulnerable peoples and calls for their empowerment.

The Agenda further commits that by 2020, to enhance capacitybuilding, support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by among other things, income, gender, age, race, ethnicity, migratory status, disability.

The United Nations Economic and Social Council (ECOSOC) in its resolution E/RES/2015/10, for the 2020 World Population and Housing Census Programme, stresses that population and housing censuses are designed to generate valuable statistics and indicators for assessing the situation of various special population groups, such as persons with disability.

Methods

As part of a project, UNSD is taking stock of the current state of affairs in terms of disability measurement from the perspective of countries in terms of (i) *how the data are collected*, (ii) *what data are collected*, and (iii) *available guidelines for disability measurement*.

Through an analysis of the above and through an international consultative process, the project has as one of the expected accomplishments the review of the present and further development of international guidelines for measurement of disability taking into account existing measurement instruments, good national practices and country needs.

For the analysis of disability questions/items, the ICF is used as a framework/standard. Items are 'mapped' to ICF categories, based on their intended meaning. An example of a mapping table is shown here.

Materials

For the international consultative process, 6 UN-regional meetings took place in which countries from the regions were invited.

Meetings took place in Thailand, Barbados, Uganda, Oman, Kazakhstan and Chile. At each meeting the participants received information concerning the SDG programme and 2020 World Population and Housing Census Programme, the WHO's Model Disability Survey (MDS), UN-Regional Office Initiatives, the Washington Group Short Sets (WG-SS) and the WHO International Classification of Functioning Disability and Health (ICF), the last one combined with examples of a structured analysis of questions (census), focussing on the manner 'disability' has been operationalized in the census of each country.

Several sources were used for the collection and analysis of questions; the UNSD census questionnaires website, regional census questionnaires websites, country websites, questionnaires received during the meetings, and the content of presentations.

Format for analysis of questionnaires

Country	ICD	ICF-Function	ICF-Structure	ICF-Activity	ICF-Participation	ICF-Environmental Factors
Name and year of census						
Definition of disability (if available/intrinsic)						
Introductory phrase/question						
Screening question						
Disability question/item						
Response category						
Other relevant items						
Disability questions/items						
Has NAME permanent difficulty with:						
seeing (even when using glasses or lenses)		b210*				e1251*
hearing (even when using a hearing aid)		b230*				e1251*
walking, climbing stairs using arms and hands for performing tasks				d450* d451* d430-d449		
understanding or learning mental retardation Down Syndrome autism	Ch V Q99 F84			d1		
mental or emotional mental illness transgender	Ch V Ch V	b1 b152				

Table 1: Mapping table from 1 country
An * means that the category is similar to an item/question in the Washington Group Short Set

Observations

After analyzing all available material, presentations and consultations during the meetings, we observe the following:

From 131 countries, questionnaires from 114 countries contain items on 'Disability', which can be mapped to 74 ICF categories. With a cut-off point of 20, 17 items are used most frequent:

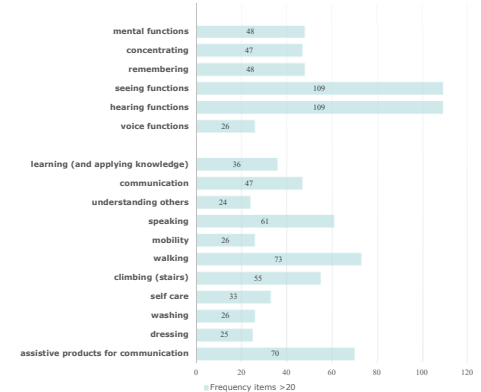


Table 2: Grouped ICF items after 6 regional meetings

- Items in questionnaires are named in many different ways
- WG-SS split-items are recognisable
- WG-SS questions are recognisable, but almost never as intended in SS
- Some items not in the top 17 seem relevant to certain regions
- different terminology: long term disability, major disability or impairment, longstanding illness or disability or infirmity that limits you, permanent disability, longstanding disability, disability status, impediments, etc.
- different terms for the same referent: vision, seeing, eye-sight, blindness, sees, visual impaired, etc.

Acknowledgements and Info

We wish to acknowledge the Department of Foreign Affairs and Trade (DFAT) of the Government of Australia for their financial support and all the participants from the 6 UNSD Regional meetings for their valuable contributions.

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Upcoming WHO-FIC CC Newsletter



FunctionMapper: Centralised content modelling tool for ICanFunction mHealth Solution (mICF)

16-21 October 2017
Mexico City, Mexico

C519

H.A. Stallinga¹, H. Anttila², P. Weckström³, S. Steiner⁴, T. Maribo⁵,
O. Kraus de Camargo⁶, S. Snyman⁷, on behalf of the International mICF Partnership

¹University of Groningen, The Netherlands; ²National Institute for Health and Welfare (THL), Finland; ³Jyväskylä University for Applied Sciences, Finland; ⁴Independent ICF consultant, USA; ⁵Aarhus University and Central Denmark Region, Denmark; ⁶McMaster University, Canada; ⁷Nelson Mandela University, South Africa



Abstract We present the development of FunctionMapper. FunctionMapper is one of the main components of the ICanFunction mHealth solution (mICF), and converts natural language to a structured output using ICF categories. It enables and supports coordinated content translations in all spoken languages in the world. This is the first prototype of mICF that gives individuals the opportunity to describe their own life situation and to share their own data.

Introduction

Since 2014 the International mICF Partnership engaged multiple stakeholders to collaborate in developing the ICanFunction mHealth Solution (mICF). Based on ICF, mICF is an envisaged mobile-friendly health service solution to facilitate individualised, predictive care by utilising big data models. The goal is to develop FunctionMapper as one of the main components of mICF (Figure 1). FunctionMapper converts natural language terms related to functional and contextual information to ICF by using a graphical user interface (GUI) and an application programming interface (API).

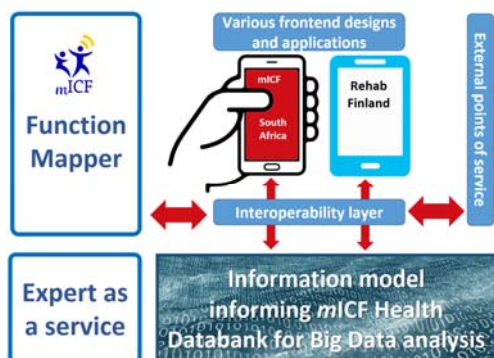


Figure 1. The main components of mICF

Methods & Materials

18 ICF experts (11 countries) were given editing rights to FunctionMapper and they populated the first prototype. It includes user needs, ICF terms (components, chapters, categories, codes, inclusions and exclusions), natural language terms (i.e. related terms and synonyms), and terms of instruments with related response scales (Figure 2).

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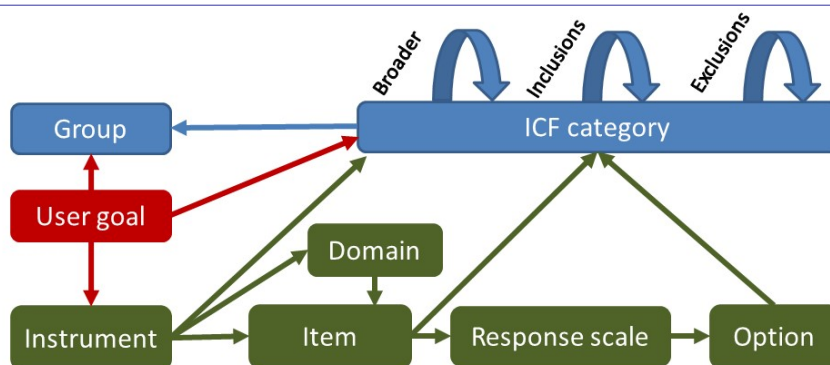


Figure 2. Relations of the elements in the FunctionMapper

Results

ICF experts created a file of all ICF categories, including titles, definitions, inclusions and exclusions in English, Finnish, Danish, Portuguese, Dutch and German. FunctionMapper will be multilingual with the first prototype interface in Finnish and English. Based on a variety of sources, the Finnish group chose a set of 171 ICF categories for adults and 39 for children to be used in the first mICF prototype. For these selected set of ICF categories the following were developed and edited in FunctionMapper: display names (term to be displayed in mICF interface), info text (explaining the display name), synonyms & related terms, related questions and response scales (Figure 3). Currently, the ICF categories are shown in 19 groups for adults and 11 groups for mICF interface.

Conclusion

FunctionMapper as content tool of mICF is promising to "translate" a person's functioning, as described in natural language by a user, to standardised ICF terminology. It is being developed keeping in mind that it will work also as Human-Machine-Interface (HMI) for Machine Learning (or Big Data Models) and Artificial Intelligence (AI) that will, in time, bring personalized content to the individual users.

It remains challenging to populate FunctionMapper to ensure optimal engagement and to fulfil expectations of service users and providers. Cognitive testing, co-creation, active participation and iterative feedback from mICF frontend users will assist the development team to iteratively improve the content and functionalities of the FunctionMapper. Following the required international validation of FunctionMapper, it is envisaged to serve as a metabase for the mICF. This will empower service users to report functional and contextual information to facilitate a person-centred bio-psycho-social-spiritual approach to service provision.

Figure 3. Excerpt of pages in FunctionMapper

Annual Progress Report 2016/17

ICanFunction mHealth Solution (mICF)

16-21 October 2017

Mexico City, Mexico

C520



M É X I C O

Snyman S^{1,2}, Kraus de Camargo O³, Anttila H⁴, Stallinga H.A⁵, Van Greunen D², on behalf of International mICF Partnership

¹WHO-FIC Collaborating Centre, South Africa; ²Centre for Community Technologies, Nelson Mandela University, South Africa; ³McMaster University, Canada; ⁴National Institute for Health and Welfare (THL), Finland; ⁵University of Groningen, The Netherlands



Abstract We are developing the **ICanFunction mHealth solution (mICF)**, a state-of-the-art application and paradigm shifting platform for personalised health and social services. It is based on ICF. In this poster we report on the progress made over the past year. This includes the evaluation of the first proof of concept, the progress made with FunctionMapper™ (the online ICF terminology library) and efforts to ensure sustainability of the project.

Background

The International **mICF** partnership consisting of service users, service providers, specialists in ICF and health informatics are developing a user-friendly mobile application to **assist people at point of service delivery** to be able to enter what is important to them about their **functioning and context** so that health services can respond more appropriately. In the background ICF-related data (including patient-reported outcomes) will be amalgamated.

This will enable **individualised, predictive service provision** by utilising **big data models**. **mICF can be a game changer in addressing health inequity** by facilitating the necessary institutional reform as well as the transformation of health professions education by utilising person-driven and person-owned data to optimise individualised service provision and to strengthen systems for health.

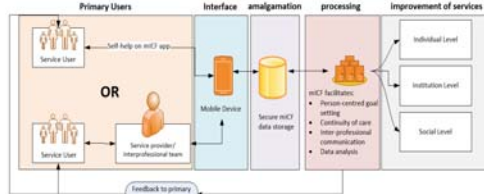


Figure 1: The mICF process flow

The mICF will:

- Facilitate person-centred, interprofessional holistic service provision
- Address needs of service users through shared decision-making and service user reported outcomes
- Empower service users, their carers and service providers (including community and home-based care)
- Personal health data will be processed securely, informing a service user empowering bio-psycho-social-spiritual approach.
- Big data analytics will enable personalised, predictive care

Progress made

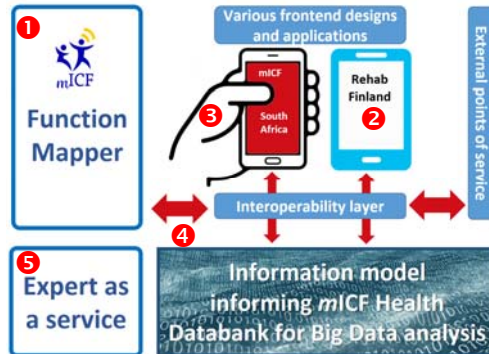


Figure 2: The components of the mICF development process (The numbers refer to descriptions below)

1 FunctionMapper: This is mICF's "online ICF terminology library", developed by THL (Finland). ICF codes, definitions, lay terms, synonyms and measuring instruments were captured for ±200 codes in Dutch, English, Finnish, German and Portuguese. This was needed to enable the first mICF proof of concept App to function.

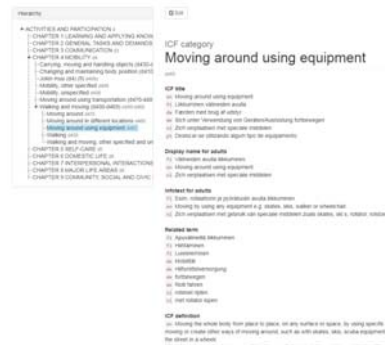


Figure 3: Example of FunctionMapper

2 Finnish mICF proof of concept: The first proof of concept was developed in Finland and successfully evaluated.

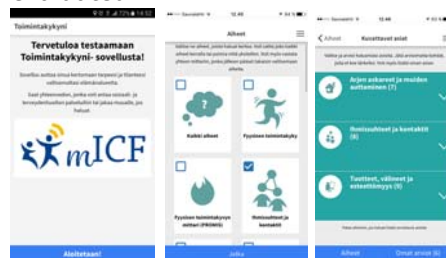


Figure 4: Examples of screens from the Finnish mICF proof of concept

3 mICF South Africa: Funding was obtained to adapt the Finnish proof of concept to English.

4 Functioning information model: A generic functioning information model was developed by THL to support structured documentation of functioning. Benefits of the functioning information model:

- functioning data can be entered as interconnected components with essential metadata
- supports development of user-friendly interfaces for professional end-users.
- allows re-use of pre-existing information, and it supports retrieval of previous data on the same concept.
- supports structured use of the information in other care-related elements such as care plans



Figure 5: mICF partners met in Stellenbosch (South Africa) to plan the next phase of mICF's development

5 Experts as a service. mICF partners met in June 2017 in South Africa to compile a business plan for the next phase of mICF's development. The plan includes efforts to obtain a first economic buyer, agile commercialisation and that partners render their expertise as a service in an effort to make the global mICF initiative sustainable.





Update on the development of the ICF e-learning tool

16-21 October 2017
Mexico City, Mexico

C521

Michaela Coenen^{1,2}, Sandra Kus^{1,2}, Katharina Ricci^{1,2}, Melissa Selb^{1,3}

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Abstract This poster reports on the steps taken toward the finalization of the ICF e-learning tool that has been under development the last several years. The ICF e-learning tool is a web-based, self-teaching tool that has been developed under the auspices of the EIC with valuable support from FDRG. From 2016 to 2017 the content of the ICF e-learning tool was implemented in the software, Articulate Storyline®, enhancing the interactive character of the tool. The basic module of the ICF e-learning tool comprises of seven chapters. It also includes quizzes that test the learning success of users. In September 2017 field testing of a pilot English version of the ICF e-learning tool started worldwide.

Introduction

The ICF e-learning is a web-based, self-teaching tool that has been developed under the auspices of the *Education and Implementation Committee (EIC)* with valuable support from the *Functioning and Disability Reference Group (FDRG)* during the past years. It introduces (potential) users to the framework and conceptualization, as well as possible application areas of the International Classification of Functioning, Disability and Health (ICF). The e-learning tool is aimed at familiarizing stakeholders in various sectors, including social and health care professionals, and interested laypersons, just to name a few. In the long run it should also support the joint use of the ICF with the International Classification of Diseases (ICD).

This poster aims to report on the work done to finalize the pilot version of the ICF e-learning tool and introduce its international field testing.

Methods & Materials

From October 2016 to September 2017 we performed the following tasks:

- Copyright issues of images presented in the e-learning tool were clarified.
- Quizzes and a scoring system for these quizzes were drafted. Quizzes and the proposed scoring system were approved by EIC and FDRG.
- The content of the ICF e-learning tool and the quizzes were implemented on an e-learning platform using the software, Articulate Storyline®.
- In Articulate Storyline®, animations and interactive features were set up to enhance the tool's attractiveness.
- An Excel file including the content of the e-learning tool and quizzes was set up to support the translation of the e-learning tool from English into other languages.
- A web platform was created to conduct international field testing of the English version of the ICF e-learning tool.

Results

We established a pilot version of the ICF e-learning tool in English. It is composed of a **Welcome** section aiming to introduce the handling and use of the e-learning tool and a **Glossary** with the main concepts and definitions pertaining to the ICF.



Fig. 1: Front page of the ICF e-learning tool.

The **centerpiece** of the tool is the **interactive e-learning approach** reflected in its seven chapters:

- Need for ICF
- Uses of the ICF
- Structure and codes
- WHO-FIC Network
- Aims of the ICF
- The ICF model
- ICF Qualifiers

Each chapter concludes with a quiz comprising three to five questions of different formats and difficulty levels.

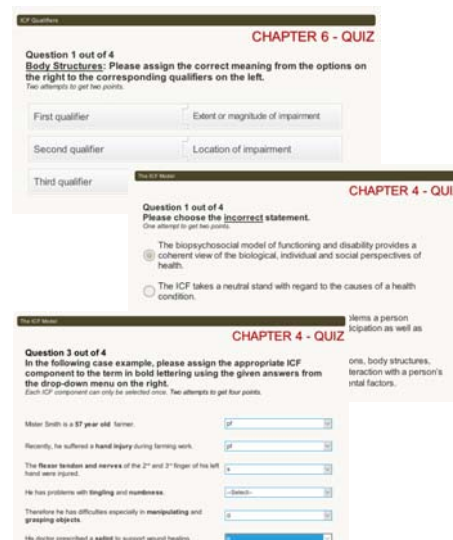


Fig. 2: Examples of different types of quiz questions contained in the ICF e-learning tool.

Results continued

In September 2017 the international field testing of the ICF e-learning tool was launched. Potential users of the ICF from different countries around the world have been asked to participate in this testing to provide information on:

- Comprehensiveness
- Understandability
- Feasibility
- User-friendliness

of the e-learning tool.

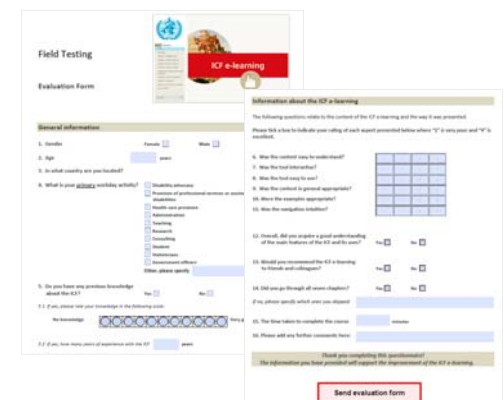


Fig. 3: Evaluation form for the international field testing.

Next steps

After completion of the field testing the following next steps will be taken:

- Information from the field testing will be used to set up the final English version of the ICF e-learning tool.
- Selected members of the WHO-FIC Network will translate the content of the English version into local languages. The ICF e-learning tool is expected to be available in Danish, English, Finnish, French, German, Indonesian, Japanese, Korean, Portuguese, Spanish, Swedish and Russian.

The launch of the ICF e-learning tool is planned for the WHO-FIC Network Annual Meeting 2017 in Mexico.

Acknowledgements or Notes

We are very grateful for the great help and support from EIC, FDRG and the ICF e-learning Core Group the several past years.



M É X I C O

Going viral: ICFEducation.org in 94 countries and spreading

16-21 October 2017

Mexico City, Mexico

C522

Catherine Sykes^{1,2}, Stefanus Snyman^{3,4}, Justin Slabbert⁴¹University of Sydney, Australia; ²Persatuan Penyandang Disabilitas, Indonesia;³WHO-FIC Collaborating Centre, South Africa; ⁴Nelson Mandela University, South Africa

Abstract In response to the significant unmet demand for ICF education, members and collaborators of the WHO Family of International Classifications Network (WHO-FIC), using crowdsourced funding, established an online portal, ICFEducation.org. The portal facilitates sharing and use of freely available, online accessible ICF educational resources with the view of fostering, informing and expanding ICF use. ICFEducation.org is a cost effective online platform reaching users in 94 countries across all WHO regions. After two years of steady growth the platform has been funded by the Collaborating Centre in South Africa and enhanced to include a register of ICF advisers and educators, as well as a online discussion forum. The platform can be seen as part of the solution to the unmet demand for ICF education. This poster presents information about the platform use and the new features made possible through funding guaranteed for the next years.

Introduction



ICF EDUCATION

Since ICFEducation.org was launched in 2014, it has contributed towards meeting the acknowledged significant unmet demand for ICF education [Sykes 2014; Helsinki symposium].

Initially funded through crowdsourcing ICFEducation.org now has a more sustainable future having received funding until 2018 from the WHO-FIC Collaborating Centre in South Africa. This has allowed further development of the site.

Growth over two years

In the first full year of operation there were more than 16,500 hits on the site; an average of 45 per day. The average hits per day for 2017 is 62, so the site is on target for an good increase in activity as it enters its third year. In the table below, the green are the top scoring data points; March 2017.

Months and Years	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2015						8	4	1	342	1,124	1,047	959	3,483
2016	1,124	1,005	1,206	1,041	1,771	1,121	1,172	1,459	2,112	1,709	1,530	1,396	16,646
2017	1,728	1,888	2,216	1,776	1,729	550							8,917

Average per Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Overall
2015						1	0	0	11	36	35	31	18
2016	36	35	39	35	37	37	38	47	70	55	51	45	45
2017	56	67	71	59	56	63							62

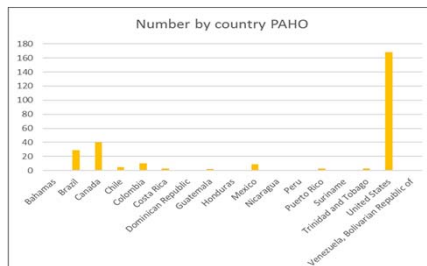
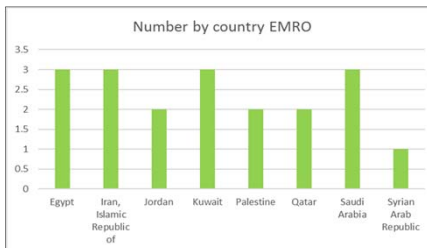
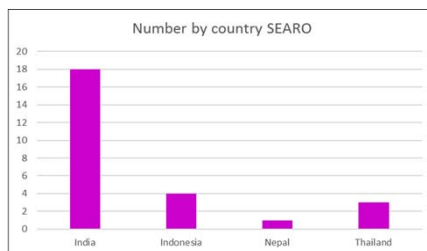
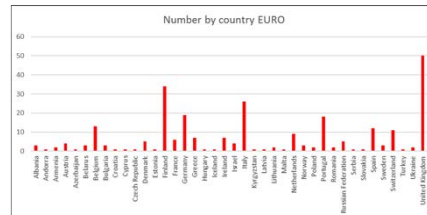
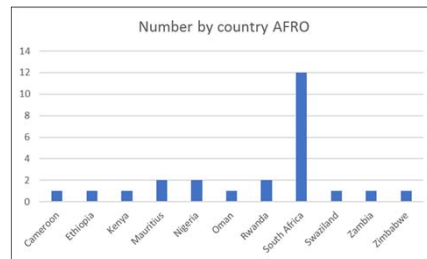
Number of resources: June 2017 n=57 published, 5 pending Up from 48 in October and 37 in June 2016.

Languages: Albanian, Danish, Dutch, English, Finnish, French, German, Italian, Portuguese, Russian, Spanish

Include: slide sets, podcast & webinar, exercise, manuals & user guides, special editions, symposium materials, YouTube lectures

ICFEducation.org users

In June 2017 there were 810 registered users from 94 countries on ICFEducation.org (Autonomous regions merged with country). All WHO regions are represented.



New features

In the first half of 2017 the website has undergone significant change, the most notable of which is the inclusion of a register of **ICF Advisors and Educators**. This feature enables registrants on the website to include information about their experience in advising on ICF use or teaching about the ICF.

People seeking an advisor or educator can search the database for someone with skills matching their needs.

At the 2017 mid-year meeting WHO requested that FDRG respond to an increasing number of enquiries about ICF and WHO-DAS 2. It was agreed that rather than set up a separate service queries could be posted on ICFEducation.org and responses undertaken by the editorial team via the new **Discussion Forum** function.

A **News** facility has also been added.

Governance

The governance arrangements for ICFEducation.org involve an editorial team made up of FDRG/EIC members. The team is responsible for monitoring the quality of submissions to the website and responding to queries. Team members take turns to undertake these tasks. Names of the editorial team are published on the website.

Acknowledgement: icfeducation.org funders, without whom the portal would not exist; Frank Muller who built the original portal; team of the Centre for Community Technologies (Nelson Mandela University, South Africa), who have added the new features and are currently maintaining the site; South African WHO-FIC Collaborating Centre, for 2 years' funding; members of the editorial team.

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The ICF training workshops of the ICF Research Branch

16-21 October 2017
Mexico City, Mexico

C523

Michaela Coenen^{1,2}, Michaela Kirschneck^{1,2}, Sandra Kus^{1,2}, Melissa Selb^{1,3}

¹ ICF Research Branch, a cooperation partner within the WHO Collaborating Centre for the Family of International Classifications in Germany (at DIMDI); ² Institute for Medical Information Processing, Biometry and Epidemiology (IBE), Chair for Public Health and Health Services Research, Ludwig-Maximilians-Universität München, Germany; ³ Swiss Paraplegic Research, Nottwil, Switzerland

Abstract This poster presents the conceptualization and content of the International Classification of Functioning, Disability and Health (ICF) training workshops performed by members of the ICF Research Branch in Germany and Switzerland. The aim of these one to two-day training workshops is to facilitate the use of the ICF in health care, public health, social services and research, etc. The training workshops are designed as interactive workshops to (1) teach participants the theoretical framework of the ICF, (2) enable participants to apply the ICF in use cases and (3) provide materials to allow further distribution of this training (train-the trainer). The first day provides information on the integrative bio-psycho-social model of functioning and disability, needs and aims of the ICF, structures and codes of the classification, ICF qualifiers and other rating scales, and ICF Core Sets. The second day includes lectures and exercises on the ICF Linking Rules and real-life use cases on the implementation of the ICF in clinical practice and rehabilitation. Group and individual exercises as well as case studies round off the lectures. The participants' learning outcome is checked by a standardized evaluation.

Introduction

In the last 10 years the International Classification of Functioning, Disability and Health (ICF) has gained increasing attention. In Germany a new legislation on the participation of persons with disabilities ("Bundesteilhabegesetz") was passed in 2016. This law aims to strengthen the application of the UN Convention on the Rights of Persons with Disabilities in Germany. Consequently, it explicitly requires that the ICF is applied to facilitate participation.



The ICF training workshops performed by the ICF Research Branch aspire to meet this requirement.

This poster reports on the conceptualization and content of the ICF training workshops performed by members of the ICF Research Branch.

Methods

In the last few years we developed and refined a one to two-day ICF training workshop. The workshop has been designed as an interactive and modular train-the-trainer program using a variety of teaching methods. The overall aims of these training workshops are:

- 1 to teach participants the theoretical framework of the ICF;
- 2 to enable participants to apply the ICF in use cases;
- 3 to provide materials to allow further distribution of the training.



The target group for the training workshops are health professionals, researchers, staff of social services, (health) insurance companies, representatives of communities, beside others. Optimal group size of the workshops ranges between 15 and 20 participants allowing for an interactive character of the training.

Results

The ICF training workshops comprises a fixed set of obligatory modules provided on Day 1. These obligatory modules are complemented by optional modules offered according to the specific interests and needs of the participants on Day 2 (see Tab.1).

	Topic	Teaching methods
Day 1	Welcome & pre-test	
	Integrative bio-psycho-social model of functioning and disability	Lecture, group exercise, sorting exercise
	Needs for and aims of the ICF	Lecture, exercises
	The structure and codes of the classification	Lecture, exercises, case examples
	ICF qualifiers	Lecture, exercises, case examples
Day 2	Development of ICF Core Sets	Lecture
	Implementation of the ICF in clinical practice and services: best-practice examples	Lecture
	Rehab-Cycle® and ICF-based documentation	Lecture
	ICF-based measures, e.g. WHODAS, WORQ-Questionnaire	Lecture
	Linking of health-related information: ICF Linking Rules	Lecture, exercises
	Evaluation	

Tab. 1: Modules of the ICF training workshops.

Exercises round off the modules to ensure the sustainability of the learning effect. We offer a broad range of group and individual exercises to ensure a varied and interesting program. Exercises also aim to improve the participants' learning outcome.

Fig. 1: Group exercise: Sorting exercise to enhance knowledge on the conceptualization of the bio-psycho-social model of functioning and disability.



Case Example: Cashier in supermarket

Hanna, 45 years old, has been working full time in a local supermarket for 8 years. She is mother of two boys, 12 and 14 years old. They are living in a 3 room flat 10 minutes walking distance from her workplace. Both children are good in school and support Hanna with household tasks. Nevertheless mastering the double burden of her job, household and family management became increasingly difficult since her divorce two years ago. Since the divorce her mother has provided great practical and emotional support. The work atmosphere in the supermarket had been good. Her boss had been understanding and considered her as a hard working and reliable employee. However as the workload increased in the last year, Hanna started to struggle. Besides working at the cash register, she had to spontaneously help other colleagues with their work. This increasing stressed her out. She appeared disorganized and unfocused, and mistakes accumulated in her work. Since she also felt increasingly fatigued and experienced pain in her neck and shoulder girdle, she finally visited her physician.

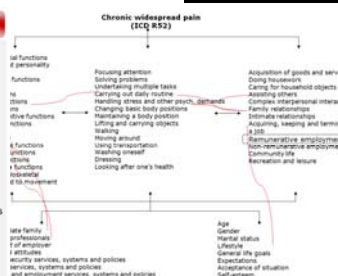


Fig. 2: Individual exercise: Case example to enhance knowledge interaction of the bio-psycho-social model of functioning and disability.

Materials (the slides and exercises in print and electronic format) are provided to the participants to facilitate the train-the-trainer-concept of the workshops.

The learning outcome is checked by a standardized evaluation participants fill in after having completed the training workshop.



The training workshops are delivered in German (provided in Munich, Germany) and English (provided in Nottwil, Switzerland).

Acknowledgements or Notes

We would like to thank the participants of our training workshops for their valuable contributions.

Contact: Melissa Selb: melissa.selb@paraplegie.org



M É X I C O

Learning from South African experiences 2nd International Symposium: ICF Education

16-21 October 2017

Mexico City, Mexico

C524

Anttila H¹, Hanmer L², Jelsma J³, Kraus de Camargo O⁴, Maart S³, Snyman S², Sykes C⁵.¹THL, Finland; ²WHO-FIC Collaborating Centre, South Africa, South Africa; ³UCT, Cape Town; ⁴McMaster University, Canada; ⁵University of Sydney, Australia.

Abstract Three topics were the basis for discussions at the 2nd International Symposium: ICF Education. The discussions revolved around the application of ICF in Sub-Saharan Africa and were informed by the experiences of participants from other regions of the world. Significant issues raised, amongst others, were that (1) ICF as catalyst for interprofessional education needs to be based not only in health workforce training institutions, but 'in the field' too; (2) that data capture tools, such as the WHO-DAS, need to be translated and validated in local languages; and (3) that collection of environmental factors, whilst being essential to the understanding of disability, are not readily collected in practice. This poster will serve as an education resource by providing links to the posters and presentations made at the symposium.

Topics

A capacity crowd attended the 2nd International Symposium: ICF Education (See Table 1).

Three topics were addressed:

1. ICF as catalyst for interprofessional education and collaborative practice
2. ICF Environmental Factors: Catalyst for person-centred healthcare
3. ICF-related data: the new frontier of individualised, predictive healthcare

The aim of the symposium was to bring together people from around the world to share their experiences and learn from each other.

Table 1: Participant numbers and countries

Country	Nº	Country	Nº
Australia	1	Namibia	1
Brazil	4	Netherlands	2
Canada	2	Portugal	2
Columbia	3	Rwanda	1
Denmark	4	Senegal	1
Finland	1	South Africa	116
Germany	2	Swaziland	1
Iceland	1	Sweden	1
Italy	2	USA	1
Korea	2	Zimbabwe	3

1. Interprofessional education

There was consensus that ICF facilitates people working better together, including patients/clients. Examples cited benefits people and services:

- Person-centredness
- Life-course perspective
- Common language
- Accountability
- Integrated and continuous services

Some barriers to ICF use were mentioned:

- Language and model not intuitive for established clinicians
- Whilst students accepted ICF language and thinking, their clinical counterparts must not be forgotten and strategies to support their learning and transition have to be considered.

2. Environmental factors

The importance of including environmental factors was duly acknowledged. South African rehabilitation services use a person's environmental (and personal factors) to determine interventions, rather than disease.

There is a strong policy framework around using ICF in South Africa.



Conclusions

As ICF embraces complexity so too applying ICF in the three topic areas is complex. Capturing complexity where time, personnel and data capacity are in short supply was seen as problematic.

The challenge common across the 3 topics is going beyond the model and using the statistical capacity of the ICF.

There was a strong recognition of the need for information on functioning for transitioning services to suit the people rather than professional

... thank you for the amazing ICF symposium - what a breath of fresh air!!!

M.G. Symposium participant

3. ICF related data

Presentations covered approaches to inclusion of the ICF in health information systems, using ICF in the insurance medicine decision support (IMDS) and in electronic medical certificates to assess workability and introduced participants to the ICanFunction mHealth Solution (mICF).

Challenges identified included:

- Working with existing data
- Cultural applicability – tools need translation and validation
- Selecting items relevant to the person not the professional
- Convincing other stakeholders that this is the best approach.
- Analyses taking account of complexity.

Next



Posters and power point presentations from the symposium can be found at:

<http://icfeducation.org/news/1>

The 3rd International Symposium: ICF Education is planned to be in Hamburg, Germany (April 2018) and associated with the mid-year meeting of the Functioning and Disability Reference Group.

The success of these symposia can be measured by the growing number of participants and abstract submissions, suggesting that the countries where a symposium is held benefits from the interaction of local participants with WHO-FIC members and collaborators.

Acknowledgement: The symposium was supported by ICFEducation.org, the South African Medical Research Council, Stellenbosch University, University of Cape Town and the Western Cape Government: Health



M É X I C O

Disability determination using WHODAS 2.0 and ICF: first results

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Central Health Directorate, Classification Area – Friuli Venezia Giulia Region
Italian WHO-FIC CC16-21 October 2017
Mexico City, Mexico

C525

Abstract WHO has developed ICF and WHODAS 2.0 in order to describe and measure functioning and disability. No agreement exists on how group persons according to the WHODAS 2.0 score and the WHODAS does not correspond to an ICF core set. The aim was to verify the consistency of the scores calculated by using WHODAS 2.0, 36 items and a derived WHODAS-based ICF core set in a sample population useful in disability determination.

Introduction

WHODAS 2.0 domains refer to the Activity and Participation (AP) component of ICF, but do not make explicit that the questions are about the performance.

No agreement exists on how group persons according to the WHODAS 2.0 score.

The WHODAS does not correspond to an ICF core set; it is not an ICF database and it does not produce a functioning profile.

The aim was to verify the consistency of the scores calculated by using WHODAS 2.0, 36 items and a derived WHODAS-based ICF core set in a sample population.

Methods & Materials

- 36 questions of WHODAS 2.0 were mapped to ICF second-level categories; an ICF core set with 27 AP categories was created, corresponding to 27 WHODAS questions (Table 1).
- A web application was created to code the 27 ICF-mapped WHODAS 2.0 questions/answers into ICF (AP category.performance qualifier).
- The WHODAS syntax for automatic computation of overall score using SPSS was used.
- A syntax for automatic computation of overall ICF score using SPSS was created.
- Five severity ranges were created following the ICF (no disability, 0 to 4; mild disability, 5 to 24; moderate disability, 25 to 49; severe, 50 to 95; and extreme disability, 96 to 100).
- 109 persons were recruited: 62.4% were males, 15.6% were less than 18 years old, 65.1% had a mental disorder (ICD 9-CM codes 290-319).
- Spearman's rank correlation rho was calculated.
- The agreement between the WHODAS score and the WHODAS-based ICF core set score was quantified by using Altman and Bland analysis.^{2,3}

Table 1: WHODAS 2.0, 36 items over six domains with the corresponding ICF codes

WHODAS 2.0 DOMAIN	WHODAS 2.0 QUESTION	ICF CODE ACCORDING TO WHO (1)	ICF CODE ACCORDING TO THE ITALIAN WHOPIC CC
1: Cognition	In the last 30 days, how much difficulty did you have in:		
1.1	Concentrating on doing something for 10 minutes	d160 focusing attention; b140 attention functions; d110-d129 purposeful sensory experiences	d161 directing attention
1.2	Remembering to do important things	b144 memory functions	d230 carrying out daily routine
1.3	Analysing and finding solutions to problems in day to day life	d175 solving problems; d130-d159 basic learning	d175 solving problems
1.4	Learning a new task, for example, learning how to get to a new place	d1551 acquiring complex skills	d155 acquiring skills
1.5	Generally understanding what people say	d310 communicating with - receiving - spoken messages	d310 communicating with - receiving - spoken messages
1.6	Starting and maintaining a conversation	d3500 starting a conversation; d3501 sustaining a conversation	d350 conversation
2: Mobility	In the last 30 days, how much difficulty did you have in:		
2.1	Standing for long periods such as 30 minutes	d4154 maintaining a standing position	d415 maintaining a body position
2.2	Standing up from sitting down	d4104 standing	d410 changing basic body position
2.3	Moving around inside your home	d4600 moving around within the home	d460 moving around in different locations
2.4	Getting out your home	d4602 moving around outside the home and other buildings	d460 moving around in different locations
2.5	Walking a long distance such as a kilometer (or equivalent)	d4501 walking long distances	d450 walking
3: Self-care	In the last 30 days, how much difficulty did you have in:		
3.1	Washing your whole body	d5100 washing whole body	d510 washing oneself
3.2	Getting dressed	d540 dressing	d540 dressing
3.3	Eating	d550 eating	d550 eating; d560 drinking
3.4	Staying by yourself for a few days	d510-d550 combination of multiple self - care and domestic life tasks	d571 looking after one's safety
4: Getting along	In the last 30 days, how much difficulty did you have in:		
4.1	Dealing with people you do not know	d730 relating with strangers	d730 relating with strangers
4.2	Maintaining a friendship	d7500 informal relationship with friends	d750 informal social relationships
4.3	Getting along with people who are close to you	d760 family relationships; d770 intimate relationships; d750 informal social relationships	d760 family relationships
4.4	Making new friends	d7500 informal relationships with friends; d7200 forming relationships	d750 informal social relationships
4.5	Sexual activities	d7702 sexual relationships	d770 intimate relationships
5: Life activities	In the last 30 days, how much difficulty did you have in:		
5.1	Taking care of your household responsibilities	d6 domestic life	d650 caring for household objects; d660 assisting others
5.2	Doing most important household tasks well	d640 doing housework; d210 undertaking a single task; d220 undertaking multiple tasks	d640 doing housework
5.3	Getting all the household work done that you needed to do	d640 doing housework; d210 undertaking a single task; d220 undertaking multiple tasks	-
5.4	Getting household work done as quickly as needed	d640 doing housework; d210 undertaking a single task; d220 undertaking multiple tasks	-
5.5	Your day-to-day work/school	d850 remunerative employment; d830 higher education; d825 vocational training; d820 school education	d815 preschool education; d820 school education; d825 vocational training; d830 higher education; d850 remunerative employment
5.6	Doing your most important work/school tasks well	d850 remunerative employment; d830 higher education; d825 vocational training; d820 school education; d210 undertaking a single task; d220 undertaking multiple tasks	-
5.7	Getting done all the work that you needed to do	d850 remunerative employment; d830 higher education; d825 vocational training; d820 school education; d210 undertaking a single task; d220 undertaking multiple tasks	-
5.8	Getting your work done as quickly as needed	d850 remunerative employment; d830 higher education; d825 vocational training; d820 school education; d210 undertaking a single task; d220 undertaking multiple tasks	-
6: Participation	How much of a problem do you have		
6.1	Joining in community activities	d910 community life	d910 community life
6.2	Because of barriers or hindrances in the world	d9 community, social and civic life	d9 community, social and civic life
6.3	Living with dignity	d940 human rights	d940 human rights
6.4	From time spent on health condition	Not applicable (Impact question)	d570 looking after one's health
6.5	Feeling emotionally affected	b152 emotional functions	-
6.6	Because health is a drain on your financial resources	d8700 personal economic resources	d870 economic self-sufficiency
6.7	With your family facing difficulties due to your health	Not applicable (Impact question)	-
6.8	Doing things for relaxation or pleasure by yourself	d920 recreation and leisure	d920 recreation and leisure

Figure 1: Spearman's rank correlation

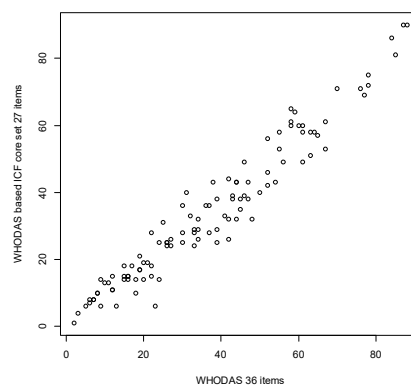
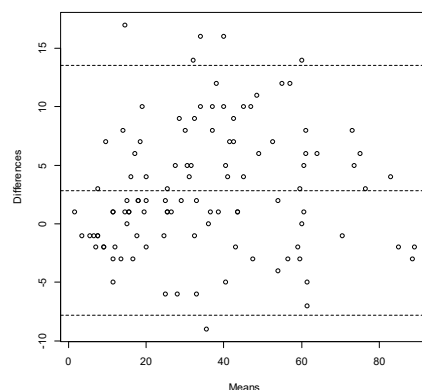


Figure 2: Bland Altman plot



Results

The correlation between the two scores was very strong ($\rho=0.96188$, $p\text{-value}<2.2e-16$) (Figure 1). The level of the agreement between the two scores was very high (Figure 2).

Conclusions

The WHODAS 2.0, 36 items score and the WHODAS-based ICF core set, 27 items score provide the same information.

27 WHODAS questions mapped to ICF AP categories seem sufficient to generate a valid score useful to distinguish five severity classes.

This new WHODAS-ICF method may be useful in the disability determination process.

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- Gavin Andrews et al., PLoS One. 2009; 4(12):e8343

Environmental factors in disability assessment: how to combine WHODAS and ICF.

Frattura L., Morassutto C.

Central Health Directorate, Classification Area, Friuli Venezia Giulia Region, Italian WHO-FIC CC

16-21 October 2017
Mexico City, Mexico

C526



Abstract EFs were analysed in an Italian sample interviewed with the WHODAS 2.0, 36 items mapped to 27 ICF Activities and Participation categories. The aim of this contribution is to present some preliminary results.

Introduction

WHO has developed ICF and WHODAS 2.0 in order to describe and measure functioning and disability.

WHODAS 2.0 domains refer to the Activities and Participation (AP) component of ICF, but do not make explicit the type and number of Environmental Factors (EFs) that the respondent should take into consideration to point out the difficulties experienced in the last 30 days.

EFs were analysed in an Italian sample interviewed with the WHODAS 2.0, 36 items mapped to 27 ICF AP categories. The aim of this contribution is to present some preliminary results.

Methods & Materials

- 36 questions of WHODAS 2.0 were mapped to ICF second-level categories; an ICF core set with 27 AP categories was created, corresponding to 27 WHODAS questions (1).
- A web application was created to code the 27 ICF-mapped WHODAS 2.0 questions/answers into ICF (AP category.performance qualifier).
- Disability scores were calculated using the syntax provided by the WHODAS 2.0 Manual and a new syntax developed by one of the Author (CM); five disability classes were defined following the ICF severity ranges (2,3) (no disability, 0 to 4; mild disability, 5 to 24; moderate disability, 25 to 49; severe disability, 50 to 95; extreme disability, 96 to 100).
- EFs were investigated by adding four specific questions to each ICF-mapped WHODAS question. The four additional questions asked about the facilitator/barrier role of (i) support and relationships, (ii) products and technology used by the person, (iii) social and welfare services and (iv) health services used by the person in the previous 30 days (Table 1).
- The distribution of the EFs as facilitators and barriers for each ICF-mapped WHODAS question was calculated.
- The distribution of the EFs for each disability class was calculated.

Results

109 persons were interviewed using WHODAS 2.0, 36 items: 62.4% were males, 15.6% were less than 18 years old and 65.1% had a mental disorder (ICD 9-CM Chapter V codes 290-319) (Table 2).

Four groups were described according to the disability scores (no one showed extreme disability).

The EFs were present in all groups.

Support and relationships was the most frequent EFs, followed by the products and technology (Figure 1).

Ninety percent of the EFs considered were facilitators (Figure 2).

Table 1: EFs groups

ENVIRONMENTAL FACTORS	
Health services, systems and policies	
e580 - Health services, systems and policies	
Services, systems and policies	
e525 - Housing services, systems and policies	
e555 - Associations and organizational services, systems and policies	
e570 - Social security services, systems and policies	
e575 - General social support services, systems and policies	
e585 - Education and training services, systems and policies	
e590 - Labour and employment services, systems and policies	
Support and relationships	
e310 - Immediate family	
e315 - Extended family	
e320 - Friends	
e325 - Acquaintances, peers colleagues, neighbours and community members	
e330 - People in positions of authority	
e335 - People in subordinate positions	
e340 - Personal care providers and personal assistants	
e350 - Domesticated animals	
e355 - Health professionals	
e360 - Other professionals	
Products and technology	
e110 - Products or substances for personal consumption	
e115 - Products and technology for personal use in daily living	
e120 - Products and technology for personal indoor and outdoor mobility and transportation	
e125 - Products and technology for communication	
e130 - Products and technology for education	
e140 - Products and technology for culture, recreation and sport	
e150 - Design, construction and building products and technology of buildings for public use	
e155 - Design, construction and building products and technology of buildings for private use	
e165 - Assets	

Table 2: Some characteristics of the sample by disability class

Demographic characteristics (n=109)		Severity categories				
		No disability	Mild	Moderate	Severe	Total
Gender	Male	1 (1%)	20 (29%)	31 (46%)	16 (24%)	68
	Female	1 (2%)	17 (41%)	14 (34%)	9 (22%)	41
Age	<18	-	3 (18%)	6 (35%)	8 (47%)	17
	≥18	2 (2%)	34 (37%)	39 (42%)	17 (18%)	92
Disease	Mental	2 (3%)	34 (48%)	28 (39%)	7 (10%)	71
	Other	-	3 (8%)	17 (45%)	18 (47%)	38

Figure 1: Distribution of the EFs groups for each disability class

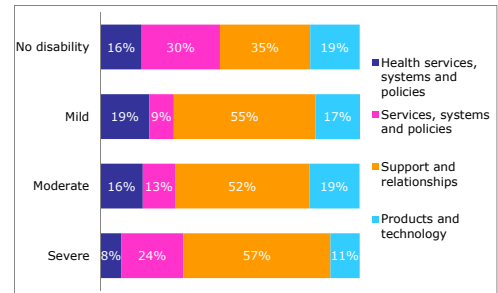
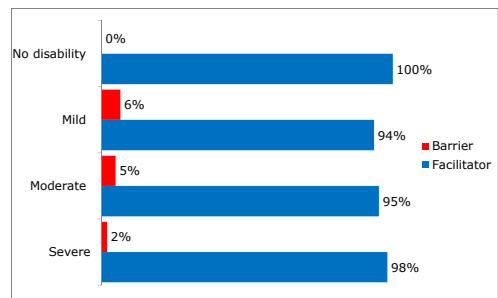


Figure 2: Distribution of facilitators and barriers for each disability class



Conclusions

Investigation of the role of EFs allows to look at the persons with disabilities in a different light.

The role of several EFs in the 27 ICF-mapped WHODAS activities showed that severe disability exists in the presence of facilitators.

This allows to redefine persons with disability as persons with insufficient facilitators with respect to their needs.

On the other hand, in our sample, persons without disability used a lot of EFs facilitators.

In this case the absence of disability should be linked to the availability of "sufficient" facilitators with respect to their needs.

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WHODAS 2.0 Scale and Primary Health Care: thoughts and notes about using the Brazilian version

16-21 October 2017
Mexico City, Mexico

C527

M É X I C O

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Introduction

The second version of the World Health Organization Disability Assessment Scale (WHODAS 2.0) was developed in 2010 to reflect the International Classification of Functioning, Disability and Health (ICF) and facilitate its incorporation into the health services, through the use of a standardized and culturally adapted measure of functionality and disability in six domains of life.

We believe that Primary Health Care (PHC) can become an important setting in identifying and managing the functionality and disability of the population, providing personalized care within the contexts of life in which people are inserted.

In Brazil, WHODAS 2.0 is little known and used, and more research is needed to generalize its validation, as well as its use into routine of health services attending populations with different characteristics.

Thus, we chose to conduct a study, with professionals from a Brazilian PHC team and their patients, to evaluate the adequacy of the Brazilian translation, as well as the reproducibility, concurrent validity and applicability of WHODAS 2.0.

Methods & Materials

The study consists of an evaluation study of the psychometric properties of the WHODAS 2.0 Scale applied by members from a team of a specific Brazilian PHC approach, the "Family Health Strategy" (FHS) (in Portuguese: "Estratégia de Saúde da Família").

The study intends to evaluate:

- a) the concurrent validity between the WHODAS 2.0 Scale and the WHOQOL-Brief Scale;
- b) the inter-rater reliability by the application of the WHODAS 2.0 scale by two different interviewers in each patient (FHS professionals who participated in a short ICF course including training in WHODAS 2.0 and an occupational therapist with experience in the use of the ICF and WHODAS 2.0);
- c) the applicability through likert scales about the opinions of practitioners and patients on their experience as appliers and as respondents of the scale, respectively.

We obtained from the WHO the authorization to use the WHODAS 2.0 Scale and the WHOQOL-Abbreviated Scale.

The study site is a FHS Unit in the city of Ribeirão Preto (state of São Paulo, Brazil). The participants of the study are 120 people from the age of eighteen followed by the FHS Unit and team members from different professional categories (dentistry, physiotherapy, psychology, occupational therapy and community health workers) linked to the unit.

The main researcher has been making notes in a field diary, with descriptions and reflections on the development of the research. Data collection is in the process of being finalized, with less than 10 interviews missing.

Results

Although the data collection is not yet complete, it is already possible to realize that PHC team members can be properly trained in the use of WHODAS 2.0 and that its application in PHC adult patients frequently shows alterations in the state of functioning.

Most FHS staff members agreed to participate in the survey. However, doctors and nurses declined to participate because they considered having difficulty applying the scale in their daily work routine.

By consulting the field diary of the research, it can be observed that, to date, there has been good acceptance of the instrument by the patients.

Different patients reported that the instrument made them reflect on their capabilities and limitations for the first time.

Limitations in the use of the Brazilian version of the WHODAS 2.0 also were evidenced due to inadequacies in the translations of terms. For example, "disability" was used to mean "impairment", turning impossible to identify where the tool is related to body/structure problems or limitation/restrictions problems.

Conclusions

The WHODAS 2.0 may be appropriately applied by members from PHC teams but:

- a) there is an emerging demand for the adequacy of the terminologies in Brazil, which do not adequately reflect the essence of ICF;
- b) there are difficulties in incorporating the application of the scale in the routine of PHC's doctor and nurse.



Reliability and Validity of the WHODAS 2.0 and WHOQOL Bref within a South African Context

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C528

Abstract The validity and reliability of the WHODAS 2.0 and WHOQoL was tested on the isi-Xhosa and Afrikaans versions. 288 answered the WHODAS 2.0 and the WHOQoL Bref was completed by 301 participants. The WHODAS 2.0 performed better and is recommended as the instrument of choice for use in a South African context.

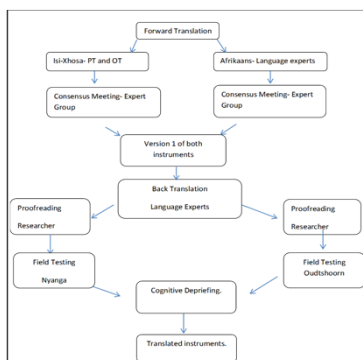
Introduction

The WHOQoL and WHODAS have been validated and used extensively across different countries and cultures. The WHOQoL Bref is a generic quality of life instrument that measures peoples' perception of their position in life, in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns. It is a 26 item- version of the WHOQoL 100. The WHODAS 2.0 has its conceptual grounding in the ICF framework and corresponds to the dimension of Activities and Participation. It measures the functional impact of disability across 6 domains.

Methods & Materials

A cross sectional descriptive survey design was utilised, with stratified cluster sampling of a 1000 households in two under- resourced communities in the Western Cape, South Africa. Nyanga is an informal urban settlement in Cape Town, with predominantly isi-Xhosa speaking people and Oudtshoorn is a semi-rural town with a predominantly Afrikaans speaking population.

Two stage sampling was used to identify those with disability to be included in the study. The two instruments were translated using forward and backward translation and both were administered to those identified as having a disability



Tests of internal consistency including calculation of Cronbach's alpha, Confirmatory factor analysis to test construct validity was done. Correlation between the EQ-5D VAS and Utility scores and the total of the WHODAS 2 and WHOQoL Bref scores was used to test for concurrent validity

Results

288 answered the WHODAS 2.0 and the WHOQoL Bref was completed by 301 participants.

Domain and items	Cronbach's α Afrikaans	Cronbach's α if Item Deleted	Cronbach's α isiXhosa	Cronbach's α if Item Deleted
N	169		164	
Total Scale	0.95		0.95	
Understanding and Communicating	0.93		0.91	
Getting around	0.92		0.94	
Self-care	0.88		0.83	
Eating		0.91		0.91
Getting along	0.78		0.82	
Sexual Activity		0.91		0.86
Life activities	0.95		0.94	
Participation	0.83		0.83	

Table 1: Internal Consistency of the WHODAS 2.0 Across 2 languages

Cronbach's α indicated good overall internal consistency for both isi-Xhosa and Afrikaans versions of WHODAS 2.0, although Alpha was lower for the Self Care, Getting Along and Participation domains.

- Sexual Activity reduced the internal consistency of Getting Along
- Eating reduced the Self Care
- No specific item specifically reduced α for Participation

Factor (1)	Factor (2)	Factor (3)	Factor (4)	Factor (5)	Factor (6)
Understanding	Getting Around/ Self Care	Participation	Life Activities/ Getting along	Getting Along	Sexual Activity
Concentrate	0.6	0.2	0.3	0.2	0.2
Remember	0.6	0.2	0.3	0.2	0.2
Follow	0.6	0.2	0.3	0.2	0.2
Learn	0.6	0.2	0.3	0.2	0.2
Understand spoken words	0.6	0.2	0.3	0.2	0.2
Maintain conversation	0.6	0.2	0.3	0.2	0.2
Remember for long periods	0.6	0.2	0.3	0.2	0.2
Get to stand	0.6	0.2	0.3	0.2	0.2
Move around in home	0.6	0.2	0.3	0.2	0.2
Get out of the home	0.6	0.2	0.3	0.2	0.2
Walking long distances	0.6	0.2	0.3	0.2	0.2
Walking	0.6	0.2	0.3	0.2	0.2
Travel	0.6	0.2	0.3	0.2	0.2
Eating	0.6	0.2	0.3	0.2	0.2
Staying alone	0.6	0.2	0.3	0.2	0.2
Unknown people	0.6	0.2	0.3	0.2	0.2
Relationships	0.6	0.2	0.3	0.2	0.2
Friends	0.6	0.2	0.3	0.2	0.2
Close people	0.6	0.2	0.3	0.2	0.2
Making new friends	0.6	0.2	0.3	0.2	0.2
Sexual Activity	0.6	0.2	0.3	0.2	0.2
Household responsibilities	0.6	0.2	0.3	0.2	0.2
Household tasks	0.6	0.2	0.3	0.2	0.2
Household work	0.6	0.2	0.3	0.2	0.2
Household work quickly	0.6	0.2	0.3	0.2	0.2
Community activities	0.6	0.2	0.3	0.2	0.2
Barriers in the world	0.6	0.2	0.3	0.2	0.2
Dignity	0.6	0.2	0.3	0.2	0.2
Health condition	0.6	0.2	0.3	0.2	0.2
Personal resources	0.6	0.2	0.3	0.2	0.2
Family Problems	0.6	0.2	0.3	0.2	0.2
Religion/ Beliefs	0.6	0.2	0.3	0.2	0.2
Explained variance	0.4	0.3	0.3	0.3	0.3

Table 2: Factor Analysis for construct validity across languages

Both isiXhosa and Afrikaans versions demonstrated good construct validity, with the different domains emerging as different factors. Items which did not load on any factor were Eating, Staying Alone, Community Activities and Barriers in the world. Sexual activity emerged as a factor on its own.

WHO QoL Bref Domain	Cronbach's α Afrikaans	Cronbach's α if Item Deleted	Cronbach's α isiXhosa	Cronbach's α if Item Deleted
N	123		115	
Total scale	0.83		0.90	
Physical	0.83		0.87	
Medical treatment		0.68		0.87
Psychological	0.61		0.77	
Enjoy Life		0.76		0.69
Social	0.64		0.69	
Personal Relationships		0.61		0.39
Friends		0.64		0.82
Environment	0.63		0.73	
Information availability		0.64		0.69

Table 3: Internal Consistency of WHOQoL Bref

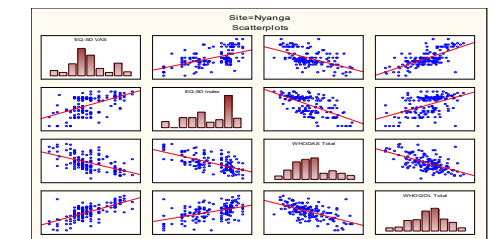
Results

Construct validity of the WHOQoL was poor, items did not load on the domains as expected in factor analysis, and the Afrikaans version was particularly poor.

	Physical	Psychological	Medical Treatment	Enjoy Life	Social	Personal Relationships	Friends	Environment	Information Availability
Physical	0.83	0.61	0.68	0.76	0.69	0.39	0.82	0.69	0.69
Psychological	0.61	0.77	0.87	0.69	0.39	0.82	0.69	0.69	0.69
Medical Treatment	0.68	0.87	0.87	0.69	0.39	0.82	0.69	0.69	0.69
Enjoy Life	0.76	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Social	0.69	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Personal Relationships	0.39	0.82	0.82	0.69	0.39	0.82	0.69	0.69	0.69
Friends	0.82	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Environment	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Information Availability	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69

Table 4: Construct Validity of the WHOQoL Bref

Figure 1: Concurrent Validity of isi-Xhosa versions



The concurrent validity of the isiXhosa versions were better as evidenced with higher correlations with the EQ-5D health related quality of life measure.

	Afrikaans	isiXhosa
EQ-5D VAS	0.42	0.46
EQ-5D Index	0.36	0.25
WHODAS	0.71	0.60

Table 5: Concurrent validity across languages

Conclusions

Although overall both versions of the two instruments demonstrated adequate psychometric properties, the WHODAS 2.0 and the isiXhosa versions performed better. This is not unique as similar problems were experienced with the Sesotho version of the WHODAS 2.0 It is evident that the Isi-Xhosa and Afrikaans speaking communities have difficulty in responding to questions relating to their sexuality, and similar results have been found in other African and Asian countries

Acknowledgements or Notes

The take-home message is that it is essential that the validity of each language version of the instruments be tested within the cultural context in which it is to be used.

Acknowledgements:
EuroQoL Group
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Western Cape Department of Health

Comparison between two different ways to calculate disability scores using WHODAS 2.0 and ICF: impact on the disability prevalence.

16-21 October 2017
Mexico City, Mexico

C529

Frattura L., Morassutto C.

Central Health Directorate, Classification Area – Friuli Venezia Giulia Region
Italian WHO-FIC CC

Abstract To compare two different ways to calculate disability scores and to group assessed persons for decision-making purposes using WHODAS 2.0 and ICF.

Introduction

The aim is to compare two different ways to calculate disability scores and to group assessed persons for decision-making purposes using WHODAS 2.0 and ICF.

Methods & Materials

- 36 questions of WHODAS 2.0 were mapped to ICF second-level categories; an ICF core set with 27 Activities and Participation (AP) categories was created, related to 27 WHODAS questions.
- A web application was created (VilmaFABER system) to code the 27 ICF-mapped WHODAS 2.0 questions/answers into ICF (AP category, performance qualifier).
- Disability scores were calculated using the syntax provided by the WHODAS 2.0 Manual and a new syntax developed by one of the Author (CM); five disability classes were defined following the ICF severity ranges (no disability, 0-4; mild disability, 5-24; moderate disability, 25-49; severe disability, 50-95; extreme disability, 96-100) (1).
- For each question, EFs were explored by adding four specific questions to each ICF-mapped WHODAS question. The four additional questions asked about the facilitator/barrier role of (i) support and relationships, (ii) products and technology used by the person, (iii) social and welfare services and (iv) health services used by the person in the previous 30 days.
- Disability scores were automatically calculated using algorithms which took into account the presence of EFs and the performance qualifier value.
- A new disability indicator, Cumulative Disability Ratio (CDR), was developed (Figure 1) (2).
- Eight classes of disability were created according to the CDR value.
- To each CDR class corresponded a specific VilmaFABER EcoLabel.
- A field test was carried out in a sample of 109 outpatients.
- The agreement between the WHODAS-based ICF core set score and CDR was quantified by using the Altman and Bland analysis.

11. The distribution of the sample according to the two different ways to calculate disability scores was analysed.

Results

The two scores had a high degree of agreement (Figg 1, 2). 41% per cent of the sample showed moderate disability according the WHODAS-based ICF core set score; 36% of the sample showed very few problems in interaction with the EFs (from no problems to mild problems in interaction with the EFs) according to CDR (Table 1). The CDR score allowed a greater differentiation of the disability levels. The outpatients that fell into the moderate disability class with the WHODAS-based ICF core set score were distributed over 6 different disability classes when using the CDR value score.

Figure 1: Functioning Ratio and Disability Ratio for ICF Activities and Participation component: an example

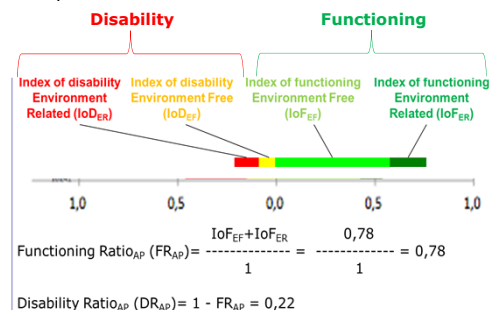










Table 1: Distribution of the sample by CDR and disability classes

CDR	Ecolabel VilmaFABER	WHODAS based ICF core set, 27 items					Total
		No disability (0 - 4)	Mild (5 - 24)	Moderate (25 - 49)	Severe (50 - 95)	Complete (96 - 100)	
0		1	2	0	0	0	3
1 - 14		1	28	4	0	0	33
15 - 29		0	7	13	0	0	20
30 - 45		0	0	9	0	0	9
46 - 60		0	0	16	6	0	22
61 - 75		0	0	2	13	0	15
76 - 90		0	0	1	5	0	6
91 - 100		0	0	0	1	2	3
Total		2	37	45	25	2	111

Conclusions

Different ways to investigate disability and to calculate disability impact on the disability prevalence and on the eligibility criteria. WHODAS-based ICF scores seem less specific than CDR.

References

- Frattura L., Morassutto C. Disability determination using WHODAS and ICF: first results. WHO-FIC Network annual meeting 2017
- Frattura L., Simoncello A., Castelpietra G., Bassi G. The infographic Family of Functioning Indicators (FaFI). WHO-FIC Network Annual meeting booklet 2015

Figure 2: Spearman's rank correlation

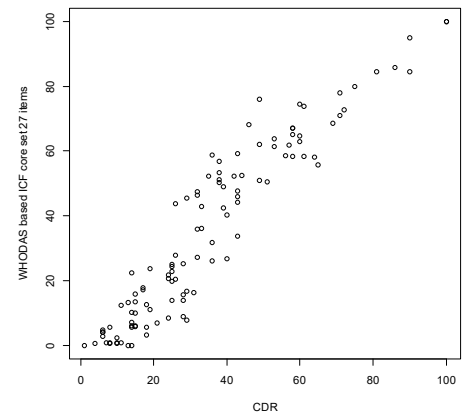
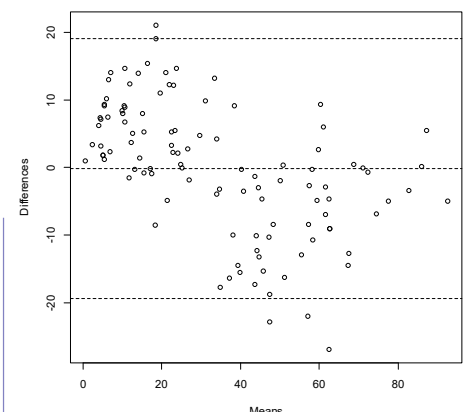


Figure 3: Bland Altman plot



Predictors of quality of life in ageing populations: results from a cross-sectional study in three European countries

16-21 October 2017
Mexico City, Mexico

M Leonard¹, R Quintas¹, A Raggi¹, D Sattin¹, S Chatterji², GB Frisoni³, JM Haro⁴, S Koskinen⁵, A Martinuzzi⁶, M Miret⁷, B Tobiasz-Adamczyk⁸, L Bartesaghi¹, E Guastafierro¹, D Guido¹, C Scaratti¹, S Schiavolin¹, N Minicuci⁹, B Corso⁹

C530

1) Neurological Institute C. Besta IRCCS Foundation, Italy; 2) World Health Organization, Switzerland; 3) IRCCS Istituto Centro San Giovanni di Dio-Fatebenefratelli, Italy; 4) Parc Sanitari Sant Joan de Déu, Spain; 5) National Institute for Health and Welfare, Finland; 6) E. Medea Scientific Institute, Italy; 7) Universidad Autónoma de Madrid, Spain; 8) Jagiellonian University Medical College, Krakow, Poland; 9) National Council Research, Italy

Abstract The predictors of QoL (measured with the WHOQOL-AGE) in a population study sample of persons aged 18-50 and 50+ included: sociodemographic data (age, education level and living in Finland: 17.9% explained QoL variation), chronic conditions (particularly depression: 4.6%) and a wide and rich social network (4.6%). Other determinants were presence of disabling pain, learning difficulties and visual problems, living in usable house that is perceived as non-risky, smoking, being emotionally affected by health problems and good social networks. Acting on modifiable factors (e.g. smoking cessation and increasing the level of physical activity) might improve QoL of ageing populations.

Introduction

European population is undergoing an unprecedented ageing process: the percentage of persons aged 60+ increased from 9.2% in 1990 to 11.7% in 2013 and will reach 21.1% by 2050. Higher life expectancy leads to higher prevalence of non-communicable diseases.

In this context, healthy ageing is an important pillar of research and an objective for policy-makers. Healthy ageing is expected to impact on quality of life (QoL): thus, understanding the features of QoL, and of its determinants, in a healthy ageing perspective is of primary relevance.

The aim of this poster is to present the predictors of QoL in a large population study sample of persons aged 18-50 and 50+, relying on a wide set of candidate factors, such as demographic data, chronic conditions, health and health habits, as well as social networks and built environment variables.

Methods & Materials

COURAGE in Europe is a, cross-sectional study of the general adult population reached through face-to-face household interviews conducted between May 2011 and March 2012 in Finland, Poland and Spain using a CAPI system.

The whole sample comprised 10,800 respondents: 1976 from Finland (RR 53.5%), 4071 from Poland (RR 66.5%), and 4753 from Spain (RR 69.9%).

Eight multivariable hierarchical regression models were performed in order to identify possible predictors of QoL. The hierarchical models were implemented as follows:

- M1: Sociodemographic variables;
- M2: significant predictors from M1 + Health Habits;
- M3: significant predictors from M2 + Chronic Conditions;
- M4: significant predictors from M3 + Health State description;
- M5: significant predictors from M4 + Vision and Hearing;
- M6: significant predictors from M5 + Social Network Index;
- M7: significant predictors from M6 + Built Environment;
- M8: only the significant variables of M7.

The final model was replicated selecting responders country by country from the three countries so to address similarities and differences across Finland, Poland and Spain.

Conclusions

These results highlight the **importance of modifiable determinants of QoL**, and provide public health indications that could support concrete actions at country level.

Smoking cessation, increasing the level of physical activity, improving social network ties and applying universal design approach to houses and environmental infrastructures could potentially increase QoL of ageing population.

Acknowledgements & References

COURAGE in Europe project: HEALTH-F2-2009-223071
Raggi A, et al. (2016) Determinants of Quality of Life in Ageing Populations: Results from a Cross-Sectional Study in Finland, Poland and Spain. PLoS ONE 11(7): e0159293

Results

The final sample with complete information comprised 5639 participants, mean age 46.3 (SD 18.4). Most of respondents were from urban contexts and the sample was balanced for gender. Responders from Poland reported lower QoL scores.

Table 1 reports the results of the hierarchical regression analysis. The final model accounted for 45% of the variation and the most relevant contribution was given by sociodemographic data (Model 1: 17.9% explained QoL variation), chronic conditions (Model 3: 4.6% additional explained QoL variation) and Social Network Index (Model 6: 4.6% additional explained QoL variation).

Some factors were consistently associated to QoL in the three countries: these include smoking status, bodily aches and pain, being emotionally affected by health problems, good social network and living in a house that is perceived as usable and with low risk of accidents.

Other variables, had a specific role across countries: age was significantly associated to QoL only in Poland, alcohol consumption only in Spain, angina was significantly associated only in Finland and depression only in Spain, self-reported feelings of sadness were significantly associated both in Finland and Poland, but not in Spain.

Table 1: Hierarchical regression models to predict quality of life

Domains and variables	Total (n=5639; R ² :0.450)	Finland (n=520; R ² :0.494)	Poland (n=2863; R ² :0.477)	Spain (n=2256; R ² :0.402)
Model 1: Socio/ Demographic (R²=0.1793)				
Country (ref. Poland)				
Finland	7.40***	—	—	—
Spain	0.34	—	—	—
Age (years)	-0.09***	-0.04	-0.17***	-0.004
Education (ref. Higher education)				
None	-2.79	No data	-3.75	-5.35***
Primary + Secondary	-2.53***	-1.20	-2.63*	-3.36***
Model 2: Health habits (R²=0.2118)				
Smoking status (ref. Never smoked)				
Ex-smoker	-0.49	-1.11	-0.71	-0.12
Current Smoker	-2.80***	-4.83***	-2.32*	-2.88**
Alcohol consumption (ref. Abstainer)				
Not heavy drinker	1.65**	-1.90	1.43	2.26**
Infrequent heavy drinker	2.46*	0.05	2.23	3.56
Frequent heavy drinker	3.66	1.35	4.05	3.79
Physical activity (ref. High)				
Low	-1.98**	-2.31	-2.22*	-1.51
Moderate	0.21	-1.93*	0.46	0.47
Model 3: Chronic conditions (R²=0.2579)				
Angina (ref. No)	-2.28*	-2.84**	-1.99	-2.24
Depression (ref. No)	-3.18***	0.79	-2.55	-4.33***
Model 4: Health state (R²=0.3725)				
Bodily aches or pains (ref. No pain)				
Pain but no difficulty	-1.47	-2.41**	0.63	-3.12*
Pain and mild difficulty	-2.70**	-3.04*	-3.18**	-1.77
Pain and moderate difficulty	-3.36***	-4.02*	-1.98	-4.93***
Pain and severe/extreme difficulty	-5.53***	-10.16***	-4.11**	-6.09**
Difficulty in learning a new task (ref. None)				
Mild	-0.34	-1.94	0.83	-2.91
Moderate	-4.21***	-2.48	-2.87*	-6.94**
Severe/Extreme	-5.27***	-2.80	-5.13**	-3.82
Feel sad, low or depressed (ref. None)				
Mild	-2.81***	-2.40**	-3.26**	-2.25*
Moderate	-3.53***	-7.89**	-3.96***	-2.93
Severe/Extreme	-7.07***	-10.29***	-8.43***	-5.36
Emotionally affect by health problems (ref. No)				
Mild	-2.66**	-4.24***	-2.48	-2.44*
Moderate	-4.87***	-3.28*	-5.42***	-4.28**
Severe/Extreme	-4.33*	-5.10*	-3.59*	-5.61
Model 5: Vision/ Hearing (R²=0.3757)				
Distant vision (ref. None)				
Mild	-1.20	-0.48	-0.85	-2.03
Moderate	-1.77	-0.30	-2.85*	1.16
Severe/Extreme	-4.22***	-6.04*	-3.67*	0.38
Model 6: Social Network index (R²=0.4213)				
Social Network Score	0.24***	0.32***	0.22***	0.24***
Model 7: Built Environment Indexes (R²=0.4539)				
Usability of the living place	0.11***	0.10***	0.10***	0.13***

Note: *P<0.05; **P<0.01; ***P<0.001



M É X I C O

TRAINING OF TRAINERS IN CIF: SENSE NEED

16-21 October 2017
Mexico City, Mexico

C531

Authors: Dr. Cordero, C. Lcda. Villegas, L. TSU. Ortega, N. TSU. Regalado, O. Chavero, A. Director and coders of the Venezuelan Center for Disease Classification. CEVECE. Directorate General of Epidemiology. Directorate of Health Statistics and Information, Ministry of Popular Power for Health; Caracas Venezuela

Abstract The qualification of people with any disability is not simple, different organisms present approaches that will limit the ability of the individual about their skills. participating in this fact is created a course that permits a criterion qualification based on the use of ICF, allows to evaluate in the individual capacities, its strengthening and an active integration of the individual to society.

Introduction

Consideration of Diagnosis and Mortality is important, but INSUFFICIENT to cover ALL the essential elements of the concept of health, the Diagnosis does not respond to the needs of health services, does not predict needs and does not report on benefits or performance, however . the data on functional status or disability are very useful, so the families of the classifications understood the need to classify the long-term consequences of diseases, injuries and disorders and in 1980 created the International Classification of Deficiencies, Disabilities and Disability. Disabilities (CIDDIM). In 1999 there was a need to review and update the CIDDIM classifier and created the CIDDIM-2 Beta, which was adopted after the recession and consensus of the FDRG-WHO committees as the current CIF. In Venezuela physicians and technicians in psychiatry receive training with CIF, so it is proposed to review the training program for the trainers of this working group.

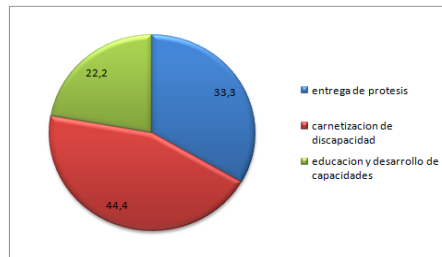
Methods & Materials

In Venezuela, the qualification of the personnel that qualifies people with some functional limitation or disability is carried out through the Directorate of Attention to the Person with Disabilities (PASDIS) and the Venezuelan Center for the Classification of Diseases (CEVECE) there are also two governmental institutions: Mission José Gregorio Hernández and the National Commission for the Assistance of Persons with Disabilities (CONAPDIS), who carry out this qualification, in the search to evaluate the qualification criteria of all, in May 2016 a format revision and evidenced the difference of criteria to qualify, is the search to reconcile all the aspects to be taken into account was created the COURSE OF TRAINING TRAINERS IN CIF, which beyond the presentation of the CIF is proposed the use of indicators that allow to measure from the perspective of CIF the potentialities to be broken up in each qualified group, so as to reappropriate use of the patient's potential.

Here we recall that the CIF is not aimed at classifying people, but at codifying the essential features that define certain aspects of their health states and this with the intention of evaluating, in all its complexity and in the most exhaustive way possible , the essential elements of these states.

A survey is carried out among the participants regarding knowledge of CIF and generalities regarding the purpose of the programs, finding the following:

Percentage distribution regarding the purpose of disability care programs.



Source. survey conducted.

44.4% of the participants consider that the purpose of the programs and the use of CIF is to record individuals, 33.33% consider that it is for the supply of prosthesis and only 22, 22% consider that it is for education and empowerment of the individual's abilities. When asking the staff for their antiquity in the programs it is evident that the majority is new personnel, which could be the cause of the obtained results; given the results obtained in general, there is a need to update the trainers and give them tools that allow the construction of indicators with a focus on the CIF. This is why the creation of the course

Results

This course will provide the necessary knowledge to interpret the CIF, giving the participant a conceptual framework that allows him to describe the body perspective, both from the study of body functions and structures, and from the point of view of activity-participation, together with it will provide the necessary tools for the construction of indicators and data collection formats that will provide the timely and quality provision of health

information of great interest for programming, planning and evaluation of health actions, functioning, disability and health at various levels, as well as for medical and epidemiological research; as well as the adequate codification with the manual of International Classification of the Functioning of the Disability and the Health Likewise, it will strengthen the preparation of the personnel of the Directorate of Integral Attention to the person with disability (PASDIS), forming trainers in matters of the ICF, using the standards, issued by the Pan American Health Organization / World Health Organization and implemented through the Venezuelan Center for Disease Classification (CEVECE). For the present course we counted on the participation of 18 trainers

PROGRAMMATIC CONTENT:

1. Indicators: definitions and importance.
2. Construction of indicators with a CIF approach.
3. Historical Counting of Classifications for Persons with Disabilities.
4. General Handling of the International Classification Manual for the Functioning of Disability and Health.
5. Classification and definitions:
 - 5.1. Body Functions.
 - 5.2. Body Structures.
 - 5.3. Activities and Participation.
 - 5.4. Environmental factors.
6. General CIF Coding
7. Practical exercises.

Conclusions

It is expected that the development of continuous training and updating in the field of CIF will contribute to improving the quality of care for people with disabilities, as well as allowing the creation of basic indicators of improvement of processes and results that allow the strengthening of institutions

Acknowledgements or Notes

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Corresponding author on the original Dr. Cordero, C., Magister in Epidemiology (UDO) and Demographer. (UCAB).

ICHI C601 – C607

❖ WHO ID	❖ Title	❖ Author(s)
C601	ICHI Beta 2017 – Development Overview.	Madden, Zaiss, Cumerlato, Rankin, Fortune, Almborg
C602	The ICHI Platform.	Donada, Cumerlato, Rankin, Mea, Madden
C603	Methods and rules when mapping various Classifications of Procedures to ICHI.	Almborg, Vikdal, Berg
C604	Towards the connection between ICF and ICHI.	Ferreira, Cepeda, Cordeiro
C605	ICHI Beta 2017: List of Assistive Products Review.	Almborg, Cumerlato, Madden
C606	Testing and improving the draft classification of public health interventions in ICHI.	Fortune, Riley, Madden, Short
C607	What confuses clinical coders who are beginners with ICHI.	Shin, Cho, Hwang, Park, Seo



ICHI Beta 2017 – Development Overview

16-21 October 2017
Mexico City, Mexico

C601

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Almborg A.H.^{3,4,5}

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Abstract ICHI content development has progressed considerably since the 2016 annual WHO-FIC meeting in Tokyo, Japan. Chapter reviews for Section 1, *Interventions on Body Systems and Functions*, were completed by March 2017, with additional reviews of Section 2, *Interventions on Activities and Participation Domains*, and Section 3, *Interventions to Improve the Environment and Health-related Behaviours*, completed by the June mid-year meeting held in Stellenbosch, South Africa.

A small expert group meeting was held in Manly, Australia during May 2017 to discuss input provided by expert reviewers and to progress ICHI content development. During the mid-year meeting there was further discussion on the ICHI axes, extension codes, intervention codes, and user guidance. A session was also devoted to developing effective approaches for disseminating ICHI to a wide range of potential user groups, and eliciting stakeholder input to the beta testing process. The ICHI Platform is now used as the basis for adding comments on ICHI content and as at 31 July 2017, 1865 comments have been received and are currently being reviewed by the ICHI editorial team.

This poster will highlight recent work on ICHI content development in preparation for the ICHI 2017 Beta version.

Introduction

Content development for the ICHI Classification of Health Interventions (ICHI) has continued to progress since the 2016 annual WHO-FIC meeting in Tokyo and has now moved towards the completion of a Beta version. This poster describes the review and commenting process made to ICHI content.

Methods & Materials

Following the external review in 2016 of three chapters from within Section 1 Interventions on Body Systems and Functions, including: Chapters 1 *Interventions on the Nervous System and Mental Functions*, 3 *Interventions on the Ear* and 5 *Interventions on the Endocrine System* further external reviews of the remaining 9 chapters was undertaken and completed by July 2017 with comments relating to content development added to the ICHI Platform for review by the ICHI editorial team and technical working groups where applicable.

This process involved reviewing the current ICHI 2016 interventions within the remaining chapters and adding comments to the platform for changes to code hierarchy, axes, new and revised interventions, definitions, inclusions and exclusions.

Work continued to progress on developing the extension codes for use with ICHI as well as expanding and refining the therapeutic and assistive products extension codes. The ICHI Guidelines for Users was also reviewed and updated to reflect the continuing content development.

Results

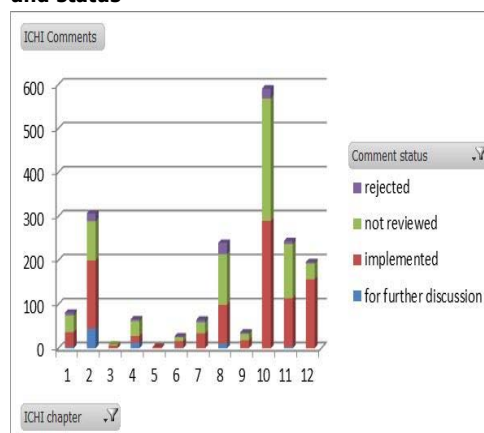
Active review and development of ICHI content continues. With the release of the Beta version of ICHI testing of content can commence during 2018.

Chapter 1 *Interventions on the Nervous System and Mental Functions*, was previously reviewed with comments received on the medical/surgical interventions. The mental function section was then reviewed by an external clinical neuropsychologist and based on the review of this section a number of further changes to ICHI actions and interventions for this area of the classification have been received.

Table 1 : Total number of comments received as at 31 July 2017

Section 1: Interventions on Body Systems and Functions	Rejected	Not reviewed	Implemented	Further discussion	Total comments received
1 Interventions on Nervous System and Mental Functions	6	38	34	3	81
2 Interventions on the Eye	18	89	156	44	307
3 Interventions on the Ear and Ear Functions		3	6		9
4 Interventions on the Haematopoietic and Lymphatic System	4	34	16	12	66
5 Interventions on the Endocrine System			3		3
6 Interventions on the Cardiovascular System	2	9	15	1	27
7 Interventions on the Respiratory System and Voice and Speech	6	25	34		65
8 Interventions on the Digestive System	26	115	88	11	240
9 Interventions on the Integumentary System	3	15	18		36
10 Interventions on the Musculoskeletal System	23	278	290		591
11 Interventions on the Urogenital System	7	123	111	3	244
12 Interventions on Other and Unspecified Body Systems and Functions	3	36	157		196
Total	98	765	928	74	1865

Figure 1: Comments received by ICHI chapter and status



Work progressed on reviewing interventions for consistent application of Actions PA-PG. Public health interventions were also reviewed with a number of changes to the ICHI axes being proposed.

Comments were reviewed by the ICHI editorial team and implemented where appropriate. Those requiring clinical

input were referred to the chairs of the technical working groups.

ICHI Extension codes

This section in ICHI, which provides additional information about an intervention, has been further developed and now includes the following sections:

- Quantifiers
- Additional descriptive information
- Topology
- System level at which intervention directed
- Behavioural preconditions
- Additional targets
- Additional anatomy (link to ICD-11)
- Medicaments (link to ICD-11)
- Assistive products
- Therapeutic products

Conclusion and Acknowledgements

Active review and development of ICHI content continues. With the release of the Beta version testing of content will commence during 2018.

Thanks are extended to all external reviewers, the Medical/Surgical and Functioning TWGs, the ICHI Development Team and WHO-FIC Collaborating Centres.



The ICHI Platform

16-21 October 2017
Mexico City, Mexico

C602

Authors: M.Donada¹, M.Cumerlato², N.Rankin², V.Della Mea¹, R.Madden²
1 University of Udine and Italian WHO-FIC Collaborating Centre, Udine, Italy
2 University of Sydney, Australia

Abstract After one year of redesign and development, the ICHI platform now allows for maintenance and update of the International Classification of Health Interventions. The present poster illustrates the new features of this web-based system, with a snapshot of how it is has been used to produce the ICHI 2017 Beta release.

Introduction

The International Classification of Health Interventions (ICHI) has been initially available on the experimental ICHI browser, developed at the University of Udine, Italy. In the last year, a joint effort of the Australian, Chinese and Italian Collaborating centres contributed to an upgrade of the web-based browser to full platform functionalities, allowing its use not only for browsing, but also for updating and maintaining the classification.

The present poster visually introduces the new functionalities, with a summary of their usage at September 2017.

New features

Among the new features of the ICHI platform, it is worth mentioning the following functions now available:

- **Entity editing:** interventions can be created, modified and retired from within the platform;
- **Axes editing:** axis entities can be edited in a similar fashion as the interventions;
- **Comment management:** while comments were already present in the browser, now they can be better exploited to drive the classification update;
- **Privilege management:** different features are available to anonymous users, registered users and editors;
- **Versioning:** multiple releases are hosted in the system and can be independently browsed.
- **History management:** connected to the versioning system, it is possible to see how an entity has evolved over time (creation, modifications, etc);
- **URI identifiers:** the system has been designed to exploit the URI scheme currently used for identifying entities in ICD-11. This will further open to an URI based API for programmatically accessing ICHI;
- **Secure access:** the ICHI platform is now accessible through the HTTPS secure protocol.

The ICHI platform is available at the address:

<https://mitel.dimi.uniud.it/ichi/>

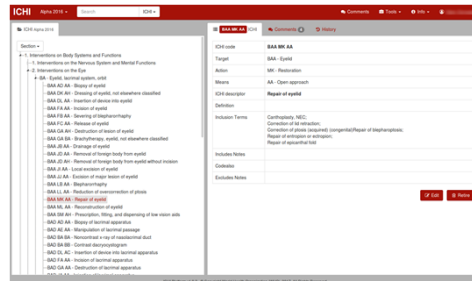


Figure 1 - main browser

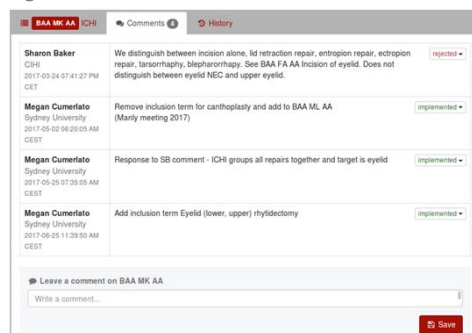


Figure 2 - code comments

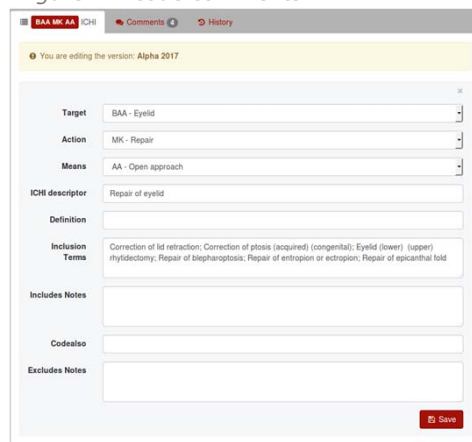


Figure 3 - code editing

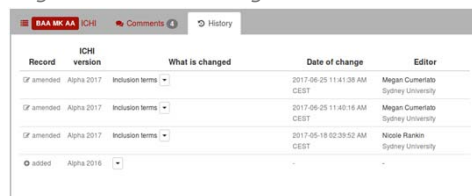


Figure 4 - code history

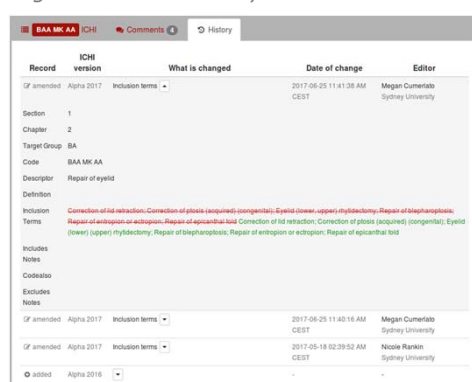


Figure 5 - history detail

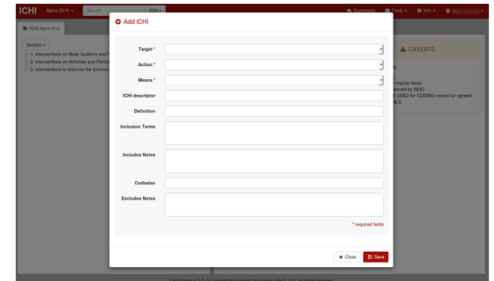


Figure 6 - adding a new code

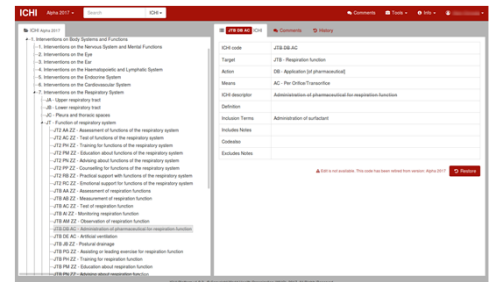


Figure 7 - retired code

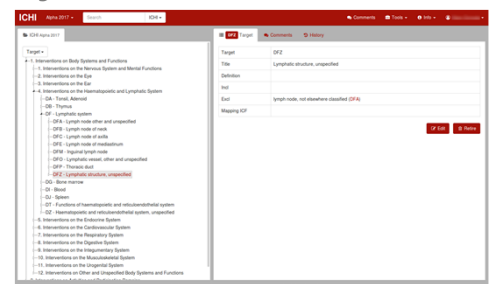


Figure 8 - axis entity

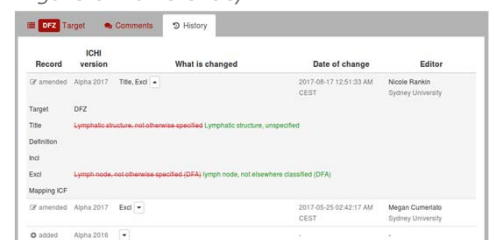


Figure 9 - target code history

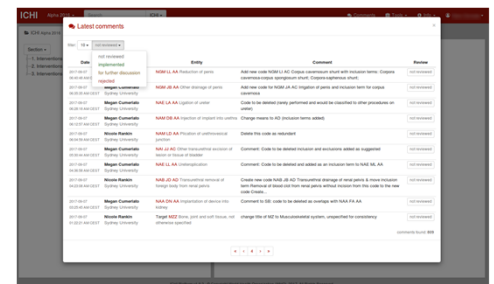


Figure 10 - latest comments by status

Usage data

At the time of writing and starting from the FDC meeting (6/2017), 76 users have registered to the ICHI platform, and contributed to updating ICHI by means of 2822 comments. As a consequence, a total of 1742 changes have been recorded in the history.



Methods and rules when mapping various Classifications of Procedures to ICHI

16-21 October 2017
Mexico City, Mexico

C603

Almborg A-H,^{1,2,3} Vikdal M.^{1,4}, Berg L.¹

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³ Jönköping University, Sweden; ⁴ Norwegian Directorate of eHealth, Norway

Abstract WHO is developing the International Classification of Health Interventions (ICHI). In order to map classifications of procedures to ICHI we need rules that explain how well the mapped intervention fit to ICHI's three axes (targets, actions and means), to the intervention itself, as well as to the use of the extension codes. The aim for this project was to describe a method and rules when mapping existing procedure classifications to ICHI, as well as express and value the results. A pilot study was set up in order to develop and test a set of mapping rules to be used when mapping different types of classifications of interventions to ICHI.

Introduction

When adopting a new classification for replacement or reference, the relation between the new and the old classification must be identified and described. The concepts of both classifications therefore have to be mapped (linked) in order to understand the previously collected data in the health care records, and to maintain statistical continuity of the data.

WHO is developing the International Classification of Health Interventions (ICHI) which obtains the following axes:

- **Target** - includes anatomical structure, body functions, activity and participation, environmental factors and health-related behaviours. (Body functions, activity, participation and environmental factors are taken from the ICF).
- **Action** - includes diagnostic, therapeutic, managing and preventing actions.
- **Means** - include approach, technique, method and sample.

In addition, ICHI includes *extension codes* which make it possible to add additional information about an intervention.

The mapping of classifications of procedures (interventions) to ICHI is challenged by the need for mapping both to the three axes, as well as to the interventions. Therefore we need rules that explain how well the mapped intervention fit to ICHI's three axes (targets, actions and means), the interventions, and also to the use of the extension codes.

The aim for this project was to describe a method and rules when mapping existing procedure classifications to ICHI, as well as express and value the results.

Methods & Materials

The method and mapping rules were developed after analysis of linking rules to ICF (Cieza et al 2005, 2016), linking rules to Snomed CT (Swedish National Board of Health and Welfare, 2011) and the WHO published Crosstables ('Translator') between ICD-9 and ICD-10.

We set up a pilot study in order to develop and test a set of mapping rules to be used when mapping different types of classifications of interventions to ICHI.

Results

Method and mapping rules

Eight rules were developed for use when mapping various classifications to ICHI.

Rule	Description
1	Before mapping should you have good knowledge about both ICHI and the classification to be mapped
2	Use conceptual mapping, not lexical mapping
3	ICHI should be the target of the mapping
4	Use two mappers and decide if the mapping should be sequential or independent by the two mappers
5	Start mapping the interventions to the three axis (Target, Action, Means) and then the ICHI Intervention. If needed, use or create and map to extension codes.
6	Map to the most specific concept in ICHI and write the result in the mapping list (developed for this purpose)
7	Compare the results of mapping and discuss a solution and agreement if the two results differ
8	Value the result of mapping by using the scale 0-4

The scoring scale categorizes the compared concepts' degree of one-to-one overlap with each other:

Score	Description
0	not possible to map
1	one-to-one concept. The concept are identical
2	the source concept is less specific
3	the source concept is more specific
4	the source concept and target concept partially overlap

Source concept= concept in the mapped classification
Target concept= concept in ICHI

Figure 1: Table for mapping to ICHI

Examples of mapping

Table 1: Result of mapping three interventions from NOMESCO Classification of Surgical Procedures Plus (=non-surgical classifications added)

	Code	Text	Value	Comments
CGC10 Removal of foreign body from cornea				
Target	BBB	Cornea	1	
Action	JB	Removal (of internal foreign body)	3	Inclusion terms also included removal of device
Means	AH	Open approach	1	
Intervention	BBB JB AH	Removal of foreign body from cornea	3	Inclusion terms includes more specific interventions
Extension code			0	To specify, add extension code
CGC20 Removal of foreign body from cornea using magnet				
Target	BBB	Cornea	1	
Action	JB	Removal (of internal foreign body)	3	Inclusion terms also included removal of device
Means	AH	Open approach	1	
Intervention	BBB JB AH	Removal of foreign body from cornea	3	Inclusion terms includes Magnetic removal of embedded foreign body from cornea
Extension code			0	To specify, add extension code
PA009 Assessment of memory functions				
Target	AUB	Memory functions	1	
Action	AA	Assessment	1	
Means	ZZ	Other and unspecified means	1	
Intervention	AUB AA ZZ	Assessment of memory	1	

The results show various value of the mapping from 0 to 3 and that extension codes are needed to specify the intervention.

Conclusions

Mapping procedure classifications to ICHI can be performed by following the presented rules. Also, the quality of the each mapped description can be categorically quantified by the scoring system presented here.

Altogether, the method can be used in order to increase knowledge of ICHI compared to the present procedure classification. This can be included as part of the background information when evaluating a possible transition to ICHI. The method can also identify uncovered areas of the present national classifications, and further which extension codes to add in order to make sure that the content is covered. The results can later be used as mapping tables between the earlier used classification and the national version of ICHI.



M É X I C O

Towards the connection between ICF and ICHI

Authors: Mauro Muniz Ferreira, Roberto Matar Cepeda, Eduardo Santana Cordeiro – Conselho Federal de Fisioterapia e Terapia Ocupacional

16-21 October 2017
Mexico City, Mexico

C604

Abstract In Brazil, the International Classification of Functioning, Disability and Health (ICF) has been gaining more space among clinicians, including occupational therapists and physiotherapists, teachers, researchers and health information managers. However, the International Classification of Health Interventions (ICHI) is still a complete unknown.

Introduction

Now a day, health professions often use their own procedures tables. In the case of Physiotherapy, there is the National Reference of Physiotherapy Procedures. This reference has three types of list: one of evaluation procedures, a list of degrees of functioning complexity and another of therapeutic procedures. Since 2009, the list of degrees of complexity has been linked to ICF chapters. This can facilitate the process of determining the values of the care, which is the objective of the National Reference of Physiotherapy Procedures. At present, the work to be started refers to the linking of complexity codes with procedural codes themselves. However, considering the birth of the ICHI and the adoption by Brazil in the near future, we believe that conducting this process without approximation with the ICHI will be unproductive.

Perspectives

Thus, the best method seems to be to tailor the National Reference of Physiotherapy Procedures to the ICHI and then monitor the development of the World Health Organization skills for that, contributing to the previous experiences of Brazil and receiving contributions to accelerate the operation of the ICHI and ICF linked in Brazil.

Main Codes

CHAPTER I PT CONSULTATIONS

CODE RNPF	DESCRIPTION	CHF
13106901	Hospital Consultation	150 CHF
13106902	Outpatient Visit	150 CHF
13106903	Home Consultation	150 CHF

FUNCTIONAL EXAMS

CODE RNPF	DESCRIPTION	CHF
13106904	Electrical evaluation (chronaximetry, reobase, accommodation and curve I / T - by segment or member)	100 CHF
13106905	Dynamometry: evaluation of function with mechanical equipment	300 CHF
13106906	Computerized dynamometry	800 CHF
13106907	Surface electromyography	900 CHF
13106908	Ergospirometry or cardiopulmonary test	600 CHF
13106909	Ventilometry (Measures of Inspiratory Pressures)	30 CHF
13106910	And / or Expiratory (Manovacuometry)	60 CHF

FUNCTIONAL EXAMS

CODE RNPF	DESCRIPTION	REFERENCIAL CHF
13106911	Peak of Cough Flow	20 CHF
13106912	Functional isoinertial functional examination	300 CHF
13106913	Kinematic gait analysis	200 CHF
13106914	Baropodometry	300 CHF
13106915	Stabilometry	200 CHF
13106916	Computed Biophotogrammetry	250 CHF
13106917	Vertebral inclinometry	120 CHF
13106918	Kinesiologic Ultrasonography - by follow-up	300 CHF
13106919	Cutaneous thermometry	200 CHF
13106920	Spirometry	250 CHF
13106921	Statisometry	150 CHF
13106922	Examination of manual muscle strength	20 CHF

13106920	Spirometry	250 CHF
13106921	Statisometry	150 CHF
13106922	Examination of manual muscle strength	20 CHF
13106923	Functional cardiorespiratory fitness tests	30 CHF
13106924	Six minute walk test and other assessment tests to evaluate submaximal cardiorespiratory	60 CHF
13106925	Study of cardiac frequency variability	100 CHF
13106926	Computerized evaluation of ventilatory muscle function	400 CHF
13106927	Tomography by Electric Bioimpedance	2500 CHF
13106928	Functional diagnosis of respiratory sleep disorder by polygraphy	900 CHF

13106929	Evaluation of physiological measures by single pulse Transcranial Magnetic Stimulation	1000 CHF
13106930	Evaluation of physiological measures by transcranial magnetic stimulation by paired pulse	1200 CHF
13106931	Mapping of cortical motor representations area by Transcranial Magnetic Stimulation	1400 CHF
13106932	Videonystagmography	400 CHF
13106933	Vectoelectronistagmography	600 CHF
13106934	Oculography	800 CHF
13106935	Vestibular myogenic evoked potentials	600 CHF
13106936	Video Head Impulse, including oculomotor evidence	1000 CHF
13106937	Computerized Videonystagmography	1200 CHF

CHAPTER II PT ASSISTANCE IN FUNCTIONAL OR STRUCTURAL CHANGES OF THE CENTRAL AND / OR PERIPHERAL NERVOUS SYSTEM

CODE RNPF	DESCRIPTION	CHF
13106938	Neurologic impairment, patient independent or partially dependent - OUTPATIENT	100 CHF
13106939	Neurologic impairment, patient with total dependency - OUTPATIENT	180 CHF
13106940	Neurologic impairment, patient independent or partial dependent - HOSPITAL	100 CHF
13106941	Neurologic impairment, patient with total dependency - HOSPITAL	180 CHF

CHAPTER III PT ASSISTANCE IN FUNCTIONAL OR STRUCTURAL CHANGES OF THE MUSCULOSKELETAL SYSTEM

CODE RNPF	DESCRIPTION	CHF
13106942	Musculoskeletal impairment, independent or partially dependent patient - OUTPATIENT	100 CHF
13106943	Musculoskeletal impairment, patient with total dependence - OUTPATIENT	150 CHF
13106944	Musculoskeletal impairment, independent or partially dependent patient - HOSPITAL	100 CHF
13106945	Musculoskeletal impairment, patient with total dependence - HOSPITAL	150 CHF

CHAPTER IV PT ASSISTANCE IN FUNCTIONAL OR STRUCTURAL CHANGES OF THE RESPIRATORY SYSTEM

CODE RNPF	DESCRIPTION	CHF
13106946	Clinical or surgical respiratory system impairment served in cardiopulmonary functional group recovery programs - OUTPATIENT	80 CHF
13106947	Clinical or surgical respiratory system impairment served in cardiopulmonary functional recovery programs, in an individualized way - OUTPATIENT	150 CHF
13106948	Respiratory system impairment, in hospital care in the hospitalization units (ward and apartments) - HOSPITAL	120 CHF
13106949	Respiratory system impairment, in hospital care in hospitalization units (ward and apartments) requiring ventilatory assistance - HOSPITAL	150 CHF

Cardiovascular System, Tegumentary System, Lymphatic and Peripheral Vascular System, Metabolic System, Genital and Urinary System are examples of other chapters.

The tool must be used until ICHI starts to be useful in Brazil.

The Federal Council of OT and PT believes that the linkage into ICF and ICHI thought ontologies will allow professionals to improve the assistance.

But, the first step is to substitute the present referential to ICHI, and then, link to ICF.

Contact

presidente@coffito.gov.br





ICHI Beta 2017: List of Assistive Products Review

16-21 October 2017
Mexico City, Mexico

C605

Almborg A-H^{1,2,3}, Cumerlato M⁴, Madden R⁴

¹ Nordic WHO-FIC CC, Norway, ² National Board of Health and Welfare, Sweden,

³ Jönköping University, Sweden, ⁴ University of Sydney, Australia

Abstract The list of Assistive Products for use with ICHI has been reviewed since the 2016 annual meeting and the items in WHO's Priority Assistive Products List (APL) have been mapped and included in the list. The terms for assistive products have been related to appropriate terms in ISO 9999. The list for ICHI 2017 consist of approximately 146 assistive products distributed across eight main headings based on ICF environmental factors 'Products and technology', which can be used as extension codes to the ICHI intervention codes.

Introduction

In ICHI Alpha 2016 extension codes were developed and included a list of 84 assistive products and technologies. This list consisted of eight headings based on the categories in ICF Environmental Factors Chapter 1, 'Products and technology'. Under each of these headings subcategories were added to describe assistive products and technology in further detail. Since the 2016 Annual WHO-FIC meeting in Tokyo this list has been further developed.

WHO's Priority Assistive Products List (APL) contains 50 priority assistive products. This list includes hearing aids, wheelchairs, communication aids, spectacles, artificial limbs, pill organizers, memory aids and other essential items for many older people and people with disabilities to be able to live a healthy, productive and dignified life.

The aim was to review the list of assistive products in ICHI. Another aim was to map and add the items in the APL to the list of assistive products in ICHI and to relate all items to appropriate items in ISO 9999.

Methods & Materials

The existing list of assistive products has been further developed during 2017 by:

- Mapping the 50 assistive products in APL to ICF and ISO 9999
- Adding items in the APL to the List of Assistive Products in ICHI
- Checking and relating appropriate terms in the List of Assistive Products to terms in ISO 9999
- Presented updated list at midyear meeting in Stellenbosch

As ISO 9999 is not freely available, these codes cannot be used in ICHI, but the terms are compared and adapted where appropriate.

Results

The list of assistive products has expanded from 84 to 146 assistive product items, distributed across the eight main headings based on ICF categories (Table 1).

Table 1: The eight main headings and ICF codes

	Main headings	ICF-code
1	Assistive products and technology for personal use in daily living	e1151
2	Assistive products and technology for personal indoor and outdoor mobility and transportation	e1201
3	Assistive products and technology for communication	e1251
4	Assistive products and technology for education	e1301
5	Assistive products and technology for employment	e1351
6	Assistive products and technology for culture, recreation, and sport and play	e1401
7	Assistive products and technology for the practice of religion or spirituality	e1451
8	Design, construction and building products and technology of buildings for private or public use	e150-e155

49 of the items in the Priority Assistive Products List (APL) are covered in the ICHI List of Assistive Products. The item 'chairs for toilet/ bath' are split into two items in the list (Table 2). The item 'Travel Aids, portable' could not be mapped to a specific item in the list as this item is covered by many assistive products.

Table 2: Number of items of assistive products in ICHI 2016 and 2017 (included ADPL items) distributed at each heading

Heading	2016- Items	2017-Items	APL items
1	22	44	19
2	18	25	10
3	9	30	19
4	8	17	
5	9	9	
6	10	10	
7	1	1	
8	7	10	2

Results

The review has also resulted in the amendment of the term 'external device' to 'assistive products' in some ICHI intervention code titles and definitions for Actions (Table 3).

Table 3: Revised Action title and definitions

	Action title	Definition
DM	Installation of assistive product	Applying an assistive product to an external part of the body or environment
KB	Change (of assistive product)	Removing and simultaneously replacing an assistive product with a similar one
PJ	Deconditioning from use of internal device or assistive product	Teaching a person to function after the removal of internal device or assistive product
SJ	Making of an assistive product	Creating assistive products
SM	Management of assistive product	Adjusting or modifying an assistive product, other product or environmental factor
SO	Removal of an assistive product	Removing an assistive product or other product in the environment

Conclusions

The list of assistive products has been improved. This supports and facilitates the following to specify:

- assistive product in the intervention, and
- in particular the assistive product in WHO's Priority Assistive Products List (APL) in the intervention.

Most of the items in APL were mapped to ICF e1151 – Assistive products and technology for personal use in daily living and to e1251 Assistive products and technology for communication.

Assistive products and technology for personal indoor and outdoor mobility and transportation (e1201) has also been expanded by the items in APL.

Acknowledgements or Notes

The Functioning TWG together with the ICHI Development team, Collaborating Centres as well as other contributors to ICHI content and development are gratefully acknowledged.

Testing and improving the draft classification of public health interventions in ICHI

16-21 October 2017
Mexico City, Mexico

C606

Nicola Fortune¹, Therese Riley², Richard Madden¹, Stephanie Short¹

1. University of Sydney, Australia; 2. Sax Institute, Australia



Abstract

The International Classification of Health Interventions (ICHI) covers interventions delivered across all sectors of the health system, including public health interventions. There are about 500 codes for describing public health interventions in ICHI 2016, mostly found in Section 3: 'Interventions to improve the environment and health-related behaviour'. This study aimed to test the utility of ICHI for coding and reporting on public health interventions data. Preliminary results have been used to make changes to the draft classification, including adding new and modifying existing axis categories, intervention codes, and extension codes. Further testing of the ICHI 2017 beta version will be essential to maximise the applicability of ICHI for public health.

Introduction

The aims of the ICHI public

health coding study were to:

1. Assess the feasibility of using ICHI to code descriptions of public health interventions;
2. Identify gaps in ICHI 2016 content;
3. Evaluate the ability of ICHI to capture important distinctions between different types of interventions;
4. Demonstrate the use of ICHI-coded data to produce descriptive analyses of public health interventions data sets.

Methods

ICHI 2016¹ was used to code existing data

sets that contain descriptions of public health interventions — an Australian obesity prevention program database; a Dutch online inventory of health promotion interventions; and a set of indicators used to monitor implementation of the WHO Framework Convention on Tobacco Control.² These are state-, national- and international-level data sets, respectively. Use of existing data is an established approach for testing classification schemes.³⁻⁵ A 4-step coding process was employed:

Identification of intervention components for coding.

As multi-component interventions are common in public health, it was necessary to identify separate intervention units (IUs) for coding.

Assignment of ICHI axis categories.

Applicable Target, Action and Means categories were recorded for each IU; where no matching axis category could be found a 'coverage issue' was noted.

Assignment of an ICHI intervention code. A single ICHI intervention code was assigned for each IU.

Coding notes recorded. Notes were made concerning how well the ICHI axis categories and intervention codes assigned captured the intervention described, and any other issues encountered in the coding process.

Quantitative analyses of the coded data and thematic analyses of the coding notes were conducted for each data set.

Results

Quantitative analysis was used to profile the three data sets according to the ICHI axes: Target, Action and Means. Figures 1 and 2 show the most common ICHI Target and Action categories for interventions represented in the Dutch online inventory of health promotion interventions.

ICHI includes residual intervention codes of the form 'Other interventions [on Target X] not elsewhere classified', which indicate a specific Target but unspecified Action and Means. Residual codes were assigned to between 24% and 28% of intervention units across the three data sets.

Several of the issues identified from the thematic analysis of coding notes were used to inform changes to the draft classification of public health interventions in ICHI 2017.

Changes for ICHI 2017

Changes informed by the results of the ICHI public health coding study include the addition of new and modification of existing axis categories, intervention codes, and extension codes. Box 1 sets out a new extension code for inclusion in ICHI 2017.

Box 1: New extension code: 'System level at which intervention directed'

Definition: level of the social-ecological system at which the intervention is directed.

XD01 'Individual' – the individual person for whom a health benefit is intended

XD02 'Close interpersonal' – the close interpersonal environment of the individual including, e.g., immediate family members and informal carers

XD03 'Extended interpersonal' – the wider interpersonal environment of the individual including, e.g., work colleagues, members of an informal social network

XD04 'Organisation' – a grouping or association of people with a relatively formalised structure (e.g., school), including people who hold specific roles or positions within the organisation (e.g., teachers)

XD05 'Community' – a geographical grouping of individuals (e.g., a neighbourhood, city or district)

XD06 'Society' – societal-level structures and systems, including governing systems (e.g., city, province or nation).

Note: this extension code is based on a model of the ecological approach in health promotion programs developed by Richard et al. (1996).⁶

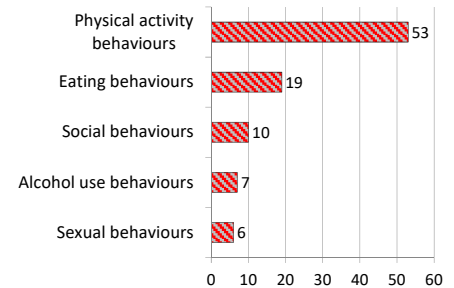


Figure 1: Most common ICHI Targets (% of IUs), Dutch inventory

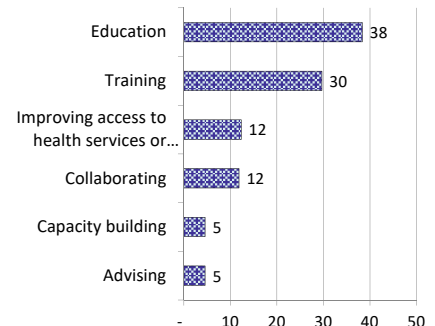


Figure 2: Most common ICHI Actions (% of IUs), Dutch inventory

Conclusions

ICHI will assist in making public health more visible within health systems. This is key to ensuring that public health is understood, valued, and adequately resourced. There is a window of opportunity now to improve the draft classification, and this study makes a valuable contribution to that end by identifying strengths and limitations of the classification system and revisions for improvement. Active involvement from public health practitioners and researchers internationally in testing the ICHI 2017 beta version is both necessary and welcome.

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What confuses clinical coders who are beginners with ICHI

16-21 October 2017
Mexico City, Mexico

C607



M É X I C O

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Abstract As Korea is focusing on national ICHI implementation after its finalization, it is imperative to create an effective training program for new users. This study examines seven clinical coders' first time ICHI-performance after an intensive 6-hour lesson on the system. The study presents an analysis of the coders' performance by highlighting the specific types of errors which occurred. Most errors occurred because of differences between the user's current system (ICD-9-CM) and ICHI. The results suggest that these differences, along with certain details of ICHI, should be focused on during new-user education.

Introduction

Korea currently uses the ICD-9-CM vol. 3 for national statistics and the EDI fee schedule as the payment system for reimbursement of National Health Insurance. However, a standardised system of intervention classification has never been used. As the institution responsible for making an official notification of standardised classification, Statistics Korea is preparing for ICHI, after it is finalized, to replace the current classification system. For successful transition, it is imperative to create an effective training program for new users.

The objectives of this project were to examine clinical coders' first time ICHI-performance and highlight the specific types of errors which occurred.

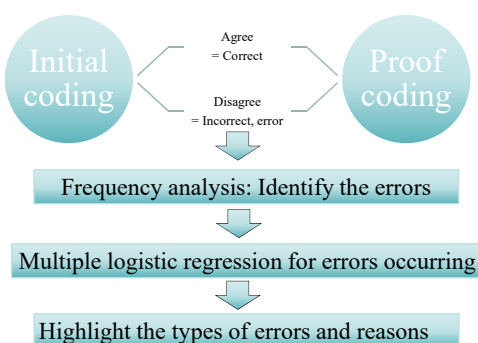
The results identified a number of potential errors and inconsistencies in ICHI coding. Using this information, we suggest methods for decreasing the error rate and developing an effective education program.

Methods & Materials

After an intensive 6-hour lesson, 7 clinical coders each collected 30 cases from separate hospitals and coded those cases with ICHI 2016(translated by Statistics Korea). Altogether, the beginners collected and coded 333 cases, which were proof-coded and discussed by a review group. The criteria for identifying errors was developed through consensus of the review group.

Risk of error was analysed using a logistic regression model adjusted by chapter, action, and means type. We present an analysis of the coders' performance and highlight the specific types of errors which occurred.

Chart 1: Framework of this study



Results

13.8% (46 of 333 codes) miscoding occurred. The majority of errors occurred in chapter 9, 7, 12, and 10. A greater number of errors occurred in therapeutic action than diagnostic action and in the unspecified means type than other means types. There was significant difference in occurrence of error by chapter, action, and means:

Table 1: Occurrence of errors

Variables	Correct	Error	Total	P(χ ²)
Total	287(86.2)	46(13.8)	333(100)	
Chapter				
7.Resp.	9(69.2)	4(30.8)	13(100)	<.0001
9.Integ.	8(50.0)	8(50.0)	16(100)	
10.MS.	50(79.4)	13(20.6)	63(100)	
12.O&U.	12(75.0)	4(25.0)	16(100)	
Others	208(92.4)	17(7.6)	225(100)	
Action				
Diagnostic	75(92.6)	6(7.4)	81(100)	0.0547
Therapeutic	212(84.1)	40(15.9)	252(100)	
Approach	227(88.0)	31(12.0)	258(100)	<.0001
Means				
Technique	54(91.5)	5(8.5)	59(100)	
Unspecified	6(37.5)	10(62.5)	16(100)	

Legend for Chapter(Followings are same)

7. Resp.: 7. Respiratory system
9. Integ.: 9. Integumentary System
10. MS.: 10. Musculoskeletal System
12. O&U.: 12. Other and Unspecified Body Systems and Functions
Others: The other chapters other than above

Risk of error occurrence was 5.9-6.0 times more likely in chapters 10, 9, and 12 and 3.2 times more likely in chapter 10 than the other chapters. Miscoding of unspecified means and technique means were respectively 16.7 and 11.1 times more likely than approach means. The AUC for this model was 0.7634.

Table 2: Model for Error Chart 2: ROC curve for Error

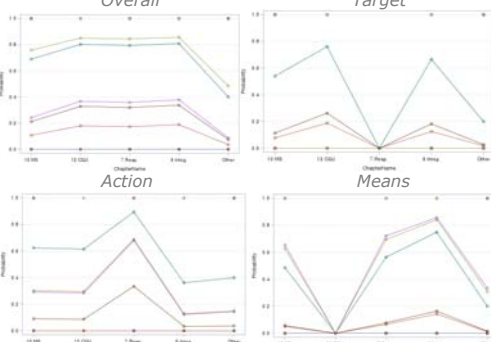
Variables	estimate(95% CI)
7.Resp.	5.9 (1.5-20.7)
9.Integ.	6.0 (1.6-21.2)
10.MS.	3.2 (1.4-7.3)
12.O&U.	5.9 (1.3-24.0)
Others	1
Action	
Diagnostic	1
Therapeutic	3.4 (0.90-15.4)
Approach	1
Means	
Technique	11.1 (1.9-69.1)
Unspecified	16.7 (4.5-72.9)

Logistic regression(C=0.763)

Overall probabilities of error were higher during actions involving unspecified means in chapter 9, 7, and 12. Probabilities of error for assigning targets were higher in diagnostic actions that

Chart 3: Probabilities of Error

by chapter and Action-Means pair Overall Target



Legend for Action and Means Pair

Action: 1. Diagnostic, 2. Therapeutic, 3. Approach, 4. Technique, 5. Unspecified
Means: 1. Approach, 2. Technique, 3. Unspecified

involved approach means in chapters 12 and 9. Probabilities of error while assigning action codes were highest in chapters 12 and 7. The likelihood of error while assigning means codes was greater when action-means pairs were therapeutic actions involving technique means and diagnostic or therapeutic actions involving unspecified means in chapters 9, 10 and 7.

Conclusion

This study found patterns in the beginner coders' errors. ICHI beginners were especially unfamiliar with chapter 12 in section I. In particular, beginners were confused by items in chapter 12 which were near-duplicates of items found in chapters 1-11. Therefore, reinforcement of mutual exclusion between both parts can help distinguish differences for coders. Detailed guidance with appropriate examples should be included in user training.

Additionally, while assigning codes with ICD-9-CM vol. 3, coders don't need to continually make decisions for the 3 axes. However, when coding with ICHI, constant decisions for the 3 axes are essential. Coders should strengthen their clinical knowledge about each intervention to improve coding.

Conceptual hierarchical differences between ICHI and ICD-9-CM confuses coders during action coding. Coders should understand and distinguish various similar concepts from each other. For example, "Repair" covers a wide range of actions in ICD-9-CM, but it is divided into several words in ICHI. This confuses coders at first, but once they understand differences among these words there is no issue.

By highlighting the specific types of errors made by beginners in ICHI, we noticed that most errors were caused by differences between the two systems. For better transition to ICHI from ICD-9-CM, training materials should contain details of ICHI and note differences between the users' former system and ICHI.

Acknowledgements or Notes

This work was supported by the Statistics Korea (Kostat, SSD1014 (2017.04.04.)). The authors declare no conflict of interest with Kostat. The authors are also grateful to 7 more coders who participated in this testing.

Other C701 – C714

❖ WHO ID	❖ Title	❖ Author(s)
C701	The WHO-FIC as a tool to monitor and promote Universal Health Coverage (UHC).	Martinuzzi, Hanmer, Macpherson, Jakob
C702	Assessing the actual and potential future joint use of the WHO-FIC.	Martinuzzi, Hanmer, Macpherson
C703	WHO-FIC Family paper: Progress on revision for the ICD-11 era.	Hanmer, Martinuzzi, Macpherson, Linton, Denny
C704	New challenges for spreading and support of WHO classifications.	Cherkasov, Dmitry Meshkov, Shoshmin, Besstrashnova, Berseneva, Bezmelnitsyna, Fedyaeva, Oleinikova
C705	API for ICD-10-AM/ACHI Classification Data Access and ‘on the fly’ ICD-11 Mapping.	O’Donnell, Ginige, Smith, Tran, Boulamatsis
C706	ClAML for Representation of ICD-10-AM and ACHI: The Australian Experience.	Tran, Ginige, O’Donnell, Smith, Boulamatsis
C707	Connecting SNOMED CT to ICD-11-MMS Through Mapping.	Giannangelo, Millar
C708	Mapping from SNOMED CT to ICD-10 in the UK.	Hazel Brear
C709	INTERSOCIAL Semantic interoperability in social care.	Rius, Sarquella, Vidal-Ribas, Velasco, Solans, San Pedro, Roldan, Cuyàs
C710	Health Terminology Server for Portuguese-speaking Communities.	Alves, Miyoshi, Marques, Marques, Rijo

Other C701 – C714

❖ WHO ID	❖ Title	❖ Author(s)
C711	Identification and Reliability of Hospital Chart Quality Indicators for Coding Data.	Eastwood, Quan, Doktorchik, Peng, Southern, Fox, Grosu, Kim, King, VanKampen, Wiebe, Cullen
C712	A decade connecting data for health in Colombia.	Victor Hugo Alvarez Castaño
C713	The value of clinical data interchange among different Healthcare Providers.	Pastor, Conesa, Lozano



The WHO-FIC as a tool to monitor and promote Universal Health Coverage (UHC).

16-21 October 2017
Mexico City, Mexico

C701

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[^]South Africa Medical Research Council and WHO-FIC Collaborating Centre South Africa, FDC Co-Chair

^oAustralian Institute for Health and Welfare and Australian Collaborating Centre, FDC Secretariat

[~]World Health Organization, Data Standards and Informatics, FDC Liaison Officer.

Abstract UHC is just one of the 13 targets of SDG3 (healthy lives and well-being for all at all ages) but it seems to be the real engine that could propel the achievement of the other set targets. Moving towards UHC should thus be a priority for member states but the path, given the wide heterogeneity of health service organization and delivery across the WHO regions, is not simple nor uniform. Careful and timely monitoring is thus of paramount importance to map the starting situation and check progress of both processes (outputs) and outcomes. To this end the WHO-FIC jointly used may represent the best available standard.

The FDC has been exploring since 2015 how to best use the WHO-FIC to monitor UHC. The development of ICHI, the last member of the WHO-FIC core classifications, in this perspective represents the ideal complement enabling the precise reporting of delivered and available services, as well as the accounting of public health initiatives. The one to one mapping exercise started in 2016 with the generic targets of SDG3 can now be expanded to cover the 100 Core health indicators, offering a selected array of categories from the three core (reference) classifications: ICD, ICF and ICHI.

Introduction

The shift in 2015 from the Millennium Development Goals 2000-2015 to the Sustainable Development Goals 2015-2030 has been paralleled by a focused attention not on specific diseases but on the whole system, as a means to achieve better health for all at all ages (SDG3). Such shift of attention explains why Universal Health Coverage (UHC), being one of the 13 targets of SDG3, has the potential to be the actual driver for the whole SDG3 agenda.

Quality, full access, full coverage, financial risk protection, equity, resilience and accountability are all elements that characterize UHC and will assure its sustainability. These determinants, however, need to be measured and monitored.

Monitoring the path towards the achievement of each target has been emphasized by the WHA as a cardinal activity to assure that progress is made in the right direction. The monitoring activities are responsibility of each Country, but the comparability is essential to allow proper global analysis especially in the health sector, where interdependence and intersectoral links are pervasive.

Many of the available sources provide low quality data towards the 42 health related indicators (HRI) and the 100 Core Health Related Indicators (CHRI) chosen to monitor SDG3 (World Health Statistics 2017). The suite of classifications making the WHO-FIC have the scientific basis and the statistical power to work as monitoring tools for UHC, improving data quality and assuring global comparability.

Methods & Materials

Hypothesizing the joint use of the three reference classifications to track each of the 100 CHRI's as they are grouped into 4 clusters, we tentatively assigned the appropriate tool/s for monitoring each CHRI.

Results

Table 1: List of CHRIs with the indication of the WHO-FIC reference classification most appropriate for monitoring

		WHO-FIC			OTHERS	
		100 CORE HEALTH INDICATORS	ICD	ICF	ICHI	
Health status indicators	Mortality by age and sex	Life expectancy at birth	X			
		Adult mortality rate between 15 and 60 years of age	X			
	Under-five mortality rate	X				
	Infant mortality rate	X				
	Neonatal mortality rate	X				
	Maternal mortality ratio	X				
	Fertility	TB mortality rate	X			
		MDS-related mortality rate	X			
		Ischaemic heart disease	X			
		Mortality between 30 and 70 years of age from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases	X			
Ischaemic heart disease		X				
Mortality rate from road traffic injuries		X				
Under-5 fertility rate			X			
Total fertility rate		X				
Morbidity		New cases of vaccine-preventable diseases	X			
		New cases of HIV-notifiable diseases and other notifiable diseases	X			
	HIV incidence rate	X				
	HIV prevalence rate	X				
	Hepatitis B surface antigen prevalence	X	X			
	Sexually transmitted infections (STIs) incidence rate	X				
	TB incidence rate	X				
	TB notification rate		X	X		
	TB prevalence rate	X				
	Malaria parasite prevalence among children aged 5–9 months	X				
Nutrition	Maternal malnutrition rate	X				
	Cancer incidence, by type of cancer	X				
	Exclusive breastfeeding rate 0–5 months of age	X	X	X		
	Early initiation of breastfeeding		X	X		
	Incidence of low birth weight among newborns	X	X			
	Children under 5 years who are stunted	X	X			
	Children under 5 years who are wasted	X	X			
	Anemia prevalence in children	X	X			
	Anemia prevalence in women of reproductive age	X	X			
	Condom use at last sex with high-risk partner		X	X		
Environmental risk factors	Population using safely managed drinking water services	X	X			
	Population using safely managed sanitation services	X	X			
	Population using modern fuels for cooking/heating/lighting	X	X			
	Air pollution level in cities		X	X		
	Noncommunicable diseases	Total alcohol per capita (age 15+ years) consumption	X	X		
		Infant use among persons aged 15+ years	X			
		Children under 5 years who are overweight	X	X		
		Overweight and obesity in adults (after adolescence)	X	X		
		Raised blood pressure among adults	X	X		
		Raised blood glucose/diabetes among adults	X	X		
Salt intake		X				
Insufficient physical activity in adults (Also: adolescents)			X			
Intimate partner violence prevalence			X			
Reproductive, maternal, newborn, child and adolescent		Demand for family planning satisfied with modern methods			X	
	Unmet need for family planning	X	X	X		
	Birth attended by skilled health personnel	X	X	X		
	Postpartum care coverage	X	X			
	Care-seeking for symptoms of pneumonia	X	X			
	Children with diarrhoea receiving oral rehydration solution (ORS)	X	X			
	Maternal and neonatal tetanus coverage	X	X			
	Immunization coverage rate by vaccine for each vaccine in the national schedule	X	X			
	People living with HIV who have been diagnosed	X	X			
	Prevalence of mother-to-child transmission	X	X			
HIV	HIV case coverage	X	X			
	Prevalence of hepatitis (A/B/C) coverage	X	X			
	HIV viral load suppression	X	X			
	TB preventive therapy for HIV-positive people newly enrolled in HIV care	X	X			
	HIV test results for registered new and relapse TB patients	X	X			
	HIV-positive new and relapse TB patients on ART during TB treatment	X	X			
	TB patients with results for drug susceptibility testing	X				
	TB case detection rate	X	X			
	Second-line treatment coverage among multidrug-resistant tuberculosis (MDR-TB) cases	X	X			
	Malaria	Unmet need for malaria diagnosis and treatment (P/F)	X	X		
Use of insecticide-treated nets (ITNs)		X	X			
Treatment of confirmed malaria cases		X	X			
Indoor residual spraying (IRS) coverage		X	X			
Coverage of preventive chemotherapy for selected neglected tropical diseases		X	X			
Cervical cancer screening		X	X			
Coverage of services for severe mental health disorders		X	X			
Quality and safety of care		X	X			
Perinatal mortality rate		X	X			
Access		Obstetric and gynaecological admissions owing to abortion	X			
	Institutional maternal mortality ratio	X				
	Maternal death review	X				
	ART retention rate	X	X			
	TB treatment success rate	X	X			
	Service-specific availability and readiness		X			
	Service utilization	X	X			
	Health service access	X	X			
	Hospital bed density	X	X			
	Health workforce	Availability of essential medicines and commodities		X		
Health worker density and distribution			X			
Output training institutions			X			
Health information		High registration coverage		X		
		Health registration coverage	X			
		Completeness of reporting by facilities		X		
		Health financing	Total current expenditure on health (% of gross domestic product)		X	
			Current expenditure on health by general government and non-profit voluntary organizations (% of current expenditure on health)		X	
			Out-of-pocket payment for health (% of current expenditure on health)		X	
			Externally sourced funding (% of current expenditure on health)		X	
	Total capital expenditure on health (% current + capital expenditure on health)			X		
	Headcount ratio of catastrophic health expenditure			X		
	Headcount ratio of impoverishing health expenditure			X		
International Health Regulations (IHR) core capacity index			X			
Health security			X			



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Conclusions

All bar 8 CHRIs could be mapped to one or more of the WHO-FIC reference classifications. The indicators for which no proper place could be found among the WHO-FIC RCs were all related to health financing.

ICD can be used to capture 63 items, mostly (24) from the Health Status indicators group.

ICF was identified as an appropriate tool for 33 indicators, mostly (20) from the Risk Factors indicators group.

ICHI would work well to provide information on 38 items, mostly (23) from the Service Coverage indicators group.

Next Steps

From this preliminary exercise a more specific list of relevant codes from the 3 reference classifications could be developed to ease the monitoring and provide immediate longitudinal and cross-sectional comparability.

References

- Monitoring health for the SDGs. 2017 World Health Statistics
- Global Reference List of 100 Core Health Indicators. 2015 WHO



M É X I C O

Assessing the actual and potential future joint use of the WHO-FIC

A Martinuzzi¹, L Hanmer² and B Macpherson³¹E. Medea Scientific Institute, Italian Collaborating Centre and FDC Co-Chair²South African Medical Research Council, South African Collaborating Centre and FDC Co-Chair³Australian Institute of Health and Welfare, Australian Collaborating Centre and FDC Secretariat16-21 October 2017
Mexico City, Mexico

C702

Abstract The Family Development Committee (FDC) have been considering how the WHO-FIC can be used together, in terms of efficient use and best practice. A survey has been developed to ask WHO-FIC users to provide examples of current joint use of the WHO-FIC. The results of the survey will help to inform the FDC with classification development opportunities as well as the development of guidelines describing the best practice of joint use.

Introduction

A key work area of the WHO-FIC Family Development Committee (FDC) is to develop the WHO-FIC as an integrated and comprehensive suite of classifications, including in its application.

The WHO-FIC is increasingly being used in an integrative way. The FDC have been discussing best practices to support this use.

Information on the potential joint use of the WHO-FIC has been added to the revised 'Family' paper.

The FDC have considered the potential use-cases where classifications may be used together, including who the users are and at what point the integration occurs.

This item was again discussed at the 2017 FDC mid-year meeting where it was suggested by members that a survey be developed to canvas actual examples of joint use of the classifications.

A small working group was formed, tasked with the development of this survey. The group consisted of Andrea Martinuzzi, Janice Miller, Ann-Helene Almborg, Catherine Sykes, Hans-Peter Dauben, Marie Vikdal, Soon-Cheol Hong and Nicola Fortune.

This poster presents the survey template that was developed and invites the Network to participate in the survey.

The results will help to inform the FDC with classification development opportunities, as well as the development of guidelines describing the best practice of joint use.

Materials

Originator of the joint use case example:
(list the people who are working within the use case and are potential contact points in case of additional requests)

Contributor:	
Name and affiliation:	
Email address:	
Telephone number:	
Focal point in the WHO-FIC (if any):	
Name and affiliation:	
Email address:	
Telephone number:	
Title of joint use case:	
Please reflect within the description on specific topics which are highlighted as chapter titles. If information on this information is not available, please write n.a. to assure that you have been aware of this topic.	
the level of joint use	(describe which classifications are integrated to which extend and whether also there is a connection to another classification(s) (a-b/1-2))
the type of use case	(describe the use of the classification in more detail: aims, purpose of use, options and weakness. Please keep in mind that also potential areas could be described as well as request in regarding of missing infrastructure/data)
the temporal frame	(describe the duration, continuity and sustainability issues in relation to the specific use case including solutions)
geographical frame	(describe the geographical usage of the joint use)
dimension	(describe whether the use case is just out of a specific area or including other health policy/ health service areas)
additional issues	(describe here any further information important to get content of the specific use case including recommendations and specific experiences)
Summary of joint use case	(not more than 5 lines)
Qualitative evaluation of the impact	(not more than 5 lines)

Figure 1: Screenshot of the survey form.

Next Steps

Timeline:

- Communicate to FDRG the task and show an example
- Distribute the format to the FDC/FDRG/EIC - ASAP
- Data gathering (mid July – mid October)
- Progress check (beginning of November)

Once all responses have been received, analysis of the data will be progressed at the 2018 FDC mid-year meeting.

Conclusions

The strengths and pitfalls in WHO-FIC joint use can be best highlighted by tracking real world experiences. Best practices can that become guiding indications for other intended users.

In the same time the identification of datasets that are already structured in such a way as to allow easy data mapping onto one or more of the reference classifications can provide an indication of the potential extension of WHO-FIC joint use.

Both outputs emerging from the survey presented here will in turn feed back to WHO and WHO-FIC Network informing next steps in WHO-FIC update and revision and indications for use.

Results

Definitions and dimensions explored by Joint Use survey form

Joint Use of WHO-FIC Classifications

Using WHO-FIC Reference Classifications (ICF, ICHI, ICD) together: Use Cases

Definition of joint use:

- a. Actual data collection using WHO-FIC reference classifications together (2 of 3, or all 3 classifications)
- b. Actual data collection that could be mapped to 2 or more classifications

Reality check:

1. Use cases based on current practice in local, national or international setting
2. Use cases based on the potential for data collection using core classifications

Format:

Follow the principles outlined in the "best practice paper" (WHO, see the front page aside) with adaptations reflecting:

- The level of Joint use (a-b/1-2)
- the type of use case and
- the temporal frame (duration and continuity)
- geographical frame
- dimension (number of cases)
- if possible details on how the classifications are used





M É X I C O

WHO-FIC Family paper: Progress on revision for the ICD-11 era

L Hanmer¹, A Martinuzzi², B Macpherson³, C Linton⁴, K Denny⁴¹South African Medical Research Council, South African Collaborating Centre²E.Medea Scientific Institute, Italian Collaborating Centre³Australian Institute of Health and Welfare, Australian Collaborating Centre⁴Canadian Institute for Health Information, North American Collaborating Centre - Canada16-21 October 2017
Mexico City, Mexico

C703

Abstract The WHO-FIC is a reflection of WHO activities and related outputs in health classification. The current version of a general paper describing the WHO-FIC – the Family paper – was published in 2007. The WHO-FIC Family Development Committee (FDC) is developing a revised Family paper to reflect changes in the classification environment, as reflected most directly in the approach to the development of ICD-11 and the electronic tools to support this development.

The Family paper revision process has required some seminal developments, including revision and updating of the diagram of the Family and updating of the concepts of 'derived' and 'related' classifications. The revised Family paper is being developed by a writing group of the FDC, with inputs from other members and observers of the FDC, members of the wider WHO-FIC Network, and the WHO ICD-11 Joint Task Force (JTF). Final approval of the Family paper will be required from the WHO-FIC Network and WHO.

Introduction

The 2007 World Health Organization Family of International Classifications: definitions, scope and purpose paper (the Family paper) describes the Family, principles of classification and the processes of adding, updating and maintaining classifications in the Family.

It was agreed at the 2010 WHO-FIC Network meeting that the FDC should revisit the paper and redraft to reflect current approaches to classification development and, in particular, the work on the ICD-11 revision.

Suggested changes to the document have been presented to the Network at previous annual meetings.

At the Tokyo Network meeting in 2016, the FDC continued discussions on the Family paper. It was decided that a small writing group should be formed to progress outstanding issues and to present a final draft at the Network meeting in Mexico City in 2017.

Discussions over the past 12 months have addressed the purpose of the paper, its intended audience and its focus – the current or future WHO-FIC.

Changes to Structure

The following content and structure to the paper has been proposed:

Introduction

1. The WHO-FIC
2. Scope and conceptual framework
3. Structure
4. Processes and considerations for adding and deleting classifications to and from the Family
5. Governance

References

Outstanding issues

- Finalisation of Figure 2: Schematic representation of the WHO-FIC.
- Finalisation of all components of the text, in consultation with WHO and WHO-FIC Network.
- Formal approval of the final version of the Family paper.

Next steps

After incorporating any comments from the 2017 Network meeting into the draft, the paper will be finalised and publication sought, in time for the release of ICD-11 in 2018.

Content changes

1. The WHO-FIC

This chapter describes the purposes and characteristics of WHO-FIC. It also introduces the differences between statistical classifications and clinical terminologies.

A new section has been added to introduce the WHO-FIC as a set of tools for the monitoring of Sustainable Development Goal 3 (*Healthy lives and well-being for all at all ages*) and Universal Health Coverage (a target under SDG3).

2. Scope and conceptual framework

This chapter describes the scope of the Family and relates WHO-FIC reference classifications to the bio-psycho-social model as its common underpinning conceptual framework (Figure 1).

- The **ICD** classifies **health conditions** (diseases or disorders as causes of morbidity or mortality). Although not its major role, it also classifies some **environmental factors** (for example as external causes of injury and poisoning) and some **personal factors** (for example as reasons for contact with health services).
- The **ICF** includes classifications of **body functions and structures, activities and participation** and **environmental factors**.
- The **ICHI** classifies health interventions. It incorporates classifications of **body structures and functions, activities and participation, environmental factors** and **personal factors** into its Target axis.

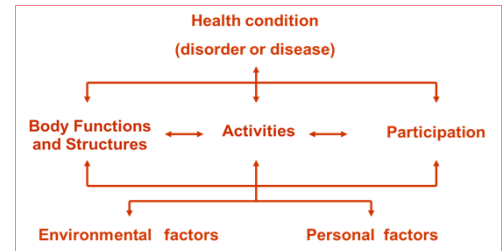


Figure 1: Interactions between the components of the WHO bio-psycho-social model of health

3. Structure

The schematic representation of the WHO-FIC in the 2007 paper has been updated to include relationships to the Foundation component and terminologies (Figure 2 – Draft for discussion). The semantic anchor in Figure 2 signifies the same meanings across terms.

The Reference classifications are discussed in detail in this chapter, including a section for ICD-11. Derived and Related classifications are also discussed, and sections have been added regarding alignment of classifications (future challenge) and their use together.

4. Processes and considerations for adding and deleting classifications to and from the Family

This chapter is similar to the previous section in the 2007 Family paper, and includes the *Principles for including classifications in the Family of International Classifications* (a previous Attachment) as a section in its own right.

5. Governance

This short chapter introduces the FDC as a stakeholder in the development of the WHO-FIC as an integrated, consistent and comprehensive set of classifications.

It retains the information for contacting the World Health Organization and the WHO-FIC Network regarding changes to the reference classifications or introduction of a new related classification.

Acknowledgements

Thank you to all of the contributors to the revision of the Family paper, especially the writing group and the many others from the FDC, JTF and Council members.

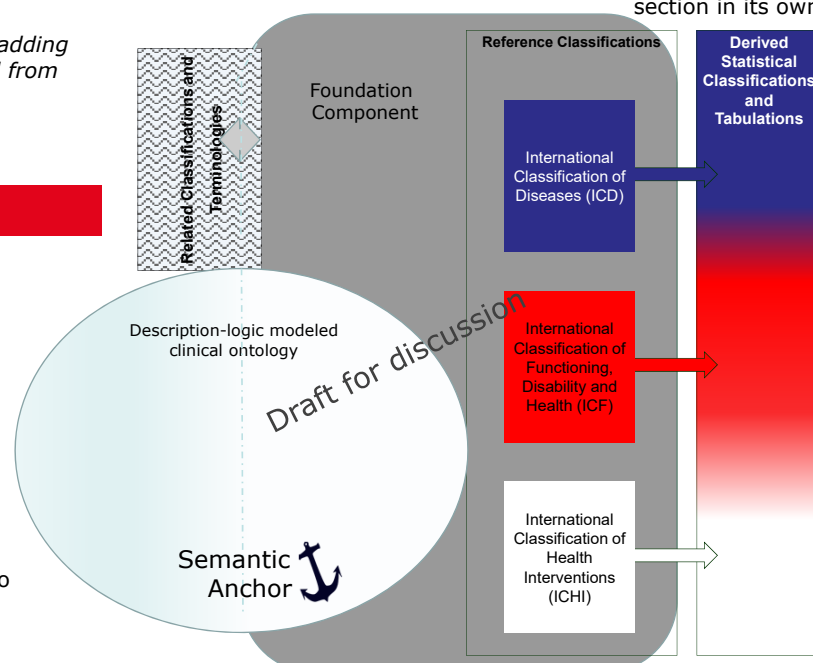


Figure 2: Draft schematic representation of the WHO-FIC



New challenges for spreading and support of WHO classifications

16-21 October 2017
Mexico City, Mexico

C704

Authors: Sergey Cherkasov, Dmitry Meshkov, Alexander Shoshmin, Yanina Besstrashnova, Evgeniya Berseneva, Ludmila Bezmelnitsyna, Anna Fedyaeva, Valeria Oleinikova

Russian WHO FIC CC
National Public Health Research Institute after Semashko
Federal Scientific Center of Rehabilitation of the Disabled named
after G.A. Albrecht
Russian Federation

Abstract The survey of ICD-10 specialists (500+) conducted in 2016-2017 indicated important issues influencing on quality and reliability of statistical information related with ICD-10:

1. Insufficient number of official WHO prints of ICD-10 (20 000+ medical institutions require more than 100 000+ complete sets of 3 volumes of ICD-10 in Russian);
2. Existing ICD-10 prints and Internet-based ICD-10 versions of unknown origin and quality which were not verified by and agreed with WHO.

Introduction

Specialists indicated that the abundance of ICD-10 versions made difficult to select the proper one. Elimination of illegal versions looks unrealistic due to number of them and absence of local legal procedures. There is the similar picture with ICF. In 2017 after receiving approval from WHO Press Russian WHO FIC CC prepared and published a draft version of the ICF including updates in Russian for the educational purpose. Publishing the official new ICF edition in Russian is not allowed ahead of the English one while the updated version is high demanded in rehabilitation in Russia and Russian-speaking countries.

Results

Looking forward implementing ICD-10 (2016) and ICF (2017) versions the following measures are to be taken and agreed upon with WHO relevant departments:

1. Local labeling procedure with individual number and tracking for each official set of ICD-10. The inconspicuous system for each book and support database for clients (20 000+) have been already developed and implemented.
2. Transparent procedure of distribution based on collaboration between the local publishing house; distributors; WHO FIC CC, Ministry of Health and others. It includes ongoing access of WHO to database and regular reporting to follow events and budgetary issues.
3. Communicating with clients followed by documentation for each contract and aligning of distribution with other activities of WHO FIC CC (training, implementation of electronic mortality data management system, etc).
4. Establishing of proper legal procedure supporting effective distribution and control of ICD-10 and ICF books between WHO (local WHO FIC CC, Headquarters) and local publishing house(s); distributors and clients.
5. Developing of effective procedures to take control over using of electronic version of ICD-10. Restricted number of providers cooperating with local WHO FIC CC will make possible for specialists to have access to up-to-date version of ICD-10.

Conclusions

These measures will make possible achieving mutual enhancement of classifications awareness; updating and training. Communicating with WHO to develop effective procedures will be the task for the Russian WHO FIC CC for 2017.



API for ICD-10-AM/ACHI Classification Data Access and 'on the fly' ICD-11 Mapping

16-21 October 2017
Mexico City, Mexico

C705

A. O'Donnell, J. A. Ginige, R. Smith, M. Tran, C. Boulamatsis
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M É X I C O

Abstract WHO has recently released an Application Programming Interface (API) that would allow the wider audience to link ICD-11 data into various systems and platforms. Following their lead, Western Sydney University (WSU) has commenced developing an ICD-10-AM and ACHI API to provide a means for external stakeholders to access ACCD's clinical classification data for clinical classification system development and maintenance purposes. This poster presents the Australian approach and experience thus far in transitioning existing systems architecture to an API based infrastructure.

Introduction

The Australian Consortium for Classification Development (ACCD) was commissioned by IHPA to maintain and develop the ICD-10-AM/ACHI classifications and publications. The consortium consists of the National Centre for Classification in Health (NCCCH), and Western Sydney University. As part of the consortium, Western Sydney University provides supportive IT-based expertise to aid NCCCH with their ongoing work as an integral component in the development and management of their assigned standards and classifications. Western Sydney University is updating ACCD's Clinical Classification Systems to support an ICD-10-AM and ACHI to be released through APIs (Application Program Interfaces) that will eventually link to the ICD-11 API released by WHO for mapping purposes. This API will allow ACCD to share clinical classification data with relevant authorised parties in a consistent and flexible manner.

Motivation

Currently, our systems contain a variety of types of data; ranging from spreadsheets, to text files and word documents, which are drawn from our internal database management system. However, these extracted files can be edited externally leading to inconsistencies of data shared and stored within the system. The development of an API will force our system to provide a consistent data format to be directly retrieved from the database. As part of the process, we are forcing ourselves to clean up the various types of data and consolidate them into a consistent and current set of data formats.

Current ACCD processes involve entering a high volume of data, for proposed changes into the systems, towards the end of the classification development lifecycle. In doing so, there is no clear or manageable way to provide real-time, updated data to technical groups as to the changes in specific classification versions until the end of the classification development cycle.

Through database changes and developing the API, the system will allow us to provide data about classifications as changes are approved through relevant committees and groups, and subsequently entered into the systems. These changes can then be reflected through data retrieval in an ongoing ICD-10-AM versioning through the API. This development will be coupled with an ICD visualisation application development program, which will communicate with the API to retrieve information for a specific edition and represent it visually to authorised stakeholders real-time. Additionally, the API will be flexible enough to handle additional types of data required such as mapping files.

The Approach & Experience

Western Sydney's API development so far has included updating the existing system to extract data in an efficient and targeted way in preparation for the API.

ICD-11 Considerations

One of the key requirements of the API is that it will be ICD-11 ready. From our system's perspective, this involves ensuring our classification systems can handle multi-parenting. At this stage, our systems do not handle multi-parenting. By building the API with ICD-11 in mind, when the implementation of ICD-11 occurs, the API will be ready to adapt to the changes without breaking the API's structural integrity.

Reducing System Dependencies

Initially, our aim was to read real-time data from the ICD-11 API as the user intends to access codes with related ICD-11 data. This however, would create an unnecessary dependency for our system on the ICD-11 API.

Instead we will take an approach of consuming the ICD-11 API into our system as a "snapshot" of information and feed required and necessary links relating to ICD-11 data through our API. Periodically our system would request updated data from the ICD-11 API to ensure the data within our database is synchronised with the latest ICD-11 data.

REST Architectural Approach

Our initial brainstorming process for this project produced a requirement to provide an API utilising the REST architectural approach. After further investigation and discussion, we have decided our API will conform to the REST architectural pattern as much as possible, however in certain cases, this proves to be impractical. This is due to the various unique, explicit functions to retrieve specific components and representations of varying classification entities for visualisation purposes instead of relying on basic entity resource mapping which will not meet our requirements. (see Figure 1)

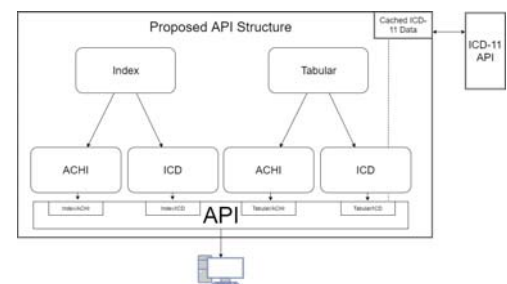


Figure 1: Proposed API Architecture

Conclusion

Developing this API will allow us to extend the capabilities of accessing clinical classifications in Australia in a scalable and flexible way. It provides future opportunities such as mobile applications which would be able to access the API in a consistent and reliable manner.

Additionally, The API can be extended to include components such as ICD-10-AM mapping files and provide data in the Classification Modelling Language (ClAML) format where applicable. For more information on ClAML usage in Australia, please see the poster - "ClAML for representation of ICD-10-AM and ACHI: The Australian Experience".

For more information on ICD-Mapping in Australia, please see the poster - "Mapping ICD-10-AM to ICD-11 Using Flat Files Maps".

Acknowledgements or Notes

R. Bernard, V. Dimitropoulos, Y. Guo, R. Madden, K. May, P. Nicolau, F. Pretty, N. Rankin, M. Tun



ClaML for Representation of ICD-10-AM and ACHI: The Australian Experience

16-21 October 2017
Mexico City, Mexico

M. Tran, J. A. Ginige, A. O'Donnell, R. Smith, C. Boulamatsis
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C706

M É X I C O

Abstract ClaML (Classification Modelling Language) has been recommended by WHOFIC for the maintenance, publishing and sharing of clinical classifications. By definition, ClaML is suitable for the presentation of range of classifications such as ICD, ICF, and ICHI. The specification developers have shown, by example, the representation of the base ICD-10 classification with ClaML. This poster presents the Australian experience in relation to presenting ICD-10-AM (International Classification of Diseases Version 10 Australian Modification) and ACHI (Australian Classification of Health Interventions) in ClaML. In particular, exemplifying the exact use of ClaML tags for presentation of Australian specific data in ICD-10-AM. Further, initial understandings associated with mapping of ACHI is also presented here. In this exercise the ClaML version 2.0 is utilised with the extensions of ClaML version 3.0 in mind.

Introduction

The Australian Consortium for Classification Development (ACCD) is commissioned by IHPA to maintain and develop the ICD-10-AM/ACHI classifications and publications. The consortium consists of National Centre for Classification in Health (NCCH), and Western Sydney University. As part of the consortium, Western Sydney University provides supportive IT-based expertise to aid NCCH with their ongoing work as an integral component in the development and management of their assigned standards and classifications. Several months before the publication date, ICD-10-AM and ACHI data are sent to vendors for the purpose of developing and maintaining their clinical classification related software. There are ongoing internal developments to provide a means to export the ICD-10-AM and ACHI classifications as self-describing XML files to be sent to vendors. As part of the transition, the ClaML standard was adopted to package ICD-10-AM and ACHI data in a globally accepted and ISO compliant format (ISO 13120).

Motivation

Clinical classification related data was given to vendors in document, text and database files to integrate the latest data into their systems and/or code finder software. However, it's difficult for systems to parse document and text files in an automated manner. Due to ongoing internal development, the files (i.e. database files) are heavily subject to change. Better opportunities and benefits are expected to be seen from the self-describing nature of XML, and its suitability for complex hierarchically structured data. Irrespective of how the ACCD internal data is stored or structurally changed, there would be minimal impacts on the generated XML files. As part of the transition to XML, ACCD adopted ClaML so that the ICD-10-AM and ACHI classification data can be packaged in an XML file with a clear-cut standard to be sent to vendors.

The Experience

A series of workshops were held to analyse the process of transitioning ICD-10-AM and ACHI data into ClaML. As part of the workshop activities, relatively simple chapters were manually entered into a prototype XML that follow the ClaML standard. As part of this exercise, ClaML 2.0 was used as there is more materials available to work with opposed to the ClaML 3.0 which is under development currently.

ICD-10-AM had modifiers and its own set of rubrics and usages. ICD-10-AM has various unique constructs. The notable concepts in ClaML used to accommodate these constructs are included in Table 1 below.

Concepts	Usage in ICD-10-AM
Rubrics	ICD-10-AM has differing types of rubrics, i.e. additional information describing a code
Meta	Links to other external data (e.g. ACS, Mortality and Morbidity) Also used to attach additional information, such as unacceptable principle diagnosis codes
Variants	Indicate if a clinical concept (e.g. code, modifiers) was introduced in ICD-10-AM. Country specific codes.
Usages	Indicate if a code is an asterisk or dagger codes

Table 1: ClaML concepts accommodating constructs specifically in ICD-10-AM

Comparatively to ICD-10-AM, ACHI was less complex to transition to ClaML. The structure of ACHI is of high similarity to ICD-10-AM, however ACHI utilises less of the available ClaML concepts, and the rubrics are relatively simple in nature. Refer to Table 2 for ClaML concepts not used for ACHI, but are used for ICD-10-AM.

Concepts	Reason not used in ACHI
Modifiers	ACHI does not have modifiers.
Variants	ACHI is not based on a classification that is already in ClaML.
Usages	ACHI codes already have rubrics defining how it may be used. It does not have any usage information represented by a symbol.

Table 2: ClaML concepts not used in ACHI

Issues

ClaML requires chapters, range of codes, and codes to be uniquely defined throughout the whole classification. However as ACHI's procedural type axis is not unique, ACHI does not fit into ClaML. Certain rubrics in ICD-10-AM and ACHI contains HTML formatted content. The content includes formatted tables, lists and paragraphs, styled texts. ClaML does not support the vast range of HTML content, and as such a conversion process is required to put the rubric's HTML content into ClaML.

ClaML 3.0

ClaML 3.0 schema and materials were taken into consideration during the workshops. Notably the below issues encountered in ICD-10-AM were resolved:

- Although ClaML 2.0 supports modifiers, it does not have the flexibility to support all scenarios of nested modifiers
- Variants was applicable to codes and modifiers, but with limitations in indicating whether the code types, rubric types or usage types was introduced in ICD-10-AM.

Future Directions

Additional work will be required to complete the transition to XML and ClaML, including the ICD-10-AM/ACHI alphabetic indexes. With data being more compatible with being processed by external systems, ACCD can set up automated workflows. For instance, it is possible for software developed by vendors to automatically update their data through accessing ACCD data (including the XML files) utilising an API (application program interface) and Web Hooks. For more information refer to the poster "Clinical Classification API: The Australian Experience".

Acknowledgements or Notes

R. Bernard, V. Dimitropoulos, Y. Guo, R. Madden, K. May, P. Nicolau, F. Pretty, N. Rankin, M. Tun



Connecting SNOMED CT to ICD-11-MMS Through Mapping

Authors: Kathy Giannangelo, Jane Millar
SNOMED International, London, UK

16-21 October 2017
Mexico City, Mexico

C707

Abstract A global emerging theme is the need to link SNOMED CT® to the WHO International Classification of Diseases (ICD) to support the epidemiological, statistical and administrative reporting needs of the SNOMED International Member countries and WHO Member States. To meet this need, SNOMED International is developing a SNOMED CT to the *International Classification of Diseases Eleventh Revision for Mortality and Morbidity Statistics* (ICD-11-MMS) Map.

Introduction

SNOMED International is proceeding with a two-phase strategy for the development of the SNOMED CT to ICD-11-MMS Version 2018.

Initial development efforts will focus on the creation of maps for the SNOMED CT Minimum Core set (Starter set) concepts in scope of ICD-11-MMS. The Starter set consists concepts identified as commonly used by existing SNOMED CT users. This is the Pilot phase. The second phase will map the remaining in scope SNOMED CT concepts. Only domains of SNOMED CT which overlap in meaning with those of ICD-11-MMS are in scope.

Methods

The SNOMED International Mapping Team along with qualified volunteers from Member countries and external contractors will create and quality assure the maps. Three training sessions were held with the external team members to prepare them for mapping SNOMED CT to ICD-11-MMS.

Algorithms were used to leverage existing resources to identify connections between SNOMED CT and ICD-11-MMS of relative strength. Resources used to produce a candidate starting point for the maps include the ICD-11 project work involving alignment between SNOMED CT and ICD-11. Other resources are the SNOMED CT to ICD-10 map and WHO's ICD-11 to ICD-10 map and ICD-10 to ICD-11 maps.



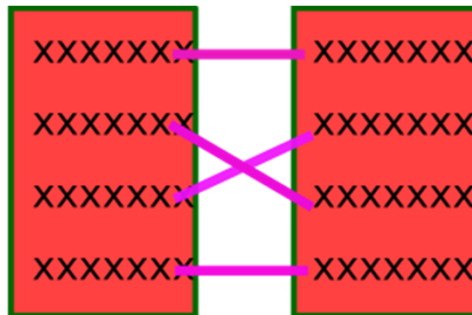
HIGH: (9.05) 1803581281 8860.31 : Trigeminal neuralgia
Candidates: (1.034988) 321057933 1F41.6 : Postherpetic polyneuropathy
(0.9018220875) 248232693 8860.32 : Atypical facial pain
(0.537423625) 1241312050 F826.7 : Neuralgia
(0.0) 76391627/morbidity/unspecified 8860.32 : Disorders of trigeminal nerve, unspecified
(0.0) 1730644960/morbidity/unspecified 8C12 : Disorders of nerve root, plexus or peripheral nerves, unspecified
RULE1: 1 matches
N (0.0) 1803581281 8860.31 : Trigeminal neuralgia
RULE2: 1 matches
Equivalent (0.0) 1803581281 8860.31 : Trigeminal neuralgia
RULE3: 4 matches
MATCH (0.5018220875) 248232693 8860.32 : Atypical facial pain
EXACT PT (2.05) 1803581281 8860.31 : Trigeminal neuralgia
MATCH (0.537423625) 1241312050 F826.7 : Neuralgia
MATCH (1.034988) 321057933 1F41.6 : Postherpetic polyneuropathy
RULE4: 2 matches
1 PARENTS (0.5) 1730644960/morbidity/unspecified 8C12 : Disorders of nerve root, plexus or peripheral nerves, unspecified
1 PARENTS (0.5) 76391627/morbidity/unspecified 8860.32 : Disorders of trigeminal nerve, unspecified
RULE5: 2 matches
BOOST-DOWN (nerve) 0.75 (1.0) 1730644960/morbidity/unspecified 8C12 : Disorders of nerve root, plexus or peripheral nerves, unspecified
BOOST-DOWN (nerve) 0.75 (1.0) 76391627/morbidity/unspecified 8860.32 : Disorders of trigeminal nerve, unspecified
FINAL CATEGORY HIGH

The traditional approach to mapping is seen as the best solution for development of the SNOMED CT to ICD-11-MMS. However, SNOMED International and WHO continue to explore how to achieve a linkage at the Foundation component to enable re-use for the specialty classifications.

Materials

In addition to the maps used in the algorithm analysis, a number of tools and resources are being utilized to develop the map. These include the:

- SNOMED International
 - Mapping Tool
 - Map Training Materials
 - Mapping Personnel Handbook
 - Quality Assurance Plan and Process
- WHO
 - ICD-11 Coding Tool
 - ICD-11-MMS Browser
 - ICD-11-MMS Reference Guide
 - ICD-11-MMS Field Testing Training Manual



MAPPING

Results

The SNOMED CT to ICD-11-MMS Version 2018 map is a tabular, knowledge-based cross-link from SNOMED CT to ICD-11-MMS in which the ICD-11-MMS code or codes that best represents the meaning of the SNOMED CT concept as conceptualized by ICD-11-MMS are linked. The map is a link directed from the source SNOMED CT concept to the target ICD-11-MMS.

Contusion of ear (disorder), 50228009

Map Entry

1/1 211095613 N400.8 : Superficial injury of ear

TRUE

2/1 204099541 X204099541 : Contusion

TRUE

POSSIBLE REQUIREMENT FOR AN EXTERNAL CAUSE CODE AND EXTENSION CODE(S)

MAP SOURCE CONCEPT IS PROPERLY CLASSIFIED

MAP SOURCE CONCEPT IS PROPERLY CLASSIFIED

Conclusions

Connecting SNOMED CT to ICD-11-MMS through mapping will provide a more consistent and usable set of international concepts to enable re-use of clinical data for additional statistical purposes and interoperability of data between systems and nations.

Analysis of the results of the Pilot will provide opportunities to make adjustments as necessary to algorithms, methodology, documentation, and QA plan and process before proceeding to the next phase.



Mapping of the remaining in scope SNOMED CT concepts will occur after an evaluation process.

Once completed, the SNOMED CT to ICD-11-MMS map will:

1. Facilitate a larger user base to explore SNOMED CT adoption.
2. Provide a more consistent and usable set of international concepts for member nations and other stakeholders.
3. Enable re-use of clinical data for additional statistical purposes.
4. Expedite submission and response to international and national reporting requirements.
5. Improve accuracy and reproducibility of code mapping.
6. Save time and improve efficiency for the coding professional.
7. Promulgate widespread comparable epidemiological data and statistical data.
8. Support interoperability of data between systems and nations.

Acknowledgements

SNOMED International Mapping Project Team.

At the conclusion of the Pilot Phase 5300 concepts in scope for mapping from the Starter set will be completed.



M É X I C O

Mapping from SNOMED CT to ICD-10 in the UK

Author: Hazel Brear, NHS Digital. UK

16-21 October 2017
Mexico City, Mexico

C708

Abstract

To provide an overview of how the maps from SNOMED CT to ICD-10 are developed in the UK by the Terminology and Classifications Delivery Service at NHS Digital

Introduction

The UK National Health Service (NHS) have been developing maps between supported terminologies and ICD for over 25 years.

As we move towards the use of a single terminology in NHS systems, we at NHS Digital are concentrating our efforts on the development and maintenance of the maps from SNOMED CT to ICD-10.

The maps are provided to NHS organisations whose Electronic Health Records (EHRs) use SNOMED CT as their underlying clinical terminology.

The maps support the transformation of clinical terms into the ICD-10 codes that are subsequently used to support mandatory reporting requirements such as the Admitted Patient Care Commissioning Data Sets (APC CDS) and Hospital Episode Statistics (HES).

We have recently introduced new map tooling which prepares files in RF2 only and we have taken the opportunity to update our mapping methodology, process and editorial principles.

Map Objective

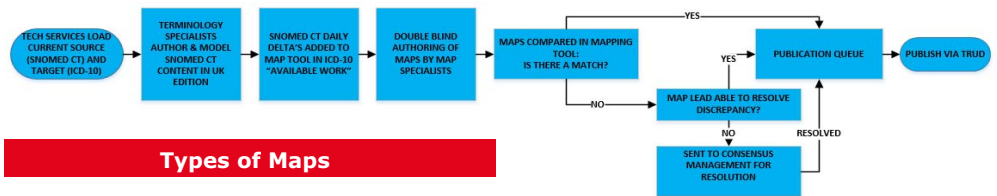
The objective of mapping is to produce a reliable, consistent and reproducible link **in one direction**, from SNOMED CT to ICD-10, supporting the "collect once and use many times" principle.

What the maps are

The maps provide a semi-automated selection of codes from the classifications to represent the multiplicity of circumstances encountered in the medical record. One-to-one maps may be collected automatically, but more complex maps require manual intervention by an individual trained in the application of ICD-10's rules and conventions. This ensures the correct assignment of codes and sequence of codes to meet national and international clinical coding standards.



Process



Types of Maps

A map has cardinality of one SNOMED CT concept to one-or-many ICD-10 target codes. The maps provide:

1. Maps from a single SNOMED CT concept to a single ICD-10 code which represents the clinical meaning of the concept
2. Maps from a single SNOMED CT concept to a combination of ICD-10 target codes that collectively represents the clinical meaning of the concept
3. Maps from a single SNOMED CT concept to a choice of ICD-10 target codes
4. Maps from a single SNOMED CT concept to a choice of maps

Editorial Map Principles

The mapping team works with an approved set of editorial mapping principles designed to promote consistency and reproducibility. Principles cover matters such as:

- The circumstances in which it is acceptable to add alternative target codes
- How to handle instances where a concept expresses an unspecified form of a condition which is assumed by ICD-10 to be specific e.g. Tonsillitis, stated as such, is assumed to be "acute" in ICD-10. In this case it is acceptable to add an alternative target code for "chronic"

Methodology

Briefly the steps are:

1. Evaluation of the concept Fully Specified Name (FSN), defining relationships (parents) and attributes to fully understand the semantic domain of the concept
2. Location of the best semantic domain for the concept in ICD-10 using the four step coding process
3. Identification of a default target code or codes ensuring application of the rules and conventions of ICD-10 and national clinical coding standards
4. Consideration of ICD-10 Alphabetical Index essential modifiers and Tabular List exclusion notes to identify "alternative" target codes
5. Correct sequencing in support of the three dimensions of coding accuracy (individual codes, totality of codes and sequencing of codes)
6. Application of editorial mapping principles

Map Advice

There is a list of human-readable map advices that are assigned to the maps at the time of authoring and which appear in the mapping files to inform suppliers and end users of important rules or standards. For example, to advise:

- when it is acceptable to add an additional ICD-10 code to a target code in the map
- when it is mandatory to add an additional code to a target code in the map

Quality Assurance and Validation

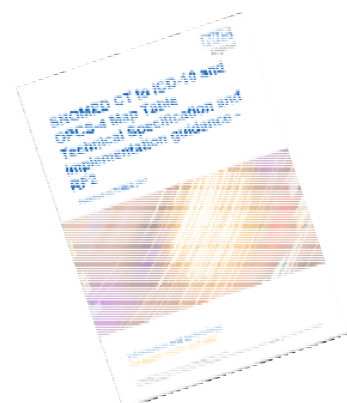
Quality assurance protocols for the production and maintenance of maps consists of technical validation rules and warnings which are applied automatically and in real time throughout the editing cycle within the mapping tool. Further QA rules and warnings are applied following the pre-release "freeze" of the editing environment.

The list of pre-defined validation rules and warnings can be updated as necessary in response to, for example, new national clinical coding standards, issues and lessons learned.

Publication and Release

The NHS Digital SNOMED CT to ICD-10 maps are released as an artefact of the SNOMED CT UK Edition in April and October each year via our distribution service **Terminology Release and data Update and Distribution (TRUD)**.

We provide technical specification and implementation guidance as part of the release pack





M É X I C O

INTERSOCIAL

Semantic interoperability in social care

16-21 October 2017
Mexico City, Mexico

C709

Authors: Rius A.¹⁻⁵, Sarquella E.³, Vidal-Ribas M.², Velasco J.¹, Solans O.⁴, de San Pedro M.¹⁻², Martínez Roldan J.¹⁻⁵, García Cuyàs F.¹⁻²

¹TicSalut Fpundation, ²UVic-UCC, ³PIAISS, ⁴ Ministry of Health of Catalonia, eSalut,

⁵WHO-FIC CC-BCN (Spain).

Abstract

Intersocial is a project that aims to define a **common controlled vocabulary** to be used to interoperate information in social care, particularly addressed to people with both social and health needs. In this sense, a list of **problems** and **responses** has been normalized using **international standards**, allowing its coherent exchange in social and health care centers of Catalonia, with an international scope.

Introduction

Intersocial is an initiative managed by TicSalut Foundation that has had the collaboration of **UVic-UCC**, **PIAISS** and the Ministry of Health of Catalonia-**eSalut**, as well as the support of **EsteveTeijin HealthCare**. The project was developed during 2016 and a second part is being defined to extend its scope.

Methods & Materials

The methodology that has been followed is based on the following tasks:

1. Elaboration of the **map of information systems** used in social care in Catalonia.
2. Analysis of the **state of the art** of controlled vocabularies in social care, at regional and international levels. The search has been restricted to vocabularies that allow the representation of social problems and responses, understanding these responses as the activity that a professional performs to solve one or more problems.
3. Writing a **use case** to be covered by the worked vocabulary.
4. Selection of an **international and standard reference vocabulary**.
5. Elaboration of a **unique list** of problems and another one of responses.
6. **Review** of both lists to select the necessary concepts, ensuring that the use case is covered. These lists have been worked by a **group of multidisciplinary experts**, with members from social and health care of Catalonia.
7. **Mapping** the final lists to the selected reference vocabulary.

There is no any standard vocabulary to represent problems and responses with the level of detail that was required. Despite this, we can use the international terminology **SNOMED CT** to standardize it, as it can be adapted to suit the identified needs.



INTERSOCIAL
Connectant Persones

Results and conclusions

Two SNOMED CT subsets have been created: one containing problems and another one made of responses. The first subset is made of **131 concepts organized in 10 categories**, depending on the type of problems situations they represent: educational, financial, legal, etc. The responses' subset contains **35 concepts of general actuations**. The use of this vocabulary contributes to achieve a greater integration of data from different management systems in social care in Catalonia.

Acknowledgements

To all the professionals who have participated and collaborated in the multidisciplinary team of experts, working the problems and responses subsets. To EsteveTeijin Healthcare for its support.



M É X I C O

Health Terminology Server for Portuguese-speaking Communities

16-21 October 2017
Mexico City, Mexico

Authors: Domingos Alves¹, Newton S. B. Miyoshi¹, João M. A. Marques¹, Paulo M. A. Marques¹, Rui P. C. L. Rijo²

C710

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2 Polytechnic Institute of Leiria, Portugal

Abstract

In this poster we show the design and development of a clinical terminology server based on health information standards. It has two main characteristics: robust and functional as an independent piece of software that can serve as a framework of a knowledge portal; flexible to act as a component and can be easily integrated as part of a legacy information system.

Introduction

This poster presents an international research project that involves the creation, management, diffusion and application of health knowledge in the areas of science and information and decision-making technologies. In particular, this initiative aims to coordinate and make feasible a terminology service in international health capable of establishing a convergence and automated terminology equivalence among standard terminologies in health to be used by Portuguese-speaking countries.

This is done from the specification and development of a clinical terminology server based on health information standards. Its main feature is its adaptability, which allows the service to be easily incorporated as a component of other health information systems. In addition, it also serves as the basis for a knowledge portal for terminologies.

Methods & Materials

To do this, a set of methodologies is being developed that is being developed by the groups of the Health Information and Informatics Center of the Ribeirão Preto Medical School of the University of São Paulo (CIIS-FMRP / USP) and the Center for Research in Technologies and Health Services (CINTESIS - FM-UP, EE-UP and IPLeiria), which establishes the criteria for small-scale analysis, convergence and validation tests of the terminological study process to avoid large-scale conceptual deviations. Thus, these institutions can work together through the Terminology Service, offering several products and tools, such as easy access to terminologies, mappings and convergences between them and the possibility of extracting knowledge by other information systems from marking content semantics.

For this service, the terminologies defined by the International Classification Family of the World Health Organization and associated ones, namely: ICD-10 and 11, CIF and CIAP-2, shall be taken into account, as well as references to terminology SNOMED-CT.

The architecture of the Terminology Service has the following main components (Figure 1):

(i) Terminology Database: a document-based database for storing all terminology and concept data. MongoDB is used as the system manager ;

(ii) Base models: set of classes that represent the main data models that are used to manage terminologies, ontologies, concepts, value sets and mappings;

(iii) Mapping Module: responsible for the high level functionalities related to the management of mappings between concepts of different terminologies. This module provides a tool for mapping between terminologies, in the which a health specialist counts on the use of data mining techniques, more specifically mining of association rules, and textual search as an aid in defining the correct mapping.;

(iv) Knowledge Module: responsible for high level functionality to research concepts, terminologies and sets of values;

(v) RESTful web services are a set of features (APIs) that are exposed to client applications over the HTTP protocol. From these services, external systems can consume and provide data, respecting the security policies implemented by the Terminology Service.

(vi) SPARQL endpoint: the SPARQL endpoint allows queries to be made based on terminology using the SPARQL language. As previously explained, in this query language it is possible to dynamically relate concepts and manipulate data in RDF format;

(vii) Ontologies: set of formal representations (metadata) to describe the main concepts involving the base models for managing the terminology server;

(viii) Semantic Module: module responsible for the semantic manipulation of the terminologies, encodings and ontologies managed by the server. Through this module it is also possible to search using distance and concept matching functions

The eHealth Interop Terminology Server is built using the Loopback 3 framework software library. For the construction of the Semantic Module and the SPARQL endpoint, the use of the D2RQ platform will be considered.

Conclusions

In this service, the terminologies are formalized using ontologies. The main effort is to build an ontology mapping to assure interoperability between those ontologies. With these ontologies and the ontology mapping it's possible to markup semantically the classifications and, in this way, gather data with a unique meaning to support accurate information. Another key advantage is the possibility to offer the classified data in any target ontology, allowing each institution to use their own terminology.

The terminologies, described as formal ontologies will be available through the terminologies service including the reference ontologies and the ontologies mapping. We also intend to enable semantic querying using a SPARQL endpoint and implement algorithms to help the process of semantic markup.

Finally, the whole effort of this joint initiative will serve as reference to support research and development in the area of Science and Information Technology of each country, as well as the intention to formalize the nucleation of an international reference center, as a Collaborating Center of the Family of Classifications (WHO-FIC) in the Portuguese classification.

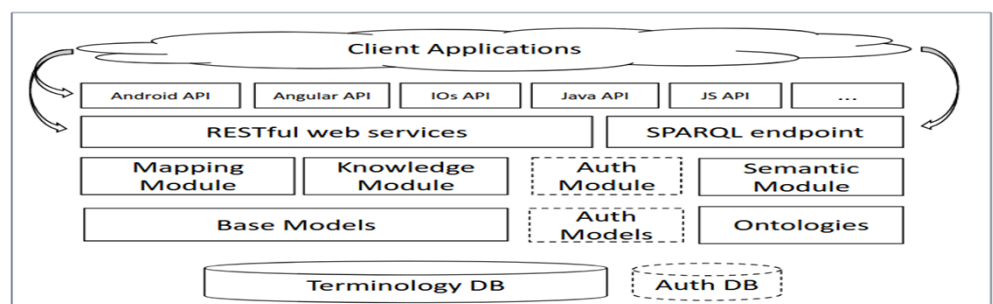


Figure 1: Proposed architecture for terminology server

Identification and Reliability of Hospital Chart Quality Indicators for Coding Data

16-21 October 2017

Mexico City, Mexico

C711

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Abstract

There is no standardized instrument to comprehensively assess quality of documentation in hospital charts from a coder's perspective. To develop and test indicators for assessing chart quality, six nurses scored 89 charts for quality using the instrument. It included 5-point Likert scales for each domain, with specific definitions for each category. Three domains had good discrimination: Completeness, Comprehensive of Discharge Summary, and Overall Chart Quality. All domains had strong agreement.

Introduction

To date, there is no standardized instrument to comprehensively assess quality of documentation in inpatient hospital charts from a coder's perspective. Documentation quality affects data quality when hospital charts are used for research or coding for administrative and billing purposes.

Objective: To develop and test indicators for assessing chart quality.

Results

Reliability for each domain:

Highest for: Comprehensive of Discharge Summary (0.86), Overall Chart Quality (0.61), and Completeness (0.60);

Lowest for Organization (-0.15).

All domains produced strong agreement between reviewers (0.55-0.90).

Table 1. Test Reliability and Agreement

Measure	Discrimination between five categories (Krippendorff's Alpha)		Agreement between two reviewers	
	Median	95% CI	Median	95% CI
Completeness	0.6	0.37-0.74	0.55	0.42-0.71
Organization	-0.15	-0.31-0.08	0.64	0.50-0.81
Legibility	0.42	0.17-0.56	0.61	0.47-0.77
Comprehensive Discharge Summary	0.86	0.72-0.94	0.90	0.76-1.00
Internal Consistency	0.20	-0.03-0.40	0.58	0.46-0.76
Overall Quality	0.61	0.38-0.76	0.67	0.53-0.82

Table 2. Completeness Indicator

Score	1	2	3	4	5
How complete was the information?	Missing the majority of essential documents (e.g., history and physical, discharge summary, operative report). Missing info detracts from abstracting the majority of data.	Two or three major documents are missing (e.g., history and physical) or missing data hinders data abstraction.	One major document is missing (e.g., history and physical) or missing data hinders data abstraction.	Details relevant to diagnosis are missing in some documents (e.g., blood cultures to support sepsis diagnosis). Missing information may be found elsewhere or doesn't hinder from abstracting data.	All documents are present and detailed. Able to extract all necessary data relevant to the admission.

Table 4. Overall Chart Quality Indicator

Score	1	2	3	4	5
Overall quality	Overall chart quality is very poor.	Overall chart quality is poor.	Overall chart quality is moderate.	Overall chart quality is good.	Overall chart quality is excellent.

Table 3. Comprehensiveness of Discharge Summary Indicator

Score	1	2	3	4	5
Comprehensive discharge summary	No discharge summary provided.	Scant information. Essential content (e.g., four or five minor details missing, or two major details like medication list or course in hospital) is missing; more information is missing than present.	Fairly complete, however is missing some essential content, lacking clarity, or is difficult to understand/ambiguous; some sections are contradictory to others.	Thorough and complete; however, may be some minor information missing (e.g., sleep apnea, central vs. obstructive).	Clear, thorough, and internally consistent; no information is missing nor contradicts any other information. The discharge summary is comprehensive without ambiguity.

Table 5. Organization Quality Indicator

Score	1	2	3	4	5
Organization of the paper chart and electronic record	Organization detracted from abstracting efficiency. Less than 50% of the paper and electronic chart was organized.	Only one source of the information (paper or electronic) was greatly disorganized. 50-70% of the chart was organized.	The chart has three or four documents misplaced in either format. 70-80% of the chart is organized.	Chart is well-organized, with only one or two documents misplaced. 80-100% of the chart is organized.	The chart is 100% organized, and documents are easily found.

Conclusions

We developed an instrument to assess the hospital chart quality. We tested 6 domains for measuring chart quality. Three domains had clear wording between categories for good discrimination: Completeness, Comprehensive of Discharge Summary, and Overall Chart Quality. All domains produced strong agreement between reviewers. Future research will include revision of domain category descriptions for chart Completeness and Internal Consistency, then re-testing of the instrument for reliability by professional coders. A measure of chart quality will enhance data meaning for international comparison of coded data.

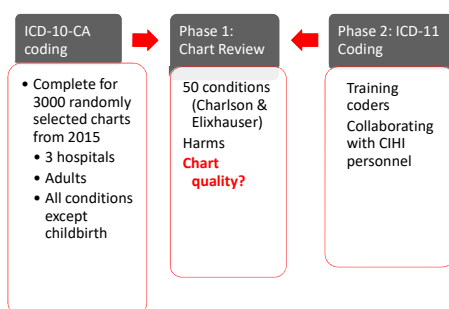
Methods & Materials

This study was a sub-study of the ICD-11 Field Trial, that aimed to assess the agreement between ICD-10-CA and ICD-11 coding compared against chart review as the gold standard.

For an ethically approved study involving randomly selected Calgary hospital admissions from 2015:

- 6 nurses identified 50 health conditions and hospital-related harms
- An initial 49 test charts were scored by two reviewers
- Another 40 charts were scored by two reviewers using the revised instrument.
- The instrument included 5-point Likert scales with specific definitions for each category within each domain.
- The six quality domains: Completeness, Organization, Legibility, Comprehensive of Discharge Summary, Internal Consistency, and Overall Chart Quality.

Figure 1. Method Diagram for ICD-11 Field Trial



Reliability testing of chart quality measures was undertaken on quality indicators for both specific and general aspects of hospital chart data, identified from the literature, and refined after initial reliability testing.



M É X I C O

A DECADE CONNECTING DATA FOR HEALTH IN COLOMBIA

 16-21 October 2017
 Mexico City, Mexico

C712

Author: Victor Hugo Alvarez Castaño

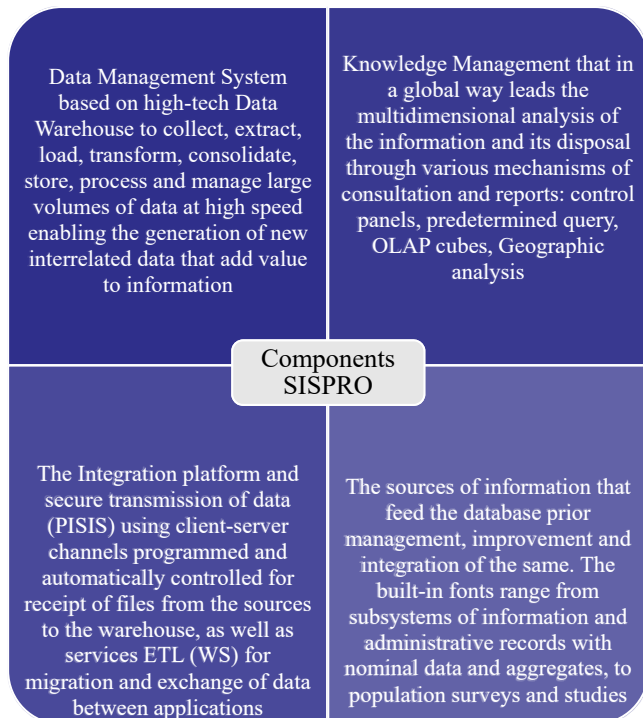
Ministry of Health and Social Protection, Bogotá-Colombia

Abstract Integral Information System of Social Protection of Colombia (SISPRO) is a macro-system that integrates in a high-tech and unlimited data warehouse, the information of citizens linked to the Health and Social Protection System, adding value by the capacity of relationship and interaction of the various sources of information to produce new data that users can generate according to their information needs.

The SISPRO, an innovative model of health information system in Latin America

The Integral Information System of Social Protection of Colombia (SISPRO) is one of the most important public goods in the health sector that allows the collection, consolidation, systematization, access and availability of up-to-date information on all citizens linked to the Health and Social Protection System.

The evolution of concepts and technical legal developments of the health information systems that began in 1975, culminated in the creation and implementation of the SISPRO in 2007. Since then it has been a decade of remarkable achievements in e-health, e-government and interoperability, which enables us today to have a macro-system that integrates in a single Data Warehouse, all of the information focused on the individual, necessary for the construction of health indicators and reports on the basis of data from various information sources internal and external to the Ministry of Health and Social Protection



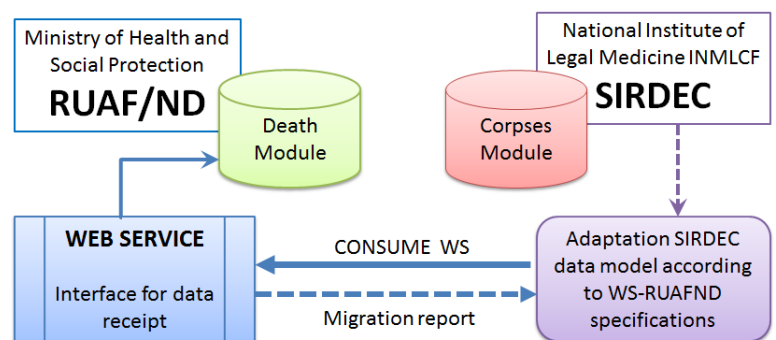
The SISPRO has developed several subsystems that manage and provide information autonomously at the same time that behave as sources of information in the large data warehouse and interact with the rest of registry and databases within the system to provide new information.

At the same time, advances in line with the Open Data policies promoted by Digital Government, improving the standardization and semantic interoperability, the integration of new sources, the use of new forms of technology for the manipulation of data under the concept of massive data (big data), and the production of integrated information services with the goals of the health system and the needs of the users.

www.minsalud.gov.co / www.sispro.gov.co

Example 1. Interoperability for improvement death registration in Colombia

A web service allows the automatic migration of data of deaths certified by the legal medical system, from its Information System Network of Missing Persons and Corpses (SIRDEC), toward the registration of Births and Deaths of the Unique Register of Affiliates to the Social Protection System (RUAF/ND). As of May 2017, automatic transfer started to provide simultaneous real-time information at the time of receipt and registration of the corpse in the SIRDEC.



The main effect of the automatic migration of information SIRDEC-RUAF/ND shall be the correction of the default estimated at 12% and the lack of timeliness and completeness of the mortality data.

Example 2. Interoperability to connect people with better health care

Since April 2017, enters in operation the application MIPRES through which physicians and other health professionals can do the prescription of health technologies and services not covered by the plan of health benefits, self-regulating manner without the need of authorizations, respecting the professional autonomy and promoting for the right to health and well-being of patients, while simplifying the procedures for the recovery of such attention to the social security system. The progress made in the interoperability of the SISPRO, have allowed to structure a service to citizens and to the system, which quickly validates the information required for the processes of prescribing, dispensing and recovery by cross checking with the different subsystems integrated into the SISPRO.

INTEROPERABILITY WITH OTHER INFORMATION SUBSYSTEMS INTEGRATED IN SISPRO

Prescription reporting subsystem for health services and / or technologies not covered by the health benefits plan from the Capitation Payment Unit (MIPRES Non-POS)	Transactional Administration System (SAT)	National Registry of Human Talent in Health (ReTHUS)
		Unique Affiliate Database (BDUA)
		Exceptional Regime Database (BDEX)
		National Registry of Civil Status (RNEC)
		Evolution ID (correspondence between user / identifiers)
		Unique record of victims (RUV)
		List of authorized suppliers for direct payment
		Non-POS Prescription Number
		Special Registry of Health Service Providers (REPS)
		Birth and Death Register (RUAF / ND)
		International Classification of Diseases (ICD)
		Unique Classification of Health Procedures (CUPS)
Transversal encodings		Unique Drug Code (CUM)
		Codes for nutritional products and complementary services

Acknowledgements or Notes

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M É X I C O

The value of clinical data interchange among different Healthcare Providers

16-21 October 2017
Mexico City, Mexico

C713

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Hospital Clínic - University of Barcelona. Barcelona. Spain
Members of the Barcelona-Spain CC

Abstract In 2006 a task force group was committed for a radical redesign of the healthcare in an area of Barcelona with a population on 600.000 inhabitants with a focus on the improvement in the relationship between Primary care (PC) and Specialized Care (SC) for a better integrated care for the population. Twenty-three centers were involved. They belong to nine different HCO: three hospitals, one SC outpatient clinic and six PC organizations. Initial analysis resulted in a high heterogeneity in the degree of technological investment, development and maturity in the use of EPRs by the professionals. An interchange platform was developed using structured xml files with clinical content based on standard HL7 v2.5 messages. After 10 year of real experience in the use of such project several scores demonstrated the benefits in terms of quality of care of the population. The other big achievement has been the standardization of the clinical processes in this area. A good Governance model of the different ICT departments involved, based upon professionalism, leadership and transparency, is a key point for the success. The regional model restricted to several districts of the city of Barcelona has evolved to a broader platform connecting all the Healthcare Organizations (HCO) and centers of the Catalan Public Health

Introduction

In 2006 the Catalan Health Authorities gave a mandate to the HCO to offer an **integral health care** to the population in a territorial framework **by effective coordination between institutions and health care professionals**. The patients and PC physicians complain about poor communication among HC professionals, delay in diagnosis and treatment, destination to SC by chance, technical resources always at the Hospital and absence of patient's clinical information of the hospital episodes. Previous Top-down experiences abroad Catalonia had failed.

Methods & Materials

Twenty eight HC facilities belonging to **seven different HC providers** with 23 PC centres, 2 outpatient SC centres and 3 hospitals.

The first task was to define the **governance model** and the organization of the Information and Communication Technologies (**ITC**) **working group**. About 400 HC professionals were directly involved, **56 in the ITC WG**. The main tasks of the process were:

1. Agreement and comprehension of the redesign of the Healthcare model proposed by the Clinical team
2. Establish the common ground and the departure situation in all the aspects related with ICTs
3. Select and agree a feasible technology to achieve the goal
4. Develop a project plan according to the priorities and milestones agreed in the Board of Directors

Results

The Clinical team decided a radical redesign of the relationships among PC and SC with a closer physical relationship and new patients' flows regulated by clinical protocols based on scientific evidence and agreements with the managers of the HC organizations. were appreciated in **Very BIG differences in ICTs** size, complexity, power, technology, culture and organization.

Decision about ICTs systems plan was to leave each provider's EPR system connecting and integrating clinical info through an asynchronous and fast interchange system of meaningful clinical messages based on the HL7 v 2.5 technical interoperability standard

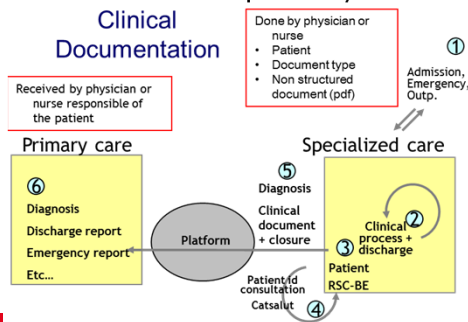


Chart 1: Clinical documentation interchange among SC and PC

All the EPRs of the different HCOs were integrated. It speeds-up the process of investment and maturity in the use of EPR in those HCOs with a worse departure situation. The overall system supports the full information cycle of several clinical processes: patient referral from PC to SC, the request for specific procedures from PC to SC with the return of the report and images, the communication to PC of the admission of a patient at the Emergency ward and the return of the discharge reports, and the teleconsultation in Dermatology. All the messages are generated and fully integrated in all the different EPRs of the nine HCOs. Since January 2010 until May 2017 statistics showed a total of 523360 requests from PC to the SC centers, 877.575 professional activities done over the patients, 1.139.779 relevant clinical documents and 116.374 images. All of these transactions are the result of standardize and improve existing workflows using ICTs. Outstanding results have been the startup of Teledermatology, a new service made possible through ICTs. Quality of the images provided by the PC physicians were good enough in 94,3% of the cases. Delay in the SC answer has been reduced to 1,84 days and avoiding more than a half of the SC visits at the hospital (58,2%).

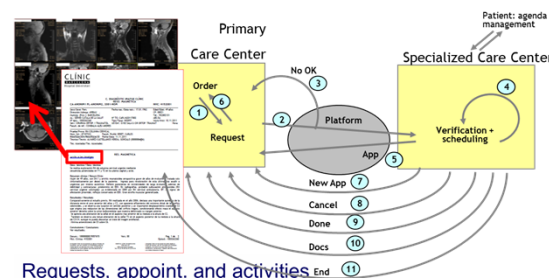


Chart 2: Clinical messaging and request of resources from PC to SC with complete communication cycle.

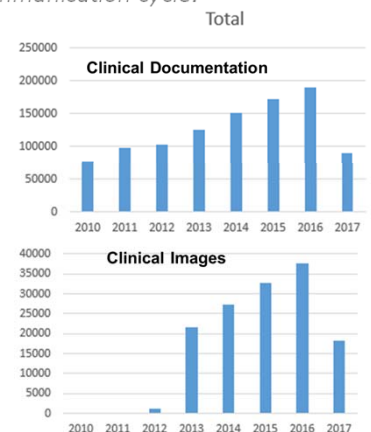


Chart 3: volume of clinical information fully interchanged between PC to SC

Conclusions

It's possible to redesign an improve healthcare processes with ICT support **Key factors** for success are: strong leadership, good governance with transparency, professional involvement, agreements among partners and professional methodology **Return of investment** includes more things than savings or revenues: better quality of care, big field for research and growth of new ideas, stimulus for organizational development and improvement and trust to afford new objectives **Positive feelings** of the team involved: milestones reached with project accomplishment, professional acknowledgement because real added value has been obtained and patient's reconnaissance because they recognize that **"Healthcare has improved"**

Acknowledgements or Notes

The authors want to acknowledge the collaboration in this projects of all the members of the Working Group of Technologies of AISBE-Consorci Sanitari de Barcelona: ANTOJA; GABRIEL; AYALA; PILAR; BARAHONA; MARTA; BAISSELLS; EDUARDO; BOIXADORS; ANNA; CANO; PAU; CARRASCO; MARTA; CORTES; PERE JOAN; COSIALS; DELFI; DE LA PRIETA; TONI; DURAN; FRANCESC XAVIER; ELORDUY; MARTA; FERNANDEZ; CARLES; FERNANDEZ; DAVID; FRANCO; CARMEN; GARCIA; AGUSTI; GARCIA; ANTONIO; GARCIA; LLUIS; GARCIA; LUCIA; GARCIA; MIQUEL A; GOMEZ; JOAN; GOMEZ; MONICA; GONZALEZ; EUGENIA; GONZALEZ; MIQUEL; GRAU; MARIBEL; GUANYABENS; JOAN; GUJARRO; ANNA; HERRERA; GUILLEM; LABORIA; MIQUEL; LAGES; JOAN FRANCESC; MARMOL; JOSEF; MARTINEZ; MAURICIO; CANDIDO; MIRET; ALBERT; MORELL; XAVI; OLMOS; MARCOS; ORTEGA; ANDRES; PARICIO; SUSANA; PASTOR; XAVIER; PIERA; GLORIA; PINDADO; MAXIMO; PRATS; ROSA; REIG; MIQUEL; RODRIGUEZ; IGNASI; ROVIRA; MARIA; RUANO; JOAN; RUIZ; LUIS; SABATA; MARC; SANCHEZ; ENCARNA; SARQUE; VANESA; SERRA; ESTHER; TORRELLA; MIRIAM; TORRENT; JOSEF; USTRELL; JOAN; VILLAR; JESUS; ZAPATERO; ROGER