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Electronic Tools Committee: Annual Report 2009

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Introduction

At the WHO Centre Heads Meeting in Cardiff in October 1999 it was agreed to convene a committee to support WHO and the WHO Collaborating Centres for the Family of International Classifications in developing policies on electronic classification tools and their dissemination. This is the 10th annual report of the Electronic Tools Committee (ETC) to summarize the work of the committee in 2008/2009.

The terms of reference of the ETC are printed in Appendix A.

List of work in 2008/2009

The ETC continued its work on the Classification Toolkit (CTK) and conducted a two days meeting of a small group of experts to start collaboration between the German and the Italian centre to include ICF style sheets in the CTK. The Italian centre agreed to create style sheets for the CTK for HTML and pdf/odt generation. (For previous steps in development of the tool see “Achievements in previous years”)

As well it was discussed that it should be made possible to include different languages in the CTK output generation without having to bother with the source code. DIMDI already started to work on this problem.

ClaML, the standard WHO-FIC exchange format for classifications, was as well discussed and the need to add some more precise documentation on how to use ClaML for WHO-FIC classifications in order to be able to maintain them with the CTK.

The Italian Centre will develop such implementation guide for the use of ICF to be ready for the 2009 Network meeting. The documentation for the use of ClaML for ICD was submitted as a paper for the 2008 meeting in India. This paper will be revised and resubmitted in order to be in line with the implementation profile for ICF.

Legal formalities concerning the CTK distribution are underway between WHO and DIMDI. Provided that these are finalized by September 2009 a version 1 of CTK will be available at the 2009 network meeting. If legal formalities will not be finalized by the end of September another beta draft will be available for testing purpose.

One of the Co-Chairs participated in the work of the TAG HIM. The aim of this overlap is to make sure that tools and formats in use for the current classifications will be still usable for future classification versions.

Achievements in previous years

List of tools

During the first meeting ETC participants listed all tools known to them and grouped them into a framework (Appendix B). It was agreed to survey all Collaborating Centres to get more detailed information on the existing tools.

Web Site

A web site has been set up to distribute information about the Electronic Tools Committee and results of its work. It is accessible at

<http://www.dimdi.de/en/klasi/koop/who/etc/index.html>

Survey on ICD-10 related electronic tools

The ETC agreed on the following definition of an ICD-10 related electronic tool:

"Software for production, maintenance, and application of ICD or for processing and evaluation of data coded with ICD. Electronic tools can be based on standard software, but need some extra functionality."

The survey is available from the ETC website at

<http://www.dimdi.de/static/en/klasi/koop/who/etc/index.html#survey>

Electronic version of ICD-10

Together with the relaunch of the DIMDI web site in August 2002, web pages with restricted access for WHO and Collaborating Centres were implemented. Staff of WHO and Collaborating Centres were given a password. These pages give online access to the three volumes of ICD-10 in English (including annual updates up to 2008) and in French.

During the 2003 WHO-FIC Network Annual Meeting it was decided that the online version of the Tabular List should become available for everybody. Thus it was moved to the public access area of the DIMDI web server. Meanwhile, all versions are available on the WHO web server. The URL for the current version is

<http://www.who.int/classifications/apps/icd/icd10online>

Older versions are available at

<http://www.who.int/classifications/icd/icdonlineversions/en/index.html>

Furthermore, the following files of the electronic versions 2002 to 2008 are available for WHO and Collaborating Centres only:

Volumes I, II and III are available in MS-Word and pdf formats (used by WHO for book production. Codes and titles with links to the ICD-10 blocks and chapters and with links to the Special Tabulation Lists are available (so-called metadata). They can easily be imported into a relational database.

Plain ASCII files with the text of volumes I and III are also available.

The HTML version of Volume I for web servers is also available for stand-alone PCs.

The Australian Collaborating Centre has developed an eBook based on the technology used for ICD-10-AM and based on the files of this electronic version. This eBook was presented at the 2004 Meeting in Reykjavik.

Maintenance Environment for WHO-FIC Classifications

At the 2003 meeting in Cologne high priority was given to the implementation of a maintenance environment that can be used to update and publish the WHO-FIC classifications. It should be suitable to deliver the classifications on paper, on electronic media and via the Internet and should be capable to generate crosswalks between the different versions of a classification.

Via email communication between WHO and DIMDI and in a face-to-face meeting between WHO and DIMDI on June 22, 2004 in Cologne the basic functionalities of such a tool were defined. It was decided to use XML as the format for data storage. Meanwhile, work on this definition has been completed and an XML Schema for WHO-FIC classifications based on the Classification Markup Language ClaML was endorsed at the 2005 Meeting in Tokyo. Collaborating Centres were recommended to implement import and export filters between the XML Schema and their local systems. The XML Schema and sample files are available from the DIMDI website at

<http://www.dimdi.de/static/en/klassi/koop/who/etc/index.html#repxml>

In early 2006 the XML Schema for WHO-FIC Classifications was submitted to the European Committee for Standardization (CEN) in order to establish a European standard. The enquiry phase lasted from April 27th until September 27th. On September 5th of 2007 ClaML was accepted as European Norm by CEN.

Work on a maintenance and publication tool based on this XML Schema was started by the German CC. The specification of the functionalities for the tool was completed and discussed with WHO staff on April 11, 2006 in Cologne. Programming of the tool was started on May 2, 2006. A paper on the progress will be presented during the ETC sessions. As this new tool is able to handle all WHO-FIC classifications the prioritized item of getting ICF in the work plan was achieved.

WHO and DIMDI agreed on a modus to share the development costs of the maintenance and publication tool so that it can be made available for free to the WHO-FIC collaborating centres.

At the 2007 meeting the ETC prepared a workshop on the Classification Toolkit (CTK). More than 20 participants were demonstrated the features of the KlasseTool and were instructed on how to use the tool. A beta version of the CTK was provided for further evaluation.

In order to facilitate discussions an e-Mail account was created and used by the testing countries (ctk@dimdi.de).

At the end of February a revised beta-version was provided to the test-countries.

For the 2008 Meeting in Delhi, India, a new beta-version was prepared. It now includes a crosswalk generator and editor and was extensively tested for the ICD-10.

ICD-10-XM

WHO has prepared a 'map' of ICD-10 from electronic copies of the national modifications. As almost all modifications came in different data formats this task could only be achieved by manual work and turned out to be rather difficult. For that reason inclusion and exclusion notes could not be included in this comparison.

Thus, for ICD-10-XM it is essential that the Collaborating Centres can provide their national modifications in a uniform data structure. The XML schema mentioned above can serve as such a uniform format and will facilitate the comparison of national modifications considerably.

In the 2006 meeting it was discussed that the full extend of ClaML poses a problem to some Centres as they do not maintain their classification in such high granularity. Therefore, a minimalised ClaML schema (so-called ClaML light) was developed and distributed through WHO in order to at least collect the basic information of the various modifications in one format. Still, it was emphasized that the use of the CTK will only be possible with the full use of ClaML.

Conclusions

The ongoing work of the ETC during the year focused on moving forward to unified data exchange models and better maintenance and publication standards and tools.

Annex

Papers

The following papers have been developed by Committee members so far:

Stahl C, Walker SM, Garrett C, Truran D, Roberts R, Schopen M: Electronic Maintenance of Clinical Classifications: Comparing Two Approaches. WHO/GPE/ICD/C/00.33

Rosenberg HM, Kochaenk KD Minino A: Update: International Collaborative Effort on Automating Mortality Statistics. WHO/GPE/ICD/00.70

Casey R, Hargreaves J: Mortality and Morbidity Data Dissemination Via Interactive Data Cubes – a new initiative. WHO/GPE/CAS/C/01.63

Berglund DJ, Fisher LJ: Developing a Database Version of the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Clinical Modifications (ICD-10-CM). WHO/GPE/CAS/C/01.65

Schopen M, Pavillon G, Pickett D: Dissemination Policies for ICD-10. WHO/GPE/CAS/C/01.23

Caulfeild D, Renahan M: Development of ICD-10-CA and CCI in Database Format. WHO/GPE/CAS/C/02.36

Jakob R: Data restructuring for the German translation and the maintenance of ICD-O-3 WHO/GPE/CAS/C/02.42

Schopen M: Consistency Checks for the Maintenance of ICD-10. WHO/GPE/CAS/C/02.43

Schopen M, Nelson SJ: ICD-10 and the Unified Medical Language System (UMLS), WHO/GPE/CAS/C/02.44

Innes K, Saad P, Roberts R: Modelling ICD-10-AM. WHO/GPE/CAS/C/02.65

Caulfeild D, Renahan M: Lessons Learned throughout the Development of Electronic Databases for ICD-10-CA and CCI in Two Languages. WHO/HFS/CAS/C/03.65

Ten Napel H, van der Haring EJ: Dutch ICD-10 and ICF in a CEN Technical Standard Format for version control and maintenance. WHO/HFS/CAS/C/03.35

Ten Napel H: Applicability of Dutch ICD-10 Electronic tool for publication of ICD-10 updates and control of derived and related classifications. WHO/HFS/CAS/C/03.36

Schopen M: Report on the XML Version of ICD-10. WHO/HFS/CAS/C/03.108

Hoelzer S, Schweiger RK, Liu R, Rudolf D, Rieger J, Dudeck J: XML Representation of Hierarchical Classification Systems. WHO/HFS/CAS/C/03.95

Anderson RN, Notzon FC, Kochanek KD, Miniño AM: International Collaborative Effort on Automating Mortality Statistics: Report of the Third Plenary Meeting. WHO/HFS/CAS/C/03.27

Schopen M: Towards an Electronic Version of ICD-10 - A Status Report. WHO/HFS/CAS/C/03.27

Schopen M, Weber S, Bröenhorst S, Üstün TB, Celik C: Maintenance and Publication Tool for WHO-FIC Classifications WHO/FIC/04.039

Schopen M, Krause B: Nomenclatures and Thesauri - Alternatives to the ICD-10 Alphabetical Index? WHO/FIC/04.040

Ten Napel H, Zanstra P: The on-line Response Centre for WHO-FIC Classifications - structured information gathering and sharing for maintenance, revision, updating, version control and needs assessment - WHO/FIC/04.041

Schopen M, Roberts R, Üstün TB: ICD-10-XM WHO/FIC/04.073

Johansson LA, Pavillon G: IRIS: A language-independent coding system based on the NCHS system MMDS. WHO-FIC-2005/B.6.2

Caulfeild C: From Paper to Database - Exploring an Electronic Database Environment for ICF. WHO-FIC-2005/B.3.4

Weber S, van der Haring E, Bröenhorst S, Schopen M, Zanstra P: Maintaining Medical Classifications in XML – ClaML redefined for use with WHO-FIC classifications. WHO-FIC-2005/ B.3.1

Weber S, Bröenhorst S, Schopen M: Maintenance and Publication Tool for WHO-FIC Classifications - a status report. WHO-FIC-2005/B.3.2

Weber S, Celik C, Bröenhorst S, Schopen M: How to migrate to ClaML? WHO-FIC-2006/C504

Weber S, Özer O: Language Standardization for Mortality Coding – A German approach WHO-FIC-2006/R103

Schopen M: Electronic Versions of ICD-10 – Files, Formats, Functions WHO-FIC-2006/C502

Weber S, Bröenhorst S, Celik C, Ahmed, T, Schopen M: Maintenance and Publication Tool for WHO-FIC Classifications – Proceedings in development WHO-FIC-2006/C503

Pavillon G, Johansson LA, Glenn D, Weber S, Witting B, Notzon S:
IRIS: a language independent coding system for mortality data. WHO-FIC-2007/D051p

Weber S: Explanations and Annotations for the Document-Type-Definition (DTD) of the Classification Markup Language and its use in the Classification Tool Kit (CTK). WHO-FIC 2008/00-3

Terms of reference

Purpose

Support WHO and the WHO-FIC Network in developing policies on electronic classification-related tools and their dissemination.

Functions

Agree on the scope and definition of 'electronic tools'

Cover tools which are only for morbidity, mortality or functioning as well as ones with a more general application or for joint use

Work closely with other WHO-FIC Committees, such as the Education Committee, on overlapping areas

Establish liaison with other organizations/groups working in electronic classification such as the ICE on Automating Mortality Statistics, the Eurostat automated coding group or the UN Expert Group on International Economic and Social Classifications

Establish criteria for the evaluation and accreditation of electronic classification-related tools

Survey existing tools and identify gaps

Evaluate such tools on behalf of WHO or oversee such evaluation in some circumstances

Needs assessment.

Structure and working methods

The committee should have an integrated mandate of WHO-FIC electronic tools although the nature and phase of different members of WHO-FIC may differ in different countries. The Committee should be responsible to develop generic, overall principles that will apply to all members of the WHO-FIC. If necessary different subcommittees may be formed on ICD, ICF and other WHO-FIC classifications so as to address different issues.

The structure of the Electronic Tools Committee should involve 10-12 permanent members that will primarily devote their time in actually developing methods and application of the tasks in the field.

Membership to the ETC is open to any individuals from collaborating organizations who wish to participate actively in the work and aims of the committee. They should submit their names to the Chair with copy to the WHO-FIC secretariat.

The chair should preferably be a single person to emphasize the integration of WHO-FIC implementation.

The committee shall draw up a workplan, which lists in detail aims, activities, deliverables, timelines and responsibilities.

Working methods should include e-mail and more interactive ways of electronic communication, conference calls and meetings, including an annual meeting during the WHO-FIC Network Annual Meeting. Official meetings of the committee must be held in conjunction with international WHO-FIC meetings.

Electronic Tools Subcommittees

Within the structure and mandate of the WHO-FIC Electronic Tools Committee, sub-committees for individual classifications can be established as the need arises. Sub-Committees assist and advise WHO on electronic tools matters which are specific and unique to the individual classifications.

The sub-committees shall specify the WHO-FIC Electronic Tools Committee functions for the respective classification in detailed workplans. The workplans shall list in detail aims, activities, deliverables, timelines and responsibilities

Working methods should include e-mail and more interactive ways of electronic communication, conference calls and meetings, including an annual meeting during the WHO-FIC Network Annual Meeting. Official meetings of the sub-committee must be held in conjunction with international WHO-FIC meetings.

Committee members should give a commitment to work on both, committee and sub-committee tasks.

A Framework for ICD-Related Electronic Tools

Electronic Versions of ICD-10

Electronic Index

ICD-10 Metadatabase System

Web-Version of ICD-10

WHO Multilingual CD-ROM

Automated Cause Coding Systems (Mortality)

ACME – MICAR100 – MICAR200 – SuperMICAR – Transax

Styx

SCB

DECES

Mikado

Other Applications

PesqCID

Hospital Encoding Systems

WHO Multilingual CD-ROM

Crosswalks

Relation/Mappings to other vocabularies (UMLS, Galen, Read-Codes etc.)

Software for validation, aggregation, tabulation, retrieval

Electronic Training Tools

TENDON (several languages) and other

INTERCOD

Training material in electronic form (NCHS)

Need for representation format for training cases as basis for a knowledge base

Data Capture Tools

Electronic Death Registration and Certificate

Cancer Registration

Data Entry Systems for Hospitals

Data Entry Systems for Primary Care

Analytic Tools

Geographical Information Systems

Statistical Data Dissemination Systems

Dissemination and Communication Tools

Web-Sites

Majordomos

Literature on the ICD

Other Tools

Assembly in Health Record

Optical Character Recognition and Vocal

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