WHO-FAMILY OF INTERNATIONAL CLASSIFICATIONS NETWORK MEETING 2005

16-22 October
Tokyo Japan

Linkages between the ICD and terminologies

Robert Jakob, Can Celik
WHO Geneva

P2-1

Abstract The possibility to link ICD-10 with SNOMED-CT through diagnostic terms used in the descriptions of categories in the ICD were explored. The terms were extracted from the existing descriptions in chapter V, F32 and F32 of the ICD-10 and the mental health extensions and normalised. Only 29% of 118 extracted terms had exact matches in SNOMED-CT. The ratio rose up to 93% eliminating terminological and conceptual obstacles through manual search. A considerable amount of intellectual work is needed to allow the linkage between ICD-10 and SNOMED-CT. Linking would be easier with strict terminological control during the formulation of definitions in ICD and adding terms to SNOMED-CT.

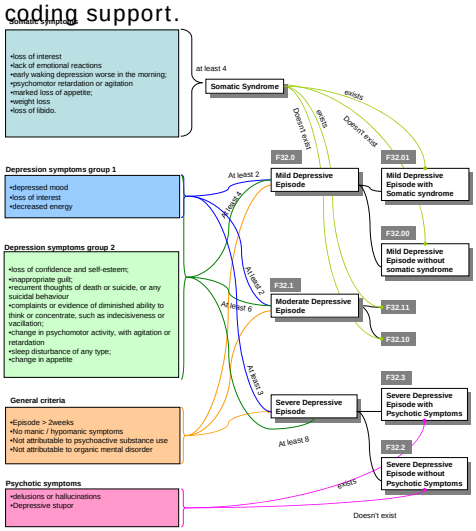
Introduction

Linkages between ICD-10 and terminologies can be implemented linking

1. Titles of ICD-10 categories
2. Terms included in the ICD-10 category
3. Index entries
4. Definitions of ICD-10 categories

to a terminology.

A linkage at the level of the definitions would provide a high degree of integration of the concepts of a classification in a terminology.
This could be used for differential diagnosis as well as for advanced coding support.



The definition framework of category F32 Depressive Episode of ICD-10

SNOMED was developed to be the sole univesal terminology in the field of medicine. The new SNOMED CT incorporates clinical terminology. These clinical terms are pre coded to render easier the access to the multiaxial system of SNOMED. Terms of the categories of ICD-10 as well as inclusion terms and some of the definitions existing in chapters of the ICD have been integrated as concepts in SNOMED-CT.

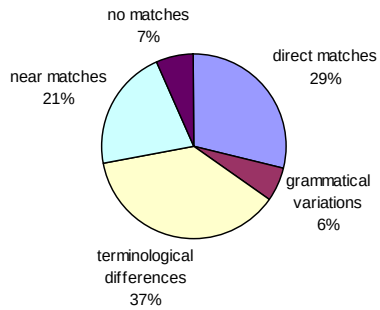
We wanted to explore, whether a linkage between ICD-10 and SNOMED CT via these diagnostic terms would be feasible.

Methods & Materials

Materials

The investigation was based on the diagnostic terms contained in the definitions of the categories F32, Depressive Episode and F33, Recurrent Depressive Episode in ICD-10, 2nd edition, the "ICD-10 Classification of Mental and Behavioural Disorders, clinical descriptions and diagnostic guidelines" (Blue Book), the " The ICD-10 Classification of Mental and Behavioural Disorders, diagnostic criteria for research" (Green Book) and the "Diagnostic and management guidelines for mental disorders in primary care : ICD-10. Chapter 5, Primary care version".
For the test SNOMED-CT, version January 2005 was used.

Corresponding Terms between ICD-10 (F32 and F33) and SNOMED (n=118)



Methods

The diagnostic terms were extracted from ICD. They were indexed if they had a specific and independent meaning in the definition of depression. The terms were stored in a database standardized for case (nominative) and number (singular) provided there was no change in the meaning. Lists were split into single terms.
The entries were checked for duplicates and for spelling mistakes.
Their matching to the entries in the table sct_descriptions in SNOMED-CT was tested. Lower and upper case were treated to be the same. Only exact matches to current (Field DESCRIPTIONSTATUS = 0) SNOMED-CT terms were taken into account.

Results

118 terms were extracted from the material and matched with SNOMED –CT terms
The automatic matching is tricky, because terms can appear within different concepts,
e.g. Depression:

- depressive disorder
- depression - motion, descriptor
- mood finding

The quality of the results had to be verified manually using the *CLUE-5 Runtime Terminology Browser for SNOMED-CT.*
Several obstacles as near matches, differing terminological definitions, terminological inaccuracy, terminological variability and grammatical variability impeded automatic matching between the definitions of Depressive Episode in ICD and terms in SNOMED-CT.
Only manual search using the *CLUE-5 Runtime Terminology Browser for SNOMED CT* provided a satisfactory ratio of matching terms.

Conclusions

- The majority of the terms currently in use in the diagnostic definitions of the ICD-10 categories F32 and F33 can be linked to the terms in SNOMED-CT.
- Such linkages require considerable intellectual work.
- An automated linking or an automated verification of linkages between ICD-10 and terminologies as SNOMED-CT is not feasible, at present.
- This situation could be improved imposing a strict terminological control for the definitions in the classification and adding terms to SNOMED-CT