Minutes of the
OECD-Eurostat-WHO meeting on a harmonised morbidity shortlist
for use in hospital discharge statistics

Meeting held in Luxembourg, 31 January 2005

Participants

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1. Background

Based on the work carried out by the Core Group and Technical Meeting CARE, it was decided at the 2004 Working Group on Public Health Statistics that the Eurostat routine data collection on hospital statistics is to be further developed.

With regards to hospital discharges (by diagnosis, age and sex), the need to improve data collection was identified. Currently, several data collections exist, each of them using different shortlists for diseases: Eurostat, OECD, WHO, and the Hospital Data Project (HDP, funded by DG SANCO). It was decided that a meeting should be organised in order to decide on a common shortlist of diseases to be used in all routine data collections because the alternative – launching a three-character ICD collection as suggested by WHO-Euro – is not possible due to confidentiality concerns for at least 2 countries. (For additional information about the reasoning of having a shortlist, see below in chapter 4).

2. Objective of the meeting

The objective of the meeting was to agree on a feasible common Eurostat/OECD/WHO shortlist for diseases to be used in the routine annual collection of hospital discharges by all three organisations. The purpose of the shortlist is to provide a meaningful basis to analyse the distribution of hospital activity across countries.

3. Existing shortlists

The existing lists were reviewed in terms of underlying aims and principles.

1) OECD
The current OECD list was established in the 1990s. It comprises 40 (groups of) diseases. The criteria to choose these groups were mainly frequency in hospital discharges and importance of the diseases. OECD indicated that they are interested in extending the list but the idea of
having a shortlist should be kept. Before a new list can be used in data collection it needs to be discussed and agreed with their data providers (annual meeting in autumn each year).

2) Eurostat
The current Eurostat list was established in the late 1990s. It comprises 62 diseases and disease groups. The main criteria to choose the groups were frequency in hospital discharges and importance of diseases on the one side. Several less frequent diseases were included due to a demand from the policy side. Data availability and compatibility of the shortlist with ICD-10 and ICD-9 also influenced the establishment of the list.

3) Hospital Data Project (HDP, funded by DG SANCO)
One major objective of the HDP was to suggest a shortlist for comparing data on hospital discharge diagnoses. The list should be suitable for comparative hospital activity analysis within the European Union. It should provide a meaningful combination of ICD codes to facilitate standardised analysis, comparisons and dissemination of reported hospital discharge data.

In a first approach, several existing diagnostic shortlist were reviewed. However, it was not possible to piece together a new shortlist based on groups common to existing shortlists. Therefore, a data driven approach was chosen: A series of principles for creating groups was developed, and three-character ICD-10 data from three test countries (France, Sweden, UK) were analysed in order to build a new shortlist.

The most important principles for creating the groups were the following:

- Groups should be based on ICD-10 codes (but with a possibility to be defined also by ICD-9).
- Only three-character codes from ICD-10 should be used for defining groups (but decimals may be used in the definition of corresponding ICD-9 codes).
- The most common three-character codes may be used as groups in their own right.
- When single-code presentation is not warranted, closely related groups should be brought together. In certain cases the structure and content of ICD-10 makes it necessary to combine codes.
- The main condition defined as in ICD-10 should be the condition used for the grouping. If a dagger-asterisk combination is used as main condition, the grouping has to be based on the dagger (etiology) code.
- Injuries will be coded according to nature of injury (chapter XIX of ICD-10). External cause codes (chapter XX) will not be used for the diagnostic shortlist but could be used for separate reports on external causes of injury.
- Single codes and groups of codes should be chosen based on frequency and importance from a hospital activity analysis point of view and for public health importance.
- The list should be able to show important differences between countries in coding and registration and should not conceal such differences.
- The list should be hierarchical and groups should be possible to combine to ICD-10 chapters.
- Remainder groups have to be created within chapters to bring together codes not chosen for separate presentation. (These remainder groups may not be clinically or otherwise meaningful but are useful for validating tabulation at chapter level and for the grand total. Such remainder groups should be limited in size, as far as possible.)
There should be an overall remainder group for unknown and unspecified causes of morbidity, which has to include cases with invalid codes and cases without a diagnosis. (The size of this group is important as a quality check.)

These principles were applied on the test data from France, Sweden and UK (and later also on ICD-9 data from Ireland). Based on the results, a provisional recommended shortlist for diagnoses was presented to the HDP. Discussions at the meeting and comments from some EU Member States resulted in some minor changes. The final recommended list is included in the final report of the HDP.

The final recommended list was then used in test data collection in 12 EU countries, Canada and Iceland. The results of the test data collection were available to the meeting and referred to in the discussions. A list with comments on each shortlist group and its reasoning was also on hand.

4. Discussions

Based on the explanations of the principles of the HDP shortlist the meeting discussed whether this shortlist could be the base for future routine data collection by Eurostat/OECD/WHO or whether another shortlist would need to be developed. In summary, it was concluded that the principles of the HDP shortlist are sound and that the HDP list can be agreed on in principle but also needs to be reviewed in detail to see if changes are needed (for agreed changes see chapter 5 below).

The following summarises the main issues that were discussed at the meeting and that led to the acceptance in principle of the HDP list:

*Why a shortlist?*

WHO-Euro had suggested collecting hospital discharge data at the three-character level of ICD-10. This would allow each organisation to aggregate data according to their specific needs. The feasibility of this approach had been investigated by means of a short questionnaire sent out after the 2004 Eurostat Working Group Public Health Statistics. However, several countries indicated that it will not be possible for them to provide data at this level of detail (confidentiality issues, data availability). Therefore, a feasible common shortlist for data collection needs to be agreed upon. Another argument for using a shortlist developed by experts is to provide users with meaningful groups for analysis. Moreover, while data could be collected at the three-character level and then condensed into the shortlist groups for dissemination, for some indicators (such as the median as best measure for the length of stay) it would not be possible to calculate the indicator at shortlist level when three-character data are provided.

*How long should the shortlist be?*

The current lists vary in the number of groups (OECD: 40 groups, Eurostat: 62 groups, HDP: 148 groups). It was therefore discussed what a “reasonable” number of groups for a shortlist would be. Considering the HDP shortlist for future collection, concerns were expressed how data respondents of OECD and Eurostat would react to a substantial increase of the number of

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1 For additional information: the HDP report is available at the DG SANCO website, projects funded in 2000, http://europa.eu.int/comm/health/ph_projects/monitoring_project_en.htm
2 While the HDP included one-day-cases, the data shown in the tables on hand at the meeting refer to in-patient only.
groups. It was emphasised that one of the major objectives of the HPD was to find a feasible list for data collection. At the beginning of the HDP, the question of a feasible number of groups had been discussed, and it was concluded by the experts that any shortlist should not have more than 150 groups. Furthermore, the HDP list contains more than 20 residual groups (remainder groups within ICD chapters) which are mainly there for consistency and completeness; these are important for data collection but can be left out for dissemination purposes. In terms of content, Professor Smedby argued that it would be rather difficult to decrease the number of groups of the HDP shortlist since they have been chosen on the basis of the principles agreed by the experts (see above). Twelve EU countries were part of the HDP and accepted the HDP shortlist for data collection. The HDP respondents (who are the same as Eurostat respondents) indicated that they prefer the use of one (even relatively detailed) shortlist rather than having to provide data for different shortlists to different organisations. A few countries and organisations already decided to use the list (NOMESCO and thus the Nordic countries, Statistics Netherlands). WHO-FIC has discussed the list but no final decision has been taken yet. In conclusion, a shortlist with up to 150 groups seemed to be acceptable although it was noted that this would initially at least increase the data collection burden on national data providers and the data validation burden on international organisations. In addition, some concern was expressed for data analysis. The longer the list the more complicated, time and resource consuming the data checking, analysis and dissemination will be. So the length of the list depends to some extent also on the available means in the respective organisations.

International comparability vs. national differences in coding
While the OECD agreed with nearly all the principles that were used to construct the shortlist under the HDP project, it questioned whether the principle that “the list should be able to show important differences between countries in coding and registration and should not conceal such differences” was really appropriate for the selection of a shortlist of diagnostic groups for the purpose of routine data collection by international organisations. OECD argued that a list that reveals coding differences might be of relevance for a research project but is not appropriate for routine data collection. For the purpose of routine data collection, the emphasis might rather be on selecting diagnostic groups where such comparability problems are less important. However, currently there are no European coding guidelines, and the HDP identified some substantial coding differences between the countries. Therefore the list contains some groups which are “problematic” in terms of comparability (e.g. the list contains groups such as both 0102 and 1110 to overcome different coding of Diarrhoea NOS, as well as both 0505 and 0601 to overcome differences in coding of dementia). It was argued by Professor Smedby that at this early stage of hospital activity analysis we need to highlight the comparability issues, hoping for greater comparability through demonstration of where there are problems and working for common guidelines for coding and registration. In conclusion, the majority of the meeting agreed to keep these groups and to highlight the comparability issues. A possible solution could be that the list for dissemination of discharge data might slightly differ from the list of collecting these data in order to take identified comparability issues into account.

Hospital activity vs. diseases
Another consideration was whether the shortlist should comprise only groups that do not reflect differences in treatment. This led to the more general question what hospital discharges aim at – hospital activity or morbidity. It was agreed that the main objective should be to measure hospital activity. Here, differences in numbers can reveal differences in organisation of health care, in admission policy, and in treatment as well as possibilities to reduce costs in
treatment. A number of groups, e.g. 1303 Internal derangement of knee (M23) and 1107 Inguinal hernia (K40) which have day-surgery potential reflect this. The meeting acknowledged the interest of other groups (such as ECHI) in hospital discharge data for the measurement of disease prevalence but emphasised that hospital statistics can in any case only be an incomplete source for this data demand and should above all measure hospital activity. Differences may lead to hypothesis requiring further investigation for explaining the reasons of the differences, e.g. differences in treatment.

On coding of external causes
In the proposed HDP list, injuries etc. are only covered through chapter XIX codes (S and T codes), with no additional coding by external cause (chapter XX – V to Y codes). It was discussed whether additional coding by external cause should be recommended (e.g. to allow linking to mortality) but it was concluded that it should not. Main reasons are that ICD-10 chapter XX is not considered to be very appropriate by injury experts and that for care purposes the coding by injury is more meaningful (which also results in more reliable coding). To ensure the completeness of reported discharge data, it was agreed that if ever some countries use only chapter XX codes to register certain patients, they should be advised to report these cases with the unknown and unspecified causes (group 1803). The important thing is, however, to get countries always to register codes reflecting the nature of injury as the main diagnosis. With regards to coding of external causes, the HDP actually recommended additional (double) coding of injuries using Chapter XX for external causes and suggested a special shortlist for these codes. However, these are not part of the diagnostic shortlist being discussed at this meeting.

5. Conclusions on the HDP shortlist

Based on the discussion outlined in chapter 4 it was concluded that the HDP shortlist should be the starting point for a common Eurostat/OECD/WHO shortlist. It was agreed that the HDP list was soundly established and provides meaningful groups. If adopted, it was also agreed that it should be kept for several years, at least up to the introduction of ICD-11.

After this agreement in principle on the use of the HDP shortlist for common Eurostat/OECD/WHO data collection, the list was examined in detail and the justification of each group discussed. This in-depth review resulted in the following changes:

- in chapter II: extension of the coverage of groups 0201 and 0202;
- in chapter VI: adding 0602 Multiple sclerosis, accordingly changing the successive code numbers and merging former 0604 Cerebral palsy and other paralytic syndromes with 0605 Other diseases of the nervous system;
- in chapter XXI: care of healthy newborns should be included in discharge data (Z38)

A summary of the main issues discussed for each chapter is provided in the following.

**HDP shortlist for ICD-10 Chapter I: Certain infectious and parasitic diseases**

No changes

Some of the chapter’s groups show a low frequency; their inclusion in the list is justified through their public health importance (e.g. tuberculosis, HIV/AIDS).

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3 WHO foresees ICD-11 for 2011 but the actual introduction most likely will be later than that.
Code 0102 (Diarrhoea and gastroenteritis of presumed infectious origin, ICD-10 A09) was included because A09 is common as single code in some countries. In England, however, these conditions are coded to K52 (following the ICD-10 note to A09) which makes K52 a common single code there. A09 and K52 should therefore be considered simultaneously in comparative analyses.

**HDP shortlist for ICD-10 Chapter II: Neoplasms**

The **following changes** were introduced:

Code 0201 Malignant neoplasm of colon (C18) was extended to Malignant neoplasm of colon, rectosigmoid junction, rectum, anus and anal canal (C18-C21).

Code 0202 Malignant neoplasm of bronchus and lung (C34) was extended to Malignant neoplasm of trachea, bronchus and lung (C33-C34).

Accordingly, the coverage of 0209 Other malignant neoplasms will change.

With these extensions, the groups are in line with the existing Eurostat and OECD lists. For both 0201 and 0202, the (extended) codes are closely linked in terms of content and bringing them together in one group creates a homogenous entity.

All other groups in this chapter are justified through their frequency and public health relevance (e.g. 0210 Carcinoma in situ, i.e. pre-cancer). Groupings of ICD-10 codes are based on content.

**HDP shortlist for ICD-10 Chapter III: Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism**

**No changes**

ICD-10 codes grouped for content.

**HDP shortlist for ICD-10 Chapter IV: Endocrine, nutritional and metabolic diseases**

**No changes**

ICD-10 codes grouped for content.

**HDP shortlist for ICD-10 Chapter V: Mental and behavioural disorders**

**No changes**

It was recommended to maintain this chapter as it is. However, particular concerns with regards to coding and coverage (treatment rather in specialised hospitals or out-patient departments, depending on the national organisation of treatment) exist for this chapter. It is recommended that existing concerns are clearly communicated together with any data disseminated from that chapter (e.g. in the metadata).
For analyses and dissemination, combining Dementia (0501) and Alzheimer’s disease (0601) might be appropriate since Alzheimer is often coded in Dementia. However, in order to keep the structure of ICD-10, single codes are listed in chapter V and VI.

**HDP shortlist for ICD-10 Chapter VI: Diseases of the nervous system**

The following changes were introduced:

A new code for Multiple sclerosis is to be inserted (0602: ICD-10 G35).

Accordingly, HDP codes change: 0603 Epilepsy (before 0602), 0604 Transient cerebral ischaemic attacks and related syndromes (before 0603).

Due to its minor relevance and its heterogeneous content, the HDP code 0604 Cerebral palsy and other paralytic syndromes can be included into 0605 Other diseases of the nervous system.

The question whether or not to include Parkinson’s disease was also discussed. However, due to its minor importance in hospital activity it was decided not to include it.

For combining Dementia (0501) and Alzheimer’s disease (0601) see above (chapter V).

All other groups in this chapter are justified through their frequency and public health relevance. Groupings of ICD-10 codes are based on content.

**HDP shortlist for ICD-10 Chapter VII: Diseases of the eye and the adnexa**

No changes

**HDP shortlist for ICD-10 Chapter VIII: Diseases of the ear and mastoid process**

No changes

**HDP shortlist for ICD-10 Chapter IX: Diseases of the circulatory system**

No changes

All groups of the chapter are to be maintained due to their frequency. Groupings of ICD-10 codes are based on content.

**HDP shortlist for ICD-10 Chapter X: Diseases of the respiratory system**

No changes

All groups in this chapter are justified through their frequency and public health relevance. Groupings of ICD-10 codes are based on content.
HDP shortlist for ICD-10 Chapter XI: Diseases of the digestive system

No changes

The amount of groups within this chapter appears substantial but at the same time, this chapter deals with the highly complex digestive system, and it makes up for a substantial percentage of hospital discharges (almost 10%).

The chapter contains several “other” categories. These should be kept for data collection (consistency and validity checks) but most of them could be omitted in dissemination. Exceptions are 1108 Other abdominal hernia and 1116 Other diseases of liver since these groups have their own meaning.

Groupings of ICD-10 codes are based on content.

HDP shortlist for ICD-10 Chapter XII: Diseases of the skin and subcutaneous tissue

No changes

It should be kept in mind that 1202 Dermatitis, eczema and papulosquamous disorder will rather be out-patient treatment.

Groupings of ICD-10 codes are based on content.

HDP shortlist for ICD-10 Chapter XIII: Diseases of the musculoskeletal system and connective tissue

No changes

The question whether or not to include Osteoporosis (M80-M81) was discussed. However, since Osteoporosis is in most cases not reported as a main diagnosis in hospitals, it was decided not to include this in the shortlist.

Most groups in this chapter qualify through their frequency. ICD-10 groupings are based on contents. 1303 Internal derangement of knee is kept due to its day-surgery relevance.

HDP shortlist for ICD-10 Chapter XIV: Diseases of the genitourinary system

No changes

The groups mainly qualify through frequency. ICD-10 groupings are based on content.

HDP shortlist for ICD-10 Chapter XV: Pregnancy, childbirth and the puerperium

No changes

For 1501 Medical abortion (which should read as in-patient legal abortion), it was remarked that this is also done ambulatory. However, data collected will show hospital activity. Special hospitals for delivery are included in most countries.
Certain biases due to different coding practices can be observed for 1504 Complications of pregnancy predominantly during labour and delivery and 1505 Single spontaneous delivery – in some countries, already minor complications lead to coding into 1504.

The groups mainly qualify through frequency. ICD-10 groupings are based on content.

**HDP shortlist for ICD-10 Chapter XVI: Certain conditions originating in the perinatal period**

**No changes**

The patient is the newborn ill child. A healthy born child should only be coded in the ICD-10 Z-codes.

**HDP shortlist for ICD-10 Chapter XVII: Congenital malformations, deformations and chromosomal abnormalities**

**No changes**

Malformations are also covered in special registers in most countries. Data from these registers will differ from hospital data.

**HDP shortlist for ICD-10 Chapter XVIII: Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified**

**No changes**

Please note that “no diagnosis” is recorded in 1803 Unknown and unspecified causes of morbidity (incl. those without a diagnosis). In order to keep the structure of ICD-10, the code for “no diagnosis” is kept here (i.e. within chapter XVIII). For quality analysis, it might be appropriate to show this code elsewhere (e.g. in a commenting text) since it provides an indication of the quality of the data reported. A high percentage of unknown diagnosis indicates less good quality of the reported data.

**HDP shortlist for ICD-10 Chapter XIX: Injury, poisoning and certain other consequences of external causes**

**No changes**

It was emphasised that for hospital data the nature of the injury (ICD-10 S00-T98) is more relevant than the external cause (ICD-10 chapter XX, V01-Y98). Data should therefore be reported for chapter XIX.

1909 Complications of surgical and medical care might be considered as quality indicator for care but underreporting can be expected.

The groups mainly qualify through frequency.
HDP shortlist for ICD-10 Chapter XXI: Factors influencing health status and contact with health services

No changes

The naming of 2102 Contraceptive management is not very obvious and needs to be improved (sterilisation is included).

2103 Liveborn infants according to place of birth were excluded from the HDP pilot data collection but should be included in routine data collection. Some countries still register healthy infants with their mothers. However, in order to reflect hospital activity, they should be counted as patients.

6. Implementation of the Eurostat/OECD/WHO shortlist

Eurostat will pilot the use of the adapted HDP shortlist in the 2005 data collection round (March/April 2005).

OECD envisages the introduction of the shortlist with its autumn 2005 data collection, after discussion and agreement with its data correspondents in September 2005.

While the HDP based common Eurostat/OECD/WHO shortlist comprises 148 groups (130 primary groups and 18 chapter sums), more than 20 of them are remainder categories. These remainder categories are to be collected in order to allow consistency checks while for dissemination they might be excluded. However, in some chapters the remainder categories have a meaning of their own since they reflect particular diseases.

In addition, while routine data collection will be made for the Eurostat/OECD/WHO list, countries are strongly recommended to collect data at three-character level of ICD-10 in order to be able to respond to emerging information needs. Please note that countries still using ICD-9 have to report some of the diagnosis as four-digit codes in order to match the groupings of the shortlist.

With regards to one-day-cases and out-patients, it is not possible to decide now if the adapted HDP shortlist is appropriate. It is assumed that the list – with some additions perhaps – might work for one-day-cases. For out-patients, it is possible that a different list might be needed. However, this was not seen to be a problem since there are no plans for out-patient data collection in the near future.