MEETING OF HEADS OF WHO COLLABORATING CENTRES FOR THE CLASSIFICATION OF DISEASES

Tokyo, Japan

15-21 October 1996

REPORT

1. Opening of the meeting

Dr. Hideyuki Sakai, DirectorGeneral of the Statistics and Information Department was introduced by Dr. Nobumasa Tsujimura, Chief of the Office of the ICD, Japan. Dr. Sakai welcomed participants on behalf of the Ministry of Health and Welfare. Dr. Sakai noted that it was exactly ten years since the previous meeting of Heads of WHO Collaborating Centres for the Classification of Diseases that had been hosted by the Office of the ICD, Japan. He outlined the improvements that had occurred in Japanese causespecific mortality data with the introduction of icd-10 in 1995, details of which would be presented to the meeting. He expressed the wish that the cooperative effort of the participants would bring tangible results and wished them a successful meeting. Dr. H. R. Hapsara, Director of the WHO headquarters Division of Health Situation and Trend Assessment thanked Dr. Tsujimura and his colleagues for the efficient and effective organization of the meeting and thanked Dr. Sakai for his welcome to participants and the secretariat. He emphasised that the International Classification of Diseases and its associated rules and guidelines are important tools to ensure the quality of data. With the increasing complexity of information systems a dynamic networking approach was required to identify clear and agreed objectives for the future, encourage the many actors in the field of health information. There must also be enhancement in the cooperation in this field in a more efficient and harmonious manner. It was therefore essential that the meeting provide the secretariat with substantive recommendations on activities to be performed in the next year with an indication of relative priorities for the medium and long term.

On behalf of Dr. Hiroshi Nakajima, Director-General of the World Health Organization and of Dr. S. T. Han, Regional Director of the WHO Regional Office for the Western Pacific, Dr. Hapsara declared the meeting officially open.

2. Election of officers

In accordance with the established practice for the host institution to provide the chairperson for Centre Heads meetings, Dr. Masahiko Okuni, Chief of the ICD Sectional Meeting of the Health and Welfare Statistics Council was invited to take the chair.

Professor M. Coleman, Dr. J. Donovan, Professor R. Laurenti and Professor B. Smedby agreed to act as vicechairpersons. Rapporteurs for the meeting were provided by the Australian, United Kingdom and North American Centres and by the secretariat.

3. Consideration and adoption of the agenda

The agenda for the meeting was adopted as presented.

4. Reports of activities

4.1 Reports of activities of the WHO collaborating centres for the classification of diseases

The Australian Centre (WHO/HST/ICD/C/96.5) announced that as from 1 July 1996 the National Reference Centre for Classification in Health located at the Queensland University of Technology had received additional funding and been renamed the National Centre for Classification in Health (Brisbane). Efforts were continuing to establish a National Centre for Classification in Health in which the Brisbane centre and the National Coding Centre at the University of Sydney would function as a joint venture. The Centre reported on progress in the development of an Australian modification of icd-10 (icd-10AM) with a procedure classification based on the Australian Medicare fee schedule and the Australian Coding Standards. Other activities related to the resolution of apparently inadequate causes of death, involvement in the development of proposals for an International Classification of External Causes of Injuries and participation in the revision process for the International Classification of Impairments, Disabilities, and Handicaps (ICIDH).

The Sao Paulo Centre (WHO/HST/ICD/C/96.6) announced that icd-10 had been introduced in Brazil for mortality proposes on 1 January 1996. The Portuguese language version of the International Classification of Disease for Oncology, Second Edition, 1990 (ICDO2) will be published at the end of 1996. The Centre had continued the development of software to select the underlying cause of death with the retention of all other causes to be compatible with icd-10. Training courses had been given on icd-10 for mortality and a video on icd-10 had been produced for libraries, medical schools etc. The Centre which celebrated its 20th anniversary in 1996, has devoted a large part of its resources to the supervision of mortality coding.

As the Beijing Centre was unable to be represented at the meeting the report of its activities (WHO/HST/ICD/C/96.7) was presented by the secretariat. The Centre had completed the translating and proofreading of Volumes 1 and 2 of icd-10 as well as the computer input work. Preparation of Volume 3 had started during 1996 and it was hoped that the work would be completed by the end of 1997, Courses had been provided on mortality statistics as well as on clinical epidemiology, medical record management and the classification of diseases and medical procedures. The Centre Heads asked the secretariat to thank the head of the centre, Dr. Dong, for the submission of the report and to transmit their expression of regret that he had been unable to attend the meeting.

The United Kingdom Centre (WHO/HST/ICD/C/96.8) informed the meeting that following the merger of the Office of Population Censuses and Surveys (OPCS) with the Central Statistical Office on 1 April 1996 a new organisation had been formed called the Office for National Statistics (ONS). In addition, ONS and the National Health Service Centre for Coding and Classification (NHSCCC) became the United Kingdom WHO Collaborating Centre. The former having responsibility for mortality data, the latter for morbidity data in the National Health Service (NHS). The Centre has an Advisory Board with representatives from the four component parts of the United Kingdom. Translation of the TENDON computerbased training software was proceeding into French and Swedish. Enquiries regarding translations had been received from China, Turkey, Germany, Poland and the Pan American Health Organization (for Spanish). A European training course for senior managers of mortality systems on the implementation of icd-10 was held in September 1996. An educational video had been produced (Death Counts) to assist doctors in understanding the importance of prompt and precise certification of the cause of death. A tool has been developed to standardize further the application of ICD9 and icd-10 in morbidity systems by mapping the thesaurus of clinical terms to those classifications. A national standard definition of "primary diagnosis" had been agreed with the NHS and would be mandatory in the NHS for morbidity purposes on 1 April 1997.

The Paris Centre (WHO/HST/ICD/C/96.9) had assisted the secretariat in the development of the Frenchlanguage edition of the threecharacter version of icd-10. The Centre had also been licensed by WHO to distribute icd-10 on magnetic support in the French public sector. An updating mechanism had been defined for updating icd-10 in French. In order to sensitize users to the implementation of icd-10 in France for morbidity and mortality purposes on 1 January 1997, a symposium had been organised in June 1996. The proceedings of the symposium will be published by the end of 1996. A first Frenchlanguage icd-10 training course using TENDON will be held by the end of the year and the experience of the course used to finalise the product. Further courses will be held in France, and on request in other countries in 1997 for both morbidity and mortality coders. Other Paris Centre activities are reported under the relevant agenda items.

The Kuwait Centre (WHO/HST/ICD/C/96.10) had prepared an Arabiclanguage version of Volume 1 of icd-10. The classification had been implemented in the State of Kuwait on 1 January 1995 for mortality and 1 January 1996 for morbidity. Plans were underway to provide training for the Arabicspeaking countries and a questionnaire had been sent to ascertain the current status of the use of icd-10 and details of the support required by the countries concerned.

As the Moscow Centre was unable to be represented at the meeting the report of its activities (WHO/HST/ICD/C/96.11) was presented by the secretariat. Volumes 1 and 2 of icd-10 had been published in Russian and sent to users. Work on Volume 3 was almost complete and the volume should be sent to press by the end of 1996. Work had also taken place on the development of icd-10 tabulation lists for general and perinatal mortality and the preparation of tables of comparability between the ICD9 and icd-10 lists. Action had been taken to popularize icd-10 and to extend the frame of its use. icd-10 had provided the basis for the development of an international project on the management of hospitalization at regional and national levels. This had included

development of a Russian clinical version of the ICD, a number of specific classifications, and automated encoding. This project became a main source for the DRG approach. A newly established obligatory health insurance will be one of the main users of this document. ICDO2 in Russian had been completed and would be published soon. The icd-10 Classification of Mental and Behavioural Disorders: Clinical Descriptions and Diagnostic Guidelines had been completed and field trials were in progress. A new classification of the consequences of diseases as a basic methodological tool for the study of the incidence and structure of causes of child disabilities in the Russian Federation had also been prepared. The Centre Heads asked the secretariat to thank the Head of the Centre, Professor Ovcharov, for the submission of the report and to transmit their expression of regret that he had been unable to attend the meeting.

The Nordic Centre (WHO/HST/ICD/C/96.12) heads a working group for the coordination of the five national language versions of ICD-10 in the Nordic countries. The group is also engaged in the development of short lists for mortality and morbidity for use in Nordic health statistics. For mortality, work has been coordinated with that of EUROSTAT on similar lists. The EnglishLanguage version of the NOMESCO Classification of Surgical Procedures (NCSP) was published at the beginning of 1996. The centre is engaged in a project for Nordic coordination of DRGs. The first phase was the development of conversion tables between icd-10/NCSP and the three volumes of ICD9CM. This was completed in June 1996. The development of a Nordic DRG grouper (NORD-DRG, corresponding to HCFA DRG Version 12) with definitions based directly on icd-10 and the NCSP was completed in September 1996. Support has also been provided to the Baltic countries and Poland in the coding of causes of death and the production of mortality statistics. Other Nordic Centre activities are reported under the relevant agenda items.

The North American Center (WHO/HST/ICD/C/96.13) had undergone a period of transition since the 1995 meeting of Centre Heads. Dr. Edward Sondik had been appointed as Director of the National Center for Health Statistics. Ms. Marjorie Greenberg had in turn been nominated as Head of the WHO Collaborating Center for the Classification of Diseases for North America. Relations between the Center and the Canadian Institute for Health Information (CIHI) had been expanded when CIHI assumed responsibility for coordinating ICIDH activities in Canada. In November 1996 NCHS will host International Collaborative Efforts on Automating Mortality Statistics, on Injury Statistics and on aging-related data. The evaluation of icd-10 for morbidity had been completed. The results were presented in document WHO/HST/ICD/C/96.25. Work had continued on developing a procedure classification to replace Volume 3 of ICD9CM. Other North American Center activities are reported under the relevant agenda items.

No report was received from the Caracas Centre.

The Office of the ICD, Japan (WHO/HST/ICD/C/96.15) reported that the alphabetical index to the Japanese version of icd-10 had been published in August 1996. The Third Edition of the Application of the ICD to Dentistry and Stomatology in Japanese is in preparation and should be completed by March 1997. Results of the effect of the implementation of icd-10 in 1995 on Japanese mortality data and on work with the ICIDH are reported under the relevant agenda items.

The Centre for Standardization of Informatics in Health Care (CSIZ), the Netherlands, took over almost all standardization activities from the WCC in November 1995 (WHO/HST/ICD/C/96.16). The CSIZ will also be active in the standardization of smart cards, electronic messages and electronic health records. WCC-related activities in 1995/1996 included publication of a Handbook for the Development of Classifications and Definitions. In October 1996, the most important projects were related to diagnostic classifications (translation and implementation of icd-10 in Dutch), disablement (revision of the ICIDH), and classifications of procedures for surgical procedures, radiology and nuclear medicine, microbiology and immunology, professions allied to health, and nursing.

4.2 Report of HST classification-related activities

The secretariat (WHO/HST/ICD/C/96.4) reported on a wide range of activities carried out in a climate of seriously reduced human and financial resources. The alphabetical index to the French-language edition of icd-10 had been completed and publication was expected in November 1996. The diskette version of icd-10 in English was published in December 1995 and work was underway on the Frenchlanguage version. Tables of code equivalencies between ICD9 and icd-10 had been prepared bringing together material from the alphabetical index databases for icd-10 in English and French, the tables prepared in England by the NHSCCC, and the results of a bridgecoding study carried out in the Netherlands. Once the documentation to accompany the diskettes was finalized copies would be made available free of charge to WHO Member States and the Collaborating Centres before being put on sale through the WHO Distribution and Sales Service. Work had continued on the development of specialtybased adaptations of icd-10 including neurology (English), rheumatology and orthopaedics (English), oncology (French), and dentistry and stomatology (French). National icd-10 training courses were provided in Iran and Mongolia. The most important of the remaining activities involved a working group to develop an international classification of external causes of injuries.

Centre Heads expressed concern at the apparent low priority given by WHO to classification-related activities. WHO representatives responded that staff reductions had occurred through natural loss rather than planned reductions and that a small committee was being convened at WHO to discuss how best to mobilize resources for improving the implementation of ICD. Dr Hapsara also noted that a subcommittee of the Executive Board was reviewing the WHO constitution in terms of international nomenclatures of diseases, of causes of death and of public health practices and that this would be discussed at the Executive Board meeting in January 1997. Centre Heads agreed that they would like to support this process by emphasizing the critical role of the ICD and the family of classifications in generating health statistics for the planning and evaluation of public health programmes, as specified in Article 2(s) of the WHO constitution. The Centre Heads also recognized their responsibility for assisting WHO with the articulation of a vision and strategy for the future development and implementation of international classifications in both developed and developing countries. With these goals in mind, the Centre Heads prepared a letter for distribution to the members of the WHO Executive Board and other country representatives urging reaffirmation of WHO's commitment to provide leadership for the classifications of disease and provision of resources commensurate with the strategic importance of this task.

5. Implementation of ICD-10

5.1 Current situation

The CSIZ presented an update on the Dutch-language version and implementation of ICD-10 in the Netherlands (WHO/HST/ICD/C/96.49). Publication of the Dutch loose-leaf ICD-10 had been delayed. Volumes 1 and 2 would be available on CD-Rom and the Internet from March 1997. Volume 3 would be available at the end of 1997. The Netherlands had implemented ICD-10 for mortality purposes on 1 January 1996. ICD-10 was currently used for morbidity purposes in the field of mental retardation. Hospital discharge data were currently recorded using ICD-9-CM. The preferred option for moving to ICD-10 for morbidity was between 1998 and 2000.

Centre Heads and the secretariat provided the latest information available to them on implementation in member states for mortality and morbidity. This is shown at Annex 1.

5.2 National (language) versions

Australia had developed ICD-10-AM (Australian Modification) for morbidity coding. A paper (WHO/HST/ICD/C/96.53) described proposed changes to the third- and fourth-character levels of ICD-10 and to certain labels. A further paper (available on request) described proposed additions at the fifth-character-level and changes to the alphabetical index. It was hoped to finalize changes before the end of 1996, to enable printing by the end of 1997 and use of the volumes in early 1998.

Changes for ICD-10-AM were proposed as insertions to be placed within the appropriate main category rather than using the letter U. This was contrary to the policy that was notified to a previous meeting of Centre Heads which stated that such changes would be confined to the fifth-character level if at all possible. The rationale of the new approach was the need to reflect the specificity of ICD-9-CM in the mapping from ICD-9-CM to ICD-10. Every attempt had been made to suggest changes at the fifth-character level. Endorsement from the meeting for this approach was sought. The Nordic Centre expressed concern at this approach but the United Kingdom Centre felt that it could accept changes that would be local to Australia. International comparability would be preserved through maps from ICD-10-AM to ICD-10. Australia agreed to limit amendments to the fifth-character level where possible. Where this was not possible, changes from ICD-10 would be annotated in ICD-10-AM.

5.3.1 General

There was no discussion on this item.

5.3.2 Mortality

The Nordic Centre (WHO/HST/ICD/C/96.19) reported on a four day introductory training course that had been held in May 1996 in the theoretical and practical aspects of mortality statistics and on current plans for coordination of mortality statistics in the Nordic and Baltic countries.

The Australian Centre reported that training had been provided for the South-East Asia Regional Office in May 1996. Further courses were scheduled.

The North American Center reported that the United States was developing a tutorial to teach physicians how to complete death certificates. The United States is developing electronic death registration that will include on-line query and edit functions.

Professor Uemura queried the existence of information regarding the international use of the WHO standard death certificate. The secretariat replied that this information did not exist but that countries were, where possible, encouraged to use the WHO standard. Professor Uemura also asked about the availability of training material and use of the three-character version of ICD-10. The secretariat replied that a three-character index was in preparation but training with this material had not yet been addressed.

The Sao Paulo Centre usually delivered at least three training courses a year. For the introduction of ICD-10 five courses were delivered in one year. ICD-10-based mortality statistics relating to 1996 would be published in 1997.

While one participant doubted its usefulness, the United Kingdom Centre supported the concept of a three-character version of ICD-10 for countries that would experience operational difficulties in dealing with the complexities of the four-character version and requested that WHO survey its member states to ascertain the level of support for this, at the same time as surveying types of death certificates in use. The secretariat undertook to investigate its ability to resource a three-character version for those in need but stressed that there were often difficulties for those countries in editing and validating the data collected. The secretariat also emphasized the need to set priorities and responses on a long term basis, focusing on improvements in both quality and coverage of the data.

5.3.3 Morbidity

The Australian Centre reported that training efforts were being coordinated by a committee involving all relevant groups. It was planned to train coders in late 1997 and early 1998. During 1997 the emphasis would be on users of the data and clinicians. This training would involve a significant amount of awareness raising. ICD-10-AM would include a fourth volume containing national standards for clinical coding adapted from those prepared for ICD-9-CM. 18 Specialty-based books were being prepared focused on educating clinicians and coders. The Centre also reported on development of a coder accreditation programme. The first examination had been held in September 1996.

The Nordic Centre reported plans for a training course for coding morbidity data in Estonia in November 1996 and in early 1997 for Latvia and Lithuania. TENDON had been translated into Swedish and would be used in the training of medical record managers and hospital physicians who actually code diagnostic information themselves. The package had been modified by removing modules not relevant to clinicians. Sweden also produced national specialty-based adaptations of ICD-10.

Specialties were encouraged to produce guidelines for diagnostic criteria for inclusion in national specialty adaptations.

The Sao Paulo Centre delivered three or four morbidity training courses a year.

6. Family of classifications

6.1 Classification of medical procedures

The CSIZ presented a paper on the development and maintenance of a common reference model for surgical procedures (WHO/HST/ICD/C/96.51). This provided an update on the activities of the first nine months of the Galen-in-use Project. The project aims at a common reference model for a number of procedure classifications and ultimately seeks national classifications consistent with that model. The model is compositional and is based on knowledge acquisition, disambiguating and paraphrasing, normalization through templates and generation of classifications. Galen is not an alternative for national classifications however it will produce the data for classifications and provides the opportunity to pursue an international procedure classification.

The Nordic Centre reported that the newly developed NOMESCO classification of surgical procedures was being used in Denmark and Finland and would be implemented in Iceland and Sweden in 1997.

In Australia the goal was to achieve one procedure classification for all healthcare sectors by development of a new classification, the Medicare Benefit Schedule Extended. This will be introduced in 1998.

The Sao Paulo Centre was not working on the classification of procedures as payment in Brazil is made by insurers on the basis of a defined list that is not a true classification.

Both Australia and Canada reported their work to extend their procedure classifications to incorporate nonsurgical procedures.

6.2 International Classification of Impairments, Disabilities, and Handicaps (ICIDH)

The revision of the ICIDH is coordinated by the WHO headquarters Division of Mental Health and Prevention of Substance Abuse. A background document "Towards a common language for disablements" was presented by the secretariat. A large number of centres are involved in the work. A first draft for alpha testing (comment on the text) has been circulated. The deadline for comments is the end of December 1996. A draft for beta testing (field trials) will be available by the end of March 1997. Final recommendations are scheduled for 1998/1999. The revised classification will contain definitions and use a neutral terminology. WHO is seeking volunteer partners for work on the revision. A key focus will be to better address the overlaps between the ICIDH and the ICD. Copies of reports from revision meetings held in 1995 and 1996 were provided during the meeting.

The North American Center (WHO/HST/ICD/C/96.26) provided an update on ICIDH activities in North America. The United States will alpha-test ICIDH-2 in 1996. Other meetings had been held during 1996 to review and extend developments in the ICIDH. A national health interview survey on a nationally representative sample of households numbering about 100,000 persons, approximately 20,000 of whom have some indication of impairment, disability or handicap, was carried out during 1994-1996 and the first data set had already been released. Data will be backcoded to the ICIDH.

The Australian Centre reported that it was doing a national health interview survey which will also be backcoded to the ICIDH.

There were reports of problems in introducing the ICIDH in several European countries. The United States and Canada had also received objections to it but representatives of disabled groups had been involved in its review and introduction. Consumers resented being "labelled" and feared prejudicial effects on employment etc. Many of the objections stemmed from misunderstanding of the purposes of the ICIDH. Such objections in the Nordic countries had stopped the ICIDH from being widely used there.

The Paris Centre had participated in a June 1996 symposium on the ICIDH. Opposition to the ICIDH in France related to its link with the classification of diseases.

The North American Center felt that it was important to understand the opposition to the ICIDH and that consumers should be involved. The discriminatory effects of such coding tools should be discussed and researchers should address these issues with the subjects of their research. While it was recognized that the use of classifications such as the ICIDH could not be controlled, their application as policy-instruments (not just as classifications) was viewed as threatening. There had however been a positive reaction to the release of data from the United States survey.

According to the Nordic Centre a basis for the opposition was also that in the ICIDH handicap was linked to the person rather than to the lack of adaptation to their needs by society. Inclusion of environmental factors in ICIDH-2 could help to alleviate this difficulty.

It was also reported that the ICIDH may become an instrument to be used in the UN global census in the year 2000.

The ICIDH was translated into Japanese in 1984 (WHO/HST/ICD/96.45). Some studies were using it to assess rehabilitation from psychiatric disabilities. Social and other care workers were tested for their understanding of the ICIDH. The classification was also being used for rehabilitation from physical illness. The conceptual model of illness developed for medical rehabilitation in Japan did not fit well with the ICIDH (although it was based on it).

The CSIZ presented a report of the activities of the Dutch WHO Collaborating Centre for the ICIDH during 1996 (WHO/HST/ICD/C/96.50). Various meetings had been held to support the revision and to discuss potential applications. Plans to extend

alpha testing until December 1996 included further consultation with experts. Comments had been sent to WHO. ICIDH was being widely used and not just for those with long-term disability. The applicability was for example described in two issues of Disability and Rehabilitation in 1995 and in a series of reports of the committee of experts on the application of the Council of Europe.

6.3 Lay reporting of health information

At their 1995 meeting the Centre Heads had requested that lay reporting of health information should be a permanent agenda item. Lack of resources had however prevented the secretariat from preparing a discussion paper. The Head of the Sao Paulo Centre ventured the view that there was no need for a classification of lay reporting. In one study in which the recording by the primary health care worker of the complaint or reason for consultation used the patients' own terminology it had been shown that 20 terms were sufficient to name more than 70 per cent of all complaints. The results showed that it was not necessary to use a classification for lay information, a fact which had been confirmed by a number of similar studies.

6.4 Specialty-based adaptations of ICD-10

International Classification of Diseases for Oncology - Second Edition - 1990 (ICD-O-2).

Serious concerns were expressed by the North American Center about the future of ICD-O in terms of the updating of the classification at the international level. The secretariat shared these concerns particularly following the unexpected circulation of the proposed United States updates to ICD-O-2 at the International Association of Cancer Registries (IACR) annual conference in Edinburgh in September 1996. Uncoordinated use of these updates could pose a serious threat to the comparability of cancer data. The updates had not been officially accepted as part of ICD-O even though they had been used by the United States National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) programme since 1995. The secretariat had discussed the matter with the WHO International Agency for Research on Cancer (IARC) and it had been agreed that it would be preferable that WHO and IARC eventually take over responsibility for the revision of ICD-O.

The Nordic Centre proposed that IARC should be asked to handle the morphology codes but that the Centre Heads have oversight of any other proposed changes that affected ICD-10.

According to the Nordic Centre the classifications of lymphomas were problematic. Nordic experts found great difficulty in using ICD-10 for lymphomas. The secretariat felt that a complete revision of the lymphoma section of ICD-10 was perhaps the only solution. The Revised European-American Lymphoma (REAL) classification did not fit well within ICD-O-2 and could not be accommodated within ICD-10. The Nordic Centre requested a formal review of the REAL classification and its insertion within ICD-O-2. The Australian Centre also expressed interest in being involved in this process. The North American Center requested the secretariat to obtain the views of IARC on the changes to ICD-O-2 proposed by the United States and their implications for ICD-10.

The Sao Paulo Centre reported that five population-based registries and several hospitals in Brazil used ICD-O. The second edition in Portuguese was published in 1996.

The Paris Centre informed the meeting that ICD-O was not used at first in France but that there was now a strong demand for ICD-O-2 in French and it was hoped that this would be published by the end of 1997.

Application of ICD-10 to Dentistry and Stomatology (ICD-DA-3).

ICD-DA-3 was published in Portuguese in 1996. The Sao Paulo Centre (WHO/HST/ICD/C/96.52) presented the results of a study to assess the possible benefit in using ICD-DA-3 on a 10 per cent sample of cases attending a general hospital odontology department. The sample was dual-coded to ICD-10 and ICD-DA. Specificity was improved in 38 per cent of cases by the use of ICD-DA but 24 per cent of cases in chapter XXI were not codable. The classification was felt to be important because of the many facial injuries in Brazil: two-thirds of emergency attendances in one Sao Paulo Hospital for example.

The Nordic Centre informed the meeting that the Finnish version of ICD-DA was used in hospitals, linked to ICD-10. The Swedish translation of ICD-DA had been completed but the coding will be adapted to fit better with ICD-10.

Classification of external causes of injuries.

The NOMESCO Classification of External Causes of Injuries was described in document WHO/HST/ICD/C/96.44 and a pre-print version of the classification was distributed at the meeting. The classification had been offered free to WHO by NOMESCO as a trial version for an eventual international classification of external causes. If this offer were accepted then copyright would be given to WHO. If not adopted as a trial version it would be published by NOMESCO but references to ICD-10 chapter XX would be removed. Possible bias to the Nordic range of conditions would be tested by an international trial. Arctic variants had been tested but no tropical tests had been done. The NOMESCO classification had been used for 10 years in the Nordic area. There were various levels of detail including "product" terms to enable the evaluation of product safety.

Discussion followed concerning the criteria for acceptance of a classification as a member of the "family" of disease and health related classifications. There was some feeling that the criteria established at the 1991 meeting were inadequate and should include ease of use, validity and quality control. Centre Heads had in any case had insufficient time to assess the classification and would wish to consult with experts before coming to a decision. It was clear though that the codes for place of occurrence, activity and vehicle specificity were different to those in ICD-10 and that comparability between the two classifications would be problematic. Also, the product codes had not been discussed outside the Nordic group and these should be discussed more widely. It was pointed out by the Nordic Centre that the NOMESCO classification was not intended as a replacement for chapter XX of ICD-10. It was seen as a prospective tool for surveillance studies in parallel to ICD external cause codes. There was no consensus in the Nordic countries on its acceptability. There was

also a need to know the impact of the NOMESCO proposal on the parallel work being carried by the WHO Working Group on Injury Surveillance Methodology.

The meeting did not adopt the classification as presented. Centres that wished to do so agreed to comment by the end of November 1996 after discussion with experts at home. Replies would be sent to the secretariat with a copy to the Nordic Centre. A decision would then be made by the end of 1996 as to whether the classification became a trial WHO version or remained a Nordic classification.

7. Maintenance and updating of ICD-10

7.1 Updating between revisions

The importance of this issue was noted by the Nordic Centre, due to the perceived need to show the world medical community that a functional maintenance and updating system for the classification exists.

Three papers were presented regarding proposed changes to the classification. The secretariat presented a paper (WHO/HST/ICD/C/96.43) which included proposals for two changes to the tabular list from the Nordic Centre, a further change from an individual clinician in Australia and a number of index changes identified by the secretariat. The secretariat noted that the former changes were presented for ratification by Centre Heads, having been previously circulated by the Nordic Centre. The index changes were also presented for approval and the recommended changes were endorsed by the meeting. Advice was requested regarding the necessity to include the new code suggested by the Australian clinician. It was noted that this query should have been forwarded to the Australian Collaborating Centre for consideration prior to it being forwarded to WHO headquarters. Formal endorsement was not forthcoming.

The Australian Centre presented a report (WHO/HST/ICD/C/96.53) in which the question of the extent of acceptable changes was raised. Such changes may range from modifications to the index through to changes which constitute an extensive revision to the classification. The Nordic Centre stated that the extent of revisions to ICD-10 is really dependent on future plans for ICD-11.The Office of the ICD, Japan, described the strength of the ICD in Japan as being its relative stability and constancy. It was further noted that the World Health Assembly has delegated responsibility for the updating of the classification to the Heads of Collaborating Centres to determine the most appropriate method of ensuring its currency. It was noted that some Australian clinicians consider the ICD-10 already outdated. Given an anticipated delay in the production of ICD-11, the ability to update ICD-10 is more important than ever. The relative ease of updating will increase as the use of electronic databases, etc. expands, although it was recognized that not all countries will be capable of electronic updating for some time.

A further report (WHO/HST/ICD/C/96.27) by the North American Center was identified as also containing a number of proposed changes to the index of ICD-10.

Discussion amongst participants ensued regarding the updating mechanism for the ICD first proposed at the Beijing meeting in 1993, and modified in Caracas in 1994

and Canberra in 1995.This states that proposed changes should be circulated to Collaborating Centres and the secretariat at least six months prior to the annual Centre Heads meeting, in order to allow sufficient time for within and between country consultation to occur prior to decisions being made. During discussion, the CSIZ stated that agreeing to the relatively few recommended changes to the tabular list for the sake of displaying the feasibility of the updating mechanism may, in fact, be counter-productive. A preferred option is to delay approval of changes until the next Centre Heads meeting when it is anticipated that a significant number of changes will be presented. It was, however, agreed that changes to the index which reflect omissions or to correct spelling errors should be made as soon as possible. Such changes should be forwarded to the secretariat and to Collaborating Centres for information, but such changes may be made by individual Centres which produce their own national versions.

The Australian Centre queried how such changes are to be promulgated internationally - either as an addendum or errata or as a revision to the classification, and whether this revision will be ICD-10.1 or ICD-11. The secretariat recommended that changes be published as part of the Weekly Epidemiological Record, which is a component of the regular information published by WHO headquarters on the Internet. The secretariat also stressed the necessity of ensuring consistency in changes across all relevant publications in the family of classifications. The United Kingdom Centre noted an important outcome of this discussion should be a plan for publicizing the updating mechanism through publication in the scientific literature. This paper should indicate the ways changes can be suggested, the process for acceptance of recommendations and the dissemination method. It is necessary to ensure that when changes are made, they are communicated to all relevant users of the classification in both public and private sectors. The Australian Centre agreed to review the updating mechanism discussed at the Canberra meeting in 1995, in consultation with the North American Center. In particular, the timing of the updating mechanism requires careful consideration. The North American Center noted the usefulness of their approach to maintaining a computerized database of the alphabetical index which includes the dates that changes or updates are introduced. The importance of the index in directing code selection was highlighted.

The third version of a paper describing the update process for ICD-10 was discussed and accepted as written (see Annex 2). The secretariat advised that while the process presented no problems, the workload and time frames would be dependent upon the number of changes actually submitted. It was further agreed that this process should specifically relate to the English version only. Further discussion occurred as to whether guidance could be provided regarding the codes created for national versions and their relationship to the updating of the international version. The secretariat responded that all proposals should be forwarded to WHO. Further discussion also occurred on whether a reprinting of the ICD, which incorporates all updates, should be considered (e.g., ICD-10 Version 1.1). This process was deemed too cumbersome given that it took more than a year to produce both Volume 1 and Volume 3, but that the changes could be made available using electronic media. A recommendation was made to possibly extend the length of future Centre meetings to allow for discussions of the recommended changes.

7.2 Reference System

This agenda item referred to a discussion at the 1995 Heads of Centres meeting regarding the mechanism for disseminating queries and proposed updates amongst the Centres. Discussion of this item was deferred until the 1997 meeting.

7.3 Rule 3

The Sao Paulo Centre presented a report (WHO/HST/ICD/C/96.31) in which it described a study performed to determine the extent of changes in mortality patterns which arise from the revised guidelines for the application of rule 3 for the selection of bronchopneumonia as an underlying cause of death. The need to inform epidemiologists and respiratory physicians that the decrease seen in bronchopneumonia deaths is a statistical artifact was stressed. The United Kingdom Centre agreed with the findings described, noting similar changes that had occurred due to changes in the definition of rule 3 adopted by England and Wales in 1983 and the subsequent adoption of the US-based automated coding system in 1993 which reversed the trend. Professor Uemura noted the importance of this form of study, indicating the ability of automatic systems to easily identify the number of times that modification rules are invoked in the selection of the underlying cause of death. This can serve as a quality assurance mechanism, to determine the number of times the General Principle is used and conversely, when rule 3 is used to modify the selection. The North American Center agreed to incorporate this idea into its future development of MICAR.

7.4 Possible plans for ICD-11

The secretariat noted that the resources required to publish a paper version of ICD-10 were such that the resolution of the Tenth Revision Conference, that the Eleventh Conference be held in 1999, could not be achieved. While electronic updates were possible, WHO might need to advise member States that there would be no Revision Conference in 1999.

The United Kingdom Centre supported more efficient revision of the ICD. It had issued amendments, at first quarterly but now annually.

The meeting agreed to request the Director General to write to member States concerning deferment of the Revision Conference.

8. Computerized coding

8.1 Automatic coding of mortality

The North American Center presented its paper (WHO/HST/ICD/C/96.22) on its forthcoming International Collaborative Effort on this subject. The Center had held such meetings previously, but this was the first to consider process rather than a subject area.

The ICE was being held because of advances in computing, the loss of trained nosologists and the fact that many countries were introducing such systems. The meeting had an international planning committee and there would be some formal presentations, but it would operate mainly through discussion groups. There would be

65 participants from 18 countries. Issues discussed would include training, information technology support, decision tables and their updating, automatic coding of injury, and language issues. The question of who would be responsible for maintenance of standards - a major consideration for WHO - would also be discussed. Extension of the work to developing countries was also under study.

In discussion the Sao Paulo Centre stressed how important automated coding was in facilitating multiple cause analysis. It also stressed the importance of all countries adopting the same automatic system, which superseded the non-uniform national guidelines that had been used for mortality statistics.

The Paris Centre noted that automated coding systems transfer classification and coding rules into computer systems. WHO should therefore be fully involved in the specification of such systems. Moreover automated coding systems lead to a loss of human expertise in the field of coding and should not be "black boxes".

The Nordic Centre supported the comments on the contribution of automated systems to international comparability. A recent meeting in Southampton, England had suggested an e-mail network for discussion of coding problems. It would be glad to hear from other centres which wished to participate.

The United Kingdom Centre noted that the systems developed to date related to coding for mortality. There was a great need also in morbidity coding and as much as possible of the existing technology should be used for this second purpose.

The Australian Centre had worked in standards for coding and education of coders. These standards could apply to both morbidity and mortality coding.

The secretariat and the United Kingdom Centre both noted the critical role of automated coding in development of the ICD. The meeting thanked the North American Center for its efforts and for its leadership in this area. The meeting requested the North American Center to report on the ICE to the next meeting of Heads of Centres.

The Sao Paulo Centre presented an evaluation of the coding quality of the ACME system in the State of Sao Paulo, Brazil (WHO/HST/ICD/96.42). The study was carried out with a highly representative sample of 3,313 deaths corresponding to 1.6 per cent of deaths registered in 1992. An independent coder compared the codes for conditions entered on the medical certificate of cause of death with the equivalent codes on the ACME file. Specific coding difficulties were reviewed by experts at the United States National Center for Health Statistics and the Sao Paulo Centre. At the four-digit level of ICD-9, coding differences of 3.4 per cent for underlying causes and of 2.1 per cent for multiple causes were disclosed. Concentrations of errors occurred in the chapters of Infectious and Parasitic Diseases, Neoplasms, and Diseases of the genitourinary system, as well as in the Supplementary Classification of External Causes of Injury and Poisoning.

A second paper on the automated coding of mortality from the Sao Paulo Centre (WHO/HST/ICD/C/96.34) compared underlying causes of death processed by ACME and by the Brazilian SCB system. The study was performed using the input data file

for the ACME system with 129,104 records of deaths registered during the period June to December 1993 in the State of Sao Paulo. Comparison of the underlying cause of death as processed by the ACME and SCB systems brought to light various types of problems, particularly differences in the interpretation of the mortality coding rules between the two systems. However, the insignificant error rate of 1 per 8,600 death certificates was felt to justify the use of the SCB system for the Ninth Revision of the ICD and the continuation of the work being done for its conversion to the Tenth Revision.

The Office of the ICD, Japan, then reported (WHO/HST/ICD/C/96.37) on the operation of its ACSEL system, which had been introduced at the same time as the change to ICD-10, including the change in the form of medical certificate of cause of death. The system had special arrangements for processing when the underlying cause was trivial or when it was a malignant neoplasm. Special rules applied for neoplasms, including the addition of "common sites of metastases" from ICD-10.

Both Centres were thanked for their presentations.

8.2 Computer-assisted software

The Nordic centre (Denmark) had recently introduced a new system and made an oral presentation (no agenda paper). A multi-copy death-registration form was used, different copies of which were completed in type by relatives and by the certifying doctor. Sections related to the same deceased individual were scanned optically and linked with each other and with the population register. Archiving was on CD-ROM replacing microfilm used previously. New diagnostic terms were added to a dictionary, there was a facility to assist manual identification of unknown terms, and there were 15 standard query letters which it was hoped might become electronic.

The United Kingdom Centre noted that cause of death had to be completed within five days unless there was to be a coroner's inquiry. Denmark had no such requirement, certification could await post-mortem findings. It was explained that waiting for the findings of an autopsy reduced the need for inquiries. In Sweden, where the medical certificate was not required for three weeks the autopsy rate was decreasing and 0.5% of certificates were not received.

9. Short tabulation lists

The North American Center presented a paper (WHO/HST/ICD/C/96.47) on Proposed ICD-10 Short Lists for Tabulating Mortality Statistics in the United States. The paper described seven short lists proposed by the NCHS for ICD-10 and compared these with the five short lists for ICD-9. The seven short lists had been constructed by taking the ICD-9 list and the lists recommended by WHO for ICD-10. These were reviewed by the major users. The finished product expands the number of listed items reflecting the expansion on ICD-9. Information using these lists in 24 tables is now available on the Internet. The Nordic Centre noted that the EUROSTAT list, a short list adapted for European needs has been proposed for formal adoption in February 1997. There was some discussion on the confidentiality of such data. In the US, confidentiality is maintained at the individual level but aggregate tabulated data does not require such constraints.

10. The dagger and asterisk system

The secretariat presented a paper (WHO/HST/ICD/C/96.21) on the Use of the Dagger and Asterisk System in National-language Versions of ICD-10 which had been prepared in response to a question raised at the 1995 Canberra meeting. Of the 37 language versions, 15 have been received by WHO. Most have followed the dagger asterisk format of WHO except for the Finnish version which gives asterisk detail at the end of the dagger code and the Danish version which has no dagger-asterisk symbols. The Swedish version follows the ICD-10 dagger-asterisk convention.

A further paper (WHO/HST/ICD/C/96.17) on Dagger-Asterisk Codes in ICD-10; Clinical Relevance, Coding Practice and Use in DRG Systems was presented by the Nordic Centre. It summarized the goal of the dagger-asterisk system, the numbers of ready made pairs and use of particular codes as suitable etiology and manifestation codes. It also dealt with problems with fixed pairs, dual codes and use of code pairs in data analysis and should be used for DRG grouping. It was stated that in ICD-10, the manifestation code should be used for grouping. The paper included recommendations for use of dagger-asterisk symbols in Finland.

The United Kingdom Centre raised several questions concerning use of dagger and asterisk in practice. Experience has shown that coders are inclined to assign dagger and asterisk symbols to indicate cause where none clinically exists. The result has been a policy to allow less flexibility to coders in allocating these symbols, and they will be asked to refer to a national body before creating such pairs. The differences in practice between the United Kingdom and Finland may result from coders coding in the UK and clinicians coding in Finland.

The secretariat sought a hard copy of the Nordic presentation. A response will be prepared for circulation to Heads of Centres.

11. Improvement of health information.

11.1 Mortality

The Nordic Centre presented paper WHO/HST/ICD/C/96.18, Need for Clarification of the ICD-10 Mortality Coding Rules. It covered the importance of coding rules in ICD-10 and some problems in interpretation of Rule 3. Data from Swedish studies of pneumonia certification from 1984 and 1995 were presented. The paper also discussed some problems with internal inconsistency in some of the Notes relating to Underlying Cause and need for further clarification in some instances. For example, there are approximately 40 different guidelines or instructions relating to malignant neoplasms. The many exceptions make it difficult to apply consistently. It was suggested that these be rewritten as a decision tree.

The need to clarify and change some guidelines was supported by the North American and Brazilian Centres and by the secretariat. The latter suggested compiling examples from genuine certificates to assist in clarifying rules and using the results to help those preparing software. A Working Party was recommended to be coordinated by the Nordic Centre and the secretariat and composed of representatives of Nordic, North American, Australian, Brazilian and Kuwait Centres. This Working Party is to

assemble examples of problems with Rules and suggestions for change to present to the next meeting of the Centre Heads. The Brazilian Centre will use information gathered during this exercise to prepare an instruction manual describing how rules should be used and listing examples.

Progress on Reengineering the Death Registration System in the United States (WHO/HST/ICD/C/96.24) was presented by the North American Center. This was a follow up to a report from last year on the work of a committee to reengineer the death registration system in the US. An electronic death registration system is being developed, following the successful introduction of electronic registration of births which has been rapidly diffused and now covers approximately 70 per cent of births. The advantages of electronic capture of information and its positive impact on data quality was discussed. The US Committee has had its final meeting and made recommendations in four categories - System design, System architecture, Legislation and Recommendations for implementation. The recommendations concerning standards include the need for any vendor-developed software to incorporate the capture of all text, use of electronic signatures and electronic communication of information. The first pilot of the system will be carried out in New York State in 1997.

The Australian Centre pointed out the wide range of government and non-government organizations interested in the fact of death and the possible development in that country of a fact of death register. All centres were impressed with the progress made in the US, although there were common problems with the need for accompanying legislative change.

Document WHO/HST/ICD/C/96.27, Observations on ICD-10 for Mortality Uses in the United States, listed under this agenda item had been dealt with under agenda item 7.1. However, it lead to a discussion on the level of specificity needed by developing countries to describe cause of death. It was strongly recommended by a number of Centre Heads that developing countries have the facility to code at very specific levels so that coders did not have to decide on which aggregate section was most applicable. Comparability should be retained at the aggregate level but data quality improved by allowing coding at specific levels. It was appreciated that the ability to do this depends on the specificity of the clinical data provided. The secretariat noted that the three-character level edition is not intended to decrease the level of specificity available to coders. The alphabetic index would be as detailed as the four-character edition. It was also pointed out that there are sources of data other that death certificates such as periodic household surveys which provide data on mortality and sometimes morbidity.

It was agreed that the index changes listed in paper WHO/HST/ICD/C/96.27 from the North American Center be accepted. It was further agreed that this meeting would result in a master list being compiled of all changes to the alphabetic index (US and UK recommendations). This list is to include as well other obvious errors which could easily be rectified. This summary of index changes is to be compiled by the secretariat and circulated to Heads of Centres by April 1997.

Mortality Statistics - Coordination of National Projects on Improving their Quality (WHO/HST/ICD/C/96.40)- was presented by the United Kingdom Centre. The work

covered resulted from a proposal made by that Centre at the Canberra meeting that work on death certificate and mortality statistics improvement in various countries be compiled and published together in a reputable international journal. Papers from six centres have been received and discussions held with authors on a common format. It was proposed by the United Kingdom Centre that after preliminary discussion at this meeting, that the Centre prepare a revised draft in collaboration with the authors concerned. When the next draft is complete, all drafts will be circulated to all contributors, comments consolidated and papers submitted jointly for publication in late 1996 early 1997. Choice of journal for publication was discussed and included

- International Journal of Epidemiology - would require support for publication of special supplement
- Population Trends - house journal of the Office for National Statistics, United Kingdom - not a wide international circulation
- Economic Development and Population Change - a peer-review journal from New York, editor Paul Demeny
- Milbank Memorial Fund Quarterly - New York
- World Health Statistics Quarterly.

The possibility of seeking funding from an appropriate foundation was raised by the North American Center, as was the preparation of a summary article referencing the full articles, perhaps published in the WHO Journal. The United Kingdom Centre undertook to ask the authors to which journals they would prefer to submit the publications. If such submission fails, the suggestion of the North American Center to be followed or a review article to be considered.

11.2 Morbidity

A paper from the North American Center (WHO/HST/ICD/C/96.25) reported on the evaluation of ICD-l0 for morbidity applications in the United States. This report summarized the complete work performed under the evaluation contract, portions of which were presented during the 1995 meeting of Heads of Centres in Canberra. The primary evaluation objectives were to make an in-depth analysis of ICD-l0 as well as to compare ICD-10 with the U.S. clinical modification of ICD-9 (ICD-9-CM.) The Technical Advisory Panel (TAP) convened under the evaluation study concluded that there are many strengths in ICD-10 in comparison with ICD-9-CM; many of the chapters were found to contain a wealth of useful expansion in detail for which diagnostic information is typically available and which represent important clinical distinctions. Although a number of limitations were identified, the TAP believed that most could be overcome. While the Panel could not recommend the use of ICD-10 as published for morbidity reporting in the U.S., there was no hesitancy by the TAP or evaluation staff in recommending that a clinical modification of ICD-10 (to be known as ICD-10-CM) be adopted (recognizing that there are still several years of effort required before use of ICD-10-CM in the U.S. is practical). In response to a question from the Sao Paulo Centre, it was noted that the most severe limitation of ICD-10 related to the dagger and asterisk combinations. As reported in Canberra, the North American Center intends to maintain the dagger codes (with deletion of the dagger symbol) and integrate the asterisk codes into anatomical sections in fifth-digit subclassifications to the extent possible; this was also the approach used in developing ICD-9-CM. Although the evaluation study did result in a first draft of an ICD-l0-CM,

it still is necessary for the National Center for Health Statistics (NCHS) to look, for example, at fifth-digit expansions made to ICD-9-CM as to whether they achieved their desired effect and to review conditions included in .8 subcategories that may need further specification. The North American Center noted that reports received from other Collaborating Centres during the Tokyo meeting have identified other areas that may need to be explored; the U.S. would like to incorporate similar concepts in a similar way to other national modifications, to the extent practical. Following completion of its review, NCHS will turn the proposed clinical modification over to the Health Care Financing Administration (HCFA) for their review; the intent is to implement ICD-10-CM on 1 October, 2000 in conjunction with the new procedure classification system under development by HCFA as a replacement for ICD-9-CM, Volume 3. The North American Center agreed to send the complete proposed draft of ICD-10-CM to interested Collaborating Centres at the same time that it is provided to HCFA, currently scheduled for early 1997. Concerning the burden of implementation, it was reported that the TAP did not believe that the conversion to ICD-10-CM would cause a major disruption to the field and that the additional specificity would actually make it easier to code morbidity data. The United Kingdom Centre confirmed that this also was their experience. The clinical modification of ICD-10 must be finalized in the United States in time to allow a two-year period before implementation.

The North American Center next reported on recent work of the National Committee on Vital and Health Statistics (NCVHS) to build greater consensus around standardization of health care enrollment and encounter data (WHO/HST/ICD/C/96.28). This work built on nearly a 30-year history of uniform data set development in the United States, in which the NCVHS has been an active participant. It was noted that the NCVHS was established in 1949 in response to a recommendation by WHO to all governments and has served continuously as an advisory committee on health information to the Secretary of the Department of Health and Human Services. The paper, which included the full NCVHS report and recommendations as an attachment, focused on issues related to morbidity classification. These included classification of diagnoses in all settings, the patient's stated reason for visit, health status, functional status, and procedures. In several cases no consensus was found on the preferred method of classification, and further evaluation and research were recommended on members of the family of classifications, included the International Classification of Primary Care and the ICIDH. The presenter noted the importance of collecting status information not only from the perspective of the provider, but also from that of the patients themselves. Feedback on all these issues and on similar efforts in other countries was sought. The Brazilian Centre expressed appreciation for the work of the NCVHS in the United States and noted that not many other countries had such productive national advisory committees.

The paper presented by the Sao Paulo Centre (WHO/HST/ICD/C/96.33), detailed the results of their analysis on the use of ICD-10 for morbidity by comparing the results of records coded using ICD-10 to the same records previously coded using ICD-9. The analysis indicated that in some instances it appeared that there was a loss of specificity when using ICD-10. However, during discussions, it was noted that this result may, in large part, be due to the fact that even though some conditions were

moved to specific organ system chapters from the symptoms chapter, the conditions still represented unspecified conditions.

The Australian Centre, representing the International Federation of Health Records Organizations (IFHRO), presented a report (WHO/HST/ICD/C/96.35) on the Coding Quality Workshop held in April 1996 in conjunction with the 12th International Health Records Congress. The participants identified several critical areas that impact the quality of coded data and ways of improving coding quality. A presentation on the need for and the development of coding quality indicators also occurred. Several of the indicators discussed need to be further refined and qualified, as well as tested to determine if they are practical and appropriate as quality indicators. A recommendation was made to have this session become a regular part of future meetings. Letters will be forwarded to the Heads of the Collaborating Centres to obtain comments and suggestions on the findings and recommendations appearing in the report. It was agreed that it was important to support continued collaborative efforts with IFHRO and seek collaborative arrangements with other organizations as a means to improve data quality.

The United Kingdom Centre reported on its experiences with the implementation of ICD-10, and the steps taken to resolve problems encountered subsequent to implementation (WHO/HST/ICD/C/96.41). A national one-year study to determine the impact will begin shortly, the results of which will be reported on at next year's meeting of the Heads of Centres. The problems identified (e.g., coders carrying over concepts from ICD-9 into ICD-10 and issues requiring better understanding of the disease process as well as how the disease is classified in ICD) were corrected through the use of various methods including training/education of coders and physicians. Further, the Centre presented information on the work to develop standardized definitions for primary diagnosis. The first step in the process was to convene a working group of esteemed physicians to begin the task of developing the definitions. This activity was viewed as the first step in an iterative process that will lead to the development of standardized definitions. It was acknowledged that while the definitions developed were far from perfect, they represented an important step toward standardization in areas where no standardization previously existed.

12. Bridge coding and equivalence tables

The Paris Centre focused on the effect of the change in the classification of diseases that results from the implementation of ICD-10, holding the effect of the change in rules constant (WHO/HST/ICD/C/96.30). ICD-10 will be implemented in France effective with the 1998 data year. The study used a sample of one percent of deaths. Two tabulation lists were used, the C-List for Chapters of the ICD, and the R-List, representing the EUROSTAT short lists. The results showed that for the C-List, most of the certificates were coded to the same chapter. The analysis also showed changes from ICD-9 varying by chapter. Some preliminary analysis of the reasons for change was undertaken. A brief analysis was also undertaken using the EUROSTAT lists, and principal changes are described. In general, the divergences were relatively small. For the EUROSTAT lists, there were greater divergences between the two revisions than for the C-List, that is, 3.9 percent as compared with 1.2 percent. Among the conclusions are that the degree of divergence between the two revisions depends to some extent on the lists used for the analysis. During the discussion period, an issue

was raised regarding methodology, principally a concern that the coding under ICD-10 was not independent of the coding for ICD-9, that is, that the ICD-10 coders were aware of the ICD-9 codes. The authors were complimented for presenting a clear and useful paper.

It was mentioned that a research paper by the North American Center which was not completed in time for presentation at this meeting examined whether reversing the order of the medical certification had an impact on the underlying cause of death. Preliminary results indicate that the ordering has no statistically significant effect on the underlying cause of death. The study has yet to provide information with respect to whether the order has an effect on the number of conditions reported.

Staff of the Ministry of Health and Welfare, Japan reported the results of their bridge-coding study between ICD-9 and ICD-10 (WHO/HST/ICD/C/96.38), which was implemented for Japan effective with the 1995 data year. The paper reviewed some of the principal changes in ICD-10. The analysis was conducted using doubled-coded records for half the deaths in selected months, representing about 16 per cent of deaths. The analysis used a tabulation list of 130 causes of death for ICD-10 compared with 117 causes used in ICD-9. The analysis showed that the number of deaths in most chapters increases under ICD-10 with compensating reduction in other chapters, specifically I, V, XVII, and XVIII. In particular there is a sharp decrease in Chapter XVIII, Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified. The paper includes an analysis of major changes, which attributes the reduction in symptoms to a transfer to a residual category in the other chapters. The paper suggests that ICD-10 produces better results in part because of a change in the rules. The availability of the comparability ratios will assist in the analysis and interpretation of trend data for Japan. Some discussion ensued on providing standard errors around the comparability measures between the two revisions. The authors were complimented for providing useful results.

The secretariat indicated that equivalence tables between ICD-9 and ICD-10 would soon be available. The tables will be distributed to the Centres free of charge and will be sold to others through the publications offices of WHO. It was suggested that using similar equivalence lists in comparability studies by the various countries would make the results of the bridge-coding studies more comparable.

13. Special studies

In paper WHO/HST/ICD/C/96.46, staff of the WHO Collaborating Center for the Classification of Diseases for North America examined whether changes in the U.S. death certificates resulting from the 1989 revision affected mortality trends for selected causes of death. The changes in the certificate were the addition of a line to the medical certification of death, as well as an improvement in instructions. Because not all states instituted the changes, it is possible to compare trends for groups of states aggregated by the type of change made. Results showed pronounced changes for some causes such as diabetes, but not for others such as heart disease. Multiple cause data was also used to indicate whether some of the changes might have been due to a shift of reporting underlying cause from Part II to Part I of the death certificate.

France will implement a new death certificate effective with the 1998 data year. The purpose of this study (WHO/HST/ICD/C/96.29) was to understand more about the characteristics and consistency of the certification process and to assess the impact of providing guidelines to physicians to help them complete the death certificate correctly. An additional objective was to develop a set of indicators that permit assessing the general quality and consistency of the medical certification of death. The methodology is based on coding a set of case histories completed by a sample of physicians. The results showed that 77 per cent of the doctors entered the correct underlying cause, and that the per cent improved by the end of the process to 88 per cent. The quality of the certification varied as to the type of case history. A major conclusion was that there were no notable differences in the quality completed by physicians with and without guidelines, but that there were some case histories where guidelines were beneficial, and one in which it appeared that guidelines provided a poorer result. The authors suggest that one of the best ways to improve certification is through querying. It was pointed out in the discussion that physicians working in a hospital setting often have little experience in medical certification of death, because of staff turnover.

The Sao Paulo Centre presented a pilot study of the quality of information declared on the death certificate according to the physician's length of practice (WHO/HST/ICD/C/96.32). This project was undertaken in an attempt to evaluate the impact of the Centre's efforts to increase the instructions to medical students regarding the correct completion of the death certificate. It was assumed that quality could be measured by the frequency with which the General Rule and Selection Rules 1 and 2 were applied. No statistical analysis was presented as this was not a random sample. However, the results showed a tendency toward a higher utilization of the general rule in death certificates when the physician completing the certificate had a shorter length of practice. This lead the authors to a conclusion that their didactic efforts have been successful.

The Ministry of Health and Welfare of Japan presented a report on the changes in vital statistics observed in 1995 as a result of the implementation of ICD-10 in combination with revisions to the death certificate (WHO/HST/ICD/C/96.36). This study employed bridge coding to the analysis in order to separate the effects resulting from the introduction of ICD-10 from those related to the revision of the death certificate. Considerable change was observed and, indeed, anticipated as a result of changes to coding rules, adoption of the list of "common sites of metastases" and the revision of the death certificate form. Unclear causes of death such as pneumonia or heart failure were replaced by causes more useful for purposes of medicine and public health. The changes have improved Japan's vital statistics but trends employing pre and post 1995 data must be carefully examined. The results of this study indicate that further analysis is required particularly in the area of heart failure, heart disease and stomach cancer where potential artefacts are present. It has been observed that, as a result of the changes, physicians in Japan are more aware that the death certificate is not just a "social paper" but important information for the country's vital statistics.

The Japanese Society of Medical Record Administration in conjunction with the Ministry of Health and Welfare presented a paper discussing the application of ICD in Japanese hospital medical records departments (WHO/HST/ICD/C/96.39). Where medical record departments are established they are usually in poor facilities and

understaffed. Little statistical analysis is undertaken. Consequently, only 9.3% of hospitals apply ICD on actual statistics on in-patients. In order to improve the situation, the Society intends to participate with the Ministry of Health and Welfare in the promotion and education activities related to the introduction of ICD-10. They are already participating in finalizing the index for the Japanese language version. Proper medical record administration is believed to improve the medical management of patients. Therefore, the society will endeavour to encourage training programs for personnel and the use of ICD-10. Hospital accreditation is just beginning in Japan and should improve the situation for use of the classification. The Society's efforts were appreciated by the group, and plans for increasing numbers and competencies were encouraged.

14. Copyright and royalties

The secretariat reported that the purpose of retaining the copyright on ICD-10 was so WHO can be aware of what is going on throughout the world with translations and use of the classification. Currently, there is knowledge of up to 37 language versions, of which only 15 have been received at WHO. When the translation is published by the government, compensation usually is not requested; some compensation typically is associated with commercial publication. In the case of languages used by several countries (e.g., English and French), WHO has entered into agreements with the United States, United Kingdom, France and Australia and expects to with Canada, through which it has given or licensed the right for use for government purposes. When a language is used in only one country, the government can produce for free, while commercial publishers are expected to pay royalties. If there is an intent by a commercial company in an English-speaking country or France to sell the publication outside of the country, it is necessary to contact WHO separately to negotiate an arrangement. Currently there are no intentions by WHO to put ICD-10 in English or French on the Internet; some other language versions (e.g., German) are already on the Internet.

15. Mapping between ICPC and ICD-10

The secretariat, the Australian Centre and the Nordic Centre provided information about development of ICPC-2 and ICPC-plus and efforts to map to ICD-10. The greater efforts for compatibility and mapping between the two classifications in recent years was noted with some satisfaction. The need for such mapping is demonstrated by the case of Norway, where family practitioners must report to government insurance in ICPC, whereas hospitals must report in ICD. The Nordic Centre described some of the difficulties associated with mapping in a very informative presentation. The presenter suggested that ICPC is more appropriately described as an information system for primary care rather than a classification; others agreed that ICPC and ICD are really two different things but are often used as if they are the same, which creates problems. Issues arise over the definition of episodes of care, symptoms and even disease. The CSIZ representative noted that the ICPC is important for research and the training of general practitioners and offered to bring additional information on the system to next year's meeting. The secretariat also will provide Centre Heads with the mapping from ICPC-2 to ICD-10 when it becomes available.

16. Other business

16.1 Additional matters

The present meeting had a very heavy agenda and the workload of the annual meetings of Centre Heads was likely to increase in the coming years. It was therefore decided to investigate different formats for the meetings including breakout sessions for people working on similar topics. The North American Center offered to coordinate this work with the Nordic and Australian Centres through a discussion group on e-mail. The Centre Heads also recognized that they needed to exercise greater discipline in distributing documents well ahead of the meetings so that presentations could be shorter and leave more time for discussion.

The Centre Heads had learned of the forthcoming retirement from the Canadian Institute for Health Information of Ms Elizabeth Taylor and expressed their appreciation for the enormous contribution that she had made both to the work of the North American Center and to the annual meetings of Heads of Centres. They asked the secretariat to convey their best wishes to her for every success in the future and hoped that they might see her again in ICD circles in the near future.

16.2 Date and place of next meeting

The Centre for the Nordic countries will host the next meeting in Copenhagen, Denmark from 14 to 20 October 1997. The Kuwait Centre tentatively agreed to host the 1998 meeting.

Action Summary

All Centres

- provide comments to the secretariat and to the Nordic Centre on the suitability or otherwise of the NOMESCO classification as a trial version for an International Classification of External Causes of Injuries by the end of November 1996.

- inform the Nordic Centre if they wish to take part in the e-mail discussion group on mortality coding problems.

Australian Centre

- annotate differences between ICD-10 and ICD-10-AM at the four-character level where such change is unavoidable

- forward letter to Heads of Centres to obtain comments and suggestions on the IFHRO Coding Quality Workshop report (WHO/HST/ICD/C/96.35).

Nordic Centre

- to establish an e-mail network for discussion of mortality coding problems

- coordinate a Working Party with the secretariat to assemble examples of problems with mortality coding rules and associated notes and make recommendations for changes to the next meeting of Centre Heads.

North American Center

- incorporate the facility to identify and count uses of the mortality selection and modification rules in the future development of MICAR

- provide a report on the ICE on Automating Mortality Statistics to the next meeting of Centre Heads

- send complete draft of ICD-10-CM to all Centres at the same time as it is sent to HCFA.

- coordinate with the Nordic and Australian Centres on investigating different formats for Centre Heads meetings through an e-mail discussion group.

United Kingdom Centre

- prepare a revised draft of the papers on national projects on improving the quality of mortality statistics and circulate to all contributors, consolidate comments and submit for publication. Ask authors to which journals they would prefer to submit the publications.

- report on the study to determine the impact of the steps taken to resolve problems encountered subsequent to implementation of ICD-10 to the 1997 meeting of Heads of Centres.

Dutch CSIZ

- provide additional information on ICPC to the next meeting of Centre Heads.

Secretariat

- ascertain level of demand for the three-character version of ICD-10 and survey member states on the type of death certificates in use

- obtain views of IARC on the changes proposed by the United States for ICD-O-2

- investigate, with the Legal Counsel, the need to inform member states of the fact that the Eleventh Revision Conference will not take place in 1999

- provide a written response to the Nordic Centre paper on daggers and asterisks (WHO/HST/ICD/C/96.17)

- compile and circulate a summary of changes to the alphabetical index by April 1997

- provide Centre Heads with copies of the mapping between ICPC-2 and ICD-10 when it becomes available

Annex 1

Actual and Proposed Implementation Dates of ICD-10

Country	Mortality	Morbidity
Australia	1998	July 1998
Austria	1998	..
Belgium	1998	..
Brazil	1996	1998
Canada	1998	1999
China	2000+	2000+
Colombia	1996	..
Costa Rica	1996	..
Czech Republic	1994	..
Denmark	1994	1994
Estonia	1997	1997
Finland	1996	1996
France	1998	1997
Germany	1998	1998
Iceland	1996	1997
Ireland	1998	..
Jamaica	1995	..
Japan	1995	1996
Kuwait	1995	1996
Italy	1998	..
Latvia	1996	1998
Lithuania	1997	1998
Macedonia	1996	..
Malta	1995	..
Netherlands	1996	1998-2000
New Zealand	1998	July 1998
Norway	1996	1998
Poland	1997	..
Portugal	before 2000	..
Qatar	1995	..
Romania	1994	..
Slovakia	1994	..
Suriname	1996	..
Sweden	1997	1997
Thailand	1994	1994
United Kingdom		
-England and Wales	1999	1995
-Scotland	1998	1996
-Northern Ireland	1998	1996
United States	1999	2000
Venezuela	1996	1997

.. information not available

Annex 2

Procedures for updating ICD-10

At their 1996 (Tokyo) meeting Heads of WHO Collaborating Centres for Classification of Disease confirmed the resolution of their 1995 (Canberra) meeting that all proposals for changes to ICD-10 must be sponsored by a Collaborating Centre and submitted to WHO through it. Proposals submitted directly to WHO will be returned to the originator with a request that they first be examined by the most appropriate Centre; addresses of Centres may be found in the Preface of the ICD-10 manual.

Changes to Index only

The Heads of WHO Collaborating Centres also agreed to modify the arrangements agreed at their 1995 meeting in respect of proposals for corrections to or additions to the index to ICD-10, as long as these were not associated with any changes to the Tabular List. Such proposals should

- be advised to WHO by the sponsoring Centre no later than three months prior to the annual meeting of Centre Heads (for meetings in October, by the end of June), preferably in electronic form; copies to other Centres as early as practicable would also be appreciated
- be collated by the secretariat and advised to all Centres as soon as practicable and in any case be included in papers distributed prior to the annual meeting
- proposals accepted by the meeting of Centre Heads would become effective immediately and be publicized by both WHO and Centres through their distribution networks, including on world wide web sites
- all published lists of changes, in whatever form, would be cumulative, and each entry would be dated with the year of acceptance by Centre Heads and WHO

Proposals for changes to the Index which do not meet this timetable may be accepted by special resolution of a meeting of Centre Heads, or by correspondence, if considered sufficiently important.

All other changes

The Heads of WHO Collaborating Centres 1996 meeting confirmed that the procedures agreed at the 1995 meeting would continue to apply to all other proposals for changes to ICD-10, including Index changes consequent upon proposed changes in the Tabular List. Such proposals should

- be advised to WHO by the sponsoring Centre no later than six months prior to the following meeting of Heads of Centres (e.g. for a meeting in October, by the end of April each year), preferably in electronic form; distribution of copies to other Centres would also be appreciated. Late submissions would NOT be accepted but held over for the following year
- be collated by WHO and distributed to Centres within one month of the closing date for receipt of submissions (by the end of May)

- be examined by Centres , which would respond to WHO within two months (by the end of July), preferably in electronic form. Copies of responses should if possible be sent other Centres
- be further collated by WHO and distributed with comments to Centres no later than one month before the Centre Heads meeting
- be considered by the annual meeting of Centre Heads
- if accepted be publicized by both WHO and Centres through their distribution networks, including on world wide web sites and put into effect by each Centre in accordance with its annual updating cycle but no later than the beginning of the calendar year commencing approximately 15 months after each Centre Heads meeting.

Participants

Ms Lindsay Campbell, Manager Classification Systems, Canadian Institute for Health Information, 250 Ferrand Drive, P.O. Box 3900, Don Mills, Ontario M3C 2T9, Canada
Tel: 1 416 429-0434
Fax: 1 416 429-1953
email: lcampbell@CIHI.ca

Professor Michel P. Coleman, Deputy Chief Medical Statistician, WHO Collaborating Centre for the Classification of Diseases, Office for National Statistics, 1 Drummond Gate, London, SW1V 2QQ, England
Tel: 44 171 533 5256
Fax: 44 171 533 5103
email: michel.coleman@ons.gov.uk

Dr J.W. Donovan, Principal Medical Adviser, Australian Institute of Health and Welfare, GPO Box 570, Canberra ACT 2601, Australia
Tel: 61 6 244 1000 (switchboard) 61 6 244 1103 (direct)
Fax: 61 6 244 1111
email: john.donovan@aihw.gov.au

Ms Marjorie S. Greenberg, Head, WHO Collaborating Center for the Classification of Diseases for North America, Data Standards, Program Development and Extramural Programs, National Center for Health Statistics, 6525 Belcrest Road, Room 1100, Hyattsville, MD 20782, USA
Tel: 1 301 436 4253
Fax: 1 301 436 4233
email: msg1@nch11a.em.cdc.gov

Dr Willem M. Hirs, Secretary WCC, Center for Standardization of Informatics in Health Care, Driebergseweg 3, 3708 JA Zeist, The Netherlands
Tel: 31 306988245
Fax: 31 306988331 or 31 3569 45971
email: w.hirs@inter.nl.net

Mr Lars Age Johansson, WHO Collaborating Centre for the Classification of Diseases in the Nordic Countries, Department of Social Medicine, University Hospital, S-751 85 Uppsala, Sweden
Tel: 46 18 66 35 66 and 48 8 783 4498
Fax: 46 18 50 64 04
email: lars.age@scb.se

Dr Abdul Aziz Khalaf Karam, Head, WHO Collaborating Centre for the Classification of Diseases in Arabic, Department of Statistics and Medical Records, Ministry of Public Health, P.O. Box 5286, 13053, Safat, Kuwait
Tel: 965 242 9862 and 965 242 9871
Fax: 965 242 9723

Dr Akira Kimura, Member of the Health and Welfare Statistics Council, Japan

Professor Ruy Laurenti, Head, WHO Collaborating Centre for Classification of Diseases in Portuguese, School of Public Health of the University of Sao Paulo, Av. Arnaldo, 715, Sao Paulo, Brazil, CEP 01246-904
Telefax: 55 11 883 4246
email: laurenti@usp.br

Mr Tadashi Nakada, Director of the Vital Statistics Division, Ministry of Health and Welfare, Japan

Dr Hiroshi Noda, Deputy Director of the Office of Health Statistics, Ministry of Health and Welfare, Japan

Dr Masahiko Okuni, Chief, ICD Sectional Meeting of the Health and Welfare Statistics Council, Professor, Nihon University General Institute, Japan

M. Gérard Pavillon, Chef, Centre collaborateur OMS pour la Classification Internationale des Maladies en Langue Française, INSERM, 44 chemin de Ronde, 78110 Le Vésinet, France
Tel: 33 1 134 80 24 62
Fax: 33 1 134 80 24 29
email: pavillon@vesinet.inserm.fr

Mrs Donnamaria Pickett, Medical Classification Administrator, Data Standards, Program Development and Extramural Programs, National Center for Health Statistics, Room 1100, 6525 Belcrest Road, Hyattsville, MD 20782, USA
Tel: 1 301 436 7050 ext. 142
Fax: 1-301-436-4233
email: dfp4@nch11A.em.cdc.gov

Assistant Professor Rosemary Roberts, Director, National Centre for Classification in Health, University of Sydney, P.O. Box 170, Lidcombe, NSW 2141, Australia
Tel: 61 2 9351 9461
Fax: 61 2 9351 9603
email: r.roberts@cchs.usyd.edu.au

Dr Harry M. Rosenberg, Chief, Mortality Statistics Branch, Division of Vital Statistics, National Center for Health Statistics, 6525 Belcrest Road, Hyattsville, MD 20782, USA
Tel: 1-301-436-8884 ext.175
Fax: 1-301-436-7066
email: hmr1@nch08a.em.cdc.gov

Professor Hisao Sato, Member of the Health and Welfare Statistics Council, Japan

Professor Augusto H. Santo, WHO Collaborating Centre for Classification of Diseases in Portuguese, School of Public Health of the University of Sao Paulo, Av. Arnaldo, 715, Sao Paulo, Brazil, CEP 01246-904
Telefax: 55 11 883 4246
email: auhsanto@usp.br

Dr Gunnar Schioler, Danish National Board of Health 13, Amaliegade, P.B. 2020, DK-1012, Copenhagen K, Denmark
Tel: 45 33911601
Fax: 45 33931636
email: gs@sst.dk

Professor Björn Smedby, Head, WHO Collaborating Centre for the Classification of Diseases in the Nordic Countries, Department of Social Medicine, University Hospital, S-751 85 Uppsala, Sweden
Tel: 46 18 54 26 56
Fax: 46 18 50 64 04
email: bs@socforsk.se

Dr Edward J. Sondik, Director, National Center for Health Statistics, 6525 Belcrest Road, Hyattsville, MD 20782, USA

Ms Yvonne Sutton, NHS Centre for Coding and Classification, Woodgate, Loughborough, Leicester LE11 2TG, England
Tel: 44 1509 211411
Fax: 44 1509 211611

Dr Nobumasa Tsujimura, Chief, Office of the ICD, Statistics and Information Department, Ministry of Health and Welfare, 1-2-3 Kasumigaseki Chiyoda-ku Tokyo 100, Japan
Tel: 81-3-3503-1711 (ext. 4123 or 4124)
Fax: 81-3-3595-1607
email: NT-PAG@mhw,go,jp (as of 2 December)

Dr Kazuo Uemura, Member of the Health and Welfare Statistics Council, Japan, Professor and Dean, Faculty of Economics, Ryutsukeizai University, Ryukasaki, 301 Japan
Tel: 81 297 64 0001
Fax: 81 297 64 0011

Dr Martti Virtanen, Finnish National Research and Development Centre for Welfare and Health, STAKES, Postbox 220, FI-00531, Helsinki, Finland,
Tel: 358 0 39 67 23 83
Fax: 358 0 39 67 23 24
email: marttiv@stakes.fi

Ms Sue Walker, Director, National Centre for Classification in Health, School of Public Health, Kelvin Grove Campus, Queensland University of Technology, Locked Mail Bag No 2, Red Hill, Queensland 4059, Australia
Tel: 61 738 645873
Fax: 61 738 645515
email: s.walker@qut.edu.au

WHO Secretariat

Dr Y. C. Chong, Acting Regional Adviser in Health Information, WHO Regional Office for the Western Pacific, United Nations Avenue, P.O. Box 2932, 1000 Manila, Philippines
Fax: 632 521 1036
email: chongyc@who.org.ph

Dr H.R. Hapsara, Director, Division of Health Situation and Trend Assessment, World Health Organization, Geneva, Switzerland
Tel: 41 22 791 2388
Fax: 41 22 791 4194
hapsarah@who.ch

Mrs Ratana Konsilp, Chief, ICD Co-operating Section, Health Information Division, Ministry of Public Health, Tivanond Rd., Nothaburi 11000, Thailand
Tel: 66 2 5901492
Fax: 66 2 5918629

Mr A.C.P. L'Hours, Division of Health Situation and Trend Assessment, World Health Organization, Geneva, Switzerland (Secretary of the meeting)
Tel: 41 22 791 2843
Fax: 41 22 791 4194

Dr Pichai Tangsin, Director, Health Information Division, Ministry of Public Health, Tivanond Rd., Nonthaburi 11000, Thailand
Tel: 66 2 590 1560
Fax: 66 2 591 8629
email: peach@health.moph.go.th

List of Documents

WHO/HST/ICD/C/96.1 Rev.1 Draft Agenda

WHO/HST/ICD/C/96.2 Rev.1 List of Participants

WHO/HST/ICD/C/96.3 Rev.1 List of Documents

WHO/HST/ICD/C/96.4 Annual Report of HST Classification-Related Activities

WHO/HST/ICD/C/96.5 Annual Report of the Activities of the WHO Collaborating Centre for the Classification of Diseases, Australia, 1996

WHO/HST/ICD/C/96.6 Annual Report of the Activities of the WHO Collaborating Centre for the Classification of Diseases in Portuguese, Brazil, 1996

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WHO/HST/ICD/C/96.12 Annual Report of the Activities of the WHO Collaborating Centre for the Classification of Diseases in the Nordic Countries, Sweden, 1996

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WHO/HST/ICD/C/96.18 Need for Clarification of the ICD-10 Mortality Coding Rules, by Mr Lars Age Johansson, by the WHO Collaborating Centre for the Classification of Diseases in the Nordic Countries and Statistics Sweden

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WHO/HST/ICD/C/96.21 Use of the Dagger and Asterisk System in National-Language Versions of ICD-10, by the Division of Health Situation and Trend Assessment

WHO/HST/ICD/C/96.22 International Collaborative Effort on Automating Mortality Statistics, by the WHO Collaborating Center for the Classification of Diseases for North America, U.S.A.

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WHO/HST/ICD/C/96.24 Progress on Reengineering the Death Registration System in the U.S., by the WHO Collaborating Center for the Classification of Diseases for North America, U.S.A.

WHO/HST/ICD/C/96.25 Results of Evaluation of ICD-10 for Morbidity Uses in the U.S., by the WHO Collaborating Center for the Classification of Diseases for North America, U.S.A.

WHO/HST/ICD/C/96.26 Update on ICIDH Activities in North America, by the WHO Collaborating Center for the Classification of Diseases for North America, U.S.A.

WHO/HST/ICD/C/96.27 Observations on ICD-10 for Mortality Uses in the United States, by the WHO Collaborating Center for the Classification of Diseases for North America, U.S.A.

WHO/HST/ICD/C/96.28 NCVHS Core Health Data Elements Project, by the WHO Collaborating Center for the Classification of Diseases for North America, U.S.A.

WHO/HST/ICD/C/96.29 Assessment of Two Alternative Methods (Guidelines or Examples) in Completing Death Certificates, by Gérard Pavillon and Eric Jougla, WHO Collaborating Center for the Classification of Diseases in French, France

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WHO/HST/ICD/96.52 Morbidity in Odontology According to the ICD-10 and the ICD-DA, by the WHO Collaborating Centre for Classification of Diseases in Portuguese, Brazil

WHO/HST/ICD/C/96.53 Limits on Extent of Changes to ICD-10, by Dr John Donovan, WHO Collaborating Centre for the Classification of Diseases for Australia