



## Education Module for Health Record Practice Module 5e (1)

### Coding Exercise 11 (ICD 9 & ICPM) Study Notes - ICPM & Other Disease Classification Systems

#### EXERCISE 11

1. Complete medical check up for insurance purposes - no abnormality detected \_\_\_\_\_
2. Removal of internal fixation device from healed fracture \_\_\_\_\_  
Operation: Removal of internal fixation device from bone \_\_\_\_\_
3. Typhoid carrier admitted for testing \_\_\_\_\_
4. Healthy baby admitted during mother's admission (boarder) \_\_\_\_\_
5. Elective vasectomy for family planning purposes \_\_\_\_\_  
Operation: Vasectomy \_\_\_\_\_
6. Admitted for coronary angiography \_\_\_\_\_  
Operation: Coronary angiography \_\_\_\_\_
7. Operative revision of colostomy \_\_\_\_\_  
Operation: Revision of colostomy \_\_\_\_\_
8. Removal of plaster from healed fracture of tibia and fibula \_\_\_\_\_  
Operation: Removal of plaster \_\_\_\_\_
9. Newborn infant with feeding problem admitted for formula check \_\_\_\_\_
10. Admitted for intensive physiotherapy (previous

- multiple fractures now healed) \_\_\_\_\_
11. Admission following abnormal pap smear \_\_\_\_\_  
Operation: Cone biopsy of cervix \_\_\_\_\_
12. Prophylactic tubal ligation \_\_\_\_\_  
Operation: Sterilization by tubal ligation \_\_\_\_\_
13. Insertion of Intrauterine Contraceptive Device (IUCD) \_\_\_\_\_  
Operation: Insertion of IUCD. \_\_\_\_\_
14. Evacuee following cyclone, accommodation only \_\_\_\_\_
15. Elderly man admitted for weekend care to relieve daughter \_\_\_\_\_
16. Admitted for check of right eye, previous left  
enucleation due to retinoblastoma \_\_\_\_\_
17. Elective circumcision \_\_\_\_\_  
Operation: Circumcision \_\_\_\_\_

## E. INTERNATIONAL CLASSIFICATION OF PROCEDURES IN MEDICINE (ICPM)

The International Classification of Procedures in Medicine (ICPM) is the first procedure classification published by the World Health Organization. It was published in 2 volumes on a trial basis (WHO, 1983).

In producing ICPM, the WHO laid down these requirements:

- (a) It should be susceptible to expansion for those who need greater detail, but it should also offer the possibility of use in a condensed form;
- (b) It should be applicable to inpatients and outpatients;
- (c) It should include all types of procedures to be recorded for statistical, administrative, clinical or research purposes; encompassing exploratory, radiological, surgical and other procedures of a diagnostic, prophylactic or therapeutic nature.

These requirements have produced a very comprehensive classification system, with a nine chapter format. The chapters are:

- I. Procedures for medical diagnosis.
- II. Laboratory procedures.
- III. Radiology and certain other applications of physics in medicine.
- IV. Preventive procedures.
- V. Surgical operations.
- VI. & VII. Drugs, medicaments and biological agents.
- VIII. Other therapeutic procedures.
- IX. Ancillary procedures.

ICPM is published in two volumes. Volume 1 contains chapters I, II, IV, V, VIII and IX, while chapters III, VI and VII appear as Volume 2. Most procedures usually coded in hospitals appear in chapter V, surgical operations. Some codes from chapters I, III and VIII are also widely used. The decision, of which chapters or codes will be used, rests with each institution. The hospital's decision may well be influenced by the requirements of the national morbidity statistics collection of each country. Few x-ray procedures are usually coded and therefore Volume 2 will not be taught in detail. The principles for the use of Volume 1 also apply to Volume 2.

### 1. Structure of Volume 1

The same general pattern is followed as the ICD9. The first section contains a tabular list of code numbers and inclusion terms which are followed by the alphabetical index.

Codes are numbered 1-100 to 9-823, the first digit denoting the chapter number. Optional fifth digits are provided in some sections; [for example, for codes 5-380 to 5-387, an optional fifth digit is provided for site specification].

a) Organisation within each Chapter

Each chapter is organised by the method most suitable; [for example, chapters III and V are subdivided according to anatomical divisions]. Since the most frequently used chapter for hospital coders is chapter V the organisation of this chapter is examined below in detail.

b) Chapter V

The first digit is the chapter number. The next two digits are the major anatomical sub-divisions. For example Code 5-55 Operations on Kidney. Within each anatomical sub-division the procedures are usually arranged in this order:

- Incisions (operative suffix - otomy)
- Excisions (operative suffix - ectomy)
- Reconstruction (operative suffix - plasty)
- Others

The use of inclusion terms and exclusion notes is similar to ICD9. The coder is referred to "other available codes" which further assists them in locating the appropriate code.

2. The Alphabetical Index

The index is organised in a similar fashion to the index of ICD9 with lead terms and indented modifiers. The lead terms refer to the type of procedure with sites indented.

The abbreviations NEC (not elsewhere classified) and NOS (not otherwise specified) are used. American spelling is used throughout; [for example, Caesarean section - see Cesarean].

a) Special Notes

Some procedures are classifiable to more than one chapter or code number, depending on the reason for the procedure being undertaken.

For example:

Cervical smear	1-472
Routine cervical smear	4-251
Episiotomy	5-738
Routine episiotomy	9-263
Appendectomy	5-470
Prophylactic appendectomy	5-982
Diagnostic Dilatation and curettage	5-690
Dilatation and curettage for termination of pregnancy	5-752

The chapter division has also resulted in treatment of fractures being divided into two chapters. Closed reductions of fractures appear in Chapter VIII and open reduction of fracture appears in Chapter V.

Terms which indicate the surgeon's access route are not coded if detail regarding the procedure carried out is available.

For example, if a laparotomy and appendicectomy are performed at the same operation, then the laparotomy is not coded. Laparotomy will be coded when no further procedure is performed.

Complete the following exercise using ICPM.



## F. OTHER DISEASE CLASSIFICATION SYSTEMS

A number of special classification systems are available and once you have mastered the coding procedure using ICD9 and ICPM you should be able to adapt this skill to other classification systems.

It is a matter of carefully reading the introduction and instructions for use of each system and then trialling the actual codes within the system. Some of the other systems include:

1. The International Classification of Diseases 9th Revision, Clinical Classification ICD-9-CM.

This is an adaptation or modification of ICD and was published in the USA by the Commission of Professional & Hospital Activities, Ann Arbor, Michigan. The first edition was printed in 1978 with a second printing in 1980 (CPHA, 1980).

ICD-9-CM has three volumes, including one of procedures. They are:

Volume 1 - Diseases: TABULAR LIST  
 Volume 2 - Diseases: ALPHABETICAL LIST  
 Volume 3 - Procedures: TABULAR LIST and ALPHABETICAL LIST

The ICD-9-CM is totally compatible with its parent system, ICD9, meeting the need for comparability of morbidity and mortality statistics at the International level. The Specifications for the Tabular List, the Alphabetical Index and Procedure Classification are as follows:

- a) Specifications for the Tabular List
  - (i) Three-digit rubrics and their contents are unchanged from ICD-9.
  - (ii) The sequence of three-digit rubrics is unchanged from ICD-9.
  - (iii) Three-digit rubrics are not added to the main body of the classification.
  - (iv) Unsubdivided three-digit rubrics are subdivided where necessary to:
    - Add clinical detail
    - Isolate terms for clinical accuracy
  - (v) The modification in ICD-9-CM is accomplished by the addition of a fifth digit to existing ICD-9 rubrics, except as noted under (vii) below.
  - (vi) Four-digit rubrics are added to subdivided three-digit codes only when there is no other means of achieving desired detail. These codes, unique to ICD-9-CM (twenty eight three-digit categories), are marked with the symbol [ ] in the Tabular List.
  - (vii) The optional dual classification in ICD-9 is modified.
    - Duplicate rubrics are deleted:

- Four-digit manifestation categories duplicating etiology entries.
  - Manifestation inclusion terms duplicating etiology entries.
  - Manifestations of diseases are identified, to the extent possible, by creating five-digit codes in the etiology rubrics
  - When the manifestation of a disease cannot be included in the etiology rubrics, provision for its identification is made by retaining the ICD-9 rubrics used for classifying manifestations of disease.
- (viii) The format of ICD-9-CM is revised from that used in ICD- 9.
- American spelling of medical terms is used.
  - Inclusion terms are indented beneath the titles of codes.
  - Codes not to be used for primary tabulation of disease are printed in italics with the notation, "code first underlying disease".
- b. Specifications for the Alphabetic Index
- (i) Format of the Alphabetic Index follows the format of ICD- 9.
  - (ii) Main terms in the Alphabetic Index are printed in bold type face.
  - (iii) When two codes are required to indicate etiology and manifestation, the optional manifestation code appears in brackets, (e.g. diabetic cataract 250.5 [366.41].)

The ICD-9-CM Procedure Classification is a modification of WHO's Fascicle V, "Surgical Procedures", and is published as Volume 3 of ICD-9-CM. It contains both a Tabular List and an Alphabetic Index. Greater detail has been added to the ICD-9-CM Procedure Classification necessitating expansion of the codes from three to four digits. Approximately 90% of the rubrics refer to surgical procedures with the remaining 10% accounting for other investigative and therapeutic procedures.

- c. Specifications for the Procedure Classification
- (i) The ICD-9-CM Procedure Classification is published in its own volume containing both a Tabular List and an Alphabetic Index.
  - (ii) The classification is a modification of Fascicle V "Surgical Procedures" of the ICD-9 Classification of Procedures in Medicine, working from the draft dated Geneva, 30 September-6 October 1975, and labeled WHPO/ICD-9/Rev. Conf. 75,4.
  - (iii) All three-digit rubrics in the range 09-86 are maintained as they appear in

Fascicle V, whenever feasible.

- surgical
- (iv) Nonsurgical procedures are segregated from the surgical procedures and confined to the rubrics 87-99, whenever feasible.
  - (v) Selected detail contained in the remaining fascicles of the ICD-9 Classification of Procedures in Medicine is accommodated where possible.
  - (vi) The structure of the classification is based on anatomy rather than specialty.
  - (vii) The ICD-9-CM Procedure Classification is numeric only, i.e. no alphabetic characters are used.
  - (viii) The classification is based on a two-digit structure with two decimal digits where necessary.
  - (ix) Compatibility with the ICD-9 Classification of Procedures in Medicine was not maintained when a different axis was deemed more clinically appropriate.

2. The International Classification of Health Problems in Primary Care ICHPPC-2-Defined

This Manual was prepared by the Classification Committee of WONCA (World Organization of National Colleges, Academies, and Academic Associations of General Practitioners (Family Physicians) in collaboration with the World Health Organization. The 3rd edition was published in 1983 and is an adaptation of ICD9 intended for use in general medicine (WHO, 1983).

It consists of one volume with five distinctive parts:

- a) the first part covers the introduction definition, guidelines for uses and an abbreviation key
- b) the second part is the major section, which is the TABULAR CLASSIFICATION
- c) Appendix 1 - features condensed titles for machine processing and computer printouts
- d) Appendix 2 - an international glossary for primary care
- e) this last part is the ALPHABETIC INDEX.

It is a small, easy to use classification which will be reviewed regularly and will be revised at least as often as ICD.

3. International Classification of Impairments, Disabilities and Handicaps

This is a manual of classification relating to the consequences of disease published by the World Health Organization in 1980. In addition to the introduction it has four major sections. These are:

**Section 1: The Consequences of Disease.**

Using the sequence underlying illness related phenomena such as disease ----- impairment ----- disability ----- handicap.

The nature of these different dimensions of the consequences of disease, their definition, and the basis for developing three separate classification schemes are considered at length in this section.

**Section 2: Classification of Impairment.**

This is a list of two-digit categories covering impairments relating to intellect, language, hearing sight, internal organs and other special functions, musculo-skeletal impairments, disfiguring and generalised, sensory and other impairments.

**Section 3: Classification of Disabilities.**

This is a list of two digit categories covering disabilities relating to behaviour, communication, personal care, locomotor, body disposition, dexterity, situation, particular skills and other activity restrictions.

**Section 4: Classification of Handicap.**

Is also a list of two digit codes. This section covers handicaps related to orientation, physical independence, mobility, occupation, social integration, economic self-sufficiency and other handicaps.

By carefully reading the introduction and Section 1, the participant should be able to use this classification in specialty areas of care and rehabilitation (WHO, 1980).

**4. International Classification of Diseases for Oncology**

This is another classification published by the World Health Organization in 1976.

It represents an extension of Chapter II (Neoplasms) of the Ninth Revision of the International Classification of Diseases (ICD9) and permits the coding of all neoplasms by topography (site), histology (morphology) and behaviour. That is, malignant, benign, in-situ, of uncertain behaviour, or metastatic. A separate code for histologic grading and differentiation has also been included (WHO, 1976).

The introduction to the classification covers STRUCTURE with explanations on abbreviations, the Format of ICD-0 terms, TOPOGRAPHY including the relationship of ICD-0 to ICD-9 and MORPHOLOGY. The introduction also includes detailed explanations on codes for histologic grading and differentiation, site-specific morphology terms, multiple neoplasms, cytology diagnosis and a summary of principal rules and conventions for using ICD-0.

If contemplating using this classification, it is again important to stress the need to carefully read this first section of the classification.

The rest of the manual covers:

- TOPOGRAPHY - NUMERICAL LIST
- MORPHOLOGY OF NEOPLASMS - NUMERICAL LIST
- ALPHABETIC LISTING
- TUMOR-LIKE LESIONS AND CONDITIONS

The ICD-0 would be a very useful system for a special oncology unit requiring a more detailed data collection than achieved by using ICD-9.

There are several other systems available and participants should become familiar with the ones available and used in their country. The rule to carefully read the introduction and instructions, however, must be adhered to at all times before attempting to use the system.

As mentioned previously, coding is not an end to itself. Coding is undertaken to enable the retrieval of information on the incidence and nature of diseases, the distribution patterns of disease within a health facility, community, city, or country and for other research and epidemiological study. The next step, therefore, is the recording of data for retrieval. This is accomplished by INDEXING.

## **G. DISEASE AND PROCEDURE INDEX**

A disease index lists diseases and conditions according to the classification system or code numbers assigned by the health record staff. The procedure index lists surgical procedural codes also assigned by health record staff. The disease or procedure index may be used by the medical staff for the following purposes:

- \* to review cases of a given disease in order to provide insight into the management of a current health problem
- \* compare data on certain diseases and/or treatment in order to conduct research and prepare scientific papers
- \* to obtain data on the utilisation of hospital facilities and to determine the need for new equipment, beds, staff, etc.
- \* evaluate the quality of care in the hospital
- \* conduct epidemiologic and infection control studies
- \* determine the incidence of medical and surgical complications (Huffman, 1990)

In addition to the above use by medical staff the disease and procedure indexes are used by hospital administrations, planning teams, state and national health authorities and other authorised persons. Some other uses of these indexes include:

- providing information for accreditation and licensing agencies

- providing information for accrediting internship and residency programmes
- providing educational material for medical students, nursing students, etc.

Each hospital or clinic should determine their own particular needs when setting up a coding and disease and procedure index procedure. Points to be considered include:

- Is there a need for an index?
- Who is going to use it?
- What information will be requested?
- Who is going to do the coding and the indexing?

Careful planning is important as with any procedure in a health record department.

#### 1. Content of the Disease and Procedure Index

These indexes really only require two items of information - the patient's hospital file number, and the disease and procedure codes. It is generally considered however that the disease and procedure indexes should provide sufficient information to prepare statistical reports and requests. The type of information generally collected, in addition to the patient's hospital file number and the principle diagnosis and major surgical procedure code, therefore include:

- patient's sex and age
- name of the attending doctor and service under which the patient was treated - such as medicine, surgery, cardiology, etc.
- end results of hospitalisation - that is whether the patient was discharged alive or died in hospital
- admission and/or discharge date
- associated diseases and procedures

The disease or procedure index may be set up as a simple or cross index. Again this will depend on the hospital's needs.

- Simple Index - in this index entries are made for each disease without any reference to other code numbers assigned to that patient
- Cross Index - in this index reference is made to code numbers for all diseases and operations a patient may have had during hospitalisation. This is very time-consuming in a manual index, but readily available with automated systems.

## 2. Coding and Indexing

Indexing can only follow coding, however, and coding is of no value unless an index is maintained. The procedure for coding and indexing is as follows:

### a) Coding

Following the discharge of a patient and the completion of the health record by the attending doctor, the health record staff member trained in coding, reviews the health record and codes the diseases and procedures as shown on the front sheet. The staff member then places the relevant code number beside each diagnosis and operation listed. A more detailed coding procedure was discussed earlier in this unit.

### b) Indexing

An index card is usually prepared for each code number listed in the classification. The top of the card should contain the code number, title of disease or procedure, year and card number. The body of the card contains spaces for the hospital file number, age and sex of patient, result, space for decimal digit breakdown of code, and attending doctor's name.

## 3. Equipment

Small indexes may be filed in visible filing equipment where the title of the cards are visible. Alternatively, vertical index drawers are usually used in larger hospitals because they require less space.

## 4. Automated Coding & Indexing

Automating the data entered on a disease or procedure index is usually one of the first computer applications in the health record department. It is fairly simple to plan. With the help of a systems analyst, an appropriate system could be developed with a minimum of effort.

## **SUMMARY**

The classification of diseases and the subsequent indexing of data for retrieval purposes is one of the most important functions of a health record department. Health record officers have a duty to ensure that data produced is accurate and readily available when required.

## **REVIEW QUESTIONS**

1. Why are diseases and procedures coded?

2. What is the function of a disease and procedures index?
3. What information is displayed on a disease index?
4. What is the difference between a simple and a cross index?
5. Why is it important to read the introduction and instructions section of classification manuals?
6. What is meant by the "Dual System" in the ICD-9?
7. What are the important coding conventions used in ICD-9?
8. Why is it important to have a uniform system of disease classification?

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