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FACULTY OF NURSING

Chapter-01



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ICD-10

International
Statistical
Classification
of Diseases and
Related Health
Problems

10th Revision

Volume 2
Instruction manual

2010 Edition



World Health
Organization

*International
Classification
of
Diseases-10
(ICD-10)*

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Statistical Classification of *Disease*

It is a

method of grouping of **items** scientifically
according to **purpose**

&

codifying them with numerical (or alpha-
numerical) identification according to certain
principles.



Fundamental behind it

- A statistical classification can allow for different levels of detail if it has a hierarchical structure with subdivisions.
- It should retain the ability both to identify specific disease entities and to allow statistical presentation of data for broader groups, to enable useful and understandable information to be obtained.

WHO Family of International Classifications

- **'Family'** designates a suite of integrated classification products that share similar features and can be used singularly or jointly to provide information on different aspects of health and the health-care system.
- **The WHO Family of International Classifications (WHO-FIC)** attempts to serve as the framework of international standards to provide the building blocks of health information systems

Types of classifications in

the WHO-ICD

○ Reference classifications

○ Derived classifications

○ Related classifications



Reference classifications

- Cover the main parameters of the health system, such as death, disease, functioning, disability, health and health interventions.
- Product of international agreements.
- Achieved broad acceptance and official agreement for use
- Approved and recommended as guidelines for international reporting on health.



Reference classifications

E.g.

- International Classification of Diseases (ICD)
- International Classification of Functioning, Disability and Health (ICF)
- International Classification of Health Interventions (ICHI)



Derived classifications

Prepared either by

- adopting the reference classification structure, or
- through rearrangement or aggregation of items from one or more reference classifications.
- Provide additional detail beyond that provided by the reference classification
- Often tailored for use at the national or international level.



Derived classifications

- It include specialty-based adaptations of ICF and ICD, such as
 - the International Classification of Diseases for Oncology
 - the ICD-10 for Mental and Behavioural Disorders and
 - the Application of the International Classification of Diseases to Neurology (ICD-10-NA)



Related classifications

- Related classifications are those that
 - partially refer to reference classifications, or
 - that are associated with the reference classification at specific levels of the structure only.

E.g.

- International Classification of Primary Care (ICPC-2),
- International Classification of External Causes of Injury (ICECI),
- Technical aids for persons with disabilities: Classification and terminology



ICD

- Represents International Statistical Classification of Diseases and Related Health Problems.
- Can be defined as a system of categories to which morbid entities are assigned according to established criteria.
- Used to translate diagnoses of diseases and other health problems from words into an alphanumeric code.



Purpose and uses

- The ICD is the foundation for the identification of health trends and statistics globally.
- It is the international standard for defining and reporting diseases and health conditions.
- These entities are listed in a comprehensive way so that everything is covered.
- ICD allows the counting of deaths as well as diseases, injuries, symptoms, reasons for encounter, factors that influence health status, and external causes of disease.



Purpose and uses

It organizes information into standard groupings of diseases, which allows for:

- easy storage, retrieval and analysis of health information for evidence-based decision-making;
- sharing and comparing health information between hospitals, regions, settings and countries; and
- data comparisons in the same location across different time periods.



Purpose and uses

- It is the diagnostic classification standard for all clinical and research purposes.
- These include
 - monitoring of the incidence and prevalence of diseases,
 - observing reimbursements and resource allocation trends, and
 - keeping track of safety and quality guidelines.

EVOLUTION

OF ICD

Conceived the idea
of classification of
diseases

&

published it
under the title

***Nosologia
methodica***



**Francois Bossier de Lacroix
(1706-1777)**

EVOLUTION

OF ICD

a great
methodologist
and
contemporary of
Lacroix
published
his work under
the title

Genera morborum



Linnaeus (1707-1778)

EVOLUTION

OF ICD

simplified the system
for general use
&
published it under
the title

***Synopsis
nosologiae
methodicae***



William Cullen (1710-1790)

EVOLUTION

OF ICD

first medical statistician of the General Register Office of England and Wales submitted his *Report in 1855 on nomenclature and statistical classification of diseases,* in which he included most of those diseases that affect health and that are fatal.



William Farr (1807-1883)

A Beginning of Modern *Classification*

Chief of Statistical Services
of Paris,
prepared classification
based on
the principle of distinguishing
between
general diseases and those
localized to a particular
organ or anatomical site.
This was adopted in 1893.



Jacques Bertillon(1851-1922)



A Beginning of Modern *Classification*

- The French Government, called the **first International Conference for the Revision** of the Bertillon, in Paris in **1900**, thus beginning a series of revision conferences approximately 10 years apart
- The **Sixth Decennial Revision Conference** in 1948 was a significant event in international vital and health statistics.
- It recommended the adoption of a comprehensive programme of international cooperation in the field of vital and health statistics.



ICD Revisions

- The **Seventh Revision Conference** was held in **Paris** in **1955** and, the revision was limited to essential changes.
- The **Eighth Revision Conference** was convened by WHO in **Geneva** in **1965**. The Eighth Revision was much more extensive.
- The **International Conference for the Ninth Revision** was convened by WHO in **Geneva** in **1975** and it came into effect from 1979.



ICD Revisions

- **ICD-10** was endorsed by the Forty-third World Health Assembly in May 1990 and came into use in WHO Member States as from **1994**.
- **India** adopted this classification in the year **2000**.



ICD-9 & ICD-10

- Much larger than ICD-9
- ICD-10 has 21 chapters against 17 Chapters in ICD-9
- Numeric codes (001-999) were used in ICD-9 where as an alphanumeric coding, (A00-Z99) has been adopted in ICD-10.
- It enlarged the number of categories available for the classification.
- Further detail by means of decimal numeric subdivisions at the four character level.



Primary users

- Users include
 - physicians,
 - nurses,
 - health workers,
 - researchers,
 - health information managers,
 - policy-makers,
 - insurers and
 - national health programme managers

Structure and Principles of *ICD*

- Originally conceived by William Farr
- The Classification is grouped as below:
 - Epidemic diseases
 - Constitutional or general diseases
 - Local diseases arranged by site
 - Developmental diseases
 - Injuries.



Volumes of ICD-10

- **Volume 1: Main classifications**
- **Volume 2: Instruction/ Guidance to users**
- **Volume 3: Alphabetical Index**



Chapters of ICD-10

- **Chapters I to XVII:** Diseases and other morbid conditions
- **Chapter XVIII:** Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified.
- **Chapter XIX:** Injuries, poisoning and certain other consequences of external causes.
- **Chapter XX:** External causes of morbidity and mortality,
- **Chapter XXI:** Factors influencing health status and contact with health services.

Chapters of ICD-10

- The chapters are subdivided into homogeneous "blocks" of three-alphanumeric character categories. E.g.,
- **Chapter I: (A00-B99):** *Certain infectious and parasitic disease.*
- A00-A09 Intestinal infectious diseases
- A15-A19 Tuberculosis
- A20-A28 Certain zoonotic bacterial diseases
- A30-A49 Other bacterial diseases

International Statistical Classification of Diseases and Related Health Problems 10th

Revision

Chapter	Blocks	Title
I	<u>A00–B99</u>	Certain infectious and parasitic diseases
II	<u>C00–D48</u>	Neoplasms
III	<u>D50–D89</u>	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
IV	<u>E00–E90</u>	Endocrine, nutritional and metabolic diseases
V	<u>F00–F99</u>	Mental and behavioural disorders
VI	<u>G00–G99</u>	Diseases of the nervous system
VII	<u>H00–H59</u>	Diseases of the eye and adnexa

International Statistical Classification of *Diseases and Related Health Problems* 10th Revision

Chapter	Blocks	Title
VIII	<u>H60–H95</u>	Diseases of the ear and mastoid process
IX	<u>I00–I99</u>	Diseases of the circulatory system
X	<u>J00–J99</u>	Diseases of the respiratory system
XI	<u>K00–K93</u>	Diseases of the digestive system
XII	<u>L00–L99</u>	Diseases of the skin and subcutaneous tissue
XIII	<u>M00–M99</u>	Diseases of the musculoskeletal system and connective tissue
XIV	<u>N00–N99</u>	Diseases of the genitourinary system

International Statistical Classification of *Diseases and Related Health Problems* 10th Revision

Chapter	Blocks	Title
XV	<u>O00–O99</u>	Pregnancy, childbirth and the puerperium
XVI	<u>P00–P96</u>	Certain conditions originating in the perinatal period
XVII	<u>Q00–Q99</u>	Congenital malformations, deformations and chromosomal abnormalities
XVIII	<u>R00–R99</u>	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified
XIX	<u>S00–T98</u>	Injury, poisoning and certain other consequences of external causes
XX	<u>V01–Y98</u>	External causes of morbidity and mortality
XXI	<u>Z00–Z99</u>	Factors influencing health status and contact with health services
XXII	<u>U00–U99</u>	Codes for special purposes

Basic coding guidelines

- The basic ICD is a single coded list of **three-character categories**, each of which can be further divided into up to **10 four-character subcategories**.
- Three-character categories is mandatory level of coding for international reporting to the WHO mortality database and for general international comparisons.
- Tenth Revision uses an alphanumeric code with a letter in the first position and a number in the second, third and fourth positions.



- Some three-character categories have been left vacant for future expansion / Revision
- Codes U00–U49 are to be used by WHO for the provisional assignment of new diseases of uncertain etiology.
- Codes U50–U99 may be used in research, e.g. when testing an alternative sub-classification for a special project.

Contd...

- The fourth character follows a decimal point.
- Possible code numbers therefore range from A00.0 to Z99.9.
- Fill fourth position with **X** , when sub-division is not there, so that the codes are of a standard length for data-processing.



Contd...

- A00 Cholera
 - A01 Typhoid and paratyphoid fevers
 - A02 Other salmonella infections
 - A03 Shigellosis
 - A04 Other bacterial intestinal infections
- Excl.: foodborne intoxications elsewhere
classified
tuberculous enteritis (A18.3)

Contd...

- A01** **Typhoid and paratyphoid fevers**
- A01.0 Typhoid fever
Infection due to *Salmonella typhi*
- A01.1 Paratyphoid fever A
- A01.2 Paratyphoid fever B
- A01.3 Paratyphoid fever C
- A01.4 Paratyphoid fever, unspecified
Infection due to *Salmonella*
paratyphi NOS



Contd...

The fifth and subsequent character levels are usually sub-classifications along a different axis from the fourth character. They are found in:

- **Chapter XIII-** subdivisions by anatomical site
- **Chapter XIX-** subdivisions to indicate open and closed fractures as well as intracranial, intrathoracic and intra-abdominal injuries with and without open wound
- **Chapter XX-** subdivisions to indicate the type of activity being undertaken at the time of the event.

Contd...

M02 Reactive arthropathies

Excl.: Behçet disease (M35.2)

Rheumatic fever (I00)

M02.0 Arthropathy following intestinal bypass

M02.1 Postdysenteric arthropathy

M02.2 Postimmunization arthropathy

Site code-

- 0 Multiple sites
- 1 Shoulder region
- 2 Upper arm

Contd...

- **Inclusion terms-** Within the three- and four-character rubrics, there are usually listed a number of other diagnostic terms.
- These are known as 'inclusion terms' and are given, in addition to the title.
- **Rubric -** In the context of the ICD, rubric denotes either a three-character category or a four-character subcategory.



Contd...

- **Exclusion terms-** Certain rubrics contain lists of conditions preceded by the word “Excludes”. These are terms which are classified elsewhere.
- **A06** Amoebiasis
 - Incl.: infection due to *Entamoeba histolytica*
 - Excl.: other protozoal intestinal diseases (A07.-)



Contd...

- **Glossary descriptions-** Chapter V, Mental and behavioural disorders, uses glossary descriptions to indicate the content of rubrics.
- This device is used because the terminology of mental disorders varies greatly

2 codes for certain conditions

The “dagger and asterisk” system

- There are two codes for diagnostic statements containing information about both
 - an **underlying generalized disease** and
 - a **manifestation** in a particular organ or site which is a clinical problem in its own right.
- This convention was provided because coding to underlying disease alone was often unsatisfactory for compiling statistics relating to particular specialties.

Contd...

- The **primary code** is for the **underlying disease** and is marked with a dagger (†);
- an **optional additional code** for the **manifestation** is marked with an asterisk (*).

E.g.,

<u>A17</u> †	Tuberculosis of nervous system
A17.0 †	Tuberculous meningitis (G01*)
A17.1 †	Meningeal tuberculoma (G07*)

Contd...

- It is a principle of the ICD that the dagger code is the primary code and must always be used.
- For coding, the asterisk code must never be used alone.
- However for morbidity coding, the dagger and asterisk sequence may be reversed when the manifestations of a disease is the primary focus of care.

Contd...

Rubrics in which dagger-marked terms appear may take one of three different forms.

○ If the dagger (†) and the alternative asterisk code both appear in the rubric heading, all terms classifiable to that rubric are subject to **dual classification** and all have the **same alternative code**, e.g.:

A17.0† Tuberculous meningitis (G01*)

Tuberculosis of meninges (cerebral)
(spinal)

Tuberculous leptomeningitis.



Contd...

If the dagger appears in the rubric heading but the alternative asterisk code does not, all terms classifiable to that rubric are subject to **dual classification** but they have **different alternative codes** (which are listed for each term), e.g:

A18.1† Tuberculosis of genitourinary system

Tuberculosis of:

- bladder (N33.0*)
- cervix (N74.0*)
- kidney (N29.1*)



Contd...

If neither the dagger nor the alternative code appears in the title, the rubric as a whole is not subject to dual classification but **individual inclusion terms** may be; if so, **these terms will be marked with the dagger and their alternative codes given**, e.g.:

○ A02.2 Localized salmonella infections

Salmonella:

arthritis† (M01.3*)

meningitis† (G01*)



Volume 3

Volume 3 is divided into three sections as follows:

Section-I lists all the terms classifiable to **Chapters I-XIX and Chapter XXI**, except drugs and other chemicals.

Section II is the index of external causes of morbidity and mortality and contains all the terms classifiable to **Chapter XX**, except drugs and other chemicals.

Volume 3

- **Section III** gives Table of **Drugs and Chemicals** lists for substance the codes for **poisonings & adverse effects of drugs** (under Chapter XIX)
- This volume also includes the Chapter XX codes that indicate whether the poisoning was accidental, deliberate (self-harm), undetermined, or an adverse effect of a correct substance properly administered.



WHO: Help-Line

- There are nine WHO Collaborating Centres for Classification of Diseases, who assist countries with problems encountered in the development and use of health-related classifications and, in particular, in the use of the ICD
- *Australia, England and USA for English knowing countries.*
- *Besides, there are at France, Russia, China, Venezuela Sweden, Brazil*



Problem encountered

- Size of the Classification
- No formal training
- No user-friendly software to guide
- Inadequate staff in MRD
- Use of nonstandard abbreviations
- Delay/ incomplete case sheets
- Procedure (instead of diagnosis) are written
- Manually done – very slow and difficult



ICD 11 at Door step

- The 11th version, ICD-11, is now being prepared. The development phase will continue for three years and ICD-11 will be finalized in 2015.
- Nearly 20 years have passed since the tenth revision was published. Much has changed:
 - **Subject matter:** e.g. due to better understanding of the genetic basis of some diseases
 - **Context:** e.g. the rise of electronic health records & terminologies



Construction of ICD-11

- **Internet-based permanent platform**

- **All year round**

- **Open to all people** in a structured way

- **Content experts** focus

- **Digital** curation

- **Wiki** enabled collaboration

- **Ontology** based

- Enhanced **discussion & peer review**

- TAGs serve as the editorial group

- Electronic copy print version (**multiple languages**)



ICD 11

- For the first time, through advances in information technology, public health users, stakeholders and others interested can provide input to the beta version of ICD-11 using an online revision process.
- Peer-reviewed comments and input will be added through the revision period.
- When finalized, ICD-11 will be ready to use with electronic health records and information systems.



ICD Limitations

- ICD does not provide sufficient detail for some specialties and sometimes information on different attributes of health conditions may be needed.
- The ICD also is not useful to describe functioning and disability as aspects of health, and does not include a full array of health interventions or reasons for encounter.



PGIMS

- ICD 10 - implemented from 2004.
- ICD 10 coding - done by the Medical Record Technicians (4)
- Used only for indoor patients.
- Officer in- charge – Dr. Sukhbir Brar (DMS)
- In-charge – Mr. Suresh (Statistical Assistant)

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Thank you