

International Classification of Diseases (ICD) and Standard Clinical Reference Terminologies: A 21st Century Informatics Solution

The World Health Organization's (WHO) ongoing mission to expand and improve the collection of global information related to diseases and health conditions reflects the importance of working to improve the picture of the diseases affecting our populations. Decision makers can act in a timely and efficient manner to provide care, and whenever possible, to prevent disease and injury when the data is available to them. International classifications are foundational to this work. One in particular is the International Classification of Diseases (ICD). This classification is the international standard diagnostic classification that organizes content into meaningful standardized categories and enables the storage and retrieval of diagnostic information for epidemiological and research purposes. ICD also provides the basis for the compilation of national mortality and morbidity statistics by WHO Member States. With origins dating as far back as the 1850s, the tenth revision of ICD came into use in 1994. Work currently is underway on the eleventh revision.

In comparison, clinical reference terminologies, specifically those used to support clinical decision-making and interoperability, have only in the last 10 or so years become an adopted standard at the national and global level. A standard clinical reference terminology enables clinicians to represent detailed information in a consistent, reliable, and comprehensive way. One example of an international standard clinical reference terminology is the Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT). According to the International Health Terminology Standards Development Organisation (IHTSDO), SNOMED CT is a comprehensive clinical terminology that provides the core general terminology for the electronic health record (EHR).

ICD-10 and SNOMED CT contribute to the improvement of the quality and safety of healthcare and provide effective access to information required for decision support and consistent reporting and analysis.

Until recently classifications and terminologies were created separately and used independently of each other. However, with the transition from capturing data on paper to the use of computer applications, now ICD and standard clinical reference terminologies can work in a complementary way to address standardized data and accurate information for the 21st century healthcare system. This approach holds promise to improve quality of health and healthcare. Linked together, ICD and standard clinical reference terminologies support better data collection, more efficient reporting, interoperability of data, and reliable information exchange in health information systems. Used together in an appropriate manner, healthcare systems will benefit from better data while reducing data capture and reporting costs.

Recognizing that synergies between classifications and terminologies are an important 21st century health informatics solution, WHO and IHTSDO agreed to:

1. Link the WHO Family of International Classifications and SNOMED CT and
2. Leverage SNOMED CT in the development of the 11th revision of the ICD classification.

Through the ongoing collaboration between WHO and IHTSDO, ICD and SNOMED CT are being strengthened by joint efforts to improve the process of encoding clinical and administrative data and support evidence based care. A comparison of the two systems is found on page 2.

*This document has been produced by the WHO Family of International Classifications Network
[<http://www.who.int/classifications/en/>].*

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Facts to Consider When Using ICD and SNOMED CT in Electronic Health Record Systems

Key Facts about ICD	Key Facts about SNOMED CT
ICD arranges diseases and other health problems into standardized, manageable categories.	SNOMED CT is multidimensional where concepts are organized in hierarchies.
ICD uses alphanumeric codes, which permits computer systems integration, analysis, interpretation and comparison of mortality and morbidity data.	SNOMED CT uses numeric codes representing concepts released in formats suitable for computer systems integration.
As a systematic classification based on aetiology, ICD is an excellent choice for encoding and reporting information from a health record.	As a clinical healthcare terminology with definitional characteristics, SNOMED CT is an excellent candidate for clinical use and computer-based systems.
ICD enables the storage and retrieval of diagnostic information for epidemiological and research purposes.	SNOMED CT supports clinical documentation and clinical decision-making.
ICD-10 is available in Arabic, Chinese, English, French, Russian and Spanish as well as in 37 other languages such as Danish, German, Japanese, Lithuanian, and Swedish.	SNOMED CT is available in US English, UK English, Spanish, Danish and Swedish. Translations into French, Lithuanian, and several other language translations are under development.
WHO holds copyright to ICD-10. The WHO-Family of International Classifications (WHO-FIC) Network includes all designated WHO-FIC Collaborating Centres, the responsible area of WHO Headquarters and all Regional Offices. WHO works with the Collaborating Centres to develop, disseminate, implement and update the family of international classifications. ICD-10 is available from WHO, the Collaborating Centres and other distributors.	SNOMED CT is owned, maintained and distributed by IHTSDO. An Affiliate License or End-User Sub-license is required to use SNOMED CT. A license may be obtained from an IHTSDO member country's National Release Centers. Affiliate Licences are also available from IHTSDO to SNOMED CT users in low-income countries and those who reside outside a Member country.
WHO-FIC's Update and Revision Committee (URC) maintains ICD-10. A Collaborating Centre assembles proposals for amendments or additions to the classifications based on user feedback. The URC reviews the submissions and recommends changes to the Heads of WHO Collaborating Centres for the FIC who ratify the updates each year.	IHTSDO maintains SNOMED CT. Member countries coordinate change requests. Member National Release Centers and other authorized users request changes or additions to SNOMED CT International Release (IR) content via the online request submission system. Requests are evaluated by IHTSDO and those meeting the IR inclusion criteria are addressed. Revisions are released twice a year.
An IHTSDO and WHO collaboration has resulted in a priority set of cross maps from SNOMED CT to ICD-10 to support the epidemiological, statistical and administrative reporting needs of the IHTSDO member countries, WHO Collaborating Centres, and other interested parties. Approximately 19,000 SNOMED CT concepts have been mapped to ICD-10. Maintenance, updates, and additional content are under development.	