

# **Clinical Classifications Software (CCS) for ICD-10 data, 2001 Software and User=s Guide**

## **Overview**

Clinical Classifications Software for ICD-10 provides a way to classify diagnoses into a limited number of categories. The ICD-10 CCS is based on the International Statistical Classification of Disease and Related Health Problems, Tenth Revision. CCS aggregates individual ICD-10 into broad diagnosis groups for statistical analysis and reporting. This document provides a description of the ICD-10 CCS categorization scheme. Electronic files containing the translation of ICD-10 diagnosis codes into CCS categories can be downloaded from this site. (CCS was formally called CCHPR, Clinical Classifications for Health Policy Research.)

CCS is continually updated. The current version is based on ICD-10 codes that are valid through September 2001.

## **Purpose**

CCS categories can be employed in many types of projects analyzing data on diagnoses. For example, they can be used to:

- ! identify cases for disease-specific studies;
- ! gain a better understanding of the distribution of certain conditions across disease groupings;
- ! examines trends in mortality by broad diagnosis groupings.

In the U.S. mortality data have been coded using ICD-10 since 1999. The diagnosis section of the CCS has now been translated into ICD-10 to facilitate its use with mortality data.

## **History of CCS Development**

Clinical Classifications for Health Policy Research (CCHPR) Version 1 was the initial endeavor to construct clinically meaningful categories of diagnoses and procedures. The determining factor in creating these categories was the extent to which conditions and procedures could be grouped into relatively homogeneous clusters of interest to public policy researchers. CCHPR Version 1 consisted of 185 summary diagnosis categories and 172 summary procedure categories (Elixhauser, Andrews, and Fox, 1993).

CCHPR Version 2 was derived from the Version 1 summary diagnosis and procedure categories. Version 1 categories were modified on the basis of clinical homogeneity, frequency of occurrence in inpatient discharge data, and ICD-9-CM coding changes. The number of discharges in all categories was computed using 1991 California hospital inpatient data on all-listed diagnoses and all-listed procedures from the Healthcare Cost and Utilization Project State Inpatient Databases (SID).

The modified CCHPR schemes went through reviews during which the categories and ICD-9-CM code assignments were evaluated for accuracy and clinical significance. The reviews were conducted by trained medical records personnel and a physician with experience in medical classification. During this review process, additional categories were created, other categories were collapsed, and codes were reassigned when appropriate.

Version 2 contained more categories than Version 1. Some conglomerate categories (e.g., "Other gastrointestinal procedures") and high-frequency categories (e.g., "Pregnancy-related conditions") were divided into smaller, more clinically homogeneous groups.

With the 1999 update, an additional classification scheme is introduced, E codes (external causes of injury) receive special treatment, and the name is changed to Clinical Classification Software (CCS), reflecting the broader use of the classifications beyond health policy research. The single-level CCS is identical to CCHPR Version 2, updated for FY1999 ICD-9-CM coding changes. However, while E codes were previously aggregated into a single category, now users are given the option of classifying E codes into categories based on a scheme developed by the Centers for Disease Control. The multi-level CCS is a hierarchical system that groups single-level CCS categories into broader categories and splits single-level CCS into finer categories to provide more detail.

Beginning in 1999, ICD-10 has been used to code causes of death in U.S. mortality data. The single-level diagnosis section of the CCS has been translated into ICD-10 to facilitate its use with these data.

### **Description of ICD-10 CCS**

The single-level diagnosis ICD-10 CCS aggregates illnesses and conditions into 259 mutually exclusive categories, most of which are clinically homogeneous. Some heterogeneous categories were necessary; these combine several less common individual conditions within a body system.

The category names for the single-level diagnosis ICD-10 CCS are presented in Table 1.

### **Time period covered by ICD-10 CCS**

The 2001 version of the CCS is valid through September 2001. The codes will be updated annually, as ICD-10 codes are modified.

### **Description of Downloadable Files**

ICD10CCS.TXT is an ASCII (DOS text) file that translates ICD-10 codes into single-level CCS diagnosis categories. You will require 1,220,000 bytes free to accommodate this file.

DXLABEL.TXT is an ASCII (DOS text) file that contains the full descriptive single-level CCS diagnosis category names to use when reporting the diagnosis categories.

### **Using translation files**

For the ICD-10 CCS, the translation files translate specific ICD-10 codes into CCS categories.

How you use these files will depend on the software system being used. For example, if you are using SAS, you can adapt these translations to create a SAS PROC FORMAT. If you are using SPSS, you can adapt these translations into VALUE LABELS or into a series of recodes.

### **Representation of ICD-10 diagnosis codes**

In practice, ICD-10 diagnoses are represented by 3- to 5-character codes with explicit decimals. Each code begins with an alphabetic character that generally corresponds to the ICD-10 chapter:

A-B	Infectious and parasitic diseases
C	Malignant neoplasms
D00-D09	In situ neoplasms
D50-D89	Diseases of blood, blood-forming organs, immune mechanism
E	Endocrine, nutritional, and metabolic disease
F	Mental and behavioral disorders
G	Diseases of the nervous system
H00-H59	Diseases of the eye and adnexa
H60-H95	Diseases of the ear and mastoid process
I	Diseases of the circulatory system
J	Diseases of the respiratory system
K	Diseases of the digestive system
L	Diseases of skin and subcutaneous tissue
M	Diseases of the musculoskeletal system and connective tissue
N	Diseases of the genitourinary system
O	Pregnancy, childbirth, and the puerperium
P	Certain conditions originating in the perinatal period
Q	Congenital malformations, deformations, and chromosomal abnormalities
R	Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified
S-T	Injury, poisoning, and certain other consequences of external causes
V-Y	External causes of morbidity and mortality
Z	Factors influencing health status and contact with health services

In the files you downloaded and in the vast majority of data files, ICD-10 codes are represented as 5-character alphanumeric codes with implicit decimals (i.e., the decimal point may not be present in your data). Alphanumeric codes are always enclosed in quotation marks. Examples are given below.

Condition	ICD-10 diagnosis code	Alpha code (implicit decimals)
Bacterial pneumonia	J15	'J15 '
Pneumonia due to Klebsiella pneumoniae	J15.0	'J150 '

For proper handling of diagnosis codes:

- Alphanumeric diagnosis codes must be left-justified so that there are 2 spaces following a 3-character diagnosis code and 1 space following a 4-character diagnosis code.
- Trailing blanks should never be zero-padded (filled with zeroes so that all 5 characters are filled for codes that should be 3 or 4 characters long).

## References

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