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Evaluation of Transition From ICD–9–CM to ICD–10–CM Diagnosis Coding System in the National Ambulatory Medical Care Survey

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Abstract

Objective—On October 1, 2015, the *International Classification of Diseases, Tenth Revision, Clinical Modification* (ICD–10–CM) replaced ICD–9–CM (Ninth Revision) as the diagnosis coding scheme for the U.S. health care system. This study evaluates the impact of this change on the way the National Center for Health Statistics (NCHS) reports diagnosis data for the National Ambulatory Medical Care Survey (NAMCS).

Methods—The patient visit records of office-based physicians from the 2014 NAMCS final quarter ($n = 20,942$) were reviewed. The diagnoses assigned to each record were coded in both ICD–9–CM and ICD–10–CM by professional medical coders. NCHS staff reviewed how well the codes of the primary diagnosis under the two coding systems corresponded to each other.

Results—The review showed that 89% of the visit records had compatible ICD–9–CM and ICD–10–CM codes for the primary diagnosis, meaning that the primary diagnosis would be grouped under the same Primary Diagnosis Group (PDG) according to both ICD–9–CM and ICD–10–CM, and it would be correctly assigned to only one PDG. The reasons for mismatches in the ICD–10–CM assignments included coder error (5%), documentation issues such as uncodable diagnoses (3%), and differences between ICD–9–CM and ICD–10–CM (2%).

Conclusions—The majority of NAMCS visit records had compatible ICD–9–CM and ICD–10–CM code assignments. Minor changes to the coding instruction and survey procedures, such as the way diagnoses are abstracted from medical records and grouped for reporting, would help maintain the quality and standards of NAMCS diagnosis data during the transition to the ICD–10–CM coding system.

Keywords: Primary Diagnosis Group • National Ambulatory Medical Care Survey

Introduction

On October 1, 2015, the United States implemented the *International Classification of Diseases, Tenth Revision, Clinical Modification* (ICD–10–CM) coding system, replacing ICD–9–CM (Ninth Revision) as mandated by the Health Insurance Portability and Accountability Act (1). Both ICD–9–CM and ICD–10–CM are used to code morbidity and other reasons for health care encounters.

In both coding systems, codes are listed in chapters of similar conditions (2). Within each coding system, every condition and its corresponding code is included only once. ICD–9–CM has 19 chapters and ICD–10–CM has 21 chapters—in ICD–9–CM, the chapter called, “Diseases of the Nervous System and Sense Organs,” includes conditions of the eye and ear, whereas in ICD–10–CM, the conditions of the nervous system, eye, and ear each have their own chapter (2).

Many similarities between the two coding systems can be found in how diseases are organized into chapters. For example, in the ICD–9–CM coding system, HIV, viral warts, and dermatophytosis, along with many other conditions, are listed in a single



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chapter called, “Infectious and Parasitic Diseases.” Likewise, in the ICD–10–CM coding system, these three conditions are listed in the chapter called, “Certain infectious and parasitic diseases.” As another example, viral pneumonia and influenza are listed in both ICD–9–CM and ICD–10–CM in the same chapter, “Diseases of the Respiratory System.”

The groupings of conditions into chapters are sometimes conceptualized differently between ICD–9–CM and ICD–10–CM. For example, in the ICD–9–CM coding system, streptococcal sore throat is listed together with HIV, viral warts, and dermatophytosis in the “Infectious and Parasitic Diseases” chapter. However, in the ICD–10–CM coding system, streptococcal sore throat is listed together with viral pneumonia and influenza in the “Diseases of the respiratory system” chapter. These examples demonstrate that although the structure and grouping of conditions in ICD–9–CM and ICD–10–CM are largely similar, some important differences exist. The Update and Revision Committee of the World Health Organization (WHO), publisher of ICD, made these changes to keep ICD in line with current clinical knowledge (3).

It was uncertain whether the transition from ICD–9–CM to ICD–10–CM would affect the way that the National Center for Health Statistics (NCHS) collects, analyzes, and reports diagnosis data in its long-standing National Health Care Surveys, a family of surveys among health care providers and health care facilities. This report describes a comparability study that examines how the transition to ICD–10–CM affected the diagnosis data collected in one of these surveys, the National Ambulatory Medical Care Survey (NAMCS). Since 1973, NAMCS has been the leading source of statistical information on office-based physician health care services in the United States (4). NAMCS collects information about physicians, their practices, and a sample of visits with patients, including physicians’ diagnoses of patients. Using data from the fourth quarter of the 2014 NAMCS, this study examines the extent of change in classification of conditions between ICD–9–CM and ICD–10–CM.

Methods

All 20,942 NAMCS visit records for the fourth quarter of 2014 were reviewed. NAMCS data were initially collected by U.S. Census Bureau field representatives, who abstracted data from the medical record into the NAMCS survey instrument. Patient diagnoses, determined by the physician, were collected, and verbatim text was entered into the instrument. This comparability study was funded by the Office of the Assistant Secretary for Planning and Evaluation of the U.S. Department of Health and Human Services.

The abstracted diagnoses were dual-coded into ICD–9–CM and ICD–10–CM separately by two sets of contracted professional medical coders. The computer system used did not prevent the medical coders from inputting characters that do not constitute a valid code. As described later in this section, this resulted in some invalid codes, which were excluded from further analysis. For each visit, which may have multiple diagnoses, the coders identified a single primary diagnosis as well as zero or more secondary diagnoses. Because the order of the secondary diagnoses for each visit could vary by coder, a comprehensive comparison of all the diagnoses for each visit would have been difficult and time-consuming. Because of this, and because the primary diagnosis is the most significant reason for the encounter, this study examined only the primary diagnosis from each record.

For ease of reporting by NCHS, many NAMCS tables and reports include estimates grouped by primary diagnosis codes into Primary Diagnosis Groups (PDGs) (5). Each PDG consists of a single ICD–9–CM code or group of codes that refer to the same condition. For example, diabetes mellitus is described by a number of ICD–9–CM codes, including code 249.11, “Secondary diabetes mellitus with ketoacidosis, uncontrolled”; code 250.02, “Diabetes mellitus without mention of complication, type II or unspecified type, uncontrolled”; and code 250.43, “Diabetes with renal manifestations, type I [juvenile type], uncontrolled,” among other codes. Collectively, these codes are grouped by NCHS into a single PDG

called “Diabetes mellitus” for reporting purposes.

The distinction among ICD–9–CM codes, PDGs, and ICD–9–CM chapters is as follows: ICD–9–CM codes are very specific and, therefore, are useful for describing precise medical diagnoses. However, these codes may be too specific for purposes of public health reporting. ICD–9–CM codes are used to construct ICD–9–CM chapters, which group a large number of conditions that share similar defining characteristics. PDGs consist of specific or grouped ICD–9–CM codes from the same ICD–9–CM chapter. The groupings are selected to describe conditions more broadly and are based on conditions more commonly reported in NAMCS data. For example, “chest pain” is a PDG reported by NAMCS based on the ICD–9–CM code 786.5, which is listed under the ICD–9–CM chapter, “Symptoms, Signs, and Ill-Defined Conditions,” composed of ICD–9–CM codes 780–799. While ICD–9–CM chapters number 19, PDGs total 147. The [Technical Notes Table](#) further illustrates the relationship among ICD–9–CM codes, PDGs, and ICD–9–CM chapters.

In addition to the specific PDGs, a group of “other” PDGs are assigned. For a given class of diagnosis, these groups are not designated as a specific diagnosis group but instead refer to all other conditions in a particular ICD–9–CM chapter that are not described by more specific PDGs. For example, the ICD–9–CM chapter titled, “Endocrine, Nutritional and Metabolic Diseases, and Immunity Disorder,” is broken down into the following PDGs: “Acquired hypothyroidism,” “Other disorders of thyroid gland,” “Diabetes mellitus,” “Disorders of lipid metabolism,” and “Overweight and obesity.” However, the other conditions listed in this ICD–9–CM chapter are not classified by a specific diagnosis but instead are assigned to the PDG titled, “Other endocrine, nutritional and metabolic diseases, and immunity disorders.”

One key feature of PDGs is that all of the ICD–9–CM codes included in a PDG come from the same ICD–9–CM chapter. In this way, the PDG classification respects the decisions of WHO about which codes are listed in which chapter, therefore reflecting

Table. Primary Diagnosis Group compatibility of primary diagnosis using ICD–9–CM and ICD–10–CM coding systems: National Ambulatory Medical Care Survey, Q4, 2014

Category	Number of records	Percent of records
Total visit records	20,942	100
Either ICD–9–CM or ICD–10–CM code is not valid	285	1
Both ICD–9–CM and ICD–10–CM codes are valid	20,657	99
Match using Component A only (ICD–10–CM code/ICD–9–CM PDG match)	19,124	91
Match using Component B only (multiple PDG assignment of ICD–10–CM codes)	19,920	95
Match in both Components A and B	18,685	89
Not a match in either Component A or B	1,972	9
Coding errors	947	5
Uncodable diagnoses	677	3
Differences between ICD–9–CM and ICD–10–CM	348	2

NOTES: Percentages may not add to 100% due to rounding. ICD–9–CM and ICD–10–CM are *International Classification of Diseases, Ninth Revision or Tenth Revision, Clinical Modification*. Q4 is fourth quarter. PDG is Primary Diagnosis Group.

SOURCE: NCHS, National Ambulatory Medical Care Survey, 2014.

the latest clinical knowledge at the time when the coding system was developed.

This study consists of two levels of review of the PDGs. The PDGs are used as the comparison tool because of their use in NAMCS tabulations.

First-level review

NCHS staff identified ICD–9–CM and ICD–10–CM codes that were not valid and, thus, could not be further analyzed. Invalid codes included those that were not actual ICD codes (under ICD–9–CM or ICD–10–CM) resulting from data entry error. NCHS staff then performed a first-level review with two concurrent components, A and B. Component A of first-level review assessed whether the ICD–10–CM codes matched the equivalent PDG for ICD–9–CM. Component B of first-level review assessed whether a particular ICD–10–CM code was assigned to more than one of the PDGs. By definition, each ICD–9–CM code must be located in only one PDG; therefore, no ICD–10–CM code should be assigned to more than one PDG.

Component A: ICD–10–CM code/ICD–9–CM PDG match

As discussed previously, some ICD–10–CM codes are classified in a different chapter than they were in ICD–9–CM. Because of differing chapters, and because all codes in a PDG come from a single chapter, a potential mismatch in the PDG classification may result: The ICD–9–CM code(s) used previously to define a PDG may be listed under a different chapter using

ICD–10–CM. When such cases occurred, they were considered a mismatch and included in second-level review.

For example, consider the PDG “Cataract.” Under ICD–9–CM, the “Cataract” PDG was composed of the codes from 366.0 to 366.9, all of which are part of the ICD–9–CM chapter, “Diseases of the Nervous System and Sense Organs” (320–389). This includes diabetic cataract, the code for which is 366.41. In ICD–10–CM, while many of the same codes still fall within the same chapter, “Diseases of the eye and adnexa” (H00–H59), diabetic cataract is classified in the “Endocrine, nutritional and metabolic diseases” chapter (E00–E89), together with diabetes. Therefore, the visit records with ICD–10–CM codes for diabetic cataract were considered a mismatch for the “Cataract” PDG when compared with ICD–9–CM codes.

Component B: Multiple PDG assignment of ICD–10–CM codes

Because each ICD–9–CM code is located in only one PDG, equivalent ICD–10–CM codes should be located in only one PDG as well. Of the ICD–10–CM codes that appeared in multiple visit records, ICD–10–CM codes that were included in multiple PDGs were defined as mismatches and included in the second-level review. The 2015 General Equivalence Mappings (GEMs) were used to determine the PDG assignment of ICD–10–CM codes (6). GEMs is a software tool that provides forward and backward mappings between ICD–9–CM and ICD–10–CM and is maintained by

the Centers for Medicare & Medicaid Services.

Second-level review

A second-level review was conducted for visit records with ICD–10–CM codes that did not match the equivalent ICD–9–CM PDG, and visit records with ICD–10–CM codes that were included in multiple PDGs. NCHS staff determined the reasons for coding mismatches by comparing the verbatim text of conditions abstracted from patient medical records in NAMCS with the ICD–9–CM and ICD–10–CM coding assignments. Reasons for the mismatches were identified and grouped into common themes.

Reporting of results

The [Table](#) shows counts and percentages of visit records for several categories. All percentages shown have the same denominator, namely, 20,942, the total number of visit records. All visit records are classified into two mutually exclusive categories: 1) Either ICD–9–CM or ICD–10–CM code is not valid, or 2) both ICD–9–CM and ICD–10–CM codes are valid. The codes determined to be valid are classified as: 1) Match according to Component A only; 2) Match according to Component B only; 3) Match in both Components A and B; and 4) Not a match in either Component A or B. Finally, visits in the last category are further classified into mutually exclusive categories that describe the reasons for the coding mismatches.

Results

Of all the NAMCS visit records, 285 (1%) had an ICD-9-CM or ICD-10-CM code that was not valid (Table). These records could not provide information on the relationship between the two coding systems and, therefore, were not reviewed further.

First-level review

Component A: ICD-10-CM code/ICD-9-CM PDG match

Of all the visit records, 19,124 (91%) had a match between the assigned ICD-10-CM code for the primary diagnosis and the equivalent ICD-9-CM PDG. The match percentage varied by ICD-9-CM PDG. Some examples of PDGs with high and low match percentages follow:

- “Other chronic obstructive pulmonary disease and allied conditions” (118 visit records) had a 100% match percentage (data not shown). That is, for all of the visits that were assigned to this PDG using ICD-9-CM, the ICD-10-CM code was assigned to this PDG as well.
- “Diabetes mellitus” (1,006 records) had a 99.5% match percentage.
- “Follow-up examination” (188 records), “Other encounter related to reproduction” (140 records), and “Other symptoms, signs and ill-defined conditions” (572 records) had match percentages of less than 80%.
- “Specific procedures and aftercare” (331 records) had a match percentage of less than 50%. Additional codes for aftercare in ICD-10-CM accounted for the relatively large percentage of mismatches.

Component B: Multiple PDG assignment of ICD-10-CM codes

Of all the visit records, 19,920 (95%) had an ICD-10-CM code for the primary diagnosis that either 1) occurred only once in the data file, or 2) if it occurred more than once in the data file, was assigned to the same PDG for every

occurrence. The number of PDGs to which an ICD-10-CM code was assigned varied by the code. The following ICD-10-CM codes were assigned to 10 or more PDGs:

- ICD-10-CM code Z09, “Encounter for follow-up examination after completed treatment for conditions other than malignant neoplasm” (189 visit records), was assigned to 22 PDGs (data not shown). Of these, 144 records (76%) corresponded to a single PDG, and the rest (45 records, or 24%) corresponded to another 21 PDGs. When assigning a code to a follow-up visit when the disease, disorder, or symptom for which the follow-up is being made is known, a coder could assign for the primary diagnosis either a follow-up code or a code for the condition for which the follow-up is being made. Although specific guidelines address how coders should handle these situations, the guidelines may not be followed due to human error. Thus, it is possible that the ICD-9-CM coder assigned a code for the condition for which the follow-up is being made, while the ICD-10-CM coder assigned the follow-up code.
- ICD-10-CM code Z98.89, “Other specified post-procedural states” (35 visit records), was assigned to 11 PDGs. Only 4 records (11%) had ICD-10-CM codes that corresponded to a single PDG. For assigning ICD-9-CM codes to postoperative visits, a guideline specifies that, if the preoperative diagnosis is known, that diagnosis should be listed (7). Such a guideline does not exist in ICD-10-CM. This is why for many postoperative visits, the ICD-9-CM code was something other than a postoperative code, while the ICD-10-CM code was a postoperative code.
- ICD-10-CM code Z00.00, “Encounter for general adult medical examination without abnormal findings” (629 visit records), was assigned to 10 PDGs. However, 592 records (94%) corresponded to a single PDG.

Combined results from both first-level components

The number of records that had matching ICD-9-CM and ICD-10-CM codes on both components of the first-level review was 18,685 (89%). That is, these records had both 1) an ICD-10-CM code and ICD-9-CM PDG match, and 2) the ICD-10-CM code was assigned to a single PDG (Table).

Second-level review

The 1,972 visit records (9%) that were not matched according to either Component A or B underwent second-level review. Three underlying causes were identified for the discrepancies: 1) coding errors, 2) uncodable diagnoses abstracted from medical records, and 3) differences in the classification of diagnoses between ICD-9-CM and ICD-10-CM. A description of these causes follows:

Coding errors—Although the abstracted diagnosis was specific enough, a coding error occurred in the assignment of the ICD-9-CM code, the ICD-10-CM code, or both. This happened in 947 (5%) of the visit records. For example, when the visit is a follow-up examination for an underlying health condition specified in the abstracted diagnosis, the primary diagnosis code should be for the underlying health condition, not for the follow-up examination. In some of these cases, one coder incorrectly assigned the primary diagnosis code to the follow-up examination, while the other coder correctly assigned the primary diagnosis code to the underlying health condition.

Uncodable diagnoses—The abstracted diagnosis could not be understood, had terms or phrases for which ICD does not have a code, or was not specific enough for compatible coding between ICD-9-CM and ICD-10-CM to have occurred. This happened in 677 (3%) of the visit records. For example, the abstracted diagnosis for a particular visit record was “viral respiratory infection.” Because this term is not indexed in either ICD-9-CM or ICD-10-CM, it is classified as an uncodable diagnosis. In this case, the ICD-9-CM code assigned was “Respiratory syncytial virus (RSV)” (079.6), while the ICD-10-CM code

assigned was “Respiratory syncytial virus as the cause of diseases classified elsewhere” (B97.4).

Differences between ICD–9–CM and ICD–10–CM—The ICD–9–CM and ICD–10–CM codes were assigned correctly. The diagnosis under ICD–10–CM is listed in a chapter that does not correspond to the chapter in which it is listed under ICD–9–CM, leading to a mismatch in the PDG assignment. This happened for 348 visit records (2%). For example, visit records with an abstracted diagnosis indicating an unspecified food poisoning were coded under ICD–9–CM as, “Food poisoning, unspecified” (code 005.9), part of the “Infectious and Parasitic Diseases” chapter, and were assigned to the “Other infectious and parasitic diseases” PDG. However, these same visits were coded under ICD–10–CM as, “Toxic effect of unspecified noxious substance eaten as food, accidental (unintentional), initial encounter” (T62.91XA), which is part of the ICD–10–CM chapter, “Injury, poisoning and certain other consequences of external causes.” Since this chapter does not correspond to the ICD–9–CM chapter, “Infectious and Parasitic Diseases,” the disease under ICD–10–CM cannot be part of the “Other infectious and parasitic diseases” PDG; instead, it is part of the “Poisonings” PDG.

Discussion

In this study, data for primary diagnosis in NAMCS fourth-quarter 2014 visit records were dual-coded in ICD–9–CM and ICD–10–CM to determine the comparability of PDGs when using ICD–9–CM compared with ICD–10–CM coding. Of all visit records reviewed, 89% had a matching ICD–9–CM and ICD–10–CM code for the primary diagnosis, indicating that the transition from the ICD–9–CM to ICD–10–CM coding systems did not have a large effect on the way diagnosis codes were coded and reported in NAMCS. Among the remaining records that had mismatches, the mismatches were attributable to coding errors (5% of all visit records), uncodable diagnoses (3% of all visit records), and chapter change between the two coding systems (2% of all visit records).

To minimize mismatches in NAMCS due to the transition from ICD–9–CM to ICD–10–CM coding systems, the three underlying causes for these mismatches need to be addressed. The issue of coding errors can be addressed by updating the coder training manuals that NCHS uses to educate contracted professional medical coders and by providing updated coding guidelines to further enforce correct coding procedures to avoid future coding errors. The issue of uncodable diagnoses can be addressed with NCHS providing better training to field representatives who abstract information from patient medical records for NAMCS. Specifically, data collection instructions can be updated and survey instruments can be revised to prompt field representatives to abstract from medical records all structured and unstructured information that may be relevant to the patient’s diagnosis, so that sufficient information can be captured to assign diagnosis codes. Finally, the chapter change problem can be addressed by identifying those changes in NCHS publications and web pages to better inform users of the National Health Care Surveys. Furthermore, the use of the ICD–9–CM-based definition of PDGs is being reconsidered, and the use of the ICD–10–CM-based definition is being explored instead.

This study is limited to NAMCS diagnosis data for ambulatory care visits among office-based physicians. Data on procedures were not examined to assess the effect of transitioning from the ICD–9 Procedure Coding System (ICD–9–PCS) to ICD–10–PCS. Other settings, such as hospital outpatient, inpatient, and emergency departments, may receive patients with more acute or severe conditions and diagnoses different from those seen in physician offices, potentially resulting in different levels of matching between ICD–9–CM and ICD–10–CM. In addition, for simplicity, this study examined only the primary diagnosis abstracted from each sampled visit record. Findings from this study on the comparability between ICD–9–CM and ICD–10–CM may not apply to other diagnoses listed in the visit records. Finally, this study examined 2014 NAMCS data before the implementation of ICD–10–CM in the United States. The

quality of medical coding is expected to improve over time with more experience among coders.

This study has found that a large majority of NAMCS visit records—close to 90%—would have comparable primary diagnosis codes during the transition from using ICD–9–CM to ICD–10–CM coding systems. NCHS recognizes that to further improve the comparability of diagnosis codes between the two coding systems, some modifications are needed to the current abstracting and coding practices. In addition, new PDGs will be constructed to better correspond to the ICD–10–CM chapters. These efforts are an important part of the continuous quality improvement processes to which NCHS is committed to maintain the quality of diagnoses reporting in NAMCS during the transition to ICD–10–CM.

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Technical Notes

Table. Primary Diagnosis Groups, as defined by ICD–9–CM codes: 2012 update

Category number	Category label	ICD–9–CM codes	ICD–9–CM chapter
001	Streptococcal sore throat	034.0	Infectious and Parasitic Diseases
002	Human immunodeficiency virus [HIV] disease	042	Infectious and Parasitic Diseases
003	Viral warts	078.1	Infectious and Parasitic Diseases
004	Unspecified viral and chlamydial infection	079.9	Infectious and Parasitic Diseases
005	Dermatophytosis	110	Infectious and Parasitic Diseases
006	Candidiasis	112	Infectious and Parasitic Diseases
007	Other infectious and parasitic diseases	001–033,034.1–041.9,045.0–078.0,078.2–079.8,080–104,111,114–139	Infectious and Parasitic Diseases
008	Malignant neoplasms	140–208,209–209.36,209.7–209.79,230–234	Neoplasms
009	Benign neoplasms	210–229,209.4–209.69,235–239	Neoplasms
010	Acquired hypothyroidism	244	Endocrine, Nutritional and Metabolic Diseases, and Immunity Disorder
011	Other disorders of thyroid gland	240–243,245–246	Endocrine, Nutritional and Metabolic Diseases, and Immunity Disorder
012	Diabetes mellitus	249–250	Endocrine, Nutritional and Metabolic Diseases, and Immunity Disorder
013	Disorders of lipid metabolism	272	Endocrine, Nutritional and Metabolic Diseases, and Immunity Disorder
014	Overweight and obesity	278.0	Endocrine, Nutritional and Metabolic Diseases, and Immunity Disorder
015	Other endocrine, nutritional and metabolic diseases, and immunity disorders	251–271,273–277,278.1–279.9	Endocrine, Nutritional and Metabolic Diseases, and Immunity Disorder
016	Anemias	280–285	Diseases of the Blood and Blood-Forming Organs
017	Other diseases of the blood and blood-forming organs	286–289	Diseases of the Blood and Blood-Forming Organs
018	Psychoses, excluding major depressive disorder	290–295,296.0–296.1,296.4–299	Mental, Behavioral and Neurodevelopmental Disorders
019	Major depressive disorder	296.2–296.3	Mental, Behavioral and Neurodevelopmental Disorders
020	Anxiety states	300.0	Mental, Behavioral and Neurodevelopmental Disorders
021	Dysthymic disorder	300.4	Mental, Behavioral and Neurodevelopmental Disorders
022	Alcohol dependence syndrome	303	Mental, Behavioral and Neurodevelopmental Disorders
023	Drug dependence and nondependence abuse of drugs	304–305	Mental, Behavioral and Neurodevelopmental Disorders
024	Acute reaction to stress and adjustment reaction	308–309	Mental, Behavioral and Neurodevelopmental Disorders
025	Depressive disorder, not elsewhere classified	311	Mental, Behavioral and Neurodevelopmental Disorders
026	Attention deficit disorder	314.0	Mental, Behavioral and Neurodevelopmental Disorders
027	Other mental disorders	300.1–300.3,300.5–300.9,301–302,306–307,310,312–313,314.1–314.9,315–319	Mental, Behavioral and Neurodevelopmental Disorders
028	Migraine	346	Diseases of the Nervous System and Sense Organs
029	Other disorders of the central nervous system	320–326,330–337,338–338.4,339–339.89,340–345,347–349	Diseases of the Nervous System and Sense Organs
030	Carpal tunnel syndrome	354.0	Diseases of the Nervous System and Sense Organs
031	Other disorders of the peripheral nervous system	350–353,354.1–354.9,355–359	Diseases of the Nervous System and Sense Organs
032	Retinal detachment and other retinal disorders	361–362	Diseases of the Nervous System and Sense Organs
033	Glaucoma	365	Diseases of the Nervous System and Sense Organs
034	Cataract	366	Diseases of the Nervous System and Sense Organs
035	Disorders of refraction and accommodation	367	Diseases of the Nervous System and Sense Organs
036	Conjunctivitis	372.0–372.3	Diseases of the Nervous System and Sense Organs
037	Inflammation and disorders of eyelids	373–374	Diseases of the Nervous System and Sense Organs
038	Other disorders of the eye and adnexa	360,363–364,368–371,372.4–372.9,375–379	Diseases of the Nervous System and Sense Organs
039	Disorders of external ear	380	Diseases of the Nervous System and Sense Organs
040	Otitis media and eustachian tube disorders	381–382	Diseases of the Nervous System and Sense Organs
041	Other disorders of the ear and mastoid process	383–389	Diseases of the Nervous System and Sense Organs
042	Ischemic heart disease	410–414.9	Diseases of the Circulatory System
043	Heart disease, excluding ischemic	391–392.0,393–398,402,404,415–416,420–429	Diseases of the Circulatory System
044	Essential hypertension	401	Diseases of the Circulatory System
045	Cerebrovascular disease	430–438	Diseases of the Circulatory System
046	Diseases of the arteries, arterioles and capillaries	440–448	Diseases of the Circulatory System
047	Hemorrhoids	455	Diseases of the Circulatory System
048	Other diseases of the circulatory system	390,392.9,403,405,417,449,451–454,456–459	Diseases of the Circulatory System
049	Acute upper respiratory infections, excluding pharyngitis	460–461,463–466	Diseases of the Respiratory System
050	Acute pharyngitis	462	Diseases of the Respiratory System
051	Chronic sinusitis	473	Diseases of the Respiratory System
052	Allergic rhinitis	477	Diseases of the Respiratory System
053	Pneumonia	480–486	Diseases of the Respiratory System
054	Chronic and unspecified bronchitis	490–491	Diseases of the Respiratory System
055	Asthma	493	Diseases of the Respiratory System
056	Other chronic obstructive pulmonary disease and allied conditions	492,494–496	Diseases of the Respiratory System
057	Other diseases of the respiratory system	470–472,474–476,478,500–519	Diseases of the Respiratory System

See footnotes at end of table.

Table. Primary Diagnosis Groups, as defined by ICD–9–CM codes: 2012 update—Con.

Category number	Category label	ICD–9–CM codes	ICD–9–CM chapter
058	Diseases of the teeth and supporting structures	520–525	Diseases of the Digestive System
059	Gastritis and duodenitis	535	Diseases of the Digestive System
060	Esophagitis	530.1	Diseases of the Digestive System
061	Ulcer of stomach and small intestine	531–534	Diseases of the Digestive System
062	Hernia of abdominal cavity	550–553	Diseases of the Digestive System
063	Noninfectious enteritis and colitis	555–558	Diseases of the Digestive System
064	Diverticula of intestine	562	Diseases of the Digestive System
065	Constipation	564.0	Diseases of the Digestive System
066	Irritable bowel syndrome	564.1	Diseases of the Digestive System
067	Anal and rectal diseases	565–566,569.0–569.4	Diseases of the Digestive System
068	Disorder of gallbladder and biliary tract	574–576	Diseases of the Digestive System
069	Gastrointestinal hemorrhage	578	Diseases of the Digestive System
070	Other diseases of the digestive system	526.0–530.0,530.2–530.9,536–543,560,564.2–564.9,567–568,569.5–573,577,579	Diseases of the Digestive System
071	Calculus of kidney and ureter	592	Diseases of the Genitourinary System
072	Cystitis and other disorders of the bladder	595,596	Diseases of the Genitourinary System
073	Urinary tract infection, site not specified	599.0	Diseases of the Genitourinary System
074	Other diseases of the urinary system	580–591,593–594,597–598,599.1–599.9	Diseases of the Genitourinary System
075	Hyperplasia of prostate	600	Diseases of the Genitourinary System
076	Other disorders of male genital organs	601–608	Diseases of the Genitourinary System
077	Disorders of the breast	610–611,612.0–612.19	Diseases of the Genitourinary System
078	Inflammatory disease of female pelvic organs	614–616	Diseases of the Genitourinary System
079	Noninflammatory disorders of the female genital organs	620,622–624	Diseases of the Genitourinary System
080	Disorders of menstruation and abnormal bleeding	626	Diseases of the Genitourinary System
081	Menopause and postmenopause disorders	627	Diseases of the Genitourinary System
082	Other disorders of female genital tract	617–619,621,625,628,629	Diseases of the Genitourinary System
083	Complications of pregnancy, childbirth, and the puerperium	630–679.99	Complications of Pregnancy, Childbirth, and the Puerperium
084	Cellulitis and abscess	681–682	Diseases of the Skin and Subcutaneous Tissue
085	Other infection of the skin and subcutaneous tissue	680,683–686	Diseases of the Skin and Subcutaneous Tissue
086	Contact dermatitis and other eczema	692	Diseases of the Skin and Subcutaneous Tissue
087	Psoriasis and similar disorders	696	Diseases of the Skin and Subcutaneous Tissue
088	Other inflammatory conditions of skin and subcutaneous tissue	690–691,693–695,697–698	Diseases of the Skin and Subcutaneous Tissue
089	Corns, callosities and other hypertrophic and atrophic skin condition	700–701	Diseases of the Skin and Subcutaneous Tissue
090	Actinic and seborrheic keratosis	702.0–702.1	Diseases of the Skin and Subcutaneous Tissue
091	Acne	706.0–706.1	Diseases of the Skin and Subcutaneous Tissue
092	Sebaceous cyst	706.2	Diseases of the Skin and Subcutaneous Tissue
093	Urticaria	708	Diseases of the Skin and Subcutaneous Tissue
094	Other disorders of the skin and subcutaneous tissue	702.8,703–705,706.3–707.9,709	Diseases of the Skin and Subcutaneous Tissue
095	Arthropathies and related disorders	710–719	Diseases of the Musculoskeletal System and Connective Tissue
096	Spinal disorders	720–724	Diseases of the Musculoskeletal System and Connective Tissue
097	Rheumatism, excluding back	725–729	Diseases of the Musculoskeletal System and Connective Tissue
098	Disorders of bone and cartilage	730–733	Diseases of the Musculoskeletal System and Connective Tissue
099	Other diseases of the musculoskeletal system and connective tissue	734–739	Diseases of the Musculoskeletal System and Connective Tissue
100	Congenital anomalies	740–759	Congenital Anomalies
101	Certain conditions originating in the perinatal period	760–779	Certain Conditions Originating in the Perinatal Period
102	Syncope and collapse	780.2	Symptoms, Signs, and Ill-Defined Conditions
103	Convulsions	780.3	Symptoms, Signs, and Ill-Defined Conditions
104	Dizziness and giddiness	780.4	Symptoms, Signs, and Ill-Defined Conditions
105	Pyrexia of unknown origin	780.6	Symptoms, Signs, and Ill-Defined Conditions
106	Symptoms involving skin and other integumentary tissue	782	Symptoms, Signs, and Ill-Defined Conditions
107	Headache	784.0	Symptoms, Signs, and Ill-Defined Conditions
108	Epistaxis	784.7	Symptoms, Signs, and Ill-Defined Conditions
109	Abnormal heart sounds	785.0–785.3	Symptoms, Signs, and Ill-Defined Conditions
110	Dyspnea and respiratory abnormalities	786.0	Symptoms, Signs, and Ill-Defined Conditions
111	Cough	786.2	Symptoms, Signs, and Ill-Defined Conditions
112	Chest pain	786.5	Symptoms, Signs, and Ill-Defined Conditions
113	Symptoms involving the urinary system	788	Symptoms, Signs, and Ill-Defined Conditions
114	Abdominal pain	789.0	Symptoms, Signs, and Ill-Defined Conditions
115	Other symptoms, signs and ill-defined conditions	780.0–780.1,780.5,780.7–781,783,784.1–784.6,784.8–784.9,785.4–785.9,786.1,786.3–786.4,786.6–787.9,789.1–799	Symptoms, Signs, and Ill-Defined Conditions
116	Fractures, excluding lower limb	800–819	Injury and Poisoning
117	Fracture of the lower limb	820–829	Injury and Poisoning

See footnotes at end of table.

Table. Primary Diagnosis Groups, as defined by ICD–9–CM codes: 2012 update—Con.

Category number	Category label	ICD–9–CM codes	ICD–9–CM chapter
118	Sprains and strains, excluding ankle and back	840–844,845.1,848	Injury and Poisoning
119	Sprains and strains of ankle	845.0	Injury and Poisoning
120	Sprains and strains of neck and back	846,847	Injury and Poisoning
121	Intracranial injury, excluding those with skull fracture	850–854	Injury and Poisoning
122	Open wound of head	870–873	Injury and Poisoning
123	Open wound, excluding head	874–897	Injury and Poisoning
124	Superficial injuries	910–919	Injury and Poisoning
125	Contusion with intact skin surface	920–924	Injury and Poisoning
126	Other injuries	830–839,860–869,900–909,925–959	Injury and Poisoning
127	Poisonings	960–989	Injury and Poisoning
128	Other and unspecified effects of external causes	990–995	Injury and Poisoning
129	Complications of surgical and medical care, not elsewhere classified	996–999	Injury and Poisoning
130	Potential health hazards related to communicable diseases	V01–V09	Supplementary Classification of Factors Influencing Health Status and Contact With Health Services
132	Routine infant or child health check	V20.0–V20.2	Supplementary Classification of Factors Influencing Health Status and Contact With Health Services
133	Normal pregnancy	V22	Supplementary Classification of Factors Influencing Health Status and Contact With Health Services
134	Postpartum care and examination	V24,V91.00–V91.99	Supplementary Classification of Factors Influencing Health Status and Contact With Health Services
135	Encounter for contraceptive management	V25	Supplementary Classification of Factors Influencing Health Status and Contact With Health Services
136	Other encounter related to reproduction	V23,V26–V28	Supplementary Classification of Factors Influencing Health Status and Contact With Health Services
137	Lens replaced by pseudophakos	V43.1	Supplementary Classification of Factors Influencing Health Status and Contact With Health Services
138	Artificial opening status and other postprocedural states	V44–V45,V88–V88.03,V88.11,V88.12	Supplementary Classification of Factors Influencing Health Status and Contact With Health Services
139	Specific procedures and aftercare	V50–V59.9	Supplementary Classification of Factors Influencing Health Status and Contact With Health Services
140	Follow-up examination	V67	Supplementary Classification of Factors Influencing Health Status and Contact With Health Services
141	General medical examination	V70	Supplementary Classification of Factors Influencing Health Status and Contact With Health Services
142	Observation and evaluation for suspected conditions not found	V71	Supplementary Classification of Factors Influencing Health Status and Contact With Health Services
143	Gynecological examination	V72.3	Supplementary Classification of Factors Influencing Health Status and Contact With Health Services
144	Other factors influencing health status and contact with health	V20.0–V20.19,V21,V29.0–V43.0, V43.2–V43.8,V46–V49.9,V60–V66,V68–V69, V72.0–V72.2,V72.4–V83.89,V84.0–V84.89, V85.0–V85.54,V86.0–V86.1,V87–V87.49, V89–V89.09,V90.0–V90.9	Supplementary Classification of Factors Influencing Health Status and Contact With Health Services
145	Influenza	487,488	Diseases of the Respiratory System
146	Organic sleep disorders	327.0–327.89	Diseases of the Nervous System and Sense Organs
147	Newborn health supervision	V20.3–V20.32	Supplementary Classification of Factors Influencing Health Status and Contact With Health Services
999	Not assigned	Not assigned	Not assigned

NOTE: ICD–9–CM is *International Classification of Diseases, Ninth Revision, Clinical Modification*.

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