Citation

Abstract

Clinical Classifications for Health Policy Research (CCHPR) Version 2 provides a way to classify diagnoses and procedures into a limited number of categories. CCHPR aggregates individual hospital stays into larger diagnosis and procedure groups for statistical analysis and reporting. This product provides information required to use CCHPR:

- A description of the CCHPR categorization scheme, and
- Electronic files containing the translation of ICD-9-CM diagnosis and procedure codes into CCHPR categories.

CCHPR Version 2 is based on ICD-9-CM codes that are valid for January 1980 through September 1996. There is one classification scheme for diagnoses (260 categories) and one classification scheme for procedures (231 categories).

Acknowledgments

Background

HCUP-3 Research Notes are derived from research conducted by staff of the Agency for Health Care Policy and Research (AHCPR) using data from the Healthcare Cost and Utilization Project (HCUP-3). This series provides results of analyses on health policy issues important to the Nation's health care providers and patients.

Overview

The national and statewide databases comprising HCUP-3 can be used for studies that address a variety of issues, including:

- Variations in medical practice.
- Diffusion of medical technology.
- Effectiveness of medical treatments.
- Hospital financial distress.
- Utilization by special populations.
- Quality of health services.
- Impact of State and Federal health care reform initiatives.

HCUP-3 enables research at many different levels: hospitalizations, patient care, treatment of diseases, physician practice, hospital group differences, small-area variations, State-to-State comparisons, and changes across time. Hospital research using HCUP-3 focuses on cost (hospital, disease, and treatment), quality (volume-outcome, treatment variations, adverse events, and guideline diffusion), and access (uncompensated care, HIV/AIDS, organ transplantation, and vulnerable populations).

These examples do not exhaust the issues that can be addressed with the HCUP-3 databases. AHCPR staff consult with industry experts, public officials, and other researchers in selecting topics for study.

HCUP-3 Databases

Each HCUP-3 database is built around a core of data on inpatient hospital stays.

Healthcare Cost and Utilization Project (HCUP-3)—AHCPR is currently in the third phase of the HCUP project, the collection of data for the years 1988-94 from State government and private health data organizations. By integrating data from statewide health data organizations, HCUP-3 is creating a multi-State database in a uniform format that promotes comparative studies of health care services by researchers both inside and outside AHCPR.

The two HCUP-3 hospital inpatient databases are built around core data elements comparable to those in a typical discharge abstract, with safeguards to protect the privacy of individual patients and physicians.

- The *HCUP-3 State Inpatient Database (SID)* contains 100 percent of hospitals and discharges from States with statewide hospital inpatient data systems selected by AHCPR. This database contains common inpatient data elements, variables derived from sensitive data elements, and State-specific variables (such as readmission or community characteristics). Each State database in SID is returned to its data source in the uniform HCUP-3 format. Dissemination of SID data is controlled by the data source.

- The *HCUP-3 Nationwide Inpatient Sample (NIS)* includes data from about 900 U.S. hospitals, approximating a 20-percent sample of hospitals. This database includes core inpatient data elements but excludes information that could result, directly or indirectly, in the identification of individual patients or physicians. When data sources consider other variables (such as

hospital identifiers) to be confidential, those variables are excluded or encrypted, as required by the data source. The NIS is available to researchers who sign a data use agreement restricting the use of the data to research purposes only. The NIS is being distributed through the National Technical Information Service.

AHCPR research supplements the inpatient databases with data on hospitals and local communities from a variety of sources. The American Hospital Association (AHA) has provided data from its Annual Survey of Hospitals and various special surveys since 1970. County-level statistics are obtained from the Area Resource File, compiled by the Bureau of Health Professions of the Health Resources and Services Administration (HRSA). Statistics from the Bureau of the Census at the ZIP-Code level, provided by CACI Marketing Systems, are also used. HCUP-3 also includes statewide encounter data on services other than inpatient hospital care, such as ambulatory surgery.

The HCUP-3 databases will support a variety of studies to be conducted across hospital types, communities, and time. Studies that are national in scope require NIS. State data from SID can be used to study small-area variations, hospital markets, and State health care reforms. These databases permit comprehensive assessment of factors affecting the use and costs of health services.

Hospital Cost and Utilization Project (HCUP-1 and HCUP-2)— The HCUP-1 sample spans the period 1970-77; the HCUP-2 sample covers the period 1980-87. These HCUP databases were derived from two national samples of approximately 500 hospitals each and contain nearly 60 million hospital discharges. In HCUP-1, hospitals were selected from clients of discharge abstracting companies; in HCUP-2, hospitals were added to improve representation of the universe of short-term, general, non-Federal hospitals with at least 30 beds.

Because the data for HCUP-1 and HCUP-2 were collected under special agreements with individual hospitals, only AHCPR staff have direct access to these data.

Contributors

AHCPR thanks the following organizations for their contributions of data to the 1988-93 HCUP-3 NIS and SID: Arizona Department of Health Services, California Office of Statewide Health Planning and Development, Colorado Hospital Association, Connecticut Hospital Research and Education Foundation, Inc., Florida Agency for Health Care Administration, Illinois Health Care Cost Containment Council, Iowa Hospital Association, Kansas Hospital Association, Maryland Health Services Cost Review Commission, Massachusetts Rate Setting Commission, New Jersey Department of Health, New York State Department of Health, Oregon Department of Human Resources, Pennsylvania Health Care Cost Containment Council, South Carolina Budget and Control Board, Washington State Department of Health, and Wisconsin Office of the Commissioner of Insurance.

Data files for HCUP-3 were constructed under the technical direction of AHCPR by The MEDSTAT Group (formerly SysteMetrics, Inc.), Santa Barbara, CA, and its subcontractors Abt Associates and the National Association of Health Data Organizations. Social and Scientific Systems, Inc., Bethesda, MD, provides programming support for AHCPR researchers.

Contents

Clinical Classifications for Health Policy Research, Version 2: Software and User's Guide

Anne Elixhauser, Ph.D., Agency for Health Care Policy and Research

Overview

Purpose

This document describes Clinical Classifications for Health Policy Research (CCHPR) Version 2, a way to classify diagnoses and procedures into a limited number of categories for reporting purposes. Diagnoses and procedures for hospital inpatient stays are coded using the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)* Fourth Edition (Public Health Service and Health Care Financing Administration, 1991). ICD-9-CM consists of about 12,000 diagnosis codes and 3,500 procedure codes. Although it is possible to present descriptive statistics for individual ICD-9-CM codes, it is often useful to aggregate codes into clinically meaningful categories that group similar conditions or procedures. For examples of the use of CCHPR categories, see Elixhauser and McCarthy (1996); Duffy, Elixhauser, and Sommers (1996); and Agency for Health Care Policy and Research (1996). These reports aggregate individual hospital stays into larger diagnosis and procedure groups for statistical analysis and reporting. CCHPR is distinguished from other grouping schemes because it does not confound diagnosis with treatment, but keeps diagnoses and procedures separate in two different classifications.

The software included with this document classifies into CCHPR categories all ICD-9-CM diagnosis and procedure codes valid from January 1980 through September 1996.

Development

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 Database (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 contains 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.

Description

Diagnoses

The diagnosis classification scheme aggregates illnesses and conditions into 260 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 CCHPR diagnosis categories and their constituent ICD-9-CM codes are listed in Table 1.

All codes in the diagnosis section, except E codes (External Causes of Injury and Poisoning), are classified. E codes were not classified because they are used sporadically in inpatient data; hence they are lumped into a single category (CCHPR 260).

Procedures

The procedure classification scheme contains 231 mutually exclusive categories. Many of the categories represent single procedures. However, some procedures that occur infrequently are grouped according to the body system on which they are performed, whether they are used for diagnostic or therapeutic purposes, and whether they are considered operating room or non-operating room procedures according to diagnosis-related groups definitions (3M Health Information Systems, 1994).

Warnings about ICD-9-CM coding changes

Time period covered by CCHPR Version 2

In order to keep abreast of yearly changes in the ICD-9-CM codes, the CCHPR categories are updated annually after code assignments are reviewed and agreement is reached among the developer and medical records personnel.

The ICD-9-CM codes are revised every October. New codes are added, existing codes are deleted, and definitions of current codes are changed. CCHPR categories are revised in response to ICD-9-CM changes. CCHPR Version 2 is valid for the time period January 1980 through September 1996, that is, it takes into account all ICD-9-CM coding changes through the October 1995 revision (applicable to data through September 1996).

Using these CCHPR categories with data outside the time period January 1980 through September 1996 will result in misclassification of ICD-9-CM codes.

ICD-9-CM codes requiring special treatment

CCHPR Version 2 accounts for all changes in ICD-9-CM coding definitions from January 1980 through October 1995 except for two codes whose meaning changed to such an extent that their CCHPR category assignment changed as well. These two codes must be explicitly assigned by the user.

Assignment of these two codes requires information on the year and quarter of service. When using data that span the time periods described below, these ICD-9-CM codes must be assigned to CCHPR categories explicitly according to the year and quarter of the data.

- Special treatment is required for the following *diagnosis* code:

  From January 1980 to September 1993, ICD-9-CM diagnosis code '2510 ' should appear in CCHPR diagnosis category 50 (Diabetes mellitus with complications).

  Beginning in October 1993, ICD-9-CM diagnosis code '2510 ' should appear in CCHPR diagnosis category 51 (Other endocrine disorders).

- Special treatment is required for the following *procedure* code:

  From January 1980 to September 1989, ICD-9-CM procedure code '8159' should appear in CCHPR procedure category 153 (Hip replacement, total and partial).

  Beginning in October 1989, ICD-9-CM procedure code '8159' should appear in CCHPR procedure category 154 (Arthroplasty other than hip or knee).

For example, suppose you are using data from 1993. For the first three quarters of the year (January through September), ICD-9-CM diagnosis code '2510 ' should be assigned to CCHPR diagnosis category 50 (Diabetes mellitus). For the fourth quarter of the year (October through December), ICD-9-CM diagnosis code '2510 ' should be assigned to CCHPR diagnosis category 51 (Other endocrine disorders).

The accompanying electronic files provide a suggested way to handle these codes written in the SAS programming language. You should

adapt the language and variable names to ensure that they are compatible with your system.

Description of files on diskette

"Unzipping" files

The enclosed diskette includes a self-extracting zipped file, called CCHPR2.EXE. It contains four ASCII (DOS text) files that translate ICD-9-CM codes into CCHPR categories and two ASCII (DOS text) files that provide descriptive labels for the CCHPR categories. To use these six zipped files, you must do the following:

1. Create a subdirectory on your hard drive (e.g., **MD C:\CCHPR**). You will need a total of approximately 1,620,000 bytes free to accommodate all the files once they are unzipped.
2. Copy CCHPR2.EXE to this subdirectory (e.g., **COPY A:CCHPR2.EXE C:\CCHPR**).
3. At the DOS prompt within this newly created directory, type CCHPR2 and hit the enter key (e.g., C:\CCHPR>**CCHPR2**).
4. The self-extracting zipped file will unzip (expand for normal use) the following files:

   DXREF.TXT
   DXCCHPR.TXT
   DXLABEL.TXT
   PRREF.TXT
   PRCCHPR.TXT
   PRLABEL.TXT

   Note that the original file (CCHPR2.EXE) will remain intact.

Representation of ICD-9-CM diagnosis codes

In practice, ICD-9-CM diagnoses are represented by 3- to 5-character codes with explicit decimals. In the accompanying files and in the vast majority of data files, ICD-9-CM diagnoses are represented as 5-character alphanumeric codes with implicit decimals. (Alphanumeric codes are always enclosed in quotation marks.) Examples follow.

Condition	ICD-9-CM diagnosis code	Alphanumeric code with implicit decimals
Pneumococcal pneumonia	481	'481 '
Pneumonia due to *Klebsiella pneumoniae*	482.0	'4820 '
Pneumonia due to *Escherichia coli*	482.82	'48282'
Single liveborn infant, born in hospital, delivered by cesarean delivery	V30.01	'V3001'

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.
- Following blanks should *never* be zero-padded (filled with zeros so that all 5 characters are filled for codes that should be 3 or 4 characters long).
- Leading zeros must be preserved; they are significant.

Representation of ICD-9-CM procedure codes

In practice, ICD-9-CM procedures are represented by 3- or 4-character codes with explicit decimals. In the accompanying files and in the vast majority of data files, ICD-9-CM procedures are represented as 4-character alphanumeric codes with implicit decimals. (Alphanumeric codes are always enclosed in quotation marks.) Examples follow.

Procedure	ICD-9-CM procedure code	Alphanumeric code with implicit decimals
Incision of prostate	60.0	'600 '
Closed biopsy of prostate	60.11	'6011'

For proper handling of procedure codes:

- Alphanumeric procedure codes must be left-justified, so that there is always 1 space following a 3-character procedure code.
- Following blanks should *never* be zero-padded (filled with zeros so that all 4 characters are filled for codes that should be 3 characters long).
- Leading zeros must be preserved; they are significant.

Using translation files

The translation files (DXREF.TXT, DXCCHPR.TXT, PRREF.TXT, PRCCHPR.TXT) translate specific ICD-9-CM codes into CCHPR categories. How you use these files will depend on the software system you are using. 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.

Aggregating CCHPR categories

For some purposes, it may be helpful to report diagnosis and procedure statistics in a few broad classes rather than in the level of detail provided by the CCHPR categories. Tables 3 and 4 provide mappings of CCHPR categories into the ICD-9-CM chapters that are based primarily upon etiology or body system.

Files and their contents

DXREF.TXT contains the mapping of ICD-9-CM diagnosis codes into CCHPR diagnosis categories, with full information about each ICD-9-CM code and brief CCHPR labels. Each line of the file is structured like this:

```
'diagnosis ICD code' = 'CCHPR number and label' /*LABEL FOR ICD CODE*/
```

For example,

```
'V1201' = ' 1 Tuberculosis' /* HX TUBERCULOSIS          */
'01000' = ' 1 Tuberculosis' /* PRIM TB COMPLEX - UNSPEC    */
'01001' = ' 1 Tuberculosis' /* PRIM TB COMPLEX - NO EXAM   */
'01002' = ' 1 Tuberculosis' /* PRIM TB COMPLEX - EXAM UNKN */
'01003' = ' 1 Tuberculosis' /* PRIM TB COMPLEX - MICRO DX  */
 ...
'1374 ' = ' 1 Tuberculosis' /* LATE EFFECT TB NEC         */
```

DXCCHPR.TXT contains the mapping of ICD-9-CM diagnosis codes into numeric diagnosis categories. This file is identical to DXREF.TXT except that the CCHPR word labels and ICD-9-CM code descriptions have been deleted. Each line of the file is structured like this:

```
'diagnosis ICD code' = 'CCHPR number'
```

For example,

```
'V1201' ,
'01000' ,
'01001' ,
'01002' ,
'01003' ,
 ...
'1374 ' = ' 1'
```

DXLABEL.TXT contains the full descriptive CCHPR diagnosis category names to use when reporting the diagnosis categories. The contents of this file are listed in Table 1.

PRREF.TXT contains the mapping of ICD-9-CM procedure codes into CCHPR procedure categories, with full information about each ICD-9-CM code and brief CCHPR labels. Each line of the file is structured like this:

```
'procedure ICD code' = 'CCHPR number and label' /*LABEL FOR ICD CODE*/
```

For example,

```
'0101' = ' 1 Inc/exc CNS ' /* CISTERNAL PUNCTURE       */
'0109' = ' 1 Inc/exc CNS ' /* CRANIAL PUNCTURE NEC     */
'0121' = ' 1 Inc/exc CNS ' /* CRANIAL SINUS I&D        */
'0122' = ' 1 Inc/exc CNS ' /* REMOV INTRACRAN STIMULAT */
'0123' = ' 1 Inc/exc CNS ' /* REOPEN CRANIOTOMY SITE   */
 ...
'0159' = ' 1 Inc/exc CNS ' /* OTHER BRAIN EXCISION     */
```

PRCCHPR.TXT contains the mapping of ICD-9-CM procedure codes into numeric procedure categories. This file is identical to PRREF.TXT except that the CCHPR word labels and ICD-9-CM code descriptions have been deleted. Each line of the file is structured like this:

```
'procedure ICD code' = 'CCHPR number'
```

For example,

```
'0101' ,
'0109' ,
'0121' ,
'0122' ,
'0123' ,
 ...
'0159' = ' 1'
```

PRLABEL.TXT contains the full descriptive CCHPR procedure category names to use when reporting the procedure categories. The contents of this file are listed in Table 2.

References

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Table 1
Clinical Classifications for Health Policy Research (CCHPR) Version 2:
Diagnosis category labels

1. Tuberculosis
2. Septicemia (except in labor)
3. Bacterial infection, unspecified site
4. Mycoses
5. HIV infection
6. Hepatitis
7. Viral infections
8. Other infections, including parasitic
9. Sexually transmitted infections (not HIV or hepatitis)
10. Immunizations and screening for infectious diseases
11. Cancer of head and neck
12. Cancer of esophagus
13. Cancer of stomach
14. Cancer of colon
15. Cancer of rectum and anus
16. Cancer of liver and intrahepatic bile duct
17. Cancer of pancreas
18. Cancer of other GI organs, peritoneum
19. Cancer of bronchus, lung
20. Cancer, other respiratory and intrathoracic
21. Cancer of bone and connective tissue
22. Melanomas of skin
23. Other non-epithelial cancer of skin
24. Cancer of breast
25. Cancer of uterus
26. Cancer of cervix
27. Cancer of ovary
28. Cancer of other female genital organs
29. Cancer of prostate
30. Cancer of testis
31. Cancer of other male genital organs
32. Cancer of bladder
33. Cancer of kidney and renal pelvis
34. Cancer of other urinary organs
35. Cancer of brain and nervous system
36. Cancer of thyroid
37. Hodgkin's disease
38. Non-Hodgkin's lymphoma
39. Leukemias
40. Multiple myeloma
41. Cancer, other primary
42. Secondary malignancies
43. Malignant neoplasm without specification of site
44. Neoplasms of unspecified nature or uncertain behavior
45. Maintenance chemotherapy, radiotherapy
46. Benign neoplasm of uterus
47. Other benign neoplasm
48. Thyroid disorders
49. Diabetes mellitus without complication
50. Diabetes mellitus with complications

51. Other endocrine disorders
52. Nutritional deficiencies
53. Hyperlipidemia
54. Gout and other crystal arthropathies
55. Fluid and electrolyte disorders
56. Cystic fibrosis
57. Immunity disorders
58. Other nutritional, endocrine, and metabolic disorders
59. Anemia
60. Acute posthemorrhagic anemia
61. Sickle cell anemia
62. Coagulation and hemorrhagic disorders
63. Disease of white blood cells
64. Other hematologic conditions
65. Mental retardation
66. Alcohol-related mental disorders
67. Substance-related mental disorders
68. Senility and organic mental disorders
69. Affective disorders
70. Schizophrenia and related disorders
71. Other psychoses
72. Anxiety, somatoform, dissociative, and personality disorders
73. Preadult disorders
74. Other mental conditions
75. Personal history of mental disorder, mental and behavioral problems, observation and screening for mental condition
76. Meningitis (except that caused by tuberculosis or sexually transmitted infections)
77. Encephalitis (except that caused by tuberculosis and sexually transmitted diseases)
78. Other CNS infection and poliomyelitis
79. Parkinson's disease
80. Multiple sclerosis
81. Other hereditary and degenerative nervous system conditions
82. Paralysis
83. Epilepsy, convulsions
84. Headache, including migraine
85. Coma, stupor, and brain damage
86. Cataract
87. Retinal detachments, defects, vascular occlusion, and retinopathy
88. Glaucoma
89. Blindness and vision defects
90. Inflammation, infection of eye (except that caused by tuberculosis and sexually transmitted diseases)
91. Other eye disorders
92. Otitis media and related conditions
93. Conditions associated with dizziness or vertigo
94. Other ear and sense organ disorders
95. Other nervous system disorders
96. Heart valve disorders
97. Peri-, endo-, and myocarditis, cardiomyopathy (except that caused by tuberculosis and sexually transmitted diseases)
98. Essential hypertension
99. Hypertension with complications and secondary hypertension
100. Acute myocardial infarction
101. Coronary atherosclerosis
102. Nonspecific chest pain

103. Pulmonary heart disease
104. Other and ill-defined heart disease
105. Conduction disorders
106. Cardiac dysrhythmias
107. Cardiac arrest and ventricular fibrillation
108. Congestive heart failure, nonhypertensive
109. Acute cerebrovascular disease
110. Occlusion or stenosis of precerebral arteries
111. Other and ill-defined cerebrovascular disease
112. Transient cerebral ischemia
113. Late effects of cerebrovascular disease
114. Peripheral and visceral atherosclerosis
115. Aortic, peripheral, and visceral artery aneurysms
116. Aortic and peripheral arterial embolism or thrombosis
117. Other circulatory disease
118. Phlebitis, thrombophlebitis, and thromboembolism
119. Varicose veins of lower extremity
120. Hemorrhoids
121. Other disease of veins and lymphatics
122. Pneumonia (except that caused by tuberculosis and sexually transmitted diseases)
123. Influenza
124. Acute and chronic tonsillitis
125. Acute bronchitis
126. Other upper respiratory infections
127. Chronic obstructive pulmonary disease and bronchiectasis
128. Asthma
129. Aspiration pneumonitis, food/vomitus
130. Pleurisy, pneumothorax, pulmonary collapse
131. Respiratory failure, insufficiency, arrest (adult)
132. Lung disease due to external agents
133. Other lower respiratory disease
134. Other upper respiratory disease
135. Intestinal infection
136. Disorders of teeth and jaw
137. Disease of mouth, excluding dental
138. Esophageal disorders
139. Gastroduodenal ulcer (except hemorrhage)
140. Gastritis and duodenitis
141. Other disorders of stomach and duodenum
142. Appendicitis and other appendiceal conditions
143. Abdominal hernia
144. Regional enteritis and ulcerative colitis
145. Intestinal obstruction without hernia
146. Diverticulosis and diverticulitis
147. Anal and rectal conditions
148. Peritonitis and intestinal abscess
149. Biliary tract disease
150. Liver disease, alcohol-related
151. Other liver diseases
152. Pancreatic disorders (not diabetes)
153. Gastrointestinal hemorrhage
154. Noninfectious gastroenteritis
155. Other gastrointestinal disorders
156. Nephritis, nephrosis, renal sclerosis

157. Acute and unspecified renal failure
158. Chronic renal failure
159. Urinary tract infections
160. Calculus of urinary tract
161. Other disease of kidney and ureters
162. Other disease of bladder and urethra
163. Genitourinary symptoms and ill-defined conditions
164. Hyperplasia of prostate
165. Inflammatory conditions of male genital organs
166. Other male genital disorders
167. Nonmalignant breast conditions
168. Inflammatory disease of female pelvic organs
169. Endometriosis
170. Prolapse of female genital organs
171. Menstrual disorders
172. Ovarian cyst
173. Menopausal disorders
174. Female infertility
175. Other female genital disorders
176. Contraceptive and procreative management
177. Spontaneous abortion
178. Induced abortion
179. Postabortion complications
180. Ectopic pregnancy
181. Other complications of pregnancy
182. Hemorrhage during pregnancy, abruptio placenta, placenta previa
183. Hypertension complicating pregnancy, childbirth, and the puerperium
184. Early or threatened labor
185. Prolonged pregnancy
186. Diabetes or abnormal glucose tolerance complicating pregnancy, childbirth, or the puerperium
187. Malposition, malpresentation
188. Fetopelvic disproportion, obstruction
189. Previous C-section
190. Fetal distress and abnormal forces of labor
191. Polyhydramnios and other problems of amniotic cavity
192. Umbilical cord complication
193. Trauma to perineum and vulva
194. Forceps delivery
195. Other complications of birth, puerperium affecting management of the mother
196. Normal pregnancy and/or delivery
197. Skin and subcutaneous tissue infections
198. Other inflammatory condition of skin
199. Chronic ulcer of skin
200. Other skin disorders
201. Infective arthritis and osteomyelitis (except that caused by tuberculosis and sexually transmitted disease)
202. Rheumatoid arthritis and related disease
203. Osteoarthritis
204. Other non-traumatic joint disorders
205. Spondylosis, intervertebral disc disorders, other back problems
206. Osteoporosis
207. Pathological fracture
208. Acquired foot deformities
209. Other acquired deformities
210. Systemic lupus erythematosus and connective tissue disorders

211. Other connective tissue disease
212. Other bone disease and musculoskeletal deformities
213. Cardiac and circulatory congenital anomalies
214. Digestive congenital anomalies
215. Genitourinary congenital anomalies
216. Nervous system congenital anomalies
217. Other congenital anomalies
218. Liveborn
219. Short gestation, low birth weight, and fetal growth retardation
220. Intrauterine hypoxia and birth asphyxia
221. Respiratory distress syndrome
222. Hemolytic jaundice and perinatal jaundice
223. Birth trauma
224. Other perinatal conditions
225. Joint disorders and dislocations, trauma-related
226. Fracture of neck of femur (hip)
227. Spinal cord injury
228. Skull and face fractures
229. Fracture of upper limb
230. Fracture of lower limb
231. Other fractures
232. Sprains and strains
233. Intracranial injury
234. Crushing injury or internal injury
235. Open wounds of head, neck, and trunk
236. Open wounds of extremities
237. Complication of device, implant, or graft
238. Complications of surgical procedures or medical care
239. Superficial injury, contusion
240. Burns
241. Poisoning by psychotropic agents
242. Poisoning by other medications and drugs
243. Poisoning by nonmedicinal substances
244. Other injuries and conditions due to external causes
245. Syncope
246. Fever of unknown origin
247. Lymphadenitis
248. Gangrene
249. Shock
250. Nausea and vomiting
251. Abdominal pain
252. Malaise and fatigue
253. Allergic reactions
254. Rehabilitation care, fitting of prostheses, and adjustment of devices
255. Administrative/social admission
256. Medical examination/evaluation
257. Other aftercare
258. Other screening for suspected conditions (not mental disorders or infectious disease)
259. Residual codes, unclassified
260. E (external causes of injury and poisoning) codes

Table 2
Clinical Classifications for Health Policy Research (CCHPR) Version 2:
Procedure category labels

1. Incision and excision of CNS
2. Insertion, replacement, or removal of extracranial ventricular shunt
3. Laminectomy, excision intervertebral disc
4. Diagnostic spinal tap
5. Insertion of catheter or spinal stimulator and injection into spinal canal
6. Decompression peripheral nerve
7. Other diagnostic nervous system procedures
8. Other non-O.R. or closed therapeutic nervous system procedures
9. Other O.R. therapeutic nervous system procedures
10. Thyroidectomy, partial or complete
11. Diagnostic endocrine procedures
12. Other therapeutic endocrine procedures
13. Corneal transplant
14. Glaucoma procedures
15. Lens and cataract procedures
16. Repair of retinal tear, detachment
17. Destruction of lesion of retina and choroid
18. Diagnostic procedures on eye
19. Other therapeutic procedures on eyelids, conjunctiva, cornea
20. Other intraocular therapeutic procedures
21. Other extraocular muscle and orbit therapeutic procedures
22. Tympanoplasty
23. Myringotomy
24. Mastoidectomy
25. Diagnostic procedures on ear
26. Other therapeutic ear procedures
27. Control of epistaxis
28. Plastic procedures on nose
29. Dental procedures
30. Tonsillectomy and/or adenoidectomy
31. Diagnostic procedures on nose, mouth, and pharynx
32. Other non-O.R. therapeutic procedures on nose, mouth, and pharynx
33. Other O.R. therapeutic procedures on nose, mouth, and pharynx
34. Tracheostomy, temporary and permanent
35. Tracheoscopy and laryngoscopy with biopsy
36. Lobectomy or pneumonectomy
37. Diagnostic bronchoscopy and biopsy of bronchus
38. Other diagnostic procedures on lung and bronchus
39. Incision of pleura, thoracentesis, chest drainage
40. Other diagnostic procedures of respiratory tract and mediastinum
41. Other non-O.R. therapeutic procedures on respiratory system
42. Other O.R. therapeutic procedures on respiratory system
43. Heart valve procedures
44. Coronary artery bypass graft (CABG)
45. Percutaneous transluminal coronary angioplasty (PTCA)
46. Coronary thrombolysis
47. Diagnostic cardiac catheterization, coronary arteriography
48. Insertion, revision, replacement, removal of cardiac pacemaker or cardioverter/defibrillator
49. Other O.R. heart procedures
50. Extracorporeal circulation auxiliary to open heart procedures

51. Endarterectomy, vessel of head and neck
52. Aortic resection, replacement or anastomosis
53. Varicose vein stripping, lower limb
54. Other vascular catheterization, not heart
55. Peripheral vascular bypass
56. Other vascular bypass and shunt, not heart
57. Creation, revision, and removal of arteriovenous fistula or vessel-to-vessel cannula for dialysis
58. Hemodialysis
59. Other O.R. procedures on vessels of head and neck
60. Embolectomy and endarterectomy of lower limbs
61. Other O.R. procedures on vessels other than head and neck
62. Other diagnostic cardiovascular procedures
63. Other non-O.R. therapeutic cardiovascular procedures
64. Bone marrow transplant
65. Bone marrow biopsy
66. Procedures on spleen
67. Other therapeutic procedures, hemic and lymphatic system
68. Injection or ligation of esophageal varices
69. Esophageal dilatation
70. Upper gastrointestinal endoscopy, biopsy
71. Gastrostomy, temporary and permanent
72. Colostomy, temporary and permanent
73. Ileostomy and other enterostomy
74. Gastrectomy, partial and total
75. Small bowel resection
76. Colonoscopy and biopsy
77. Proctoscopy and anorectal biopsy
78. Colorectal resection
79. Local excision of large intestine lesion (not endoscopic)
80. Appendectomy
81. Hemorrhoid procedures
82. Endoscopic retrograde cannulation of pancreas (ERCP)
83. Biopsy of liver
84. Cholecystectomy and common duct exploration
85. Inguinal and femoral hernia repair
86. Other hernia repair
87. Laparoscopy
88. Abdominal paracentesis
89. Exploratory laparotomy
90. Excision, lysis peritoneal adhesions
91. Peritoneal dialysis
92. Other GI diagnostic procedures
93. Other non-O.R. upper GI therapeutic procedures
94. Other O.R. upper GI therapeutic procedures
95. Other non-O.R. lower GI therapeutic procedures
96. Other O.R. lower GI therapeutic procedures
97. Other gastrointestinal diagnostic procedures
98. Other non-O.R. gastrointestinal therapeutic procedures
99. Other O.R. gastrointestinal therapeutic procedures
100. Endoscopy and endoscopic biopsy of the urinary tract
101. Transurethral excision, drainage, or removal urinary obstruction
102. Ureteral catheterization
103. Nephrotomy and nephrostomy
104. Nephrectomy, partial or complete

105. Kidney transplant
106. Genitourinary incontinence procedures
107. Extracorporeal lithotripsy, urinary
108. Indwelling catheter
109. Procedures on the urethra
110. Other diagnostic procedures of urinary tract
111. Other non-O.R. therapeutic procedures of urinary tract
112. Other O.R. therapeutic procedures of urinary tract
113. Transurethral resection of prostate (TURP)
114. Open prostatectomy
115. Circumcision
116. Diagnostic procedures, male genital
117. Other non-O.R. therapeutic procedures, male genital
118. Other O.R. therapeutic procedures, male genital
119. Oophorectomy, unilateral and bilateral
120. Other operations on ovary
121. Ligation of fallopian tubes
122. Removal ectopic pregnancy
123. Other operations on fallopian tubes
124. Hysterectomy, abdominal and vaginal
125. Other excision of cervix and uterus
126. Abortion (termination of pregnancy)
127. Dilatation and curettage (D&C), aspiration after delivery or abortion
128. Diagnostic dilatation and curettage (D&C)
129. Repair of cystocele and rectocele, obliteration of vaginal vault
130. Other diagnostic procedures female organs
131. Other non-O.R. therapeutic procedures, female organs
132. Other O.R. therapeutic procedures, female organs
133. Episiotomy
134. Cesarean section
135. Forceps, vacuum, and breech delivery
136. Artificial rupture of membranes to assist delivery
137. Other procedures to assist delivery
138. Diagnostic amniocentesis
139. Fetal monitoring
140. Repair of current obstetric laceration
141. Other therapeutic obstetrical procedures
142. Partial excision bone
143. Bunionectomy or repair of toe deformities
144. Treatment, facial fracture or dislocation
145. Treatment, fracture or dislocation of radius and ulna
146. Treatment, fracture or dislocation of hip and femur
147. Treatment, fracture or dislocation of lower extremity (other than hip or femur)
148. Other fracture and dislocation procedure
149. Arthroscopy
150. Division of joint capsule, ligament or cartilage
151. Excision of semilunar cartilage of knee
152. Arthroplasty knee
153. Hip replacement, total and partial
154. Arthroplasty other than hip or knee
155. Arthrocentesis
156. Injections and aspirations of muscles, tendons, bursa, joints and soft tissue
157. Amputation of lower extremity
158. Spinal fusion

159. Other diagnostic procedures on musculoskeletal system
160. Other therapeutic procedures on muscles and tendons
161. Other O.R. therapeutic procedures on bone
162. Other O.R. therapeutic procedures on joints
163. Other non-O.R. therapeutic procedures on musculoskeletal system
164. Other O.R. therapeutic procedures on musculoskeletal system
165. Breast biopsy and other diagnostic procedures on breast
166. Lumpectomy, quadrantectomy of breast
167. Mastectomy
168. Incision and drainage, skin and subcutaneous tissue
169. Debridement of wound, infection, or burn
170. Excision of skin lesion
171. Suture of skin and subcutaneous tissue
172. Skin graft
173. Other diagnostic procedures on skin and subcutaneous tissue
174. Other non-O.R. therapeutic procedures on skin and breast
175. Other O.R. therapeutic procedures on skin and breast
176. Other organ transplantation
177. Computerized axial tomography (CT) scan head
178. CT scan chest
179. CT scan abdomen
180. Other CT scan
181. Myelogram
182. Mammography
183. Routine chest x-ray
184. Intraoperative cholangiogram
185. Upper gastrointestinal x-ray
186. Lower gastrointestinal x-ray
187. Intravenous pyelogram
188. Cerebral arteriogram
189. Contrast aortogram
190. Contrast arteriogram of femoral and lower extremity arteries
191. Arterio- or venogram (not heart and head)
192. Diagnostic ultrasound of head and neck
193. Diagnostic ultrasound of heart (echocardiogram)
194. Diagnostic ultrasound of gastrointestinal tract
195. Diagnostic ultrasound of urinary tract
196. Diagnostic ultrasound of abdomen or retroperitoneum
197. Other diagnostic ultrasound
198. Magnetic resonance imaging
199. Electroencephalogram (EEG)
200. Nonoperative urinary system measurements
201. Cardiac stress tests
202. Electrocardiogram
203. Electrographic cardiac monitoring
204. Swan-Ganz catheterization for monitoring
205. Arterial blood gases
206. Microscopic examination (bacterial smear, culture, toxicology)
207. Radioisotope bone scan
208. Radioisotope pulmonary scan
209. Radioisotope scan and function studies
210. Other radioisotope scan
211. Therapeutic radiology
212. Diagnostic physical therapy

213. Physical therapy exercises, manipulation, and other procedures
214. Traction, splints, and other wound care
215. Other physical therapy and rehabilitation
216. Respiratory intubation and mechanical ventilation
217. Other respiratory therapy
218. Psychological and psychiatric evaluation and therapy
219. Alcohol and drug rehabilitation/detoxification
220. Ophthalmologic and otologic diagnosis and treatment
221. Nasogastric tube
222. Blood transfusion
223. Enteral and parenteral nutrition
224. Cancer chemotherapy
225. Conversion of cardiac rhythm
226. Other diagnostic radiology and related techniques
227. Other diagnostic procedures (interview, evaluation, consultation)
228. Prophylactic vaccinations and inoculations
229. Nonoperative removal of foreign body
230. Extracorporeal shock wave lithotripsy, other than urinary
231. Other therapeutic procedures

Table 3
Mapping CCHPR diagnosis categories into ICD-9-CM chapters

CCHPR diagnosis numbers	ICD-9-CM diagnosis chapters	
1-10	1	Infectious and parasitic diseases
11-47	2	Neoplasms
48-58	3	Endocrine, nutritional, and metabolic diseases and immunity disorders
59-64	4	Diseases of the blood and blood-forming organs
65-75	5	Mental disorders
76-95	6	Diseases of the nervous system and sense organs
96-121	7	Diseases of the circulatory system
122-134	8	Diseases of the respiratory system
135-155	9	Diseases of the digestive system
156-175	10	Diseases of the genitourinary system
176-196	11	Complications of pregnancy, childbirth, and the puerperium
197-200	12	Diseases of the skin and subcutaneous tissue
201-212	13	Diseases of the musculoskeletal system and connective tissue
213-217	14	Congenital anomalies
218-224	15	Certain conditions originating in the perinatal period
225-244	16	Injury and poisoning
245-259	17	Other conditions

Note: CCHPR is Clinical Classifications for Health Policy Research. ICD-9-CM is International Classification of Diseases, 9th Revision, Clinical Modification.

Table 4
Mapping CCHPR procedure categories into ICD-9-CM chapters

CCHPR procedure numbers	ICD-9-CM procedure chapters	
1-9	1	Operations on the nervous system
10-12	2	Operations on the endocrine system
13-21	3	Operations on the eye
22-26	4	Operations on the ear
27-33	5	Operations on the nose, mouth, and pharynx
34-42	6	Operations on the respiratory system
43-63	7	Operations on the cardiovascular system
64-67	8	Operations on the hemic and lymphatic system
68-99	9	Operations on the digestive system
100-112	10	Operations on the urinary system
113-118	11	Operations on the male genital organs
119-121, 123-132	12	Operations on the female genital organs
122, 133-141	13	Obstetrical procedures
142-164	14	Operations on the musculoskeletal system
165-175	15	Operations on the integumentary system
176-231	16	Miscellaneous diagnostic and therapeutic procedures

Note: CCHPR is Clinical Classifications for Health Policy Research. ICD-9-CM is International Classification of Diseases, 9th Revision, Clinical Modification.