

# **SUPPLEMENTAL MATERIAL**

**Table S1. Clinical Classifications Software categories.**

CCS ID	Disease category
1	Tuberculosis
2	Septicemia (except in labor)
3	Bacterial infection; unspecified site
4	Mycoses
5	HIV infection
6	Hepatitis
7	Viral infection
8	Other infections; including parasitic
9	Sexually transmitted infections (not HIV or hepatitis)
10	Immunizations and screening for infectious disease
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 and unspecified 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 and unspecified benign neoplasm
- 48 Thyroid disorders
- 49 Diabetes mellitus without complication
- 50 Diabetes mellitus with complications
- 51 Other endocrine disorders
- 52 Nutritional deficiencies
- 53 Disorders of lipid metabolism
- 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 Deficiency and other anemia
- 60 Acute posthemorrhagic anemia
- 61 Sickle cell anemia
- 62 Coagulation and hemorrhagic disorders
- 63 Diseases of white blood cells
- 64 Other hematologic conditions
- 650 Adjustment disorders
- 651 Anxiety disorders
- 652 Attention-deficit, conduct, and disruptive behavior disorders
- 653 Delirium, dementia, and amnesic and other cognitive disorders
- 654 Developmental disorders
- 655 Disorders usually diagnosed in infancy, childhood, or adolescence
- 656 Impulse control disorders, NEC
- 657 Mood disorders
- 658 Personality disorders
- 659 Schizophrenia and other psychotic disorders
- 660 Alcohol-related disorders
- 661 Substance-related disorders
- 662 Suicide and intentional self-inflicted injury
- 663 Screening and history of mental health and substance abuse codes
- 670 Miscellaneous disorders
- 76 Meningitis (except that caused by tuberculosis or sexually transmitted disease)
- 77 Encephalitis (except that caused by tuberculosis or sexually transmitted disease)
- 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 or sexually transmitted disease)
- 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 or sexually transmitted disease)
- 98 Essential hypertension
- 99 Hypertension with complications and secondary hypertension
- 100 Acute myocardial infarction
- 101 Coronary atherosclerosis and other heart disease
- 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 diseases of veins and lymphatics
- 122 Pneumonia (except that caused by tuberculosis or sexually transmitted disease)
- 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 Diseases 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 kidney disease
- 159 Urinary tract infections
- 160 Calculus of urinary tract
- 161 Other diseases of kidney and ureters
- 162 Other diseases 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 diseases 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 OB-related trauma to perineum and vulva
- 194 Forceps delivery
- 195 Other complications of birth; puerperium affecting management of 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 or 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 Codes: All (external causes of injury and poisoning)  
2601 E Codes: Cut/pierce  
2602 E Codes: Drowning/submersion  
2603 E Codes: Fall  
2604 E Codes: Fire/burn  
2605 E Codes: Firearm

2606 E Codes: Machinery  
2607 E Codes: Motor vehicle traffic (MVT)  
2608 E Codes: Pedal cyclist; not MVT  
2609 E Codes: Pedestrian; not MVT  
2610 E Codes: Transport; not MVT  
2611 E Codes: Natural/environment  
2612 E Codes: Overexertion  
2613 E Codes: Poisoning  
2614 E Codes: Struck by; against  
2615 E Codes: Suffocation  
2616 E Codes: Adverse effects of medical care  
2617 E Codes: Adverse effects of medical drugs  
2618 E Codes: Other specified and classifiable  
2619 E Codes: Other specified; NEC  
2620 E Codes: Unspecified  
2621 E Codes: Place of occurrence