

Episodes of Care Risk Adjustment

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Appendix

Factors and Weights

Acute Diabetes Exacerbation		
CCS Code	Factor	Weight
	Female	0.590
	Male	0.533
1.1	Bacterial infection	0.096
1.4	Other infections; including parasitic	0.152
3.8	Fluid and electrolyte disorders	0.161
4.1	Anemia	0.100
4.3	Diseases of white blood cells	0.136
5.5	Developmental disorders	0.399
6.9	Other nervous system disorders	0.078
7.1	Hypertension	0.056
7.2	Diseases of the heart	0.076
8.6	Respiratory failure; insufficiency; arrest (adult)	0.136
8.8	Other lower respiratory disease	0.060
9.7	Biliary tract disease	0.148
9.8	Liver disease	0.091
10.1	Diseases of the urinary system	0.060
14.3	Genitourinary congenital anomalies	0.326

Acute Gastroenteritis		
CCS Code	Factor	Weight
	Age (per year)	0.011
1.1	Bacterial infection	0.433
2.10	Cancer of lymphatic and hematopoietic tissue	0.548
2.12	Secondary malignancies	0.708
2.2	Other gastrointestinal cancer	0.685
2.7	Cancer of ovary and other female genital organs	0.576
3.4	Other endocrine disorders	0.092
3.8	Fluid and electrolyte disorders	0.754
3.9	Cystic fibrosis	1.528
4.1	Anemia	0.212
4.2	Coagulation and hemorrhagic disorders	0.165
4.3	Diseases of white blood cells	0.676
5.6	Disorders usually diagnosed in infancy childhood or adolescence	0.283
5.11	Alcohol-related disorders	0.231
6.1	Central nervous system infection	0.980
6.3	Paralysis	0.232
7.2	Diseases of the heart	0.056
7.3	Cerebrovascular disease	0.242
7.4	Diseases of arteries; arterioles; and capillaries	0.074
8.5	Pleurisy; pneumothorax; pulmonary collapse	0.177
9.1	Intestinal infection	0.309
9.4	Upper gastrointestinal disorders	0.077
9.5	Abdominal hernia	0.206
9.6	Lower gastrointestinal disorders	0.525
9.7	Biliary tract disease	0.267
9.8	Liver disease	0.268

9.9	Pancreatic disorders (not diabetes)	0.347
9.10	Gastrointestinal hemorrhage	0.280
9.11	Noninfectious gastroenteritis	0.102
12.3	Chronic ulcer of skin	0.330
13.1	Infective arthritis and osteomyelitis (except that caused by TB or STD)	1.168
13.4	Osteoporosis	0.220
14.1	Cardiac and circulatory congenital anomalies	0.166
14.5	Other congenital anomalies	0.156
15.3	Intrauterine hypoxia and birth asphyxia	3.732
15.5	Hemolytic jaundice and perinatal jaundice	0.776

Acute Percutaneous Coronary Intervention		
CCS Code	Factor	Weight
	Age (per year)	0.001
	Female	0.842
	Male	0.878
3.8	Fluid and electrolyte disorders	0.060
4	Diseases of the blood and blood-forming organs	0.072
4.2	Coagulation and hemorrhagic disorders	0.067
8.5	Pleurisy; pneumothorax; pulmonary collapse	0.132
8.6	Respiratory failure; insufficiency; arrest (adult)	0.193

Acute Seizure		
CCS Code	Factor	Weight
	Age (per year)	0.003
3.8	Fluid and electrolyte disorders	0.417
3.9	Cystic fibrosis	0.993
3.10	Immunity disorders	0.278
4.2	Coagulation and hemorrhagic disorders	0.448
4.3	Diseases of white blood cells	0.307
5.5	Developmental disorders	0.092
5.11	Alcohol-related disorders	0.201
6.1	Central nervous system infection	0.751
6.4	Epilepsy; convulsions	0.530
6.6	Coma; stupor; and brain damage	0.243
6.9	Other nervous system disorders	0.103
7.3	Cerebrovascular disease	0.243
8.4	Aspiration pneumonitis; food/vomitus	0.486
8.6	Respiratory failure; insufficiency; arrest (adult)	0.787
9.6	Lower gastrointestinal disorders	0.137
14.5	Other congenital anomalies	0.225

Appendectomy		
CCS Code	Factor	Weight
	Female	0.836
	Male	0.856
1.1	Bacterial infection	0.157
1.4	Other infections; including parasitic	0.157
2.1	Colorectal cancer	0.187
2.12	Secondary malignancies	0.580

3.8	Fluid and electrolyte disorders	0.181
3.11	Other nutritional; endocrine; and metabolic disorders	0.018
4	Diseases of the blood and blood-forming organs	0.100
7.2	Diseases of the heart	0.074
8.4	Aspiration pneumonitis; food/vomitus	0.396
8.5	Pleurisy; pneumothorax; pulmonary collapse	0.293
8.6	Respiratory failure; insufficiency; arrest (adult)	0.295
9.5	Abdominal hernia	0.009
9.7	Biliary tract disease	0.048
9.8	Liver disease	0.014
9.12	Other gastrointestinal disorders	0.068
14.2	Digestive congenital anomalies	0.240
16.10	Complications	0.429

Asthma Acute Exacerbation		
CCS Code	Factor	Weight
	Age (per year)	0.009
	Female	0.246
	Male	0.294
	Line of Business – BlueCare	0.080
	Line of Business – TennCare Select	0.110
	Line of Business – CoverKids	0.110
1.1	Bacterial infection	0.418
3	Endocrine; nutritional; and metabolic diseases and immunity disorders	0.281
6.2	Hereditary and degenerative nervous system conditions	0.219
6.3	Paralysis	1.260
7	Diseases of the circulatory system	0.234
8.1.1	Pneumonia (except that caused by TB or STD)	0.747
8.2	Chronic obstructive pulmonary disease and bronchiectasis	0.266
8.6	Respiratory failure; insufficiency; arrest (adult)	1.552
9	Diseases of the digestive system	0.079

Attention Deficit and Hyperactivity Disorder		
CCS Code	Factor	Weight
	Female	0.598
	Male	0.691
5.1	Adjustment disorders	0.052
5.14	Screening and history of mental health and substance abuse codes	0.204
5.15	Miscellaneous mental disorders	0.053
5.3.2	Oppositional defiant disorder	0.670
5.5	Developmental disorders	0.240
5.6	Disorders usually diagnosed in infancy childhood or adolescence	0.484
5.8	Mood disorders	0.426
5.9	Personality disorders	0.411
6	Diseases of the nervous system and sense organs	0.028
6.4	Epilepsy; convulsions	0.150
6.7	Eye disorders	0.180
14	Congenital anomalies	0.046

Back/Neck Pain		
CCS Code	Factor	Weight
	Age (per year)	0.001
	Female	0.084
	Male	0.077
1.1	Bacterial infection	0.029
2.10	Cancer of lymphatic and hematopoietic tissue	0.145
2.12	Secondary malignancies	0.143
2.13	Malignant neoplasm without specification of site	0.260
2.14	Neoplasms of unspecified nature or uncertain behavior	0.034
2.15	Maintenance chemotherapy; radiotherapy	0.231
2.16	Benign neoplasms	0.035
3.1	Thyroid disorders	0.016
3.4	Other endocrine disorders	0.053
3.8	Fluid and electrolyte disorders	0.076
3.9	Cystic fibrosis	0.865
3.10	Immunity disorders	0.186
4.1	Anemia	0.023
4.4	Other hematologic conditions	0.071
5.1	Adjustment disorders	0.031
5.4	Delirium dementia and amnestic and other cognitive disorders	0.127
5.12	Substance-related disorders	0.019
5.14	Screening and history of mental health and substance abuse codes	0.054
5.15	Miscellaneous mental disorders	0.035
6.1	Central nervous system infection	0.196
6.2	Hereditary and degenerative nervous system conditions	0.041
6.5	Headache; including migraine	0.106
6.6	Coma; stupor; and brain damage	0.055
6.9	Other nervous system disorders	0.203
7.2	Diseases of the heart	0.052
7.3	Cerebrovascular disease	0.048
8.3	Asthma	0.030
8.5	Pleurisy; pneumothorax; pulmonary collapse	0.098
8.7	Lung disease due to external agents	0.205
9.4	Upper gastrointestinal disorders	0.039
9.5	Abdominal hernia	0.052
9.6	Lower gastrointestinal disorders	0.053
9.7	Biliary tract disease	0.084
9.8	Liver disease	0.055
9.10	Gastrointestinal hemorrhage	0.038
9.12	Other gastrointestinal disorders	0.039
10.1	Diseases of the urinary system	0.038
11.2	Abortion-related disorders	0.124
13.1	Infective arthritis and osteomyelitis (except that caused by TB or STD)	0.194
13.2	Non-traumatic joint disorders	0.134
13.3	Spondylosis; intervertebral disc disorders; other back problems	0.396
13.5	Pathological fracture	0.288
13.6	Acquired deformities	0.186
13.8	Other connective tissue disease	0.151
13.9	Other bone disease and musculoskeletal deformities	0.227

14.3	Genitourinary congenital anomalies	0.149
14.4	Nervous system congenital anomalies	0.182
14.5	Other congenital anomalies	0.114
16.1	Joint disorders and dislocations; trauma-related	0.068
16.10	Complications	0.067
16.12	Other injuries and conditions due to external causes	0.168
16.2	Fractures	0.041
16.3	Spinal cord injury	0.366
16.7	Sprains and strains	0.178
16.8	Superficial injury; contusion	0.052

Bariatric Surgery		
CCS Code	Factor	Weight
	Age (per year)	0.004
	Female	0.731
	Male	0.727
4	Diseases of the blood and blood-forming organs	0.149
9.11	Noninfectious gastroenteritis	0.460
9.6	Lower gastrointestinal disorders	0.266
9.9	Pancreatic disorders (not diabetes)	1.790
9.9.3	Other pancreatic disorders	1.707

Breast Biopsy		
CCS Code	Factor	Weight
	Female	0.499
	Male	0.325
2.12	Secondary malignancies	0.443
2.5	Cancer of breast	0.582
5.12	Substance-related disorders	0.156
5.14	Screening and history of mental health and substance abuse codes	0.143
11.1	Contraceptive and procreative management	0.091
10.3.1	Nonmalignant breast conditions	0.347

Bronchiolitis		
CCS Code	Factor	Weight
	Female	0.469
	Male	0.350
1.1	Bacterial infection	0.076
3.2	Diabetes mellitus without complication	1.413
3.8	Fluid and electrolyte disorders	1.326
4.2	Coagulation and hemorrhagic disorders	0.841
6.2	Hereditary and degenerative nervous system conditions	1.306
8.3	Asthma	0.426
8.4	Aspiration pneumonitis; food/vomitus	2.788
8.5	Pleurisy; pneumothorax; pulmonary collapse	0.993
8.6	Respiratory failure; insufficiency; arrest (adult)	1.379
8.8	Other lower respiratory disease	0.208
13.6	Acquired deformities	0.738
15.6	Birth trauma	1.892

Colposcopy		
CCS Code	Factor	Weight
	Age (per year)	0.003
1.1	Bacterial infection	0.041
1.3	Viral infection	0.103
2.4	Cancer of skin	0.179
2.6	Cancer of uterus and cervix	0.345
2.16	Benign neoplasms	0.100
3.11	Other nutritional; endocrine; and metabolic disorders	0.063
4.2	Coagulation and hemorrhagic disorders	0.091
5	Mental illness	0.045
5.12	Substance-related disorders	0.294
5.14	Screening and history of mental health and substance abuse codes	0.207
8.3	Asthma	0.090
9.4	Upper gastrointestinal disorders	0.125
10.3	Diseases of female genital organs	0.469
11.1	Contraceptive and procreative management	0.041
14	Congenital anomalies	0.132
16.10	Complications	0.318

Congestive Heart Failure Acute Exacerbation		
CCS Code	Factor	Weight
	Female	0.448
	Male	0.664
1	Infectious and parasitic diseases	0.156
14.1	Cardiac and circulatory congenital anomalies	0.556
15	Certain conditions originating in the perinatal period	0.427
4.1	Anemia	0.243
4.2	Coagulation and hemorrhagic disorders	0.304
7.2.2	Peri-; endo-; and myocarditis; cardiomyopathy (except that caused by TB or STD)	0.124
7.5	Diseases of veins and lymphatics	0.114
9.8	Liver disease	0.237

COPD Acute Exacerbation		
CCS Code	Factor	Weight
	Age (per year)	0.005
10.1.2	Acute and unspecified renal failure	0.334
16	Injury and poisoning	0.080
1.1	Bacterial infection	0.131
2	Neoplasms	0.084
3.11	Other nutritional; endocrine; and metabolic disorders	0.115
3.2	Diabetes mellitus without complication	0.080
3.8	Fluid and electrolyte disorders	0.357
4	Diseases of the blood and blood-forming organs	0.184
4.2	Coagulation and hemorrhagic disorders	0.220
7.2	Diseases of the heart	0.119
7.3.1	Acute cerebrovascular disease	0.140
8.5	Pleurisy; pneumothorax; pulmonary collapse	0.199
8.6	Respiratory failure; insufficiency; arrest (adult)	0.580

Coronary Artery Bypass Graft		
CCS Code	Factor	Weight
	Female	0.756
	Male	0.754
16	Injury and poisoning	0.077
1.1	Bacterial infection	0.280
4.2	Coagulation and hemorrhagic disorders	0.085
6	Diseases of the nervous system and sense organs	0.088
7.1.2	Hypertension with complications and secondary hypertension	0.101
7.2.10	Cardiac arrest and ventricular fibrillation	0.412
7.4	Diseases of arteries; arterioles; and capillaries	0.086

Esophagogastroduodenoscopy		
CCS Code	Factor	Weight
	Female	0.408
	Male	0.561
	Line of Business – Fully-Insured	0.050
	Line of Business – Self-Insured	0.050
	Line of Business – State	0.050
10	Diseases of the genitourinary system	0.107
14	Congenital anomalies	0.186
3	Endocrine; nutritional; and metabolic diseases and immunity disorders	0.084
4	Diseases of the blood and blood-forming organs	0.378
4.2	Coagulation and hemorrhagic disorders	0.951
8	Diseases of the respiratory system	0.143
9.11	Noninfectious gastroenteritis	0.257
9.12	Other gastrointestinal disorders	0.108
9.6	Lower gastrointestinal disorders	0.106
9.7	Biliary tract disease	0.339

Femur/Pelvis Fracture		
CCS Code	Factor	Weight
	Age (per year)	0.002
	Female	0.700
	Male	0.745
1.1	Bacterial infection	0.202
5.1	Adjustment disorders	0.293
7.2	Diseases of the heart	0.099
16.1	Joint disorders and dislocations; trauma-related	0.246
16.5	Crushing injury or internal injury	0.309

Gastrointestinal Hemorrhage		
CCS Code	Factor	Weight
	Age (per year)	0.006
2.2	Other gastrointestinal cancer	0.897
3.8	Fluid and electrolyte disorders	0.412
4.1	Anemia	0.788
8.6	Respiratory failure; insufficiency; arrest (adult)	1.005
9.4	Upper gastrointestinal disorders	0.357
9.6	Lower gastrointestinal disorders	0.130

Gastrointestinal Obstruction		
CCS Code	Factor	Weight
	Age (per year)	0.003
	Female	0.323
	Male	0.385
1.1	Bacterial infection	0.177
2.2	Other gastrointestinal cancer	0.182
2.16	Benign neoplasms	0.080
3.3	Diabetes mellitus with complications	0.007
3.5	Nutritional deficiencies	0.077
3.8	Fluid and electrolyte disorders	0.173
3.11	Other nutritional; endocrine; and metabolic disorders	0.036
5.10	Schizophrenia and other psychotic disorders	0.212
6.9	Other nervous system disorders	0.064
8.5	Pleurisy; pneumothorax; pulmonary collapse	0.227
8.6	Respiratory failure; insufficiency; arrest (adult)	0.134
9.1	Intestinal infection	0.030
9.5	Abdominal hernia	0.035
9.7	Biliary tract disease	0.004
9.8	Liver disease	0.087
9.9	Pancreatic disorders (not diabetes)	0.014
9.10	Gastrointestinal hemorrhage	0.071
9.11	Noninfectious gastroenteritis	0.020
9.12	Other gastrointestinal disorders	0.077
12.1	Skin and subcutaneous tissue infections	0.113
14.2	Digestive congenital anomalies	0.086
14.4	Nervous system congenital anomalies	0.331
16.3	Spinal cord injury	0.471
16.9	Burns	0.400
16.10	Complications	0.230

Heart Valve Replacement or Repair		
CCS Code	Factor	Weight
	Female	1.000
	Male	1.000

Hernia Repair		
CCS Code	Factor	Weight
1.1	Bacterial infection	0.134
1.4	Other infections; including parasitic	0.136
2.1	Colorectal cancer	0.307
2.6	Cancer of uterus and cervix	0.173
2.8	Cancer of male genital organs	0.184
2.9	Cancer of urinary organs	0.242
2.12	Secondary malignancies	0.282
3.3	Diabetes mellitus with complications	0.115
3.8	Fluid and electrolyte disorders	0.273
3.11	Other nutritional; endocrine; and metabolic disorders	0.089
4.1	Anemia	0.130
4.3	Diseases of white blood cells	0.161

4.4	Other hematologic conditions	0.118
5.4	Delirium dementia and amnesic and other cognitive disorders	0.231
6.1	Central nervous system infection	0.289
6.6	Coma; stupor; and brain damage	0.260
6.9	Other nervous system disorders	0.081
7.2	Diseases of the heart	0.039
8.5	Pleurisy; pneumothorax; pulmonary collapse	0.248
8.6	Respiratory failure; insufficiency; arrest (adult)	0.323
9	Diseases of the digestive system	0.562
10.1	Diseases of the urinary system	0.087
10.3	Diseases of female genital organs	0.100
14.3	Genitourinary congenital anomalies	0.118
16.6	Open wounds	0.123
16.10	Complications	0.469

HIV Infection		
CCS Code	Factor	Weight
	Female	0.032
	Male	0.208
1.1	Bacterial infection	0.226
1.2	Mycoses	0.274
1.4	Other infections; including parasitic	0.551
3.1	Thyroid disorders	2.366
3.5	Nutritional deficiencies	0.674
3.8	Fluid and electrolyte disorders	0.788
4.1	Anemia	0.232
4.3	Diseases of white blood cells	1.377
4.4	Other hematologic conditions	4.908
5.11	Alcohol-related disorders	0.683
5.12	Substance-related disorders	0.325
5.15	Miscellaneous mental disorders	1.605
5.3	Attention deficit conduct and disruptive behavior disorders	0.745
5.4	Delirium dementia and amnesic and other cognitive disorders	2.749
6.2	Hereditary and degenerative nervous system conditions	0.570
7.3	Cerebrovascular disease	1.034
9.3	Diseases of mouth; excluding dental	0.695
9.7	Biliary tract disease	1.513
9.9	Pancreatic disorders (not diabetes)	1.418
10.1	Diseases of the urinary system	0.292
12.3	Chronic ulcer of skin	1.700
13.1	Infective arthritis and osteomyelitis (except that caused by TB or STD)	3.454
13.9	Other bone disease and musculoskeletal deformities	0.535
14.4	Nervous system congenital anomalies	2.432
16.1	Joint disorders and dislocations; trauma-related	0.807
1.3.3	Other viral infections	0.482

Hysterectomy		
CCS Code	Factor	Weight
	Age (per year)	0.005
1.1	Bacterial infection	0.068
1.2	Mycoses	0.045
2.1	Colorectal cancer	0.223
2.16	Benign neoplasms	0.034
3.8	Fluid and electrolyte disorders	0.082
4.1	Anemia	0.066
4.3	Diseases of white blood cells	0.045
6.9	Other nervous system disorders	0.035
7.4	Diseases of arteries; arterioles; and capillaries	0.038
8.5	Pleurisy; pneumothorax; pulmonary collapse	0.200
9.6	Lower gastrointestinal disorders	0.129
9.7	Biliary tract disease	0.065
9.12	Other gastrointestinal disorders	0.038
10	Diseases of the genitourinary system	0.630
12.1	Skin and subcutaneous tissue infections	0.049
12.3	Chronic ulcer of skin	0.180
16.5	Crushing injury or internal injury	0.213
16.10	Complications	0.231

Inpatient Urinary Tract Infection		
CCS Code	Factor	Weight
	Age (per year)	0.004
10	Diseases of the genitourinary system	0.379
14.4	Nervous system congenital anomalies	0.342
1.1	Bacterial infection	0.281
3.8	Fluid and electrolyte disorders	0.195
4	Diseases of the blood and blood-forming organs	0.243
5.4	Delirium dementia and amnestic and other cognitive disorders	0.196
6.6	Coma; stupor; and brain damage	0.234

Knee Arthroscopy		
CCS Code	Factor	Weight
	Female	0.704
	Male	0.726
5.3	Attention deficit conduct and disruptive behavior disorders	0.044
6.9	Other nervous system disorders	0.176
11.4	Indications for care in pregnancy; labor; and delivery	0.154
13.1	Infective arthritis and osteomyelitis (except that caused by TB or STD)	0.390
13.2	Non-traumatic joint disorders	0.050
16.2	Fractures	0.082
16.5	Crushing injury or internal injury	0.116
16.7	Sprains and strains	0.348
16.10	Complications	0.115
16.12	Other injuries and conditions due to external causes	0.025

Non-acute Percutaneous Coronary Intervention		
CCS Code	Factor	Weight
	Female	0.641
	Male	0.676
3	Endocrine; nutritional; and metabolic diseases and immunity disorders	0.259
8	Diseases of the respiratory system	0.080

Non-operative Ankle Injury		
CCS Code	Factor	Weight
	Female	0.725
	Male	0.690
3.10	Immunity disorders	0.214
5.8	Mood disorders	0.042
5.12	Substance-related disorders	0.107
5.14	Screening and history of mental health and substance abuse codes	0.099
6.3	Paralysis	0.200
6.9	Other nervous system disorders	0.164
7.2	Diseases of the heart	0.034
9.2	Disorders of teeth and jaw	0.073
9.4	Upper gastrointestinal disorders	0.057
9.12	Other gastrointestinal disorders	0.053
10.1	Diseases of the urinary system	0.028
11	Complications of pregnancy; childbirth; and the puerperium	0.050
13.5	Pathological fracture	0.181
14.5	Other congenital anomalies	0.052
16.1	Joint disorders and dislocations; trauma-related	0.084
16.2	Fractures	0.335
16.7	Sprains and strains	0.098
16.8	Superficial injury; contusion	0.064
16.12	Other injuries and conditions due to external causes	0.423

Non-operative Knee Injury		
CCS Code	Factor	Weight
	Female	0.570
	Male	0.527
3.9	Cystic fibrosis	0.924
5.2	Anxiety disorders	0.045
5.6	Disorders usually diagnosed in infancy childhood or adolescence	0.173
5.10	Schizophrenia and other psychotic disorders	0.121
5.12	Substance-related disorders	0.066
5.14	Screening and history of mental health and substance abuse codes	0.064
6.5	Headache; including migraine	0.077
6.9	Other nervous system disorders	0.042
7.2	Diseases of the heart	0.035
7.4	Diseases of arteries; arterioles; and capillaries	0.042
7.5	Diseases of veins and lymphatics	0.078
9.4	Upper gastrointestinal disorders	0.060
9.10	Gastrointestinal hemorrhage	0.149
12.3	Chronic ulcer of skin	0.169
16	Injury and poisoning	0.072

16.1	Joint disorders and dislocations; trauma-related	0.235
16.2	Fractures	0.234
16.7	Sprains and strains	0.071
16.8	Superficial injury; contusion	0.111
16.12	Other injuries and conditions due to external causes	0.303

Non-operative Shoulder Injury		
CCS Code	Factor	Weight
	Female	0.853
	Male	0.789
3.8	Fluid and electrolyte disorders	0.083
5.14	Screening and history of mental health and substance abuse codes	0.093
6.3	Paralysis	0.222
6.5	Headache; including migraine	0.047
6.6	Coma; stupor; and brain damage	0.145
6.9	Other nervous system disorders	0.045
7.2	Diseases of the heart	0.059
9	Diseases of the digestive system	0.050
9.7	Biliary tract disease	0.109
15.7	Other perinatal conditions	0.353
16	Injury and poisoning	0.032
16.1	Joint disorders and dislocations; trauma-related	0.282
16.2	Fractures	0.199
16.12	Other injuries and conditions due to external causes	0.270

Non-operative Wrist Injury		
CCS Code	Factor	Weight
	Female	0.513
	Male	0.565
4	Diseases of the blood and blood-forming organs	0.056
5.5	Developmental disorders	0.183
5.12	Substance-related disorders	0.096
5.14	Screening and history of mental health and substance abuse codes	0.097
6.3	Paralysis	0.210
9.9	Pancreatic disorders (not diabetes)	0.207
10.1	Diseases of the urinary system	0.034
12.1	Skin and subcutaneous tissue infections	0.050
16.1	Joint disorders and dislocations; trauma-related	0.073
16.2	Fractures	0.567
16.8	Superficial injury; contusion	0.033
16.12	Other injuries and conditions due to external causes	0.364

Oppositional Defiant Disorder		
CCS Code	Factor	Weight
	Female	0.545
	Male	0.586
5.14	Screening and history of mental health and substance abuse codes	0.458
5.3.3	Attention deficit disorder and Attention deficit hyperactivity disorder	0.393
5.5	Developmental disorders	0.856
5.6	Disorders usually diagnosed in infancy childhood or adolescence	0.499
5.8	Mood disorders	0.218

Otitis Media		
CCS Code	Factor	Weight
	Female	0.687
	Male	0.701
1.3	Viral infection	0.071
3.10	Immunity disorders	0.220
3.8	Fluid and electrolyte disorders	0.237
4.3	Diseases of white blood cells	0.223
5.5	Developmental disorders	0.464
5.6	Disorders usually diagnosed in infancy childhood or adolescence	0.111
6.1	Central nervous system infection	0.263
6.2	Hereditary and degenerative nervous system conditions	0.138
6.5	Headache; including migraine	0.105
6.9	Other nervous system disorders	0.150
7.3	Cerebrovascular disease	0.125
7.4	Diseases of arteries; arterioles; and capillaries	0.198
8.1	Respiratory infections	0.047
8.2	Chronic obstructive pulmonary disease and bronchiectasis	0.103
8.3	Asthma	0.073
8.8	Other lower respiratory disease	0.196
9.2	Disorders of teeth and jaw	0.121
9.3	Diseases of mouth; excluding dental	0.099
9.4	Upper gastrointestinal disorders	0.074
12.4	Other skin disorders	0.076
14.5	Other congenital anomalies	0.088
15.7	Other perinatal conditions	0.051
17.1.9	Allergic reactions	0.113
6.8.2	Conditions associated with dizziness or vertigo	0.080
6.8.3	Other ear and sense organ disorders	0.331

Outpatient and Non-acute Inpatient Cholecystectomy		
CCS Code	Factor	Weight
	Female	0.834
	Male	0.857
3.7	Gout and other crystal arthropathies	0.128
3.8	Fluid and electrolyte disorders	0.223
4.1	Anemia	0.181
5	Mental illness	0.035
5.12	Substance-related disorders	0.117
7.2	Diseases of the heart	0.048

7.4	Diseases of arteries; arterioles; and capillaries	0.058
9.6	Lower gastrointestinal disorders	0.165
9.8	Liver disease	0.099
9.9	Pancreatic disorders (not diabetes)	0.372

Outpatient Urinary Tract Infection

CCS Code	Factor	Weight
	Female	0.520
	Male	0.596
10.1.5	Calculus of urinary tract	1.039
10.1.6	Other diseases of kidney and ureters	1.120
10.1.7	Other diseases of bladder and urethra	0.107
10.1.8	Genitourinary symptoms and ill-defined conditions	0.124
10.3	Diseases of female genital organs	0.060
11	Complications of pregnancy; childbirth; and the puerperium	0.072
1.1	Bacterial infection	0.836
3.3	Diabetes mellitus with complications	0.237
3.8	Fluid and electrolyte disorders	0.785
4	Diseases of the blood and blood-forming organs	0.160
4.3	Diseases of white blood cells	0.720
5	Mental Illness	0.142
6.3	Paralysis	0.416
6.6	Coma; stupor; and brain damage	1.309
6.9	Other nervous system disorders	0.092

Pancreatitis

CCS Code	Factor	Weight
	Female	0.667
	Male	0.687
1.1	Bacterial infection	0.295
3.5	Nutritional deficiencies	0.137
3.8	Fluid and electrolyte disorders	0.081
4.2	Coagulation and hemorrhagic disorders	0.239
4.4	Other hematologic conditions	0.236
7.3	Cerebrovascular disease	0.203
8.5	Pleurisy; pneumothorax; pulmonary collapse	0.213
9.7	Biliary tract disease	0.265
14.2	Digestive congenital anomalies	0.193

Pediatric Pneumonia

CCS Code	Factor	Weight
	Age (per year)	0.007
1.1	Bacterial infection	0.203
2	Neoplasms	0.310
3.4	Other endocrine disorders	0.356
3.7	Gout and other crystal arthropathies	0.839
3.8	Fluid and electrolyte disorders	1.316
3.11	Other nutritional; endocrine; and metabolic disorders	0.175
4	Diseases of the blood and blood-forming organs	0.241
5.1	Adjustment disorders	0.273

7.3	Cerebrovascular disease	0.715
8.1	Respiratory infections	0.379
8.3	Asthma	0.247
8.5	Pleurisy; pneumothorax; pulmonary collapse	0.791
8.6	Respiratory failure; insufficiency; arrest (adult)	1.323
9.6	Lower gastrointestinal disorders	0.297
9.7	Biliary tract disease	0.892
9.8	Liver disease	0.440
13.7	Systemic lupus erythematosus and connective tissue disorders	1.281
13.9	Other bone disease and musculoskeletal deformities	0.350
14.2	Digestive congenital anomalies	0.789
14.3	Genitourinary congenital anomalies	0.296
16.1	Joint disorders and dislocations; trauma-related	0.631

Perinatal		
CCS Code	Factor	Weight
	Age (per year)	0.012
	Line of Business – CoverKids	0.090
	Line of Business – TennCare Select	0.090
10	Diseases of the genitourinary system	0.126
10.1	Diseases of the urinary system	0.083
11.3	Complications mainly related to pregnancy	0.262
11.4	Indications for care in pregnancy; labor; and delivery	0.107
11.6	Other complications of birth; puerperium affecting management of mother	0.166
3	Endocrine; nutritional; and metabolic diseases and immunity disorders	0.119
3.9	Cystic fibrosis	0.652
5	Mental Illness	0.101
6	Diseases of the nervous system and sense organs	0.103
6.3	Paralysis	0.483

Pneumonia		
CCS Code	Factor	Weight
	Age (per year)	0.006
	Line of Business – BlueCare	0.380
	Line of Business – CoverKids	0.410
	Line of Business – TennCare Select	0.410
1.1	Bacterial infection	0.925
3	Endocrine; nutritional; and metabolic diseases and immunity disorders	0.106
3.3	Diabetes mellitus with complications	0.190
3.8	Fluid and electrolyte disorders	0.561
4.1	Anemia	0.576
4.3	Diseases of white blood cells	0.534
6.2	Hereditary and degenerative nervous system conditions	0.220
7	Diseases of the circulatory system	0.137
8.2	Chronic obstructive pulmonary disease and bronchiectasis	0.264
8.3	Asthma	0.119
8.5	Pleurisy; pneumothorax; pulmonary collapse	0.769
9.8	Liver disease	0.264

Respiratory Infection		
CCS Code	Factor	Weight
	Age (per year)	0.004
	Female	0.644
	Male	0.659
1	Infectious and parasitic diseases	0.035
1.2.1	Candidiasis of the mouth (thrush)	0.378
3	Endocrine; nutritional; and metabolic diseases and immunity disorders	0.125
3.2	Diabetes mellitus without complication	0.108
3.3	Diabetes mellitus with complications	0.243
4	Diseases of the blood and blood-forming organs	0.208
4.3	Diseases of white blood cells	0.613
6	Diseases of the nervous system and sense organs	0.059
6.2	Hereditary and degenerative nervous system conditions	0.300
6.3	Paralysis	1.026
7.2	Diseases of the heart	0.412
8.3	Asthma	0.450
9.4.1	Esophageal disorders	0.170
9.4.3	Gastritis and duodenitis	0.144

Screening and Surveillance Colonoscopy		
CCS Code	Factor	Weight
	Female	0.660
	Male	0.681
2.16	Benign neoplasms	0.210
3.11	Other nutritional; endocrine; and metabolic disorders	0.026
3.2	Diabetes mellitus without complication	0.012
3.3	Diabetes mellitus with complications	0.044
4	Diseases of the blood and blood-forming organs	0.043
4.2.2	Thrombocytopenia	0.112
7	Diseases of the circulatory system	0.030
7.2	Diseases of the heart	0.030
7.5.3	Hemorrhoids	0.061
9	Diseases of the digestive system	0.063
9.10	Gastrointestinal hemorrhage	0.088
9.11	Noninfectious gastroenteritis	0.070
9.4	Upper gastrointestinal disorders	0.013
9.6.2	Regional enteritis and ulcerative colitis	0.037
9.6.3	Intestinal obstruction without hernia	0.045
9.6.5	Anal and rectal conditions	0.106
9.6.6	Peritonitis and intestinal abscess	0.193

Skin and Soft Tissue Infections		
CCS Code	Factor	Weight
	Age (per year)	0.000486
	Female	0.195
	Male	0.213
1.1	Bacterial infection	0.656
1.4	Other infections; including parasitic	0.178
2.1	Colorectal cancer	0.286

2.10	Cancer of lymphatic and hematopoietic tissue	0.355
2.15	Maintenance chemotherapy; radiotherapy	0.670
2.2	Other gastrointestinal cancer	0.540
2.3	Cancer of bronchus; lung	0.558
3.10	Immunity disorders	0.242
3.11	Other nutritional; endocrine; and metabolic disorders	0.074
3.8	Fluid and electrolyte disorders	0.428
3.9	Cystic fibrosis	0.025
4.1	Anemia	0.052
4.2	Coagulation and hemorrhagic disorders	0.124
4.3	Diseases of white blood cells	0.548
5.12	Substance-related disorders	0.483
5.8	Mood disorders	0.054
6.1	Central nervous system infection	0.325
6.3	Paralysis	0.222
6.9	Other nervous system disorders	0.164
7.1	Hypertension	0.036
7.2	Diseases of the heart	0.039
7.4	Diseases of arteries; arterioles; and capillaries	0.057
7.5	Diseases of veins and lymphatics	0.245
8.5	Pleurisy; pneumothorax; pulmonary collapse	0.079
9.3	Diseases of mouth; excluding dental	0.091
9.6	Lower gastrointestinal disorders	0.079
9.8	Liver disease	0.031
9.9	Pancreatic disorders (not diabetes)	0.256
11.3	Complications mainly related to pregnancy	0.067
11.7	Normal pregnancy and/or delivery	0.085
12.1	Skin and subcutaneous tissue infections	0.448
12.2	Other inflammatory condition of skin	0.117
12.3	Chronic ulcer of skin	0.550
12.4	Other skin disorders	0.110
13.1	Infective arthritis and osteomyelitis (except that caused by TB or STD)	1.760
13.2	Non-traumatic joint disorders	0.050
13.8	Other connective tissue disease	0.360
16.1	Joint disorders and dislocations; trauma-related	0.020
16.12	Other injuries and conditions due to external causes	0.110
16.3	Spinal cord injury	0.102
16.6	Open wounds	0.302
16.8	Superficial injury; contusion	0.074
16.9	Burns	0.065

Spinal Decompression Without Fusion		
CCS Code	Factor	Weight
	Age (per year)	0.001
1.1	Bacterial infection	0.179
3.2	Diabetes mellitus without complication	0.028
3.8	Fluid and electrolyte disorders	0.053
4.1	Anemia	0.037
4.2	Coagulation and hemorrhagic disorders	0.129
4.3	Diseases of white blood cells	0.125

5.4	Delirium dementia and amnestic and other cognitive disorders	0.459
5.14	Screening and history of mental health and substance abuse codes	0.029
6.1	Central nervous system infection	0.667
6.3	Paralysis	0.661
6.9	Other nervous system disorders	0.067
8.5	Pleurisy; pneumothorax; pulmonary collapse	0.143
8.6	Respiratory failure; insufficiency; arrest (adult)	0.087
12.1	Skin and subcutaneous tissue infections	0.049
13.1	Infective arthritis and osteomyelitis (except that caused by TB or STD)	0.161
13.3	Spondylosis; intervertebral disc disorders; other back problems	0.766
13.5	Pathological fracture	0.228
13.6	Acquired deformities	0.044
13.7	Systemic lupus erythematosus and connective tissue disorders	0.113
13.8	Other connective tissue disease	0.025
15.4	Respiratory distress syndrome	0.743
16.2	Fractures	0.052
16.3	Spinal cord injury	0.525
16.4	Intracranial injury	0.293
16.5	Crushing injury or internal injury	0.336
16.6	Open wounds	0.064
16.10	Complications	0.326

Spinal Fusion		
CCS Code	Factor	Weight
	Age (per year)	0.001
	Female	0.799
	Male	0.814
1.1	Bacterial infection	0.073
3.1	Thyroid disorders	0.125
3.8	Fluid and electrolyte disorders	0.040
4	Diseases of the blood and blood-forming organs	0.050
4.2	Coagulation and hemorrhagic disorders	0.048
5.13	Suicide and intentional self-inflicted injury	0.095
6.1	Central nervous system infection	0.231
6.2	Hereditary and degenerative nervous system conditions	0.009
6.3	Paralysis	0.453
6.6	Coma; stupor; and brain damage	0.093
6.9	Other nervous system disorders	0.016
7.2	Diseases of the heart	0.007
7.3	Cerebrovascular disease	0.014
8.5	Pleurisy; pneumothorax; pulmonary collapse	0.050
8.6	Respiratory failure; insufficiency; arrest (adult)	0.118
9.7	Biliary tract disease	0.061
9.12	Other gastrointestinal disorders	0.034
11.3	Complications mainly related to pregnancy	0.129
13.1	Infective arthritis and osteomyelitis (except that caused by TB or STD)	0.016
13.2	Non-traumatic joint disorders	0.002
13.4	Osteoporosis	0.006
13.5	Pathological fracture	0.024
13.6	Acquired deformities	0.035

13.8	Other connective tissue disease	0.034
14.4	Nervous system congenital anomalies	0.060
14.5	Other congenital anomalies	0.045
15.6	Birth trauma	0.535
16.1	Joint disorders and dislocations; trauma-related	0.042
16.2	Fractures	0.091
16.3	Spinal cord injury	0.293
16.5	Crushing injury or internal injury	0.136
16.10	Complications	0.094

Syncope Work-up		
CCS Code	Factor	Weight
	Age (per year)	0.011
2.1	Colorectal cancer	0.292
3.3	Diabetes mellitus with complications	0.074
3.7	Gout and other crystal arthropathies	0.116
3.8	Fluid and electrolyte disorders	0.358
4.3	Diseases of white blood cells	0.179
5.7	Impulse control disorders not elsewhere classified	0.196
5.12	Substance-related disorders	0.205
5.13	Suicide and intentional self-inflicted injury	0.111
5.14	Screening and history of mental health and substance abuse codes	0.164
6.3	Paralysis	0.149
6.4	Epilepsy; convulsions	0.075
6.5	Headache; including migraine	0.135
6.6	Coma; stupor; and brain damage	0.202
6.8	Ear conditions	0.123
6.9	Other nervous system disorders	0.079
7	Diseases of the circulatory system	0.304
8	Diseases of the respiratory system	0.112
9.5	Abdominal hernia	0.166
9.7	Biliary tract disease	0.133
14.1	Cardiac and circulatory congenital anomalies	0.332
14.4	Nervous system congenital anomalies	0.231
16.12	Other injuries and conditions due to external causes	0.112

Tonsillectomy		
CCS Code	Factor	Weight
	Female	0.779
	Male	0.830
3.10	Immunity disorders	0.135
3.11	Other nutritional; endocrine; and metabolic disorders	0.062
3.5	Nutritional deficiencies	0.276
3.8	Fluid and electrolyte disorders	0.155
4.1	Anemia	0.054
4.2	Coagulation and hemorrhagic disorders	0.004
4.4	Other hematologic conditions	0.418
6.3	Paralysis	0.137
6.4	Epilepsy; convulsions	0.077
6.8	Ear conditions	0.152

6.9	Other nervous system disorders	0.048
7	Diseases of the circulatory system	0.045
8.2	Chronic obstructive pulmonary disease and bronchiectasis	0.075
8.3	Asthma	0.038
8.6	Respiratory failure; insufficiency; arrest (adult)	0.732
9.4	Upper gastrointestinal disorders	0.067
14.1	Cardiac and circulatory congenital anomalies	0.151
14.2	Digestive congenital anomalies	0.037
14.4	Nervous system congenital anomalies	0.299
15.7	Other perinatal conditions	0.166

Total Joint Replacement		
CCS Code	Factor	Weight
	Age (per year)	0.002
	Female	0.743
	Male	0.710
10.1.2	Acute and unspecified renal failure	0.150
10.1.3	Chronic kidney disease	0.060
3.11.2	Obesity	0.026
3.2	Diabetes mellitus without complication	0.040
5	Mental illness	0.068
7.2.1	Heart valve disorders	0.109
7.2.3	Acute myocardial infarction	0.221
13.7	Systemic lupus erythematosus and connective tissue disorders	0.092
14.5.13	Congenital hip deformity	0.126
7.3.1	Acute cerebrovascular disease	0.078
7.3.4	Transient cerebral ischemia	0.115
8.2.1	Emphysema	0.085
8.2.2	Chronic airway obstruction; not otherwise specified	0.064
7.5.1.2	Other venous embolism and thrombosis	0.102
7.2.11	Congestive heart failure; nonhypertensive	0.081

Appendix

Developed at the Agency for Healthcare Research and Quality (AHRQ), the Clinical Classifications Software (CCS) is a hierarchical tool for clustering patient diagnoses into a manageable number of clinically meaningful categories. These categories map directly to ICD-9 and ICD-10 codes. Because the clinical classification is hierarchical, each level of factors includes the clinical categories lower in the hierarchy.

More information including an overview, complete mapping, and technical specifications for the CCS tool can be found at the following link: [Clinical Classifications Software \(CCS\) for ICD-10-CM/PCS](#).