

Supplemental Table
ICD9 and respective diagnoses

Condition in study	ICD-9 used
Stroke	434 Occlusion of cerebral arteries 434.0 Cerebral thrombosis 434.00 Cerebral thrombosis without mention of cerebral infarction 434.01 Cerebral thrombosis with cerebral infarction 434.1 Cerebral embolism 434.10 Cerebral embolism without mention of cerebral infarction 434.11 Cerebral embolism with cerebral infarction 434.9 Cerebral artery occlusion unspecified 434.90 Cerebral artery occlusion, unspecified without mention of cerebral infarction 434.91 Cerebral artery occlusion, unspecified with cerebral infarction 436 Acute, but ill-defined, cerebrovascular disease
Transient Ischemic Attack (TIA)	435.9 Unspecified transient cerebral ischemia
Carotid Artery Occlusion or Stenosis	433.1 Occlusion and stenosis of carotid artery
Intracerebral hemorrhage	431 Intracerebral hemorrhage
Atrial Septal Defects	745.5 Ostium secundum type atrial septal defect 745.5 Anomaly, anomalous (congenital), atrial septa 745.5 Anomaly, anomalous (congenital), heart septum 745.5 Anomaly, anomalous (congenital), foramen Botalli 745.5 Anomaly, anomalous (congenital), foramen ovale 745.5 Anomaly, anomalous (congenital), atrial septum 745.5 Anomaly, anomalous (congenital), interatrial 745.5 Anomaly, anomalous (congenital), cyanosis due to patent foramen botalli 745.5 Anomaly, anomalous (congenital), cyanosis due to persistent foramen ovale 745.5 Anomaly, anomalous (congenital), Defect, defective atrial septal 745.5 Anomaly, anomalous (congenital), Defect, defective atrium secundum 745.5 Anomaly, anomalous (congenital), Defect, defective fossa ovalis 745.5 Anomaly, anomalous (congenital), Defect, defective interatrial septal 745.5 Anomaly, anomalous (congenital), Defect, defective ostium secundum 745.5 Anomaly, anomalous (congenital), Defect, defective septal, atrial 745.5 Anomaly, anomalous (congenital), Deformity 745.5 Anomaly, anomalous (congenital), Imperfect atrium
Rheumatic Heart Disease	398.90 Rheumatic heart disease, unspecified
Prosthetic Valve	V43.3 Presence of prosthetic heart valve
Hyperthyroid Disease	242.9 Thyrotoxicosis without mention of goiter or other causes 242.9 Acropachy, thyroid 242.9 Apathetic thyroid storm 242.9 Crisis, thyroid 242.9 Crisis, thyrotoxic 242.9 Delirium, delirious, thyroid 242.9 Hyperactive thyroid 242.9 Hyperthyroidism (latent) (preadult) (recurrent) (without goiter) 242.9 Instability, thyroid, paroxysmal 242.9 Leopold-Levi's syndrome (paroxysmal thyroid instability) 242.9 Myxedema 242.9 Overactive thyroid 242.9 Storm, thyroid 242.9 Thyrotoxicosis 242.9 Toxic, thyroid
Atrial Fibrillation	427.31 Atrial (established) (paroxysmal) Fibrillation 427.31 Auricular (atrial) (established) Fibrillation 427.31 Synonyms: Atrial fibrillation, atrial fibrillation with rapid ventricular response, atrial fibrillation (chronic)

atrial fibrillation (paroxysmal)
atrial fibrillation (permanent)
chronic atrial fibrillation
paroxysmal atrial fibrillation
permanent atrial fibrillation

427.32 Atrial or auricular flutter

427.32 Synonyms:

Atrial flutter
Atrial flutter (chronic)
Atrial flutter (paroxysmal)
Chronic atrial flutter
Paroxysmal atrial flutter

Hypertension

401 Essential Hypertension
401.0 Malignant essential hypertension
401.1 Benign essential hypertension
401.9 Unspecified essential hypertension

Diabetes

250 Diabetes mellitus
250.0 Diabetes mellitus without mention of complication
250.00 Diabetes mellitus without mention of complication, type II or unspecified type, not stated as uncontrolled
250.01 Diabetes mellitus without mention of complication, type I [juvenile type], not stated as uncontrolled
250.02 Diabetes mellitus without mention of complication, type II or unspecified type, uncontrolled
250.03 Diabetes mellitus without mention of complication, type I [juvenile type], uncontrolled
250.1 Diabetes with ketoacidosis
250.10 Diabetes with ketoacidosis, type II or unspecified type, not stated as uncontrolled
250.11 Diabetes with ketoacidosis, type I [juvenile type], not stated as uncontrolled
250.12 Diabetes with ketoacidosis, type II or unspecified type, uncontrolled
250.13 Diabetes with ketoacidosis, type I [juvenile type], uncontrolled
250.2 Diabetes with hyperosmolarity
250.20 Diabetes with hyperosmolarity, type II or unspecified type, not stated as uncontrolled
250.21 Diabetes with hyperosmolarity, type I [juvenile type], not stated as uncontrolled
250.22 Diabetes with hyperosmolarity, type II or unspecified type, uncontrolled
250.23 Diabetes with hyperosmolarity, type I [juvenile type], uncontrolled
250.3 Diabetes with other coma
250.30 Diabetes with other coma, type II or unspecified type, not stated as uncontrolled
250.31 Diabetes with other coma, type I [juvenile type], not stated as uncontrolled
250.32 Diabetes with other coma, type II or unspecified type, uncontrolled
250.33 Diabetes with other coma, type I [juvenile type], uncontrolled
250.4 Diabetes with renal manifestations
250.40 Diabetes with renal manifestations, type II or unspecified type, not stated as uncontrolled
250.41 Diabetes with renal manifestations, type I [juvenile type], not stated as uncontrolled
250.42 Diabetes with renal manifestations, type II or unspecified type, uncontrolled
250.43 Diabetes with renal manifestations, type I [juvenile type], uncontrolled
250.5 Diabetes with ophthalmic manifestations
250.50 Diabetes with ophthalmic manifestations, type II or unspecified type, not stated as uncontrolled
250.51 Diabetes with ophthalmic manifestations, type I [juvenile type], not stated as uncontrolled
250.52 Diabetes with ophthalmic manifestations, type II or unspecified type, uncontrolled
250.53 Diabetes with ophthalmic manifestations, type I [juvenile type], uncontrolled
250.6 Diabetes with neurological manifestations
250.60 Diabetes with neurological manifestations, type II or unspecified type, not stated as uncontrolled
250.61 Diabetes with neurological manifestations, type I [juvenile type], not stated as uncontrolled
250.62 Diabetes with neurological manifestations, type II or unspecified type, uncontrolled
250.63 Diabetes with neurological manifestations, type I [juvenile type], uncontrolled
250.7 Diabetes with peripheral circulatory disorders

250.70 Diabetes with peripheral circulatory disorders, type II or unspecified type, not stated as uncontrolled
250.71 Diabetes with peripheral circulatory disorders, type I [juvenile type], not stated as uncontrolled
250.72 Diabetes with peripheral circulatory disorders, type II or unspecified type, uncontrolled
250.73 Diabetes with peripheral circulatory disorders, type I [juvenile type], uncontrolled
250.8 Diabetes with other specified manifestations
250.80 Diabetes with other specified manifestations, type II or unspecified type, not stated as uncontrolled
250.81 Diabetes with other specified manifestations, type I [juvenile type], not stated as uncontrolled
250.82 Diabetes with other specified manifestations, type II or unspecified type, uncontrolled
250.83 Diabetes with other specified manifestations, type I [juvenile type], uncontrolled
250.9 Diabetes with unspecified complication
250.90 Diabetes with unspecified complication, type II or unspecified type, not stated as uncontrolled
250.91 Diabetes with unspecified complication, type I [juvenile type], not stated as uncontrolled
250.92 Diabetes with unspecified complication, type II or unspecified type, uncontrolled
250.93 Diabetes with unspecified complication, type I [juvenile type], uncontrolled

Obesity

278.00 Obesity
287.01 Morbid Obesity

Congestive Heart Failure

428 Heart failure
428.0 Congestive heart failure, unspecified
428.1 Left heart failure
428.2 Systolic heart failure
428.20 Systolic heart failure, unspecified
428.21 Acute systolic heart failure
428.22 Chronic systolic heart failure
428.23 Acute on chronic systolic heart failure
428.3 Diastolic heart failure
428.30 Diastolic heart failure, unspecified
428.31 Acute diastolic heart failure
428.32 Chronic diastolic heart failure
428.33 Acute on chronic diastolic heart failure
428.4 Combined systolic and diastolic heart failure
428.40 Combined systolic and diastolic heart failure, unspecified
428.41 Acute combined systolic and diastolic heart failure
428.42 Chronic combined systolic and diastolic heart failure
428.43 Acute on chronic combined systolic and diastolic heart failure
428.9 Heart failure, unspecified

Coronary Artery Disease

414 Other forms of chronic ischemic heart disease
414.0 Coronary atherosclerosis
414.00 Coronary atherosclerosis of unspecified type of vessel, native or graft
414.01 Coronary atherosclerosis of native coronary artery
414.02 Coronary atherosclerosis of autologous vein bypass graft
414.03 Coronary atherosclerosis of nonautologous biological bypass graft
414.04 Coronary atherosclerosis of artery bypass graft
414.05 Coronary atherosclerosis of unspecified bypass graft
414.06 Coronary atherosclerosis of native coronary artery of transplanted heart
414.07 Coronary atherosclerosis of bypass graft (artery) (vein) of transplanted heart
414.1 Aneurysm and dissection of heart
414.10 Aneurysm of heart (wall)
414.11 Aneurysm of coronary vessels
414.12 Dissection of coronary artery
414.19 Other aneurysm of heart
414.2 Chronic total occlusion of coronary artery
414.3 Coronary atherosclerosis due to lipid rich plaque
414.4 Coronary atherosclerosis due to calcified coronary lesion
414.8 Other specified forms of chronic ischemic heart disease
414.9 Chronic ischemic heart disease, unspecified

Peripheral Vascular Disease

443 Other peripheral vascular disease

443.0 Raynaud's syndrome
443.1 Thromboangiitis obliterans [Buerger's disease]
443.2 Other arterial dissection
443.21 Dissection of carotid artery
443.22 Dissection of iliac artery
443.23 Dissection of renal artery
443.24 Dissection of vertebral artery
443.29 Dissection of other artery
443.8 Other specified peripheral vascular diseases
443.81 Peripheral angiopathy in diseases classified elsewhere
443.82 Erythromelalgia
443.89 Other specified peripheral vascular diseases
443.9 Peripheral vascular disease, unspecified

**Chronic Kidney Disease
(Stage III, IV, V)**

585.3 Chronic Kidney Disease Stage III
585.4 Chronic Kidney Disease Stage IV
585.5 Chronic Kidney Disease Stage V

Aortic Valve Disease

424.1 Aortic Valve Disorders
424.1 Arteriosclerosis, arteriosclerotic heart, valve, aortic
424.1 Atheroma, atheromatous, aorta, aortic, valve
424.1 Deformity, aortic, cusp or valve, acquired, aortic
424.1 Degeneration, degenerative, aorta, aortic valve
424.1 Disease, diseased aortic (heart) (valve)
424.1 Endocarditis, aortic
424.1 Incompetency, incompetence, incompetent, annular, aortic (valve)
424.1 Insufficiency, insufficient, aortic (valve)
424.1 Insufficiency, insufficient, aortic (valve) with stenosis or obstruction
424.1 Murmur (cardiac) (heart), aortic (valve)
424.1 Murmur (cardiac) (heart), Flint
424.1 Pulse, water-hammer
424.1 Regurgitation, aortic (valve) 424.1
424.1 Sclerosis, sclerotic, annularis fibrosis, aortic
424.1 Stenosis, aortic (valve)
424.1 Synonyms:
Aortic incompetence, non-rheumatic
Aortic stenosis, non-rheumatic
Aortic valve disease
Aortic valve disorder
Aortic valve disorder in childbirth
Aortic valve disorder postpartum
Aortic valve regurgitation
Aortic valve regurgitation, nonrheumatic
Aortic valve sclerosis
Aortic valve stenosis
Aortic valve stenosis
Aortic valve stenosis, critical
Aortic valve stenosis, nonrheumatic
Critical aortic stenosis (narrowing)
Critical aortic valve stenosis
Critical stenosis of aortic valve
Nonrheumatic aortic valve regurgitation
Nonrheumatic aortic valve stenosis
Postpartum (after childbirth) aortic valve disorder
Postpartum aortic valve disorder

Mitral Valve Disease

424.0 Mitral Valve Disorders
424.0 Aneurysm mitral (heart)(valve)
424.0 Arteriosclerosis, heart, valve, mitral
424.0 Atheroma, atheromatous, mitral (valve)
424.0 Ballooning posterior leaflet syndrome
424.0 Barlow's syndrome
424.0 Endocarditis, mitral
424.0 Floppy valve syndrome (mitral)
424.0 Incompetency, incompetence, incompetent, mitral (valve)

424.0 Insufficiency, insufficient, mitral (valve)
424.0 Prolapse, prolapsed, mitral valve
424.0 Sclerosis, sclerotic, mitral
424.0 Stricture, mitral, unspecified cause, except rheumatic
424.0 Syndrome, ballooning posterior leaflet
424.0 Syndrome, Barlow's
424.0 Syndrome, mitral valve prolapse
424.0 Synonyms:
Mitral valve annular calcification
Mitral valve annular calcification, nonrheumatic
Mitral valve disorder
Mitral valve disorder in childbirth
Mitral valve disorder postpartum
Mitral valve prolapse
Mitral valve prolapse, nonrheumatic
Mitral valve regurgitation
Mitral valve regurgitation, nonrheumatic
Mitral valve stenosis
Mitral valve stenosis, nonrheumatic
Mitral valve prolapse
Non-rheumatic mitral regurgitation
Nonrheumatic mitral valve prolapse
Non-rheumatic mitral valve prolapse
Nonrheumatic mitral valve regurgitation
Nonrheumatic mitral valve stenosis
Non-rheumatic mitral valve stenosis
Postpartum (after childbirth) mitral valve disorder
Postpartum mitral valve disorder

Tricuspid Valve Disease

424.2 Tricuspid valve disorders, specified as nonrheumatic
424.2 Arteriosclerosis, arteriosclerotic, heart, valve, tricuspid
424.2 Atheroma, atheromatous, tricuspid (heart) (valve)
424.2 Endocarditis, tricuspid, arteriosclerotic
424.2 Stenosis, tricuspid, nonrheumatic
424.2 Stricture, tricuspid, nonrheumatic
424.2 Synonyms:
Nonrheumatic tricuspid valve disease
Nonrheumatic tricuspid valve regurgitation
Nonrheumatic tricuspid valve stenosis
Tricuspid incompetence, non-rheumatic
Tricuspid stenosis, non-rheumatic
Tricuspid valve disorder, nonrheumatic
Tricuspid valve disorders, non-rheumatic
Tricuspid valve regurgitation
Tricuspid valve regurgitation, nonrheumatic
Tricuspid valve stenosis
Tricuspid valve stenosis, nonrheumatic

Pulmonary Valve Disease

424.3 Pulmonary Valve Disorders
424.3 Aneurysm, pulmonary, valve (heart)
424.3 Arteriosclerosis, arteriosclerotic, heart, valve, pulmonary
424.3 Atheroma, atheromatous, pulmonary valve (heart)
424.3 Degeneration, degenerative, pulmonary valve
424.3 Disease, diseased, valve
424.3 Endocarditis, pulmonary (valve)
424.3 Graham Steell's murmur
424.3 Incompetency, incompetence, incompetent, annular, pulmonary valve (heart)
424.3 Incompetency, incompetence, pulmonary valve (heart)
424.3 Insufficiency, insufficient, pulmonary (acute), valve
424.3 Lesion(s), pulmonary, valve
424.3 Obstruction, obstructed, obstructive, pulmonary valve (heart)
424.3 Regurgitation, pulmonary (heart) (valve)
424.3 Rupture, ruptured, valve (heart)
424.3 Sclerosis, sclerotic, pulmonary, valve (heart)

424.3 Stenosis, pulmonary, valve

424.3 Stricture, pulmonary, pulmonic, valve

424.3 Synonyms:

Nonrheumatic pulmonary valve disease

Non-rheumatic pulmonary valve disorder

Nonrheumatic pulmonary valve regurgitation

Nonrheumatic pulmonary valve stenosis

Pulmonary incompetence, non-rheumatic

Pulmonary stenosis, non-rheumatic

Pulmonary valve disease

Pulmonary valve disease, nonrheumatic

Pulmonary valve disorder

Pulmonary valve regurgitation

Pulmonary valve regurgitation, nonrheumatic

Pulmonary valve stenosis

Pulmonary valve stenosis, nonrheumatic

Pulmonic valve regurgitation

Pulmonic valve stenosis

Pulmonic valve stenosis (narrowing)