

Using 3-Digit ICD-9-CM Codes with the Elixhauser Comorbidity Index		
Cormorbid Condition	Elixhauser ICD-9-CM codes	Suggested 3-digit ICD-9-CM codes
Congestive Heart Failure	398.91 Rheumatic heart failure (congestive)	398 Other rheumatic heart disease
	402.01, 402.11, 402.91	402 Hypertensive heart disease
	404.01, 404.03, 404.11, 404.13, 404.91, 404.93	404 Hypertensive heart & CKD (overlaps with renal disease)
	425.4-425.9	425 Cardiomyopathy
	428 Heart Failure	428 Heart Failure
Cardiac Arrhythmia	426.0, 426.10, 426.12, 426.13, 426.7, 426.9	426 Conduction disorders
	427.0-427.4, 427.6-427.9	427 Cardiac dysrhythmias
	785.0 Tachycardia, unspecified	785 Symptoms involving cardiovascular system
	996.01 Due to cardiac pacemaker (electrode)	996 Complications peculiar to certain specified procedures
	996.04 Due to automatic implantable cardiac defibrillator	996 Complications peculiar to certain specified procedures
	V45.0 Cardiac device in situ	V45 Other postprocedural states
	V53.3 Fitting or adjustment of other intestinal appliance	V53 Fitting and adjustment of other device
Valvular Disease	093.2 Syphilitic endocarditis	093 Cardiovascular syphilis (overlaps with Peripheral Vascular Disease)
	394-397, 424	394-397, 424
	746.3-746.6	746 Other congenital anomalies of heart
	V42.2 Heart valve transplant	V42 Organ or tissue replaced by transplant (includes all types of organs/tissues)
	V43.3 Heart valve replacement	V43 Organ or tissue replaced by other means (includes all types of organs/tissues)
Pulmonary Circulation Disorders	415.0, 415.1	415 Acute pulmonary heart disease
	416 Chronic pulmonary heart disease	416 Chronic pulmonary heart disease
	417.0, 417.8, 417.9	417 Other diseases of pulmonary circulation
Peripheral Vascular Disorders	093.0 Aneurysm of aorta, specified as syphilitic	093 Cardiovascular syphilis (overlaps with Valvular Disease)
	437.3 Cerebral aneurysm, nonruptured	437 Other and ill-defined cerebrovascular disease (overlap with Cerebrovascular Disease)
	440 Atherosclerosis	440 Atherosclerosis
	441 Aortic aneurysm and dissection	441 Aortic aneurysm and dissection
	443.1, 443.2, 443.8, 443.9	443 Other peripheral vascular disease
	447.1 Stricture of artery	447 Other disorders of arteries and arterioles
	557.1 Chronic vascular insufficiency of intestine	557 Vascular insufficiency of intestine
	557.9 Unspecified vascular insufficiency of intestine	
	V43.4 Blood vessel replacement	V43 Organ or tissue replaced by other means (includes all types of organs/tissues)

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Hypertension Uncomplicated	401	401
Hypertension Complicated	402-405	402-405
Paralysis	334.1 Hereditary spastic paraplegia 342 Hemiplegia and hemiparesis 343 Infantile cerebral palsy 344.0-344.6, 344.9	334 Spinocerebellar disease 342 Hemiplegia and hemiparesis 343 Infantile cerebral palsy 344 Other paralytic syndromes
Other Neurological Disorders	331.9 Cerebral degeneration, unspecified 332.0, 332.1 333.4, 333.5, 333.92 334 Spinocerebellar disease 335 Anterior horn cell disease 336.2 Subacute combined degeneration of spinal cord in diseases classified elsewhere 340 Multiple sclerosis 341 Other demyelinating diseases of central nervous system 345 Epilepsy and recurrent seizures 348.1, 348.3 780.3 Convulsions 784.3 Aphasia	331 Other cerebral degenerations 332 Parkinson's disease 333 Other extrapyramidal disease and abnormal movement disorders 334 Spinocerebellar disease 335 Anterior horn cell disease 336 Other diseases of spinal cord 340 Multiple sclerosis 341 Other demyelinating diseases of central nervous system 345 Epilepsy and recurrent seizures 348 Other conditions of brain 780 General symptoms 784 Symptoms involving head and neck
Chronic Pulmonary Disease	416.8, 416.9 490-496, 500-505 506.4 Chronic respiratory conditions due to fumes and vapors 508.1 Chronic and other pulmonary manifestations due to radiation 508.8 Respiratory conditions due to other specified external agents	416 Chronic pulmonary heart disease 490-496, 500-505 506 Respiratory conditions due to chemical fumes and vapors 508 Respiratory conditions due to other and unspecified external agents 508 Respiratory conditions due to other and unspecified external agents
Diabetes with/without complications	250.x	250 (combine with & without complications)
Hypothyroidism	240.9 Goiter, unspecified 243 Congenital hypothyroidism 244 Acquired hypothyroidism 246.1, 246.8	240 Simple and unspecified goiter 243 Congenital hypothyroidism 244 Acquired hypothyroidism 246 Other disorders of thyroid

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Cormorbid Condition	Elixhauser ICD-9-CM codes	Suggested 3-digit ICD-9-CM codes
Renal Failure	403.01, 403.11, 403.91	403 Hypertensive chronic kidney disease
	404.02, 404.03, 404.12, 404.13, 404.92, 404.93	404 Hypertensive heart & CKD (overlaps with CHF)
	585 Chronic kidney disease (CKD)	585 Chronic kidney disease (CKD)
	586 Renal failure, unspecified	586 Renal failure, unspecified
	588.0 Renal osteodystrophy	588 Disorders resulting from impaired renal function
	V42.0 Kidney transplant	V42 Organ or tissue replaced by transplant
	V45.1 Renal dialysis status	V45 Other postprocedural states
	V56 Encounter for dialysis and dialysis catheter care	V56 Encounter for dialysis and dialysis catheter care
Liver Disease	070.22, 070.23, 070.32, 070.33, 070.44, 070.54, 070.6, 070.9	070 viral hepatitis
	456.0-456.2	456 Varicose veins of other sites
	570	570 acute and subacute necrosis of liver
	571	571 chronic liver disease and cirrhosis
	572.2-572.4, 572.8	572 Liver abscess and sequelae of chronic liver disease
	573.3, 573.4, 573.8, 573.9	573 other disorders of liver
	V42.7 liver transplant	V42 Organ or tissue replaced by transplant (includes all types of organs/tissues)
Peptic Ulcer Disease excluding bleeding	531.7, 531.9, 532.7, 532.9, 533.7, 533.9, 534.7, 534.9	531, 532, 533, 534 - if we include only 3 digit codes, we would not have specificity regarding bleeding of ulcers
HIV/AIDS	042-044	042-044
Lymphoma	200-202	200-202
	203.0 Multiple myeloma	203 Multiple myeloma and immunoproliferative neoplasms
	238.6 Plasma cells	238 Neoplasm of uncertain behavior of other and unspecified sites and tissues
Metastatic Cancer	196-199	196-199
Solid Tumor without Metastasis	140-172, 174-195	140-172, 174-195

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Rheumatoid Arthritis/Collagen	446 Polyarteritis nodosa and allied conditions	446 Polyarteritis nodosa and allied conditions
	701.0 Circumscribed scleroderma	701 Other hypertrophic and atrophic conditions of skin
	710.0-710.4, 710.8, 710.9	710 Diffuse diseases of connective tissue
	711.2 Arthropathy in Behçet's syndrome	711 Arthropathy associated with infections
	714 Rheumatoid arthritis and other inflammatory polyarthropathies	714 Rheumatoid arthritis and other inflammatory polyarthropathies
	719.3 Palindromic rheumatism	719 Other and unspecified disorders of joint
	720 Ankylosing spondylitis and other inflammatory spondylopathies	720 Ankylosing spondylitis and other inflammatory spondylopathies
	725 Polymyalgia rheumatica	725 Polymyalgia rheumatica
	728.5, 728.89	728 Disorders of muscle, ligament, and fascia
	729.30 Panniculitis, unspecified site	729 Other disorders of soft tissues
Coagulopathy	286 Coagulation defects	286 Coagulation defects
	287.1, 287.3, 287.4, 287.5	287 Purpura and other hemorrhagic conditions
Obesity	278.0 Overweight and obesity	278 Overweight, obesity and other hyperalimentation
Weight Loss	260-263	260-263
	783.2 Abnormal loss of weight and underweight	783 Symptoms concerning nutrition, metabolism, and development
	799.4 Cachexia	799 Other ill-defined and unknown causes of morbidity and mortality
Fluid and Electrolyte Disorders	253.6 Other disorders of neurohypophysis	253 Disorders of the pituitary gland and its hypothalamic control
	276 Disorders of fluid, electrolyte, and acid-base balance	276 Disorders of fluid, electrolyte, and acid-base balance
Blood Loss Anemia	280.0 Secondary to blood loss (chronic)	must combine with Deficiency Anemia
Deficiency Anemia	280.1-280.9	280 Iron deficiency anemias
	281 Other deficiency anemias	281 Other deficiency anemias

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Cormorbid Condition	Elixhauser ICD-9-CM codes	Suggested 3-digit ICD-9-CM codes
Alcohol Abuse	265.2 Pellagra	265 Thiamine and niacin deficiency states
	291.1- 291.3, 291.5, 291.8, 291.9	291 Alcohol-induced mental disorders
	303.0, 303.9	303 Alcohol dependence syndrome
	305.0 Alcohol abuse	305 Nondependent abuse of drugs (overlaps with drug abuse do not include)
	357.5 Alcoholic polyneuropathy	357 Inflammatory and toxic neuropathy
	425.5 Alcoholic cardiomyopathy	425 Cardiomyopathy (overlaps with CHF)
	535.3 Alcoholic gastritis	535 Gastritis and duodenitis
	571.0-571.3	571 Chronic liver disease and cirrhosis (overlaps with Liver Disease)
Drug Abuse	980 Toxic effect of alcohol	980 Toxic effect of alcohol
	V11.3 Alcoholism	V11 Personal history of mental disorder
	292 Drug-induced mental disorders	292 Drug-induced mental disorders
	304 Drug dependence	304 Drug dependence
Psychoses	305.2-305.9	305 Nondependent abuse of drugs
	V65.42 Counseling on substance use and abuse	V65 Other persons seeking consultation
	293.8 Other specified transient mental disorders due to conditions classified elsewhere	293 Transient mental disorders due to conditions classified elsewhere
	295 Schizophrenic disorders	295 Schizophrenic disorders
	296.04, 296.14, 296.44, 296.54	296 Episodic mood disorders (overlaps with depression do not include)
Depression	297 Delusional disorders	297 Delusional disorders
	298 Other nonorganic psychoses	298 Other nonorganic psychoses
	296.2, 296.3, 296.5	296 Episodic mood disorders
	300.4 Dysthymic disorder (incl. depression with anxiety)	300 Anxiety, dissociative and somatoform disorders
	309 Adjustment reaction	309 Adjustment reaction
	311 Depressive disorder, not elsewhere classified	311 Depressive disorder, not elsewhere classified