

Supplementary Table 1. CCI categories and score.

Comorbidity	Score	ICD-9-CM code
Myocardial infarction	1	410.x, 412.x
Congestive heart failure	1	398.91, 402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91, 404.93, 425.4–425.9, 428.x
Peripheral vascular disease	1	093.0, 437.3, 440.x, 441.x, 443.1–443.9, 447.1, 557.1, 557.9, V43.4
Cerebrovascular disease	1	362.34, 430.x–438.x
Dementia	1	290.x, 294.1, 331.2
Chronic pulmonary disease	1	416.8, 416.9, 490.x–505.x, 506.4, 508.1, 508.8
Rheumatic disease	1	446.5, 710.0–710.4, 714.0–714.2, 714.8, 725.x
Peptic ulcer disease	1	531.x–534.x
Mild liver disease	1	070.22, 070.23, 070.32, 070.33, 070.44, 070.54, 070.6, 070.9, 570.x, 571.x, 573.3, 573.4, 573.8, 573.9, V42.7
Diabetes without chronic complication	1	250.0–250.3, 250.8, 250.9
Diabetes with chronic complication	2	250.4–250.7
Hemiplegia or	2	334.1, 342.x, 343.x, 344.0–344.6, 344.9

paraplegia

Renal disease	2	403.01, 403.11, 403.91, 404.02, 404.03, 404.12, 404.13, 404.92, 404.93, 582.x, 583.0–583.7, 585.x, 586.x, 588.0, V42.0, V45.1, V56.x
Any malignancy, including lymphoma and leukemia, except malignant neoplasm of skin	2	140.x–172.x, 174.x–195.8, 200.x–208.x, 238.6
Moderate or severe liver disease	3	456.0–456.2, 572.2–572.8
Metastatic solid tumor	6	196.x–199.x
AIDS/HIV	6	042.x–044.x, V08, 795.71, 079.53

CCI, Charlson Comorbidity Index; ICD-9-CM, International Classification of Diseases, Ninth Revision, Clinical Modification; AIDS, acquired immune deficiency syndrome; HIV, human immunodeficiency virus.

Supplementary Table 2. ICD-9-CM codes for pre-specified autoimmune diseases.

Autoimmune disease	ICD-9-CM code
Systemic lupus erythematosus	710.0
Psoriatic arthritis	696.0
Sjögren's/sicca syndrome	710.2
Type 1 diabetes mellitus	250.x1, 250.x3
Psoriasis only	696.1
Interstitial lung disease/pulmonary fibrosis	515.x, 516
Polymyalgia rheumatica	725
Ankylosing spondylitis	720.0
Crohn's disease	555.xx
Raynaud's syndrome	443.0
Ulcerative colitis	556.xx
Chronic urticaria	708.xx
Pernicious anemia	281.0
Vasculitis	447.6
Hashimoto's thyroiditis/autoimmune thyroid disease	245.2
Autoimmune disease NEC	279.4
Uveitis	364.00, 364.01
Systemic sclerosis/scleroderma	710.1
Sarcoidosis	135
Scleritis/episcleritis	379.0x
Multiple sclerosis	340.xx
Polymyositis	710.4
Graves' disease	242.0

Addison's disease	255.4
Dermatomyositis	710.3
Giant cell arteritis	446.5
Celiac disease	579.0
Thrombocytopenic purpura/immune thrombocytopenic purpura	287.30, 287.31
Morphea	701.0
Erythema nodosum	695.2
Alopecia areata	704.01
Chronic glomerulonephritis	582.xx
Hemolytic anemia	283.xx
Myasthenia gravis	358.00, 358.01
Primary biliary cirrhosis	571.6
Vitiligo	709.01
Leukocytoclastic vasculitis	446.29

ICD-9-CM diagnosis codes used to identify the various pre-specified autoimmune diseases evaluated.

ICD-9-CM, International Classification of Diseases, Ninth Revision, Clinical Modification; NEC, not elsewhere classified.