

Supplemental File

Table 1: Radicular low back pain inclusion codes with Boolean "OR"

ICD-10 Code	ICD-10 Definition
G54.4	Lumbosacral root disorders, not elsewhere classified
M54.16	Intervertebral disc disorders with radiculopathy, lumbar region
M54.17	Radiculopathy, lumbosacral region
M54.18	Radiculopathy, sacral and sacrococcygeal region
M54.3	Sciatica
M54.4	Lumbago with sciatica

Abbreviations: International Classification of Diseases (ICD)

Table 2: Additional inclusion/exclusion codes based on receipt of chiropractic spinal manipulative therapy

CPT code	Definition	Recipients of CSMT	Nonrecipients of CSMT
98940	CSMT, 1-2 regions	Included	Excluded
98941	CSMT, 3-4 regions	Included	Excluded
98942	CSMT, 5 regions	Included	Excluded

Abbreviations: Current Procedural Terminology (CPT), Chiropractic Spinal Manipulative Therapy (CSMT)

Table 3: Exclusion codes for both cohorts

ICD-10 Code	ICD-10 Definition
Serious spinal pathology	
G06	Intracranial and intraspinal abscess and granuloma
G83.4	Cauda equina syndrome
M46	Other inflammatory spondyloarthropathies (includes infections)
M48.4	Fatigue fracture of vertebra
M48.5	Collapsed vertebra, not elsewhere classified
M80	Osteoporosis with current pathological fracture
M81	Osteoporosis without current pathological fracture
C00-C96	Malignant neoplasm
Structural deformity	
M41	Scoliosis
M43.16	Spondylolisthesis, lumbar region
M43.17	Spondylolisthesis, lumbosacral region
Prior lumbar surgery	
M96.1	Postlaminectomy syndrome, not elsewhere classified
Z98.1	Arthrodesis status
Alternate neurological lesion	
G54.1	Lumbosacral plexus disorders
G95	Other and unspecified diseases of spinal cord
G99.2	Myelopathy in diseases classified elsewhere
M48.0	Spinal stenosis
M50.0	Cervical disc disorder with myelopathy
M51.0	Thoracic, thoracolumbar and lumbosacral intervertebral disc disorders with myelopathy
Contraindications to benzodiazepines	
O00-O9A	Pregnancy, childbirth and the puerperium
E80	Disorders of porphyrin and bilirubin metabolism
H40.2	Primary angle-closure glaucoma
J44	Other chronic obstructive pulmonary disease
G70.0	Myasthenia gravis
G20	Parkinson's disease
Benzodiazepine prescription (VANDF)	
CN302	Benzodiazepines
Abbreviations: International Classification of Diseases (ICD), Veterans Health Administration National Drug File (VANDF)	

Table 4: Variables controlled for in propensity score matching

Variable	Description
Demographics	Patient age, sex, race, and ethnicity
Diagnoses (ICD-10)	
F01-F99	Mental, behavioral and neurodevelopmental disorders
G00-G99	Diseases of the nervous system
Z72.0	Tobacco use
Benzodiazepine precaution	
K76	Other diseases of liver
N18	Chronic kidney disease
Prescription medications (VANDF Classes)	
CN101	Opioid analgesics
CN309	Sedatives/hypnotics, other (includes nonbenzodiazepines)
CN800	CNS stimulants
Procedures (CPT codes)	
99281-99285	Emergency department visit

Abbreviations: Central nervous system (CNS), Current Procedural Terminology (CPT), International Classification of Diseases (ICD), Veterans Health Administration National Drug File (VANDF)

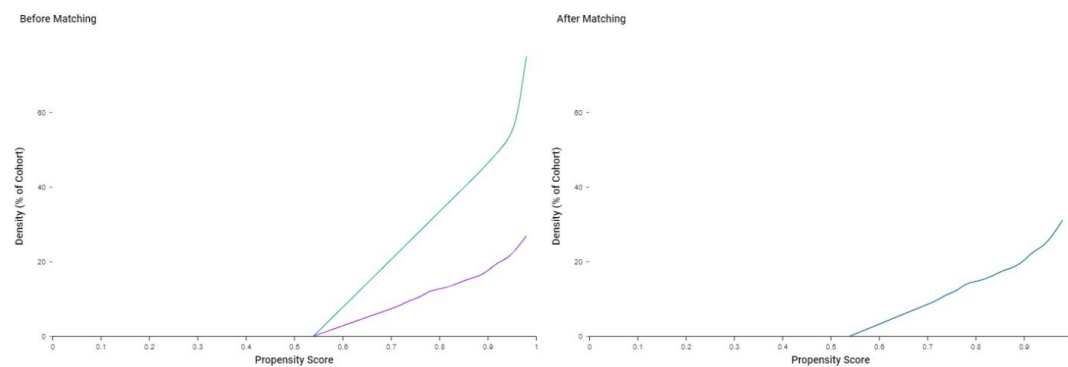


Figure 1: Propensity scores before and after matching. Purple line represents recipients of chiropractic spinal manipulative therapy (CSMT) cohort while the green line represents the non-CSMT cohort.