

Supplementary Online Content

Dhruva SS, Murillo J, Ameli O, et al. Long-term outcomes in use of opioids, nonpharmacologic pain interventions, and total costs of spinal cord stimulators compared with conventional medical therapy for chronic pain. *JAMA Neurol*. Published online November 28, 2022. doi:10.1001/jamaneurol.2022.4166

eTable 1. Cohort Identification and Evidence of Spinal Cord Stimulator Treatment and Conventional Medical Management

eTable 2. Identification of Individuals with Conditions for Study Exclusion

eTable 3. Code Lists for Pain Management Outcomes

eTable 4. Code List for Spinal Cord Stimulator-Related Complications, Revisions, and Removals

eTable 5. Comparison of Disenrolled and Retained Enrollees

eTable 6. Comparison of Patients With Trial Spinal Cord Stimulator Only and Patients Who Received Permanent SCS Placement

eTable 7. Complete List of Predictors and Odds Ratios Associated With Spinal Cord Stimulator Treatment

eTable 8. Rates of Opioid Discontinuation Among Patients With At Least 1 Opioid Fill During 6-Month Baseline Period

eTable 9. Pain and Health Care Utilization 24 Months After Permanent Spinal Cord Stimulator Implantation vs Conventional Medical Management Among Patients With Complex Regional Pain Syndrome and Chronic Pain Syndrome Diagnoses Only

eTable 10. Pain and Health Care Utilization 24 Months After Permanent Spinal Cord Stimulator Implantation vs Conventional Medical Management Among Patients With ≤ 7 Days Opioid Prescription During 6-Month Baseline Period

eFigure 1. Flow Diagram of Cohort Construction

eFigure 2. Overall Study Design Key Time Periods and Events

eFigure 3. Prematch and Postmatch Standardized Mean Difference

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Cohort Identification and Evidence of Spinal Cord Stimulator Treatment and Conventional Medical Management

Cohort identification code list	
Diagnosis Code - ICD-10	Failed Back Surgery Syndrome: M96.1 Complex Regional Pain Syndrome: G90.5x, G56.4x, G57.7x Chronic Pain Syndrome: G89.4 Other post-surgical back and extremity pain: M54.1x, M51.1x, M50.1x
Spinal cord stimulator treatment	
Procedure Codes	CPT: 63650, 63655, 63685, 63663, 63664, 63688, 63661, 63662, 95970, 95971, 95972 ICD-10: 00HU0MZ, 00HU3MZ, 00PU0MZ, 00PU3MZ, 00WU0MZ, 00WU3MZ, 0JH70DZ, 0JH80DZ, 0JH70EZ, 0JH80EZ, 0JPT0MZ, 0JPT3MZ, 0JWT0MZ, 0JWT3MZ HCPCS: L8680, L8679, L8687, L8688, L8689, L8681, C1767, C1820, C1883, C1778, C1897, C1787 Incident trial SCS insertion: 63650, 63655 Conversion of trial to permanent SCS: 63685 within 12 months of lead insertion (CPT 63650, 63655)
Additional spinal cord stimulator codes to evaluate clean period code list	
Diagnosis Codes - ICD-10	T851xxx, Z45.42 or Z45.49, Z46.2, Z9682, Z45.42
Spinal surgeries	
Procedure Codes	CPT: 0095T, 0098T, 0163T, 0164T, 0165T, 0171T, 0172T, 0195T, 0196T, 0200T, 0201T, 0202T, 0219T, 0220T, 0221T, 0222T, 0274T, 0275T, 0282T, 0283T, 0309T, 0375T, 0609T, 0610T, 0611T, 0612T, 0627T, 0628T, 0629T, 0630T, 0639T, 20220, 20225, 20240, 20250, 20251, 20930, 20931, 20936, 20937, 20938, 20939, 22010, 22015, 22100, 22101, 22102, 22103, 22110, 22112, 22114, 22116, 22206, 22207, 22208, 22210, 22212, 22214, 22216, 22220, 22222, 22224, 22226, 22318, 22319, 22325, 22326, 22327, 22328, 22510, 22511, 22512, 22513, 22514, 22515, 22526, 22527, 22532, 22533, 22534, 22551, 22552, 22554, 22556, 22558, 22585, 22586, 22590, 22600, 22614, 22630, 22632, 22633, 22634, 22800, 22802, 22804, 22808, 22810, 22812, 22818, 22819, 22830, 22840, 22841, 22842, 22843, 22844, 22845, 22846, 22847, 22849, 22851, 22853, 22854, 22856, 22857, 22858, 22859, 22861, 22862, 22864, 22865, 22867, 22868, 22869, 22870, 27080, 27105, 27202, 27218, 61050, 61055, 61343, 61575, 61576, 61597, 61615, 61616, 61703, 62230, 62263, 62264, 62267, 62268, 62269, 62270, 62272, 62281, 62287, 62292, 62294, 62328,

62329, 62350, 62351, 62380, 63001, 63003, 63005, 63011, 63012, 63015, 63016, 63017, 63020, 63030, 63035, 63040, 63042, 63043, 63044, 63045, 63046, 63047, 63048, 63050, 63051, 63055, 63056, 63057, 63064, 63066, 63075, 63076, 63077, 63078, 63081, 63082, 63085, 63086, 63087, 63088, 63090, 63091, 63101, 63102, 63103, 63170, 63172, 63173, 63180, 63182, 63185, 63190, 63191, 63194, 63195, 63196, 63197, 63198, 63199, 63200, 63250, 63251, 63252, 63265, 63266, 63267, 63268, 63270, 63271, 63272, 63273, 63275, 63276, 63277, 63278, 63280, 63281, 63282, 63283, 63285, 63286, 63287, 63290, 63295, 63300, 63301, 63302, 63303, 63304, 63305, 63306, 63307, 63308, 63600, 63610, 63615, 63650, 63655, 63661, 63662, 63663, 63664, 63685, 63688, 63700, 63702, 63704, 63706, 63707, 63709, 63710, 63740, 63741, 63744, 63746, 64633, 64634, 64635, 64636, 64640, 64772, 64802, 64804, 64809, 64818

ICD-10: 001U072, 001U074, 001U076, 001U077, 001U079, 001U0J2, 001U0J4, 001U0J6, 001U0J7, 001U0J9, 001U0K2, 001U0K4, 001U0K6, 001U0K7, 001U0K9, 001U372, 001U374, 001U376, 001U377, 001U379, 001U3J2, 001U3J4, 001U3J6, 001U3J7, 001U3J9, 001U3K2, 001U3K4, 001U3K6, 001U3K7, 001U3K9, 001U472, 001U474, 001U476, 001U477, 001U479, 001U4J2, 001U4J4, 001U4J6, 001U4J7, 001U4J9, 001U4K2, 001U4K4, 001U4K6, 001U4K7, 001U4K9, 002UX0Z, 002UXYZ, 005T0ZZ, 005T3ZZ, 005T4ZZ, 005W0ZZ, 005W3ZZ, 005W4ZZ, 005X0ZZ, 005X3ZZ, 005X4ZZ, 005Y0ZZ, 005Y3ZZ, 005Y4ZZ, 008W0ZZ, 008W3ZZ, 008W4ZZ, 008X0ZZ, 008X3ZZ, 008X4ZZ, 008Y0ZZ, 008Y3ZZ, 008Y4ZZ, 009T00Z, 009T0ZX, 009T0ZZ, 009T30Z, 009T3ZX, 009T3ZZ, 009T40Z, 009T4ZX, 009T4ZZ, 009U00Z, 009U0ZX, 009U0ZZ, 009U30Z, 009U3ZX, 009U3ZZ, 009U40Z, 009U4ZX, 009U4ZZ, 009W00Z, 009W0ZX, 009W0ZZ, 009W30Z, 009W3ZX, 009W3ZZ, 009W40Z, 009W4ZX, 009W4ZZ, 009X00Z, 009X0ZX, 009X0ZZ, 009X30Z, 009X3ZX, 009X3ZZ, 009X40Z, 009X4ZX, 009X4ZZ, 009Y00Z, 009Y0ZX, 009Y0ZZ, 009Y30Z, 009Y3ZX, 009Y3ZZ, 009Y40Z, 009Y4ZX, 009Y4ZZ, 00BT0ZX, 00BT0ZZ, 00BT3ZX, 00BT3ZZ, 00BT4ZX, 00BT4ZZ, 00BW0ZX, 00BW0ZZ, 00BW3ZX, 00BW3ZZ, 00BW4ZX, 00BW4ZZ, 00BX0ZX, 00BX0ZZ, 00BX3ZX, 00BX3ZZ, 00BX4ZX, 00BX4ZZ, 00BY0ZX, 00BY0ZZ, 00BY3ZX, 00BY3ZZ, 00BY4ZX, 00BY4ZZ, 00CT0ZZ, 00CT3ZZ, 00CT4ZZ, 00CU0ZZ, 00CU3ZZ, 00CU4ZZ, 00CW0ZZ, 00CW3ZZ, 00CW4ZZ, 00CX0ZZ, 00CX3ZZ, 00CX4ZZ, 00CY0ZZ, 00CY3ZZ, 00CY4ZZ, 00DT0ZZ, 00DT3ZZ, 00DT4ZZ, 00FU0ZZ, 00FU3ZZ, 00FU4ZZ, 00FUXZZ, 00HU01Z, 00HU02Z, 00HU03Z, 00HU0MZ, 00HU0YZ, 00HU31Z, 00HU32Z, 00HU33Z, 00HU3MZ, 00HU3YZ, 00HU41Z, 00HU42Z, 00HU43Z, 00HU4MZ, 00HU4YZ, 00HV01Z, 00HV02Z, 00HV03Z, 00HV0MZ, 00HV0YZ, 00HV31Z, 00HV32Z, 00HV33Z, 00HV3MZ, 00HV3YZ, 00HV41Z, 00HV42Z, 00HV43Z, 00HV4MZ, 00HV4YZ, 00JU0ZZ, 00JU3ZZ, 00JU4ZZ, 00JV0ZZ, 00JV3ZZ, 00JV4ZZ, 00NT0ZZ, 00NT3ZZ, 00NT4ZZ, 00NW0ZZ, 00NW3ZZ, 00NW4ZZ, 00NX0ZZ, 00NX3ZZ, 00NX4ZZ, 00NY0ZZ, 00NY3ZZ, 00NY4ZZ, 00PU00Z, 00PU02Z, 00PU03Z, 00PU0JZ, 00PU0MZ, 00PU0YZ, 00PU30Z, 00PU32Z, 00PU33Z, 00PU3JZ, 00PU3MZ, 00PU3YZ, 00PU40Z, 00PU42Z, 00PU43Z, 00PU4JZ, 00PU4MZ, 00PU4YZ, 00PUX0Z, 00PUX2Z, 00PUX3Z, 00PUXMZ, 00PV00Z, 00PV02Z, 00PV03Z, 00PV07Z, 00PV0JZ, 00PV0KZ, 00PV0MZ, 00PV0YZ, 00PV30Z, 00PV32Z, 00PV33Z, 00PV37Z, 00PV3JZ, 00PV3KZ, 00PV3MZ, 00PV3YZ, 00PV40Z, 00PV42Z, 00PV43Z, 00PV47Z, 00PV4JZ, 00PV4KZ, 00PV4MZ, 00PV4YZ, 00PVX0Z, 00PVX2Z, 00PVX3Z, 00PVXNZ, 00QT0ZZ, 00QT3ZZ, 00QT4ZZ, 00QW0ZZ, 00QW3ZZ, 00QW4ZZ, 00QX0ZZ, 00QX3ZZ, 00QX4ZZ, 00QY0ZZ, 00QY3ZZ,

00QY4ZZ, 00RT07Z, 00RT0JZ, 00RT0KZ, 00RT47Z, 00RT4JZ, 00RT4KZ,
00SW0ZZ, 00SW3ZZ, 00SW4ZZ, 00SX0ZZ, 00SX3ZZ, 00SX4ZZ, 00SY0ZZ,
00SY3ZZ, 00SY4ZZ, 00UT07Z, 00UT0JZ, 00UT0KZ, 00UT37Z, 00UT3JZ, 00UT3KZ,
00UT47Z, 00UT4JZ, 00UT4KZ, 00WU00Z, 00WU02Z, 00WU03Z, 00WU0JZ,
00WU0MZ, 00WU0YZ, 00WU30Z, 00WU32Z, 00WU33Z, 00WU3JZ, 00WU3MZ,
00WU3YZ, 00WU40Z, 00WU42Z, 00WU43Z, 00WU4JZ, 00WU4MZ, 00WU4YZ,
00WUX0Z, 00WUX2Z, 00WUX3Z, 00WUXJZ, 00WUXMZ, 00WV00Z, 00WV02Z,
00WV03Z, 00WV07Z, 00WV0JZ, 00WV0KZ, 00WV0MZ, 00WV0YZ, 00WV30Z,
00WV32Z, 00WV33Z, 00WV37Z, 00WV3JZ, 00WV3KZ, 00WV3MZ, 00WV3YZ,
00WV40Z, 00WV42Z, 00WV43Z, 00WV47Z, 00WV4JZ, 00WV4KZ, 00WV4MZ,
00WV4YZ, 00WVX0Z, 00WVX2Z, 00WVX3Z, 00WVX7Z, 00WVXJZ, 00WVXKZ,
00WVXMZ, 0M5C0ZZ, 0M5C3ZZ, 0M5C4ZZ, 0M5D0ZZ, 0M5D3ZZ, 0M5D4ZZ,
0M8C0ZZ, 0M8C3ZZ, 0M8C4ZZ, 0M8D0ZZ, 0M8D3ZZ, 0M8D4ZZ, 0M9C00Z,
0M9C0ZX, 0M9C0ZZ, 0M9C30Z, 0M9C3ZX, 0M9C3ZZ, 0M9C40Z, 0M9C4ZX,
0M9C4ZZ, 0M9D00Z, 0M9D0ZX, 0M9D0ZZ, 0M9D30Z, 0M9D3ZX, 0M9D3ZZ,
0M9D40Z, 0M9D4ZX, 0M9D4ZZ, 0MBC0ZX, 0MBC0ZZ, 0MBC3ZX, 0MBC3ZZ,
0MBC4ZX, 0MBC4ZZ, 0MBD0ZX, 0MBD0ZZ, 0MBD3ZX, 0MBD3ZZ, 0MBD4ZX,
0MBD4ZZ, 0MCC0ZZ, 0MCC3ZZ, 0MCC4ZZ, 0MCD0ZZ, 0MCD3ZZ, 0MCD4ZZ,
0MDC0ZZ, 0MDC3ZZ, 0MDC4ZZ, 0MDD0ZZ, 0MDD3ZZ, 0MDD4ZZ, 0MMC0ZZ,
0MMC4ZZ, 0MMD0ZZ, 0MMD4ZZ, 0MNC0ZZ, 0MNC3ZZ, 0MNC4ZZ, 0MNCXZZ,
0MND0ZZ, 0MND3ZZ, 0MND4ZZ, 0MNDXZZ, 0MQC0ZZ, 0MQC3ZZ, 0MQC4ZZ,
0MQD0ZZ, 0MQD3ZZ, 0MQD4ZZ, 0MRC07Z, 0MRC0JZ, 0MRC0KZ, 0MRC47Z,
0MRC4JZ, 0MRC4KZ, 0MRD07Z, 0MRD0JZ, 0MRD0KZ, 0MRD47Z, 0MRD4JZ,
0MRD4KZ, 0MSC0ZZ, 0MSC4ZZ, 0MSD0ZZ, 0MSD4ZZ, 0MTC0ZZ, 0MTC4ZZ,
0MTD0ZZ, 0MTD4ZZ, 0MUC07Z, 0MUC0JZ, 0MUC0KZ, 0MUC47Z, 0MUC4JZ,
0MUC4KZ, 0MUD07Z, 0MUD0JZ, 0MUD0KZ, 0MUD47Z, 0MUD4JZ, 0MUD4KZ,
0MXC0ZZ, 0MXC4ZZ, 0MXD0ZZ, 0MXD4ZZ, 0P530ZZ, 0P533ZZ, 0P534ZZ,
0P540ZZ, 0P543ZZ, 0P544ZZ, 0P830ZZ, 0P833ZZ, 0P834ZZ, 0P840ZZ, 0P843ZZ,
0P844ZZ, 0P9300Z, 0P930ZX, 0P930ZZ, 0P9330Z, 0P933ZX, 0P933ZZ, 0P9340Z,
0P934ZX, 0P934ZZ, 0P9400Z, 0P940ZX, 0P940ZZ, 0P9430Z, 0P943ZX, 0P943ZZ,
0P9440Z, 0P944ZX, 0P944ZZ, 0PB30ZX, 0PB30ZZ, 0PB33ZX, 0PB33ZZ, 0PB34ZX,
0PB34ZZ, 0PB40ZX, 0PB40ZZ, 0PB43ZX, 0PB43ZZ, 0PB44ZX, 0PB44ZZ,
0PC30ZZ, 0PC33ZZ, 0PC34ZZ, 0PC40ZZ, 0PC43ZZ, 0PC44ZZ, 0PD30ZZ,
0PD40ZZ, 0PH304Z, 0PH334Z, 0PH344Z, 0PH404Z, 0PH434Z, 0PH444Z,
0PN30ZZ, 0PN33ZZ, 0PN34ZZ, 0PN40ZZ, 0PN43ZZ, 0PN44ZZ, 0PP304Z,
0PP307Z, 0PP30JZ, 0PP30KZ, 0PP334Z, 0PP337Z, 0PP33JZ, 0PP33KZ, 0PP344Z,
0PP347Z, 0PP34JZ, 0PP34KZ, 0PP3X4Z, 0PP404Z, 0PP407Z, 0PP40JZ, 0PP40KZ,
0PP434Z, 0PP437Z, 0PP43JZ, 0PP43KZ, 0PP444Z, 0PP447Z, 0PP44JZ, 0PP44KZ,
0PP4X4Z, 0PQ30ZZ, 0PQ33ZZ, 0PQ34ZZ, 0PQ3XZZ, 0PQ40ZZ, 0PQ43ZZ,
0PQ44ZZ, 0PQ4XZZ, 0PR307Z, 0PR30JZ, 0PR30KZ, 0PR337Z, 0PR33JZ,
0PR33KZ, 0PR347Z, 0PR34JZ, 0PR34KZ, 0PR407Z, 0PR40JZ, 0PR40KZ,
0PR437Z, 0PR43JZ, 0PR43KZ, 0PR447Z, 0PR44JZ, 0PR44KZ, 0PS304Z, 0PS30ZZ,
0PS334Z, 0PS33ZZ, 0PS344Z, 0PS34ZZ, 0PS3XZZ, 0PS404Z, 0PS40ZZ, 0PS434Z,
0PS43ZZ, 0PS444Z, 0PS44ZZ, 0PS4XZZ, 0PU307Z, 0PU30JZ, 0PU30KZ,
0PU337Z, 0PU33JZ, 0PU33KZ, 0PU347Z, 0PU34JZ, 0PU34KZ, 0PU407Z, 0PU40JZ,
0PU40KZ, 0PU437Z, 0PU43JZ, 0PU43KZ, 0PU447Z, 0PU44JZ, 0PU44KZ,
0PW304Z, 0PW307Z, 0PW30JZ, 0PW30KZ, 0PW334Z, 0PW337Z, 0PW33JZ,
0PW33KZ, 0PW344Z, 0PW347Z, 0PW34JZ, 0PW34KZ, 0PW3X4Z, 0PW3X7Z,

0PW3XJZ, 0PW3XKZ, 0PW404Z, 0PW407Z, 0PW40JZ, 0PW40KZ, 0PW434Z, 0PW437Z, 0PW43JZ, 0PW43KZ, 0PW444Z, 0PW447Z, 0PW44JZ, 0PW44KZ, 0PW4X4Z, 0PW4X7Z, 0PW4XJZ, 0PW4XKZ, 0Q500ZZ, 0Q503ZZ, 0Q504ZZ, 0Q800ZZ, 0Q803ZZ, 0Q804ZZ, 0Q9000Z, 0Q900ZX, 0Q900ZZ, 0Q9030Z, 0Q903ZX, 0Q903ZZ, 0Q9040Z, 0Q904ZX, 0Q904ZZ, 0QB00ZX, 0QB00ZZ, 0QB03ZX, 0QB03ZZ, 0QB04ZX, 0QB04ZZ, 0QC00ZZ, 0QC03ZZ, 0QC04ZZ, 0QD00ZZ, 0QH004Z, 0QH005Z, 0QH034Z, 0QH035Z, 0QH044Z, 0QH045Z, 0QN00ZZ, 0QN03ZZ, 0QN04ZZ, 0QP004Z, 0QP005Z, 0QP007Z, 0QP00JZ, 0QP00KZ, 0QP034Z, 0QP035Z, 0QP037Z, 0QP03JZ, 0QP03KZ, 0QP044Z, 0QP045Z, 0QP047Z, 0QP04JZ, 0QP04KZ, 0QP0X4Z, 0QP0X5Z, 0QQ00ZZ, 0QQ03ZZ, 0QQ04ZZ, 0QQ0XZZ, 0QR007Z, 0QR00JZ, 0QR00KZ, 0QR037Z, 0QR03JZ, 0QR03KZ, 0QR047Z, 0QR04JZ, 0QR04KZ, 0QS004Z, 0QS00ZZ, 0QS034Z, 0QS03ZZ, 0QS044Z, 0QS04ZZ, 0QS0XZZ, 0QU007Z, 0QU00JZ, 0QU00KZ, 0QU037Z, 0QU03JZ, 0QU03KZ, 0QU047Z, 0QU04JZ, 0QU04KZ, 0QW004Z, 0QW007Z, 0QW00JZ, 0QW00KZ, 0QW034Z, 0QW037Z, 0QW03JZ, 0QW03KZ, 0QW044Z, 0QW047Z, 0QW04JZ, 0QW04KZ, 0QW0X4Z, 0QW0X7Z, 0QW0XJZ, 0QW0XKZ, 0R510ZZ, 0R513ZZ, 0R514ZZ, 0R530ZZ, 0R533ZZ, 0R534ZZ, 0R540ZZ, 0R543ZZ, 0R544ZZ, 0R550ZZ, 0R553ZZ, 0R554ZZ, 0R560ZZ, 0R563ZZ, 0R564ZZ, 0R590ZZ, 0R593ZZ, 0R594ZZ, 0R5A0ZZ, 0R5A3ZZ, 0R5A4ZZ, 0R5B0ZZ, 0R5B3ZZ, 0R5B4ZZ, 0R9100Z, 0R910ZX, 0R910ZZ, 0R9130Z, 0R913ZX, 0R913ZZ, 0R9140Z, 0R914ZX, 0R914ZZ, 0R9300Z, 0R930ZX, 0R930ZZ, 0R9330Z, 0R933ZX, 0R933ZZ, 0R9340Z, 0R934ZX, 0R934ZZ, 0R9400Z, 0R940ZX, 0R940ZZ, 0R9430Z, 0R943ZX, 0R943ZZ, 0R9440Z, 0R944ZX, 0R944ZZ, 0R9500Z, 0R950ZX, 0R950ZZ, 0R9530Z, 0R953ZX, 0R953ZZ, 0R9540Z, 0R954ZX, 0R954ZZ, 0R9600Z, 0R960ZX, 0R960ZZ, 0R9630Z, 0R963ZX, 0R963ZZ, 0R9640Z, 0R964ZX, 0R964ZZ, 0R9900Z, 0R990ZX, 0R990ZZ, 0R9930Z, 0R993ZX, 0R993ZZ, 0R9940Z, 0R994ZX, 0R994ZZ, 0R9A00Z, 0R9A0ZX, 0R9A0ZZ, 0R9A30Z, 0R9A3ZX, 0R9A3ZZ, 0R9A40Z, 0R9A4ZX, 0R9A4ZZ, 0R9B00Z, 0R9B0ZX, 0R9B0ZZ, 0R9B30Z, 0R9B3ZX, 0R9B3ZZ, 0R9B40Z, 0R9B4ZX, 0R9B4ZZ, 0RB10ZX, 0RB10ZZ, 0RB13ZX, 0RB13ZZ, 0RB14ZX, 0RB14ZZ, 0RB30ZX, 0RB30ZZ, 0RB33ZX, 0RB33ZZ, 0RB34ZX, 0RB34ZZ, 0RB40ZX, 0RB40ZZ, 0RB43ZX, 0RB43ZZ, 0RB44ZX, 0RB44ZZ, 0RB50ZX, 0RB50ZZ, 0RB53ZX, 0RB53ZZ, 0RB54ZX, 0RB54ZZ, 0RB60ZX, 0RB60ZZ, 0RB63ZX, 0RB63ZZ, 0RB64ZX, 0RB64ZZ, 0RB90ZX, 0RB90ZZ, 0RB93ZX, 0RB93ZZ, 0RB94ZX, 0RB94ZZ, 0RBA0ZX, 0RBA0ZZ, 0RBA3ZX, 0RBA3ZZ, 0RBA4ZX, 0RBA4ZZ, 0RBB0ZX, 0RBB0ZZ, 0RBB3ZX, 0RBB3ZZ, 0RBB4ZX, 0RBB4ZZ, 0RC10ZZ, 0RC13ZZ, 0RC14ZZ, 0RC30ZZ, 0RC33ZZ, 0RC34ZZ, 0RC40ZZ, 0RC43ZZ, 0RC44ZZ, 0RC50ZZ, 0RC53ZZ, 0RC54ZZ, 0RC60ZZ, 0RC63ZZ, 0RC64ZZ, 0RC90ZZ, 0RC93ZZ, 0RC94ZZ, 0RCA0ZZ, 0RCA3ZZ, 0RCA4ZZ, 0RCB0ZZ, 0RCB3ZZ, 0RCB4ZZ, 0RG1070, 0RG1071, 0RG107J, 0RG10A0, 0RG10A1, 0RG10AJ, 0RG10J0, 0RG10J1, 0RG10JJ, 0RG10K0, 0RG10K1, 0RG10KJ, 0RG10Z0, 0RG10Z1, 0RG10ZJ, 0RG1370, 0RG1371, 0RG137J, 0RG13A0, 0RG13A1, 0RG13AJ, 0RG13J0, 0RG13J1, 0RG13JJ, 0RG13K0, 0RG13K1, 0RG13KJ, 0RG13Z0, 0RG13Z1, 0RG13ZJ, 0RG1470, 0RG1471, 0RG147J, 0RG14A0, 0RG14A1, 0RG14AJ, 0RG14J0, 0RG14J1, 0RG14JJ, 0RG14K0, 0RG14K1, 0RG14KJ, 0RG14Z0, 0RG14Z1, 0RG14ZJ, 0RG2070, 0RG2071, 0RG207J, 0RG20A0, 0RG20A1, 0RG20AJ, 0RG20J0, 0RG20J1, 0RG20JJ, 0RG20K0, 0RG20K1, 0RG20KJ, 0RG20Z0, 0RG20Z1, 0RG20ZJ, 0RG2370, 0RG2371, 0RG237J, 0RG23A0,

ORG23A1, ORG23AJ, ORG23J0, ORG23J1, ORG23JJ, ORG23K0, ORG23K1, ORG23KJ, ORG23Z0, ORG23Z1, ORG23ZJ, ORG2470, ORG2471, ORG247J, ORG24A0, ORG24A1, ORG24AJ, ORG24J0, ORG24J1, ORG24JJ, ORG24K0, ORG24K1, ORG24KJ, ORG24Z0, ORG24Z1, ORG24ZJ, ORG4070, ORG4071, ORG407J, ORG40A0, ORG40A1, ORG40AJ, ORG40J0, ORG40J1, ORG40JJ, ORG40K0, ORG40K1, ORG40KJ, ORG40Z0, ORG40Z1, ORG40ZJ, ORG4370, ORG4371, ORG437J, ORG43A0, ORG43A1, ORG43AJ, ORG43J0, ORG43J1, ORG43JJ, ORG43K0, ORG43K1, ORG43KJ, ORG43Z0, ORG43Z1, ORG43ZJ, ORG4470, ORG4471, ORG447J, ORG44A0, ORG44A1, ORG44AJ, ORG44J0, ORG44J1, ORG44JJ, ORG44K0, ORG44K1, ORG44KJ, ORG44Z0, ORG44Z1, ORG44ZJ, ORG6070, ORG6071, ORG607J, ORG60A0, ORG60A1, ORG60AJ, ORG60J0, ORG60J1, ORG60JJ, ORG60K0, ORG60K1, ORG60KJ, ORG60Z0, ORG60Z1, ORG60ZJ, ORG6370, ORG6371, ORG637J, ORG63A0, ORG63A1, ORG63AJ, ORG63J0, ORG63J1, ORG63JJ, ORG63K0, ORG63K1, ORG63KJ, ORG63Z0, ORG63Z1, ORG63ZJ, ORG6470, ORG6471, ORG647J, ORG64A0, ORG64A1, ORG64AJ, ORG64J0, ORG64J1, ORG64JJ, ORG64K0, ORG64K1, ORG64KJ, ORG64Z0, ORG64Z1, ORG64ZJ, ORG7070, ORG7071, ORG707J, ORG70A0, ORG70A1, ORG70AJ, ORG70J0, ORG70J1, ORG70JJ, ORG70K0, ORG70K1, ORG70KJ, ORG70Z0, ORG70Z1, ORG70ZJ, ORG7370, ORG7371, ORG737J, ORG73A0, ORG73A1, ORG73AJ, ORG73J0, ORG73J1, ORG73JJ, ORG73K0, ORG73K1, ORG73KJ, ORG73Z0, ORG73Z1, ORG73ZJ, ORG7470, ORG7471, ORG747J, ORG74A0, ORG74A1, ORG74AJ, ORG74J0, ORG74J1, ORG74JJ, ORG74K0, ORG74K1, ORG74KJ, ORG74Z0, ORG74Z1, ORG74ZJ, ORG8070, ORG8071, ORG807J, ORG80A0, ORG80A1, ORG80AJ, ORG80J0, ORG80J1, ORG80JJ, ORG80K0, ORG80K1, ORG80KJ, ORG80Z0, ORG80Z1, ORG80ZJ, ORG8370, ORG8371, ORG837J, ORG83A0, ORG83A1, ORG83AJ, ORG83J0, ORG83J1, ORG83JJ, ORG83K0, ORG83K1, ORG83KJ, ORG83Z0, ORG83Z1, ORG83ZJ, ORG8470, ORG8471, ORG847J, ORG84A0, ORG84A1, ORG84AJ, ORG84J0, ORG84J1, ORG84JJ, ORG84K0, ORG84K1, ORG84KJ, ORG84Z0, ORG84Z1, ORG84ZJ, ORGA070, ORGA071, ORGA07J, ORGA0A0, ORGA0A1, ORGA0AJ, ORGA0J0, ORGA0J1, ORGA0JJ, ORGA0K0, ORGA0K1, ORGA0KJ, ORGA0Z0, ORGA0Z1, ORGA0ZJ, ORGA370, ORGA371, ORGA37J, ORGA3A0, ORGA3A1, ORGA3AJ, ORGA3J0, ORGA3J1, ORGA3JJ, ORGA3K0, ORGA3K1, ORGA3KJ, ORGA3Z0, ORGA3Z1, ORGA3ZJ, ORGA470, ORGA471, ORGA47J, ORGA4A0, ORGA4A1, ORGA4AJ, ORGA4J0, ORGA4J1, ORGA4JJ, ORGA4K0, ORGA4K1, ORGA4KJ, ORGA4Z0, ORGA4Z1, ORGA4ZJ, ORH00BZ, ORH00CZ, ORH00DZ, ORH03BZ, ORH03CZ, ORH03DZ, ORH04BZ, ORH04CZ, ORH04DZ, ORH103Z, ORH104Z, ORH108Z, ORH10BZ, ORH10CZ, ORH10DZ, ORH133Z, ORH134Z, ORH138Z, ORH13BZ, ORH13CZ, ORH13DZ, ORH143Z, ORH144Z, ORH148Z, ORH14BZ, ORH14CZ, ORH14DZ, ORH303Z, ORH333Z, ORH343Z, ORH403Z, ORH404Z, ORH408Z, ORH40BZ, ORH40CZ, ORH40DZ, ORH433Z, ORH434Z, ORH438Z, ORH43BZ, ORH43CZ, ORH43DZ, ORH443Z, ORH444Z, ORH448Z, ORH44BZ, ORH44CZ, ORH44DZ, ORH503Z, ORH533Z, ORH543Z, ORH603Z, ORH604Z, ORH608Z, ORH60BZ, ORH60CZ, ORH60DZ, ORH633Z, ORH634Z, ORH638Z, ORH63BZ, ORH63CZ, ORH63DZ, ORH643Z, ORH644Z, ORH648Z, ORH64BZ, ORH64CZ, ORH64DZ, ORH903Z, ORH933Z, ORH943Z, ORHA03Z, ORHA04Z, ORHA08Z, ORHA0BZ, ORHA0CZ, ORHA0DZ, ORHA33Z, ORHA34Z, ORHA38Z, ORHA3BZ, ORHA3CZ, ORHA3DZ, ORHA43Z,

ORHA44Z, ORHA48Z, ORHA4BZ, ORHA4CZ, ORHA4DZ, ORHB03Z, ORHB33Z, ORHB43Z, ORJ10ZZ, ORJ13ZZ, ORJ14ZZ, ORJ1XZZ, ORJ30ZZ, ORJ33ZZ, ORJ34ZZ, ORJ3XZZ, ORJ40ZZ, ORJ43ZZ, ORJ44ZZ, ORJ4XZZ, ORJ50ZZ, ORJ53ZZ, ORJ54ZZ, ORJ5XZZ, ORJ60ZZ, ORJ63ZZ, ORJ64ZZ, ORJ6XZZ, ORJ90ZZ, ORJ93ZZ, ORJ94ZZ, ORJ9XZZ, ORJA0ZZ, ORJA3ZZ, ORJA4ZZ, ORJAXZZ, ORJB0ZZ, ORJB3ZZ, ORJB4ZZ, ORJBXZZ, ORN10ZZ, ORN13ZZ, ORN14ZZ, ORN1XZZ, ORN30ZZ, ORN33ZZ, ORN34ZZ, ORN3XZZ, ORN40ZZ, ORN43ZZ, ORN44ZZ, ORN4XZZ, ORN50ZZ, ORN53ZZ, ORN54ZZ, ORN5XZZ, ORN60ZZ, ORN63ZZ, ORN64ZZ, ORN6XZZ, ORN90ZZ, ORN93ZZ, ORN94ZZ, ORN9XZZ, ORNA0ZZ, ORNA3ZZ, ORNA4ZZ, ORNAXZZ, ORNB0ZZ, ORNB3ZZ, ORNB4ZZ, ORNBXZZ, ORP100Z, ORP103Z, ORP104Z, ORP107Z, ORP108Z, ORP10AZ, ORP10JZ, ORP10KZ, ORP130Z, ORP133Z, ORP134Z, ORP137Z, ORP138Z, ORP13AZ, ORP13JZ, ORP13KZ, ORP140Z, ORP143Z, ORP144Z, ORP147Z, ORP148Z, ORP14AZ, ORP14JZ, ORP14KZ, ORP1X0Z, ORP1X3Z, ORP1X4Z, ORP300Z, ORP303Z, ORP307Z, ORP30JZ, ORP30KZ, ORP330Z, ORP333Z, ORP337Z, ORP33JZ, ORP33KZ, ORP340Z, ORP343Z, ORP347Z, ORP34JZ, ORP34KZ, ORP3X0Z, ORP3X3Z, ORP400Z, ORP403Z, ORP404Z, ORP407Z, ORP408Z, ORP40AZ, ORP40JZ, ORP40KZ, ORP430Z, ORP433Z, ORP434Z, ORP437Z, ORP438Z, ORP43AZ, ORP43JZ, ORP43KZ, ORP440Z, ORP443Z, ORP444Z, ORP447Z, ORP448Z, ORP44AZ, ORP44JZ, ORP44KZ, ORP4X0Z, ORP4X3Z, ORP4X4Z, ORP500Z, ORP503Z, ORP507Z, ORP50JZ, ORP50KZ, ORP530Z, ORP533Z, ORP537Z, ORP53JZ, ORP53KZ, ORP540Z, ORP543Z, ORP547Z, ORP54JZ, ORP54KZ, ORP5X0Z, ORP5X3Z, ORP600Z, ORP603Z, ORP604Z, ORP607Z, ORP608Z, ORP60AZ, ORP60JZ, ORP60KZ, ORP630Z, ORP633Z, ORP634Z, ORP637Z, ORP638Z, ORP63AZ, ORP63JZ, ORP63KZ, ORP640Z, ORP643Z, ORP644Z, ORP647Z, ORP648Z, ORP64AZ, ORP64JZ, ORP64KZ, ORP6X0Z, ORP6X3Z, ORP6X4Z, ORP900Z, ORP903Z, ORP907Z, ORP90JZ, ORP90KZ, ORP930Z, ORP933Z, ORP937Z, ORP93JZ, ORP93KZ, ORP940Z, ORP943Z, ORP947Z, ORP94JZ, ORP94KZ, ORP9X0Z, ORP9X3Z, ORPA00Z, ORPA03Z, ORPA04Z, ORPA07Z, ORPA08Z, ORPA0AZ, ORPA0JZ, ORPA0KZ, ORPA30Z, ORPA33Z, ORPA34Z, ORPA37Z, ORPA38Z, ORPA3AZ, ORPA3JZ, ORPA3KZ, ORPA40Z, ORPA43Z, ORPA44Z, ORPA47Z, ORPA48Z, ORPA4AZ, ORPA4JZ, ORPA4KZ, ORPAX0Z, ORPAX3Z, ORPAX4Z, ORPB00Z, ORPB03Z, ORPB07Z, ORPB0JZ, ORPB0KZ, ORPB30Z, ORPB33Z, ORPB37Z, ORPB3JZ, ORPB3KZ, ORPB40Z, ORPB43Z, ORPB47Z, ORPB4JZ, ORPB4KZ, ORPBX0Z, ORPBX3Z, ORQ10ZZ, ORQ13ZZ, ORQ14ZZ, ORQ1XZZ, ORQ30ZZ, ORQ33ZZ, ORQ34ZZ, ORQ3XZZ, ORQ40ZZ, ORQ43ZZ, ORQ44ZZ, ORQ4XZZ, ORQ50ZZ, ORQ53ZZ, ORQ54ZZ, ORQ5XZZ, ORQ60ZZ, ORQ63ZZ, ORQ64ZZ, ORQ6XZZ, ORQ90ZZ, ORQ93ZZ, ORQ94ZZ, ORQ9XZZ, ORQA0ZZ, ORQA3ZZ, ORQA4ZZ, ORQAXZZ, ORQB0ZZ, ORQB3ZZ, ORQB4ZZ, ORQBXZZ, ORR107Z, ORR10JZ, ORR10KZ, ORR307Z, ORR30JZ, ORR30KZ, ORR407Z, ORR40JZ, ORR40KZ, ORR507Z, ORR50JZ, ORR50KZ, ORR607Z, ORR60JZ, ORR60KZ, ORR907Z, ORR90JZ, ORR90KZ, ORRA07Z, ORRA0JZ, ORRA0KZ, ORRB07Z, ORRB0JZ, ORRB0KZ, ORS104Z, ORS10ZZ, ORS134Z, ORS13ZZ, ORS144Z, ORS14ZZ, ORS1X4Z, ORS1XZZ, ORS404Z, ORS40ZZ, ORS434Z, ORS43ZZ, ORS444Z, ORS44ZZ, ORS4X4Z, ORS4XZZ, ORS604Z, ORS60ZZ, ORS634Z, ORS63ZZ, ORS644Z, ORS64ZZ, ORS6X4Z, ORS6XZZ, ORSA04Z, ORSA0ZZ, ORSA34Z, ORSA3ZZ, ORSA44Z, ORSA4ZZ, ORSAX4Z, ORSAXZZ, ORT30ZZ, ORT40ZZ, ORT50ZZ, ORT90ZZ, ORTB0ZZ,

ORU107Z, ORU10JZ, ORU10KZ, ORU137Z, ORU13JZ, ORU13KZ, ORU147Z, ORU14JZ, ORU14KZ, ORU307Z, ORU30JZ, ORU30KZ, ORU337Z, ORU33JZ, ORU33KZ, ORU347Z, ORU34JZ, ORU34KZ, ORU407Z, ORU40JZ, ORU40KZ, ORU437Z, ORU43JZ, ORU43KZ, ORU447Z, ORU44JZ, ORU44KZ, ORU507Z, ORU50JZ, ORU50KZ, ORU537Z, ORU53JZ, ORU53KZ, ORU547Z, ORU54JZ, ORU54KZ, ORU607Z, ORU60JZ, ORU60KZ, ORU637Z, ORU63JZ, ORU63KZ, ORU647Z, ORU64JZ, ORU64KZ, ORU907Z, ORU90JZ, ORU90KZ, ORU937Z, ORU93JZ, ORU93KZ, ORU947Z, ORU94JZ, ORU94KZ, ORUA07Z, ORUA0JZ, ORUA0KZ, ORUA37Z, ORUA3JZ, ORUA3KZ, ORUA47Z, ORUA4JZ, ORUA4KZ, ORUB07Z, ORUB0JZ, ORUB0KZ, ORUB37Z, ORUB3JZ, ORUB3KZ, ORUB47Z, ORUB4JZ, ORUB4KZ, ORW100Z, ORW103Z, ORW104Z, ORW107Z, ORW108Z, ORW10AZ, ORW10JZ, ORW10KZ, ORW130Z, ORW133Z, ORW134Z, ORW137Z, ORW138Z, ORW13AZ, ORW13JZ, ORW13KZ, ORW140Z, ORW143Z, ORW144Z, ORW147Z, ORW148Z, ORW14AZ, ORW14JZ, ORW14KZ, ORW1X0Z, ORW1X3Z, ORW1X4Z, ORW1X7Z, ORW1X8Z, ORW1XAZ, ORW1XJZ, ORW1XKZ, ORW300Z, ORW303Z, ORW307Z, ORW30JZ, ORW30KZ, ORW330Z, ORW333Z, ORW337Z, ORW33JZ, ORW33KZ, ORW340Z, ORW343Z, ORW347Z, ORW34JZ, ORW34KZ, ORW3X0Z, ORW3X3Z, ORW3X7Z, ORW3XJZ, ORW3XKZ, ORW400Z, ORW403Z, ORW404Z, ORW407Z, ORW408Z, ORW40AZ, ORW40JZ, ORW40KZ, ORW430Z, ORW433Z, ORW434Z, ORW437Z, ORW438Z, ORW43AZ, ORW43JZ, ORW43KZ, ORW440Z, ORW443Z, ORW444Z, ORW447Z, ORW448Z, ORW44AZ, ORW44JZ, ORW44KZ, ORW4X0Z, ORW4X3Z, ORW4X4Z, ORW4X7Z, ORW4X8Z, ORW4XAZ, ORW4XJZ, ORW4XKZ, ORW500Z, ORW503Z, ORW507Z, ORW50JZ, ORW50KZ, ORW530Z, ORW533Z, ORW537Z, ORW53JZ, ORW53KZ, ORW540Z, ORW543Z, ORW547Z, ORW54JZ, ORW54KZ, ORW5X0Z, ORW5X3Z, ORW5X7Z, ORW5XJZ, ORW5XKZ, ORW600Z, ORW603Z, ORW604Z, ORW607Z, ORW608Z, ORW60AZ, ORW60JZ, ORW60KZ, ORW630Z, ORW633Z, ORW634Z, ORW637Z, ORW638Z, ORW63AZ, ORW63JZ, ORW63KZ, ORW640Z, ORW643Z, ORW644Z, ORW647Z, ORW648Z, ORW64AZ, ORW64JZ, ORW64KZ, ORW6X0Z, ORW6X3Z, ORW6X4Z, ORW6X7Z, ORW6X8Z, ORW6XAZ, ORW6XJZ, ORW6XKZ, ORW900Z, ORW903Z, ORW907Z, ORW90JZ, ORW90KZ, ORW930Z, ORW933Z, ORW937Z, ORW93JZ, ORW93KZ, ORW940Z, ORW943Z, ORW947Z, ORW94JZ, ORW94KZ, ORW9X0Z, ORW9X3Z, ORW9X7Z, ORW9XJZ, ORW9XKZ, ORWA00Z, ORWA03Z, ORWA04Z, ORWA07Z, ORWA08Z, ORWA0AZ, ORWA0JZ, ORWA0KZ, ORWA30Z, ORWA33Z, ORWA34Z, ORWA37Z, ORWA38Z, ORWA3AZ, ORWA3JZ, ORWA3KZ, ORWA40Z, ORWA43Z, ORWA44Z, ORWA47Z, ORWA48Z, ORWA4AZ, ORWA4JZ, ORWA4KZ, ORWAX0Z, ORWAX3Z, ORWAX4Z, ORWAX7Z, ORWAX8Z, ORWAXAZ, ORWAXJZ, ORWAXKZ, ORWB00Z, ORWB03Z, ORWB07Z, ORWB0JZ, ORWB0KZ, ORWB30Z, ORWB33Z, ORWB37Z, ORWB3JZ, ORWB3KZ, ORWB40Z, ORWB43Z, ORWB47Z, ORWB4JZ, ORWB4KZ, ORWBX0Z, ORWBX3Z, ORWBX7Z, ORWBXJZ, ORWBXKZ, OS500ZZ, OS503ZZ, OS504ZZ, OS520ZZ, OS523ZZ, OS524ZZ, OS540ZZ, OS543ZZ, OS544ZZ, OS550ZZ, OS553ZZ, OS554ZZ, OS9000Z, OS900ZX, OS900ZZ, OS9030Z, OS903ZX, OS903ZZ, OS9040Z, OS904ZX, OS904ZZ, OS9200Z, OS920ZX, OS920ZZ, OS9230Z, OS923ZX, OS923ZZ, OS9240Z, OS924ZX, OS924ZZ, OS9400Z, OS940ZX, OS940ZZ, OS9430Z, OS943ZX, OS943ZZ, OS9440Z, OS944ZX, OS944ZZ, OS9500Z, OS950ZX, OS950ZZ, OS9530Z, OS953ZX, OS953ZZ, OS9540Z, OS954ZX, OS954ZZ, OSB00ZX, OSB00ZZ, OSB03ZX, OSB03ZZ, OSB04ZX, OSB04ZZ, OSB20ZX, OSB20ZZ, OSB23ZX, OSB23ZZ, OSB24ZX, OSB24ZZ, OSB40ZX, OSB40ZZ,

0SB43ZX, 0SB43ZZ, 0SB44ZX, 0SB44ZZ, 0SB50ZX, 0SB50ZZ, 0SB53ZX, 0SB53ZZ, 0SB54ZX, 0SB54ZZ, 0SC00ZZ, 0SC03ZZ, 0SC04ZZ, 0SC20ZZ, 0SC23ZZ, 0SC24ZZ, 0SC40ZZ, 0SC43ZZ, 0SC44ZZ, 0SC50ZZ, 0SC53ZZ, 0SC54ZZ, 0SG0070, 0SG0071, 0SG007J, 0SG00A0, 0SG00A1, 0SG00AJ, 0SG00J0, 0SG00J1, 0SG00JJ, 0SG00K0, 0SG00K1, 0SG00KJ, 0SG00Z0, 0SG00Z1, 0SG00ZJ, 0SG0370, 0SG0371, 0SG037J, 0SG03A0, 0SG03A1, 0SG03AJ, 0SG03J0, 0SG03J1, 0SG03JJ, 0SG03K0, 0SG03K1, 0SG03KJ, 0SG03Z0, 0SG03Z1, 0SG03ZJ, 0SG0470, 0SG0471, 0SG047J, 0SG04A0, 0SG04A1, 0SG04AJ, 0SG04J0, 0SG04J1, 0SG04JJ, 0SG04K0, 0SG04K1, 0SG04KJ, 0SG04Z0, 0SG04Z1, 0SG04ZJ, 0SG1070, 0SG1071, 0SG107J, 0SG10A0, 0SG10A1, 0SG10AJ, 0SG10J0, 0SG10J1, 0SG10JJ, 0SG10K0, 0SG10K1, 0SG10KJ, 0SG10Z0, 0SG10Z1, 0SG10ZJ, 0SG1370, 0SG1371, 0SG137J, 0SG13A0, 0SG13A1, 0SG13AJ, 0SG13J0, 0SG13J1, 0SG13JJ, 0SG13K0, 0SG13K1, 0SG13KJ, 0SG13Z0, 0SG13Z1, 0SG13ZJ, 0SG1470, 0SG1471, 0SG147J, 0SG14A0, 0SG14A1, 0SG14AJ, 0SG14J0, 0SG14J1, 0SG14JJ, 0SG14K0, 0SG14K1, 0SG14KJ, 0SG14Z0, 0SG14Z1, 0SG14ZJ, 0SG504Z, 0SG507Z, 0SG50JZ, 0SG50KZ, 0SG50ZZ, 0SG534Z, 0SG537Z, 0SG53JZ, 0SG53KZ, 0SG53ZZ, 0SG544Z, 0SG547Z, 0SG54JZ, 0SG54KZ, 0SG54ZZ, 0SH003Z, 0SH004Z, 0SH008Z, 0SH00BZ, 0SH00CZ, 0SH00DZ, 0SH033Z, 0SH034Z, 0SH038Z, 0SH03BZ, 0SH03CZ, 0SH03DZ, 0SH043Z, 0SH044Z, 0SH048Z, 0SH04BZ, 0SH04CZ, 0SH04DZ, 0SH203Z, 0SH208Z, 0SH233Z, 0SH238Z, 0SH243Z, 0SH248Z, 0SH30BZ, 0SH30CZ, 0SH30DZ, 0SH33BZ, 0SH33CZ, 0SH33DZ, 0SH34BZ, 0SH34CZ, 0SH34DZ, 0SH403Z, 0SH408Z, 0SH433Z, 0SH438Z, 0SH443Z, 0SH448Z, 0SH503Z, 0SH504Z, 0SH508Z, 0SH533Z, 0SH534Z, 0SH538Z, 0SH543Z, 0SH544Z, 0SH548Z, 0SJ00ZZ, 0SJ03ZZ, 0SJ04ZZ, 0SJ0XZZ, 0SJ20ZZ, 0SJ23ZZ, 0SJ24ZZ, 0SJ2XZZ, 0SJ40ZZ, 0SJ43ZZ, 0SJ44ZZ, 0SJ4XZZ, 0SJ50ZZ, 0SJ53ZZ, 0SJ54ZZ, 0SJ5XZZ, 0SN00ZZ, 0SN03ZZ, 0SN04ZZ, 0SN0XZZ, 0SN20ZZ, 0SN23ZZ, 0SN24ZZ, 0SN2XZZ, 0SN40ZZ, 0SN43ZZ, 0SN44ZZ, 0SN4XZZ, 0SN50ZZ, 0SN53ZZ, 0SN54ZZ, 0SN5XZZ, 0SP000Z, 0SP003Z, 0SP004Z, 0SP007Z, 0SP008Z, 0SP00AZ, 0SP00JZ, 0SP00KZ, 0SP030Z, 0SP033Z, 0SP034Z, 0SP037Z, 0SP038Z, 0SP03AZ, 0SP03JZ, 0SP03KZ, 0SP040Z, 0SP043Z, 0SP044Z, 0SP047Z, 0SP048Z, 0SP04AZ, 0SP04JZ, 0SP04KZ, 0SP0X0Z, 0SP0X3Z, 0SP0X4Z, 0SP200Z, 0SP203Z, 0SP207Z, 0SP20JZ, 0SP20KZ, 0SP230Z, 0SP233Z, 0SP237Z, 0SP23JZ, 0SP23KZ, 0SP240Z, 0SP243Z, 0SP247Z, 0SP24JZ, 0SP24KZ, 0SP2X0Z, 0SP2X3Z, 0SP400Z, 0SP403Z, 0SP407Z, 0SP40JZ, 0SP40KZ, 0SP430Z, 0SP433Z, 0SP437Z, 0SP43JZ, 0SP43KZ, 0SP440Z, 0SP443Z, 0SP447Z, 0SP44JZ, 0SP44KZ, 0SP4X0Z, 0SP4X3Z, 0SP500Z, 0SP503Z, 0SP504Z, 0SP507Z, 0SP508Z, 0SP50JZ, 0SP50KZ, 0SP530Z, 0SP533Z, 0SP534Z, 0SP537Z, 0SP538Z, 0SP53JZ, 0SP53KZ, 0SP540Z, 0SP543Z, 0SP544Z, 0SP547Z, 0SP548Z, 0SP54JZ, 0SP54KZ, 0SP5X0Z, 0SP5X3Z, 0SP5X4Z, 0SQ00ZZ, 0SQ03ZZ, 0SQ04ZZ, 0SQ0XZZ, 0SQ20ZZ, 0SQ23ZZ, 0SQ24ZZ, 0SQ2XZZ, 0SQ40ZZ, 0SQ43ZZ, 0SQ44ZZ, 0SQ4XZZ, 0SQ50ZZ, 0SQ53ZZ, 0SQ54ZZ, 0SQ5XZZ, 0SR007Z, 0SR00JZ, 0SR00KZ, 0SR207Z, 0SR20JZ, 0SR20KZ, 0SR407Z, 0SR40JZ, 0SR40KZ, 0SR507Z, 0SR50JZ, 0SR50KZ, 0SS004Z, 0SS00ZZ, 0SS034Z, 0SS03ZZ, 0SS044Z, 0SS04ZZ, 0SS0X4Z, 0SS0XZZ, 0SS504Z, 0SS50ZZ, 0SS534Z, 0SS53ZZ, 0SS544Z, 0SS54ZZ, 0SS5X4Z, 0SS5XZZ, 0ST20ZZ, 0ST40ZZ, 0ST50ZZ, 0SU007Z, 0SU00JZ, 0SU00KZ, 0SU037Z, 0SU03JZ, 0SU03KZ, 0SU047Z, 0SU04JZ, 0SU04KZ, 0SU207Z, 0SU20JZ, 0SU20KZ, 0SU237Z, 0SU23JZ, 0SU23KZ,

	<p>0SU247Z, 0SU24JZ, 0SU24KZ, 0SU407Z, 0SU40JZ, 0SU40KZ, 0SU437Z, 0SU43JZ, 0SU43KZ, 0SU447Z, 0SU44JZ, 0SU44KZ, 0SU507Z, 0SU50JZ, 0SU50KZ, 0SU537Z, 0SU53JZ, 0SU53KZ, 0SU547Z, 0SU54JZ, 0SU54KZ, 0SW000Z, 0SW003Z, 0SW004Z, 0SW007Z, 0SW008Z, 0SW00AZ, 0SW00JZ, 0SW00KZ, 0SW030Z, 0SW033Z, 0SW034Z, 0SW037Z, 0SW038Z, 0SW03AZ, 0SW03JZ, 0SW03KZ, 0SW040Z, 0SW043Z, 0SW044Z, 0SW047Z, 0SW048Z, 0SW04AZ, 0SW04JZ, 0SW04KZ, 0SW0X0Z, 0SW0X3Z, 0SW0X4Z, 0SW0X7Z, 0SW0X8Z, 0SW0XAZ, 0SW0XJZ, 0SW0XKZ, 0SW200Z, 0SW203Z, 0SW207Z, 0SW20JZ, 0SW20KZ, 0SW230Z, 0SW233Z, 0SW237Z, 0SW23JZ, 0SW23KZ, 0SW240Z, 0SW243Z, 0SW247Z, 0SW24JZ, 0SW24KZ, 0SW2X0Z, 0SW2X3Z, 0SW2X7Z, 0SW2XJZ, 0SW2XKZ, 0SW400Z, 0SW403Z, 0SW407Z, 0SW40JZ, 0SW40KZ, 0SW430Z, 0SW433Z, 0SW437Z, 0SW43JZ, 0SW43KZ, 0SW440Z, 0SW443Z, 0SW447Z, 0SW44JZ, 0SW44KZ, 0SW4X0Z, 0SW4X3Z, 0SW4X7Z, 0SW4XJZ, 0SW4XKZ, 0SW500Z, 0SW503Z, 0SW504Z, 0SW507Z, 0SW508Z, 0SW50JZ, 0SW50KZ, 0SW530Z, 0SW533Z, 0SW534Z, 0SW537Z, 0SW538Z, 0SW53JZ, 0SW53KZ, 0SW540Z, 0SW543Z, 0SW544Z, 0SW547Z, 0SW548Z, 0SW54JZ, 0SW54KZ, 0SW5X0Z, 0SW5X3Z, 0SW5X4Z, 0SW5X7Z, 0SW5X8Z, 0SW5XJZ, 0SW5XKZ, 3E0R0AZ, 3E0R0E0, 3E0R0E1, 3E0R302, 3E0R303, 3E0R304, 3E0R305, 3E0R30M, 3E0R328, 3E0R329, 3E0R33Z, 3E0R36Z, 3E0R37Z, 3E0R3AZ, 3E0R3BZ, 3E0R3CZ, 3E0R3E0, 3E0R3E1, 3E0R3GC, 3E0R3HZ, 3E0R3KZ, 3E0R3NZ, 3E0R3SF, 3E0R3TZ, 3E0R7SF, 3E1R38X, 3E1R38Z, XNS0032, XNS0332, XNS0432, XNS3032, XNS3332, XNS3432, XNS4032, XNS4332, XNS4432, XNU0356, XNU4356, XRG1092, XRG10F3, XRG2092, XRG20F3, XRG4092, XRG40F3, XRG6092, XRG60F3, XRG7092, XRG70F3, XRG8092, XRG80F3, XRG092, XRG0F3, XRGB092, XRGB0F3, XRGC092, XRGC0F3</p> <p>HCPCS: C1062, C9752, C9753, C9757, S2348, S2350, S2351, S2360, S2361</p>
Epidural and facet corticosteroid injections	
Procedure Codes	<p>CPT: 0213T, 0214T, 0215T, 0216T, 0217T, 0218T, 0228T, 0229T, 0230T, 0231T, 61050, 61055, 62310, 62311, 62318, 62319, 62320, 62321, 62322, 62323, 62324, 62325, 62326, 62327, 62350, 62351, 62355, 62360, 62361, 62362, 62365, 64435, 64461, 64462, 64463, 64479, 64480, 64483, 64484, 64490, 64491, 64492, 64493, 64494, 64495, 64510, 64520, 64561, 64581</p> <p>ICD-10: 3E0R33Z, 3E0R3BZ, 3E0R3CZ, 3E0S33Z, 3E0S3BZ, 3E0S3CZ</p> <p>HCPCS: J0476, J2274</p>
Radiofrequency ablations	
Procedure Codes	<p>CPT: 64633, 64634, 64635, 64636</p> <p>ICD-10: 01510ZZ, 01513ZZ, 01514ZZ, 01580ZZ, 01583ZZ, 01584ZZ, 015B0ZZ, 015B3ZZ, 015B4ZZ</p>
Non-steroidal anti-inflammatory drugs (NSAIDs)	

Drug codes	NDC: HEDIS-2019-NDC -11-1-2018-2 https://www.ncqa.org/hedis-2019-mld-user-manual-3/
Opioid use	
Drug codes	NDC: Adapted CDC 2019 opioid NDC codes available by request from: https://www.cdc.gov/opioids/data-resources/index.html
Muscle relaxants	
Drug codes	GENERIC NAMES containing: 'cyclobenzaprine' OR 'methocarbamol' OR 'carisoprodol' OR 'baclofen' OR 'chlorzoxazone' OR 'metaxalone' OR 'orphenadrine' OR 'tizanidine'
Corticosteroids	
Drug codes	NDC: HEDIS-2019-NDC -11-1-2018-2 https://www.ncqa.org/hedis-2019-mld-user-manual-3/
Acupuncture	
Procedure Code	CPT: 96300, 97781, 97780, 97811, 97813, 97810, 97814, 97810, 97813, 97814 ICD-10: 8E0H30Z, 8E0H300
Physical therapy and chiropractor	
Provider Specialty Code	Physical therapy / occupational therapy Chiropractor: Chiropractor

CDC = Centers for Disease Control and Prevention; CPT = Current Procedural Terminology; HCPCS = Healthcare Common Procedure Coding System; ICD-10 = 10th Revision of the International Classification of Diseases; NDC = National Drug Code; SCS = Spinal Cord Stimulator

eTable 2. Identification of Individuals with Conditions for Study Exclusion

Parkinson's Disease	
Diagnosis Code - ICD-10	G20
Urinary and fecal incontinence	
Diagnosis Codes - ICD-10	N393, N3941, N3942, N3946, N39490, N39491, N39492, N39498, R159, R32, R3981
Foot drop	
Diagnosis Code - ICD-10	M21371, M21372, M21379
Malignancy and neoplastic pain	
Diagnosis Code - ICD-10	C00XXXX-C26ZZZZ, C30XXXXX-C34ZZZZ, C37XXXX-C41ZZZZ, C45XXXX-C58ZZZZ, C60XXXX-C76ZZZZ, C77XXXX-C80ZZZZ, C81XXXX-C85ZZZZ, C88XXXX-C88ZZZZ, C90XXXX-C97ZZZZ, G89.3
Neurogenic bladder	
Diagnosis Codes - ICD-10	G834, N310, N311, N312, N318, N319

ICD-10 = 10th Revision of the International Classification of Diseases.

eTable 3. Code Lists for Pain Management Outcomes

Opioid Use: see Appendix Table 1	
Epidural and facet corticosteroid injections: see Appendix Table 1	
Radiofrequency ablations: see Appendix Table 1	
Spinal surgeries: see Appendix Table 1	
Nonsteroidal anti-inflammatory drugs: see Appendix Table 1	
Muscle relaxants: see Appendix Table 1	
Corticosteroids: see Appendix Table 1	
Tricyclic Antidepressants and serotonin & norepinephrine reuptake inhibitors	
Drug codes	NDC: HEDIS-2019-NDC -11-1-2018-2 https://www.ncqa.org/hedis-2019-mld-user-manual-3/
Gabapentinoids	
Drug codes	GENERIC NAMES containing: 'gabapentin' OR 'pregabalin'
Benzodiazepines	
Drug codes	NDC: HEDIS-2019-NDC -11-1-2018-2 https://www.ncqa.org/hedis-2019-mld-user-manual-3/

NDC = National Drug Code.

eTable 4. Code List for Spinal Cord Stimulator-Related Complications, Revisions and Removals

Post procedure complications	
Diagnosis Codes - ICD-10	T85113A, T85113D, T85113S, T85112A, T85112D, T85112S, T85123A, T85123D, T85123S, T85122A, T85122D, T85122S, T85734A, T85734D, T85734S, T85733A, T85733D, T85733S, T85193A, T85193D, T85193S, T85192A, T85192D, T85192S
SCS removals and revisions	
Procedure Codes	CPT: 63661, 63662, 63688, 63663, 63664 ICD-10: 00PU0MZ, 00PU3MZ, 00PU4MZ, 00PUXMZ, 00PV0MZ, 00PV3MZ, 00PV4MZ, 00PVXMZ, 0JPT0MZ, 0JPT3MZ, 0JWT0MZ, 0JWT3MZ, 0JWTXMZ, 00WU0MZ, 00WU3MZ, 00WU4MZ, 00WUXMZ, 00WV0MZ, 00WV3MZ, 00WV4MZ, 00WVXMZ

CPT = Current Procedural Terminology; ICD-10 = 10th Revision of the International Classification of Diseases.

eTable 5. Comparison of Disenrolled and Retained Enrollees

	Statistic	Total N= 205,824	No Disenrollment N=107,093	Disenrollment N=98,731	P-Value
Age	N	205,824	107,093	98,731	
	MEAN	62.32	62.63	61.99	<0.001
	STD	13.58	13.21	13.95	
Gender					
Male	N	80,197	41,570	38,627	
	%	38.97	38.82	39.13	0.15
Female	N	125,603	65,513	60,090	
	%	61.03	61.18	60.87	0.15
Product					
Commercially Insured	N	67,607	32,247	35,360	
	%	32.85	30.11	35.81	<0.001
Medicare Advantage	N	138,217	74,846	63,371	
	%	67.15	69.89	64.19	<0.001
Geography					
Northeast	N	16,883	8,829	8,054	
	%	8.20	8.24	8.16	0.47
Midwest	N	40,245	21,143	19,102	
	%	19.55	19.74	19.35	0.02
South*	N	123,978	64,175	59,803	
	%	60.23	59.92	60.57	0.003
West	N	24,718	12,946	11,772	
	%	12.01	12.09	11.92	0.25
Race					
Asian	N	2,988	1,523	1,465	
	%	1.45	1.42	1.48	0.24
Black	N	31,943	17,534	14,409	
	%	15.52	16.37	14.59	<0.001

Hispanic	N	17,807	9,175	8,632	
	%	8.65	8.57	8.74	0.16
White	N	141,285	75,707	65,578	
	%	68.64	70.69	66.42	<0.001
Unknown/Multiple	N	11,801	3,154	8,647	
	%	5.73	2.95	8.76	<0.001
Index Year					
2016	N	36,482	27,023	9,459	
	%	21.96	25.26	15.98	<0.001
2017	N	66,127	49,168	16,959	
	%	39.80	45.96	28.66	<0.001
2018	N	63,540	30,782	32,758	
	%	38.24	28.78	55.36	<0.001
Diagnosis on Cohort Entry Date					
Failed Back Surgery	N	49,354	26,404	22,950	
	%	23.98	24.66	23.24	<0.001
Complex Regional Pain	N	11,237	5,917	5,320	
	%	5.46	5.53	5.39	0.17
Chronic Pain	N	142,929	73,477	69,452	
	%	69.44	68.61	70.34	<0.001
Other Chronic Back/Extremity Pain	N	6,334	3,378	2,956	
	%	3.08	3.15	2.99	0.04
Time To Treat	N	205,591	106,973	98,618	
	MEAN	81.59	73.45	90.42	<0.001
	MEDIA N	54	47	62	
	STD	87.75	83.21	91.62	
Treatment Group					
SCS	N	3,220	1,617	1,603	
	%	1.56	1.51	1.62	0.04

Non SCS	N	202,604	105,476	97,128	
	%	98.44	98.49	98.38	0.04
* <11 enrollees with missing/unknown geography were combined with this category to comply with small cell requirements.					

eTable 6. Comparison of Patients With Trial Spinal Cord Stimulator Only and Patients Who Received Permanent SCS Placement

	Statistic	Total N=4,731	Converted N=2,691	Not Converted N=2,040	P- Value
Age	N	4,729	2,691	2,038	
	MEAN	64.47	64.50	64.43	0.83
	STD	12.54	12.64	12.42	
Gender					
Male	N	1,981	1,109	872	
	%	41.88	41.21	42.77	0.28
Female	N	2,749	1,582	1,167	
	%	58.12	58.79	57.23	0.28
Product					
Commercially Insured	N	1,282	755	527	
	%	27.10	28.06	25.83	0.09
Medicare Advantage	N	3,449	1,936	1,513	
	%	72.90	71.94	74.17	0.09
Geography					
Northeast	N	288	139	149	
	%	6.09	5.17	7.30	0.002
Midwest	N	1,358	804	554	
	%	28.70	29.88	27.16	0.04
South*	N	2,447	1,362	1,085	
	%	51.72	50.61	53.19	0.08
West	N	638	386	252	
	%	13.49	14.34	12.35	0.05
Race					
Asian	N	40	17	23	
	%	0.85	0.63	1.13	0.07
Black	N	501	285	216	
	%	10.59	10.59	10.59	1.00

Hispanic	N	338	175	163	
	%	7.14	6.50	7.99	0.05
White	N	3,580	2,060	1,520	
	%	75.67	76.55	74.51	0.11
Unknown/Multiple	N	272	154	118	
	%	5.75	5.72	5.78	0.93
SCS Year					
2016	N	587	327	260	
	%	16.27	16.06	16.55	0.69
2017	N	1,433	814	619	
	%	39.73	39.98	39.40	0.72
2018	N	1,587	895	692	
	%	44.00	43.96	44.05	0.96
Diagnosis on Cohort Entry Date					
Failed Back Surgery	N	3,377	1,956	1,421	
	%	71.38	72.69	69.66	0.02
Complex Regional Pain	N	455	254	201	
	%	9.62	9.44	9.85	0.63
Chronic Pain	N	1,358	737	621	
	%	28.70	27.39	30.44	0.02
Other Chronic Back/Extremity Pain	N	38	26	12	
	%	0.80	0.97	0.59	0.15
Time To Treat	N	4,731	2,691	2,040	
	MEAN	105.22	93.69	120.42	<0.001
	MEDIAN	77	71	84.50	
	STD	102.12	88.09	116.40	
* < 11 enrollees with missing/unknown geography were combined with this category to comply with small cell requirements.					

STD = Standard Deviation.

eTable 7. Complete List of Predictors and Odds Ratios Associated With Spinal Cord Stimulator Treatment

Predictors	OR	LCL	UCL	P-value
Gender: Female v. Male	1.05	0.97	1.15	0.25
Race: Asian v. White	0.56	0.36	0.87	0.009
Black v. White	0.74	0.65	0.85	<.001
Hispanic v. White	0.72	0.61	0.85	<0.001
Unknown/Multiple v. White	0.87	0.73	1.03	0.10
Age: 18-54 v. 55-64	1.01	0.89	1.13	0.92
65-74 v. 55-64	1.28	1.15	1.44	<.001
75+ v. 55-64	1.40	1.23	1.61	<.001
Product: Medicare Advantage v. Commercially Insured	1.03	0.92	1.15	0.62
Geography: Midwest v. Northeast	1.97	1.64	2.35	<.001
South v. Northeast	1.11	0.93	1.32	0.25
West v. Northeast	1.81	1.48	2.20	<.001
Index year: 2017 v. 2016	1.34	1.18	1.52	<.001
2018 v. 2016	1.43	1.26	1.63	<.001
2019 v. 2016	1.61	1.40	1.85	<.001
Cohort entry diagnosis: Other Chronic Back/Extremity Pain	0.98	0.64	1.52	0.93
Failed Back Surgery	11.40	9.73	13.36	<.001
Chronic Pain Syndrome	1.83	1.59	2.10	<.001
Complex Regional Pain	12.52	10.28	15.25	<.001
Provider Type on Day of Cohort Entry: Anesthesiologist	2.73	2.44	3.05	<.001
Orthopedic Surgeons	1.06	0.88	1.28	0.55
Other MD	0.84	0.69	1.02	0.07
Non MD	1.32	1.06	1.63	0.01
Neurosurgeons	2.75	2.37	3.18	<.001
Primary Care	0.71	0.63	0.79	<.001
Rehab	1.91	1.64	2.22	<.001
Pharmacologic Treatment During Baseline: Benzodiazepine Use	1.01	0.92	1.11	0.80

NSAIDS	0.90	0.83	0.99	0.02
Baseline Opioid Days: Quartile 2 vs 1	0.90	0.79	1.01	0.07
Quartile 3 vs 1	1.08	0.96	1.22	0.18
Quartile 4 vs 2	1.13	1.00	1.28	0.05
TCA/SNRI Antidepressant Use	1.28	1.17	1.40	<.001
Gabapentinoid	1.45	1.34	1.58	<.001
Muscle Relaxants	0.92	0.84	1.00	0.05
Oral Steroids	0.84	0.76	0.92	<0.001
Non-pharmacologic Treatments During Baseline: Acupuncture	0.61	0.31	1.19	0.15
Chiropractor	0.87	0.73	1.03	0.11
Physical Therapy	0.69	0.61	0.79	<.001
Invasive baseline treatments: Spine Surgery	0.38	0.31	0.46	<.001
Pain Injections	1.44	1.32	1.57	<.001
Radiofrequency Ablation	4.16	3.26	5.31	<.001
Comorbidities: Alcohol Use Disorder	0.75	0.55	1.01	0.06
Blood Loss Anemia	0.71	0.46	1.10	0.13
Cardiac Arrhythmias	1.08	0.96	1.22	0.21
CHF	0.91	0.76	1.08	0.28
Coagulopathy	1.24	0.98	1.58	0.07
Chronic Pulmonary Disease	0.94	0.85	1.03	0.19
Deficiency Anemia	0.98	0.82	1.18	0.86
Substance Abuse Disorder	0.95	0.83	1.09	0.45
Depression	2.86	2.62	3.13	<.001
Diabetes - complicated	1.00	0.88	1.14	1.00
Diabetes - uncomplicated	1.09	0.98	1.23	0.13
Fluid and Electrolyte Disorders	0.78	0.67	0.92	0.003
HIV	1.13	0.59	2.17	0.71
Hypertension-complicated	0.84	0.70	1.00	0.05
Hypothyroidism	0.96	0.87	1.07	0.50

Hypertension-uncomplicated	1.01	0.92	1.11	0.82
Liver Disease	1.11	0.92	1.33	0.27
Obesity	1.02	0.92	1.14	0.69
Other Neurological Deficits	1.00	0.84	1.18	0.96
Pulmonary Circulation Disorders	0.87	0.66	1.15	0.33
Psychosis	0.57	0.37	0.88	0.01
Peptic Ulcer	1.22	0.86	1.74	0.27
Peripheral Vascular Disease	0.91	0.79	1.04	0.15
Paralysis	0.56	0.33	0.96	0.04
Renal Failure	1.06	0.91	1.25	0.46
Osteoarthritis	1.20	1.09	1.32	<0.001
Valvular Disease	1.02	0.86	1.21	0.85
Weight Loss	0.80	0.61	1.04	0.10
Anxiety	0.94	0.85	1.04	0.21
History of Benzodiazepine Use Disorder	0.91	0.55	1.53	0.73
Fibromyalgia	0.82	0.70	0.96	0.01
Osteoporosis	0.99	0.84	1.17	0.92
Pregnancy	0.23	0.03	1.69	0.15
Spine Disk Disease	2.87	2.41	3.42	<.001
Traumatic Spine Injury	1.02	0.88	1.18	0.83

CHF = Congestive Heart Failure; HIV = Human Immunodeficiency Virus; LCL = Lower Confidence Level; MD = Doctor of Medicine; NSAIDS = Non-Steroidal Anti-Inflammatory Drugs; OR = Odds Ratio; TCA/SNRI = Tricyclic Antidepressant/ Serotonin and Norepinephrine Reuptake Inhibitors; UCL = Upper Confidence Level.

eTable 8. Rates of Opioid Discontinuation Among Patients With At Least 1 Opioid Fill During 6-Month Baseline Period

No Opioid Prescription During Months after Index Date	Total N=5,854 (%)	Spinal Cord Stimulator N=996 (%)	Conventional Medical Management N=4,858 (%)	P-Value*
1-12 months	516 (8.8)	31 (3.1)	485 (10.0)	<0.001
13-24 months	1,046 (17.9)	170 (17.1)	876 (18.0)	0.47
1-24 months	306 (5.2)	21 (2.1)	285 (5.9)	<0.001

*p-values are not adjusted for covariates and clustering due to propensity matching

eTable 9. Pain and Health Care Utilization 24 Months After Permanent Spinal Cord Stimulator Implantation vs Conventional Medical Management Among Patients With Complex Regional Pain Syndrome and Chronic Pain Syndrome Diagnoses Only

	Months after SCS Implantation	Total N=2,155	SCS N=361	CMM N=1,794	P-Value*
Surrogates of Pain					
Average MME	1-12				
Mean (SD)		31.8 (61.0)	28.0 (42.2)	32.5 (64.1)	0.10
Median (IQR)		9.9 (0.7-38.2)	11.4 (1.6-36.8)	9.6 (0.5-38.3)	
Average MME	13-24				
Mean (SD)		27.0 (53.3)	23.2 (38.5)	27.7 (55.8)	0.06
Median (IQR)		5.4 (0.0-32.7)	4.5 (0.0-30.4)	5.6 (0.0-33.0)	
Number of opioid scripts	1-12				
Mean (SD)		8.4 (8)	8.7 (7.5)	8.3 (8.1)	0.44
Median (IQR)		7 (1-13)	7 (2-13)	7 (1-13)	
Number of opioid scripts	13-24				
Mean (SD)		7.5 (8.0)	7.1 (7.6)	7.5 (8.1)	0.40
Median (IQR)		5 (0-12)	5 (0-12)	5 (0-12)	
Chronic opioid use	1-12	1156 (53.6)	199 (55.1)	957 (53.3)	0.54
	13-24	1041 (48.3)	173 (47.9)	868 (48.4)	0.87
Long-acting opioid use	1-12	376 (17.5)	76 (21.1)	300 (16.7)	0.05
	13-24	342 (15.9)	63 (17.5)	279 (15.6)	0.37
High MME	1-12	1108 (51.4)	224 (62.1)	884 (49.3)	<0.001
	13-24	900 (41.8)	148 (41)	752 (41.9)	0.75
Epidural and facet corticosteroid injections	1-12	634 (29.4)	69 (19.1)	565 (31.5)	<0.001
	13-24	471 (21.9)	82 (22.7)	389 (21.7)	0.67
Radiofrequency ablation	1-12	181 (8.4)	14 (3.9)	167 (9.3)	<0.001
	13-24	127 (5.9)	16 (4.4)	111 (6.2)	0.20
Advanced imaging	1-12	563 (26.1)	89 (24.7)	474 (26.4)	0.49
	13-24	503 (23.3)	89 (24.7)	414 (23.1)	0.52
Spine surgery	1-12	298 (13.8)	39 (10.8)	259 (14.4)	0.07
	13-24	192 (8.9)	29 (8.0)	163 (9.1)	0.52
Pharmacologic Treatment During Follow-up					
NSAIDs	1-12	832 (38.6)	132 (36.6)	700 (39.0)	0.38
	13-24	778 (36.1)	130 (36.0)	648 (36.1)	0.97
Muscle relaxants	1-12	843 (39.1)	152 (42.1)	691 (38.5)	0.20
	13-24	779 (36.2)	139 (38.5)	640 (35.7)	0.31
Systemic steroids	1-12	717 (33.3)	108 (29.9)	609 (34.0)	0.14
	13-24	665 (30.9)	114 (31.6)	551 (30.7)	0.75
TCA/SNRI antidepressants	1-12	741 (34.4)	117 (32.4)	624 (34.8)	0.39
	13-24	709 (32.9)	119 (33.0)	590 (32.9)	0.98
Gabapentinoids	1-12	1160 (53.8)	195 (54.0)	965 (53.8)	0.94

	13-24	1033 (47.9)	193 (53.5)	840 (46.8)	0.02
Benzodiazepines	1-12	776 (36.0)	127 (35.2)	649 (36.2)	0.72
	13-24	687 (31.9)	112 (31.0)	575 (32.1)	0.70
Health Care Utilization and Costs					
All-Cause Cost of Care					
Total costs, PMPM	Baseline				
Mean (SD)		\$2233 (\$4473)	\$1870 (\$2576)	\$2306 (\$4762)	0.01
Median (IQR)		\$1091 (\$551-\$2350)	\$1075 (\$607-\$2061)	\$1102 (\$537-\$2409)	
Follow-up total costs, PMPM	1-12				
Mean (SD)		\$2831 (\$4225)	\$5528 (\$4323)	\$2288 (\$3991)	<0.001
Median (IQR)		\$1525 (\$665-\$3644)	\$4430 (\$3196-\$6341)	\$1215 (\$561-\$2579)	
Follow-up total costs, PMPM	13-24				
Mean (SD)		\$2072 (\$2989)	\$2115 (\$2393)	\$2063 (\$3096)	0.72
Median (IQR)		\$1065 (\$470-\$2506)	\$1344 (\$568-\$2680)	\$1016 (\$458-\$2453)	
Medical costs, PMPM	Baseline				
Mean (SD)		\$1591 (\$4071)	\$1234 (\$2113)	\$1663 (\$4357)	0.005
Median (IQR)		\$610 (\$295-\$1456)	\$650 (\$371-\$1236)	\$606 (\$284-\$1542)	
Follow-up medical costs, PMPM	1-12				
Mean (SD)		\$2191 (\$3959)	\$4839 (\$3957)	\$1658 (\$3741)	<0.001
Median (IQR)		\$925 (\$359-\$2855)	\$3860 (\$2919-\$5422)	\$689 (\$298-\$1683)	
Follow-up medical costs, PMPM	13-24				
Mean (SD)		\$1415 (\$2546)	\$1398 (\$1845)	\$1418 (\$2665)	0.86
Median (IQR)		\$573 (\$245-\$1514)	\$688 (\$277-\$1614)	\$554 (\$234-\$1503)	
Outpatient pharmacy costs, PMPM	Baseline				
Mean (SD)		\$642 (\$1751)	\$636 (\$1247)	\$643 (\$1836)	0.92
Median (IQR)		\$248 (\$87-\$651)	\$316 (\$98-\$689)	\$234 (\$85-\$646)	
Follow-up outpatient pharmacy costs, PMPM	1-12				
Mean (SD)		\$640 (\$1291)	\$689 (\$1448)	\$630 (\$1257)	0.47
Median (IQR)		\$258 (\$89-\$681)	\$286 (\$104-\$671)	\$253 (\$88-\$688)	
Follow-up outpatient pharmacy costs, PMPM	13-24				
Mean (SD)		\$657 (\$1378)	\$717 (\$1364)	\$645 (\$1381)	0.37
Median (IQR)		\$249 (\$87-\$679)	\$284 (\$99-\$788)	\$241 (\$85-\$660)	
All-cause health care resource utilization					
Inpatient stays	Baseline				
Mean (SD)		0.1 (0.4)	0.1 (0.4)	0.2 (0.4)	0.02
Median (IQR)		0 (0-0)	0 (0-0)	0 (0-0)	
Follow-up inpatient stays	1-12				
Mean (SD)		0.33 (0.79)	0.3 (0.7)	0.3 (0.8)	0.83
Median (IQR)		0 (0-0)	0 (0-0)	0 (0-0)	
Follow-up inpatient stays	13-24				

Mean (SD)		0.3 (0.8)	0.3 (0.8)	0.3 (0.9)	0.47
Median (IQR)		0 (0-0)	0 (0-0)	0 (0-0)	
ER stays	Baseline				
Mean (SD)		0.6 (1.6)	0.5 (1.6)	0.6 (1.6)	0.33
Median (IQR)		0 (0-1)	0 (0-1)	0 (0-1)	
Follow-up ER stays	1-12				
Mean (SD)		1.1 (2.8)	1 (2.7)	1.1 (2.8)	0.50
Median (IQR)		0 (0-1)	0 (0-1)	0 (0-1)	
Follow-up ER stays	13-24				
Mean (SD)		1 (2.4)	1 (2)	1 (2.5)	0.88
Median (IQR)		0 (0-1)	0 (0-1)	0 (0-1)	
ER Days	Baseline				
Mean (SD)		0.7 (2.0)	0.6 (1.9)	0.7 (2.0)	0.24
Median (IQR)		0 (0-1)	0 (0-1)	0 (0-1)	
Follow-up ER Days	1-12				
Mean (SD)		1.3 (3.7)	1.2 (3.4)	1.4 (3.8)	0.45
Median (IQR)		0 (0-2)	0 (0-1)	0 (0-2)	
Follow-up ER Days	13-24				
Mean (SD)		1.3 (3.5)	1.3 (2.7)	1.3 (3.6)	0.76
Median (IQR)		0 (0-1)	0 (0-2)	0 (0-1)	
Office visits	Baseline				
Mean (SD)		12.3 (9.7)	13.1 (8.9)	12.1 (9.8)	0.06
Median (IQR)		10 (6-16)	11 (7-17)	10 (6-15)	
Follow-up office visits	1-12				
Mean (SD)		22.7 (17.4)	21.8 (16.1)	22.8 (17.7)	0.30
Median (IQR)		19 (11-29)	18 (10-28)	19 (11-29)	
Follow-up office visits	13-24				
Mean (SD)		20.9 (17)	20.8 (16.7)	20.9 (17.1)	0.91
Median (IQR)		17 (9-27)	17 (10-26)	17 (9-27)	

*p-values are not adjusted for covariates and clustering due to propensity matching

CMM = Conventional Medical Management; ER = Emergency Room; IQR: Interquartile Range; MME = Morphine Milligram Equivalents; NSAIDS = Non-Steroidal Anti-Inflammatory Drugs; PMPM = Per Member Per Month; SCS = Spinal Cord Stimulator; SD = Standard Deviation; TCA/SNRI = Tricyclic Antidepressant/ Serotonin and Norepinephrine Reuptake Inhibitors.

eTable 10. Pain and Health Care Utilization 24 Months After Permanent Spinal Cord Stimulator Implantation vs Conventional Medical Management Among Patients With ≤ 7 Days Opioid Prescription During 6-Month Baseline Period

	Months after SCS Implantation	Total N=2,068	SCS N=310	CMM N=1,758	P-Value*
Surrogates of Pain					
Average MME	1-12				
Mean (SD)		2.1 (9.3)	3.3 (12.0)	1.9 (8.8)	0.06
Median (IQR)		0.2 (0-1.4)	0.8 (0.21-2.4)	0 (0-1.2)	
Average MME	13-24				
Mean (SD)		2.5 (12.8)	2.8 (15.2)	2.4 (12.3)	0.63
Median (IQR)		0 (0-0.7)	0 (0-1.0)	0 (0-0.7)	
Number of opioid scripts	1-12				
Mean (SD)		1.5 (2.7)	2.1 (3.3)	1.4 (2.5)	<0.001
Median (IQR)		1 (0-2)	1 (1-2)	0 (0-2)	
Number of opioid scripts	13-24				
Mean (SD)		1.4 (3.2)	1.5 (3.7)	1.4 (3.1)	0.60
Median (IQR)		0 (0-1)	0 (0-2)	0 (0-1)	
Chronic opioid use	1-12	116 (5.6)	17 (5.5)	99 (5.6)	0.92
	13-24	134 (6.5)	18 (5.8)	116 (6.6)	0.60
Long-acting opioid use	1-12	43 (2.1)	13 (4.2)	30 (1.7)	0.005
	13-24	53	<11	>42	0.98
High MME	1-12	382 (18.5)	118 (38.1)	264 (15)	<0.001
	13-24	279 (13.5)	49 (15.8)	230 (13.1)	0.20
Epidural and facet corticosteroid injections	1-12	714 (34.5)	47 (15.2)	667 (37.9)	<0.001
	13-24	451 (21.8)	64 (20.7)	387 (22)	0.59
Radiofrequency ablation	1-12	165	<11	>154	<0.001
	13-24	98 (4.7)	11 (3.6)	87 (5)	0.28
Advanced imaging	1-12	612 (29.6)	70 (22.6)	542 (30.8)	0.003
	13-24	535 (25.9)	83 (26.8)	452 (25.7)	0.69
Spine surgery	1-12	392 (19)	35 (11.3)	357 (20.3)	<0.001
	13-24	220 (10.6)	27 (8.7)	193 (11)	0.23
Pharmacologic Treatment During Follow-up					
NSAIDs	1-12	740 (35.8)	93 (30)	647 (36.8)	0.02
	13-24	632 (30.6)	91 (29.4)	541 (30.8)	0.62
Muscle relaxants	1-12	616 (29.8)	97 (31.3)	519 (29.5)	0.53
	13-24	531 (25.7)	70 (22.6)	461 (26.2)	0.18
Systemic steroids	1-12	645 (31.2)	87 (28.1)	558 (31.7)	0.20
	13-24	623 (30.1)	93 (30)	530 (30.2)	0.96
TCA/SNRI antidepressants	1-12	470 (22.7)	75 (24.2)	395 (22.5)	0.50
	13-24	465 (22.5)	87 (28.1)	378 (21.5)	0.01

Gabapentinoids	1-12	844 (40.81)	128 (41.3)	716 (40.7)	0.85
	13-24	781 (37.8)	129 (41.6)	652 (37.1)	0.13
Benzodiazepines	1-12	533 (25.8)	80 (25.8)	453 (25.8)	0.99
	13-24	485 (23.5)	61 (19.7)	424 (24.1)	0.09
Health Care Utilization and Costs					
All-Cause Cost of Care					
Total costs, PMPM	Baseline				
Mean (SD)		\$1596 (\$4252)	\$1348 (\$1874)	\$1640 (\$4543)	0.05
Median (IQR)		\$799 (\$400-\$1640)	\$808 (\$450-\$1514)	\$792 (\$388-\$1668)	
Follow-up total costs, PMPM	1-12				
Mean (SD)		\$2526 (\$5233)	\$4917 (\$3856)	\$2105 (\$5331)	<0.001
Median (IQR)		\$1217 (\$498-\$3088)	\$4236 (\$2992-\$5530)	\$969 (\$428-\$2173)	
Follow-up total costs, PMPM	13-24				
Mean (SD)		\$1813 (\$4545)	\$1759 (\$2290)	\$1823 (\$4835)	0.71
Median (IQR)		\$827 (\$346-\$1952)	\$1008 (\$438-\$2094)	\$784 (\$338-\$1911)	
Medical costs, PMPM	Baseline				
Mean (SD)		\$1144 (\$2297)	\$861 (\$1318)	\$1194 (\$2426)	<0.001
Median (IQR)		\$530 (\$269-\$1087)	\$519 (\$292-\$935)	\$539 (\$266-\$1137)	
Follow-up medical costs, PMPM	1-12				
Mean (SD)		\$2032 (\$3487)	\$4416 (\$3572)	\$1612 (\$3298)	<0.001
Median (IQR)		\$824 (\$321-\$2559)	\$3770 (\$2749-\$5073)	\$647 (\$273-\$1619)	
Follow-up medical costs, PMPM	13-24				
Mean (SD)		\$1318 (\$2852)	\$1270 (\$1932)	\$1326 (\$2985)	0.66
Median (IQR)		\$509 (\$204-\$1326)	\$532 (\$265-\$1465)	\$506 (\$196-\$1302)	
Outpatient pharmacy costs, PMPM	Baseline				
Mean (SD)		\$453 (\$3540)	\$487 (\$1248)	\$447 (\$3804)	0.73
Median (IQR)		\$108 (\$36-\$387)	\$167 (\$54-\$470)	\$99 (\$34-\$373)	
Follow-up outpatient pharmacy costs, PMPM	1-12				
Mean (SD)		\$494 (\$3798)	\$500 (\$1231)	\$493 (\$4088)	0.95
Median (IQR)		\$132 (\$46-\$414)	\$181 (\$62-\$482)	\$125 (\$44-\$397)	
Follow-up outpatient pharmacy costs, PMPM	13-24				
Mean (SD)		\$495 (\$3486)	\$489 (\$1242)	\$496 (\$3746)	0.95
Median (IQR)		\$130 (\$47-\$423)	\$176 (\$66-\$521)	\$122 (\$45-\$406)	
All-Cause Health Care Resource Utilization					
Inpatient stays	Baseline				
Mean (SD)		0.1 (0.3)	0.1 (0.3)	0.1 (0.3)	0.11
Median (IQR)		0 (0-0)	0 (0-0)	0 (0-0)	
Follow-up inpatient stays	1-12				
Mean (SD)		0.3 (0.7)	0.3 (0.6)	0.3 (0.7)	0.81
Median (IQR)		0 (0-0)	0 (0-0)	0 (0-0)	
Follow-up inpatient stays	13-24				

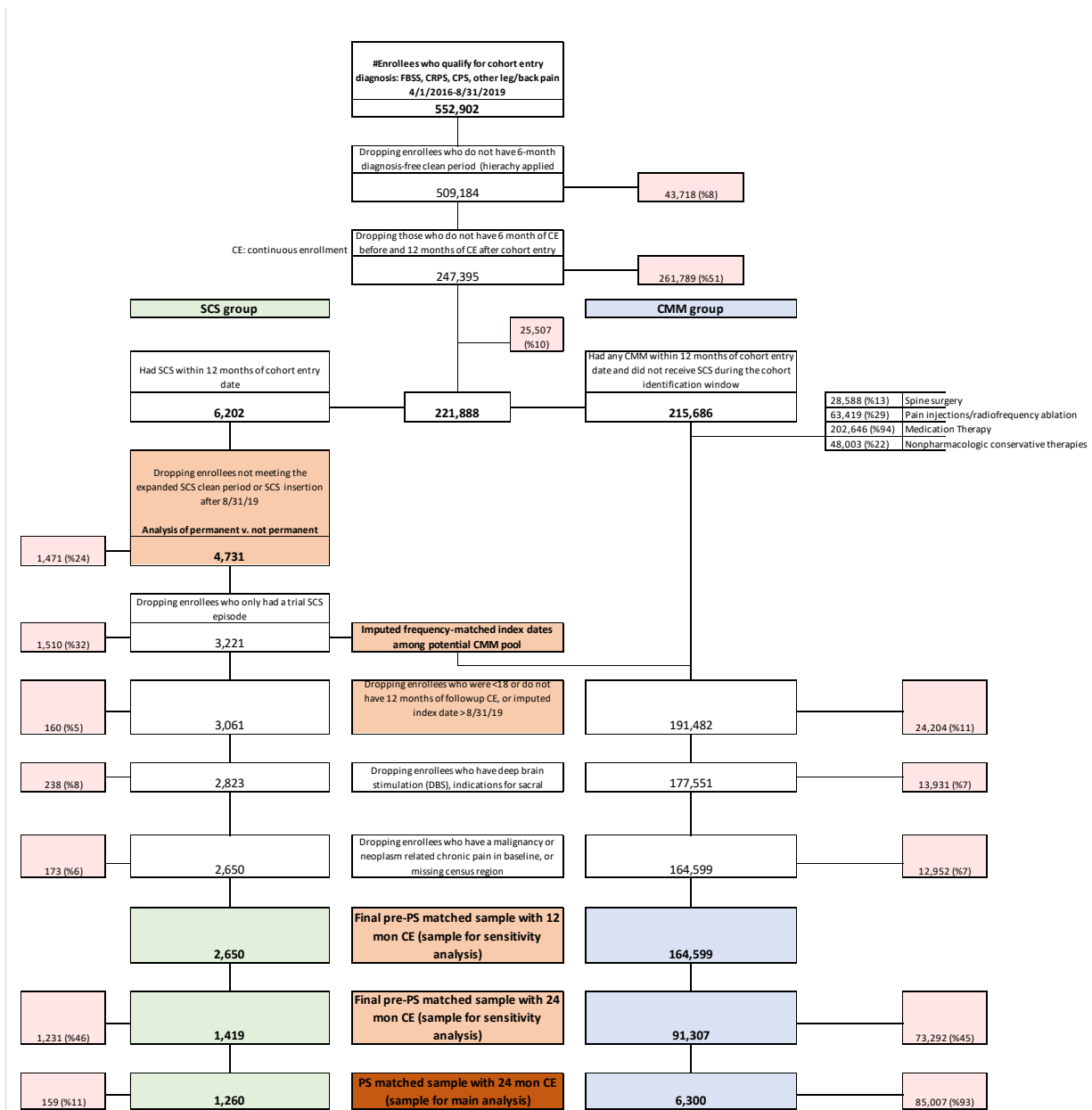
Mean (SD)		0.3 (0.7)	0.3 (0.6)	0.3 (0.7)	0.92
Median (IQR)		0 (0-0)	0 (0-0)	0 (0-0)	
ER stays	Baseline				
Mean (SD)		0.3 (0.9)	0.3 (0.6)	0.3 (0.9)	0.87
Median (IQR)		0 (0-0)	0 (0-0)	0 (0-0)	
Follow-up ER stays	1-12				
Mean (SD)		0.7 (1.5)	0.7 (1.1)	0.7 (1.5)	0.88
Median (IQR)		0 (0-1)	0 (0-1)	0 (0-1)	
Follow-up ER stays	13-24				
Mean (SD)		0.7 (1.4)	0.7 (1.2)	0.7 (1.4)	0.50
Median (IQR)		0 (0-1)	0 (0-1)	0 (0-1)	
ER Days	Baseline				
Mean (SD)		0.3 (1.1)	0.3 (0.8)	0.3 (1.2)	0.76
Median (IQR)		0 (0-0)	0 (0-0)	0 (0-0)	
Follow-up ER Days	1-12				
Mean (SD)		0.8 (1.9)	0.8 (1.5)	0.8 (1.9)	0.94
Median (IQR)		0 (0-1)	0 (0-1)	0 (0-1)	
Follow-up ER Days	13-24				
Mean (SD)		0.8 (1.9)	0.9 (1.7)	0.8 (1.9)	0.55
Median (IQR)		0 (0-1)	0 (0-1)	0 (0-1)	
Office visits	Baseline				
Mean (SD)		11.4 (9.4)	12.2 (8.9)	11.3 (9.5)	0.11
Median (IQR)		9 (5-15)	10 (6-16)	9 (5-15)	
Follow-up office visits	1-12				
Mean (SD)		21.2 (17.3)	20.2 (14.7)	21.3 (17.7)	0.23
Median (IQR)		17 (10-28)	16 (9-28)	17 (10-28)	
Follow-up office visits	13-24				
Mean (SD)		19.5 (17.2)	20 (17.2)	19.5 (17.2)	0.62
Median (IQR)		15 (9-25)	16 (9-26)	15 (8-25)	

*p-values are not adjusted for covariates and clustering due to propensity matching

NA = cell suppressed because of values <11

CMM = Conventional Medical Management; ER = Emergency Room; IQR: Interquartile Range; MME = Morphine Milligram Equivalents; NSAIDS = Non-Steroidal Anti-Inflammatory Drugs; PMPM = Per Member Per Month; SCS = Spinal Cord Stimulator; SD = Standard Deviation; TCA/SNRI = Tricyclic Antidepressant/ Serotonin and Norepinephrine Reuptake Inhibitors.

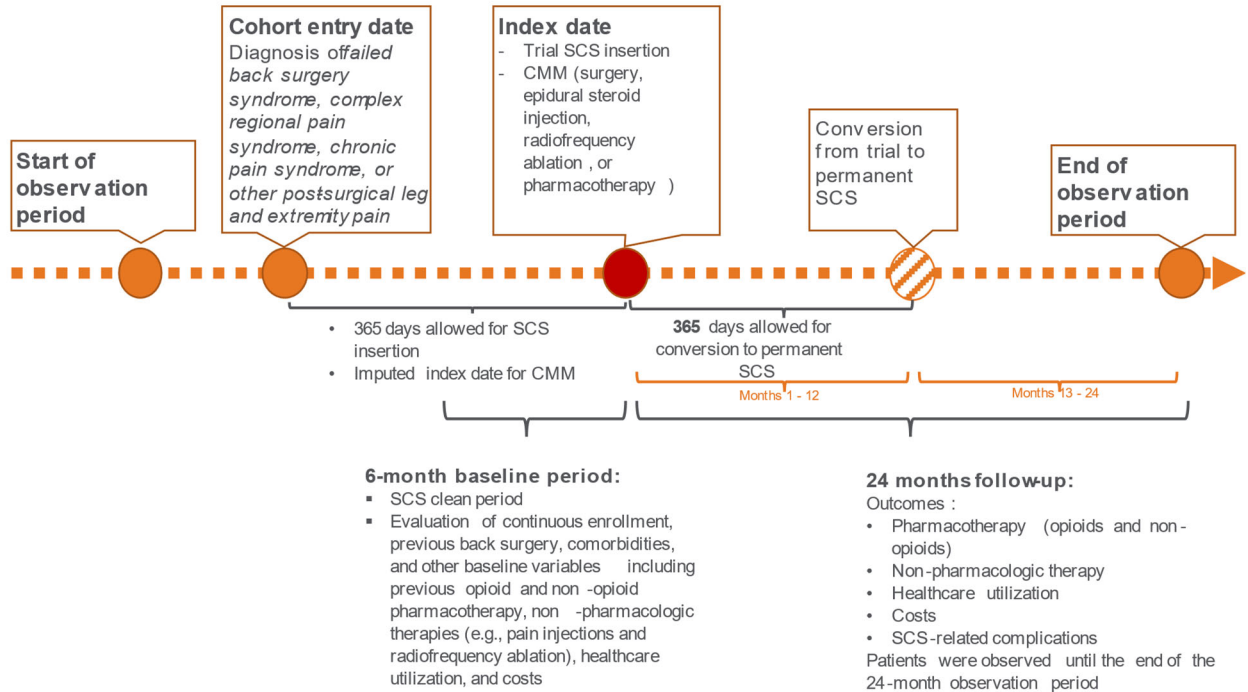
eFigure 1. Flow Diagram of Cohort Construction



CE = Continuous Enrollment; CMM = conventional medical management; CRPS = Complex Regional Pain Syndrome; FBSS = Failed Back Surgery Syndrome; SCS = spinal cord stimulator

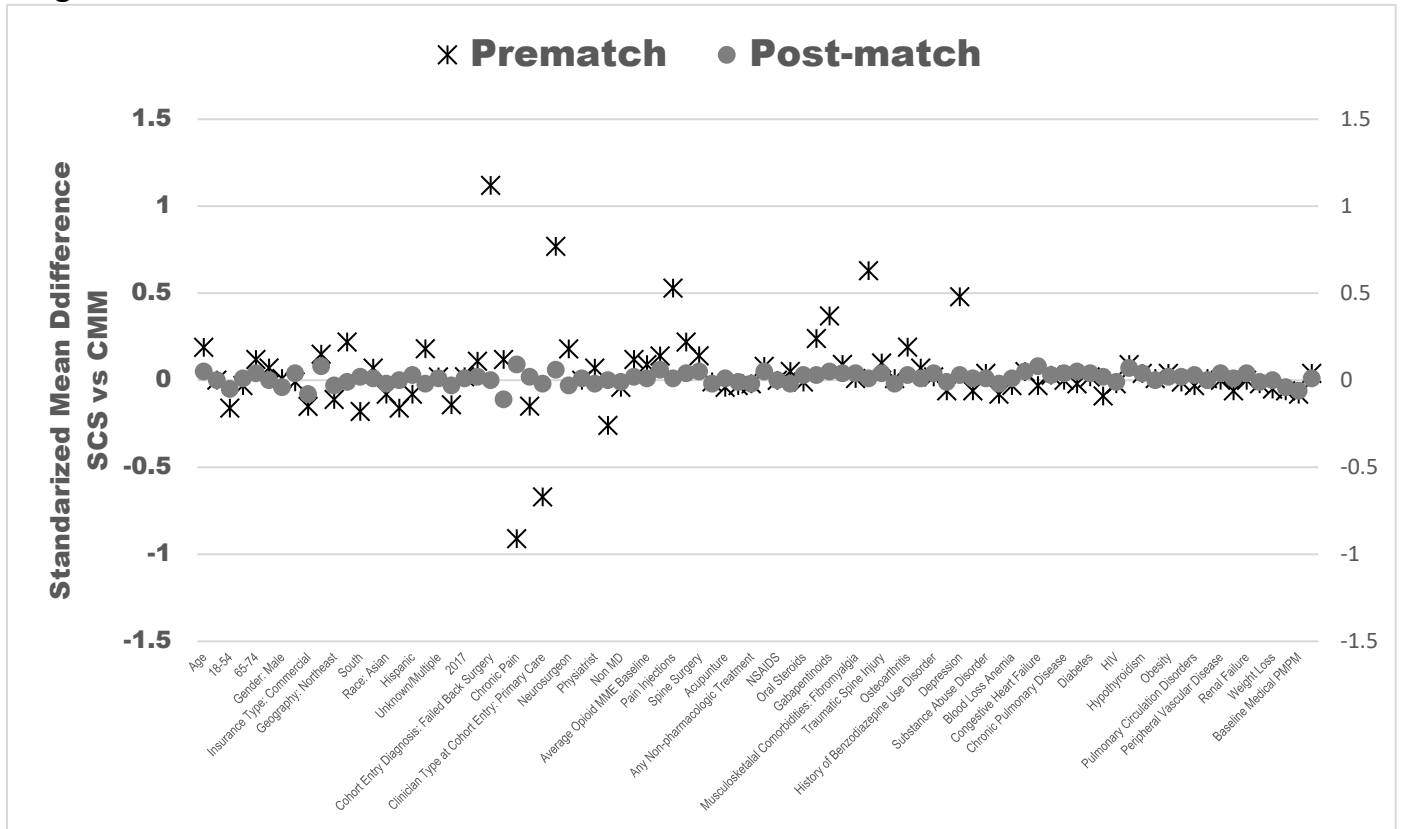
eFigure 2. Overall Study Design Key Time Periods and Events

Cohort identification period: April 2016 through August 2018



CMM = conventional medical management; SCS = Spinal Cord Stimulator

eFigure 3. Prematch and Postmatch Standardized Mean Difference



HIV = Human Immunodeficiency Virus; MD = Doctor of Medicine; NSAIDs = Non-Steroidal Anti-Inflammatory Drugs; PMPM = Per Member Per Month; SD = Standard Deviation; TCA/SNRI = Tricyclic Antidepressant/ Serotonin and Norepinephrine Reuptake Inhibitors; TCOC = Total Costs of Care