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Electronic Supplementary Material (ESM) #1, Drug Safety:

Signal detection for recently approved products: Adapting and Evaluating Self-Controlled Case Series Method using a US Claims and UK EMR Database

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Table 1: Code List of Outcomes Using Optum Database

TERM	ICD-9
AMI	410.0,410.01,410.02,410.1,410.10,410.11,410.12,410.2,410.20,410.21,410.22,410.3,410.30,410.31,410.32,410.4,410.40,410.41,410.42,410.5,410.50,410.51,410.52,410.6,410.60,410.61,410.62,410.7,410.70,410.71,410.72,410.8,410.80,410.81,410.82,410.9,410.90,410.91,410.92
Fractures	733.1,733.10,733.11,733.12,733.13,733.14,733.15,733.16,733.19,733.8,733.81,733.82,733.93,733.94,733.95,733.96,733.97,733.98,800.0,800.00,800.01,800.02,800.03,800.04,800.05,800.06,800.09,800.1,800.10,800.11,800.12,800.13,800.14,800.15,800.16,800.19,800.2,800.20,800.21,800.22,800.23,800.24,800.25,800.26,800.29,800.3,800.30,800.31,800.32,800.33,800.34,800.35,800.36,800.39,800.4,800.40,800.41,800.42,800.43,800.44,800.45,800.46,800.49,800.5,800.50,800.51,800.52,800.53,800.54,800.55,800.56,800.59,800.6,800.60,800.61,800.62,800.63,800.64,800.65,800.66,800.69,800.7,800.70,800.71,800.72,800.73,800.74,800.75,800.76,800.79,800.8,800.80,800.81,800.82,800.83,800.84,800.85,800.86,800.89,800.9,800.90,800.91,800.92,800.94,800.95,800.96,800.99,801.0,801.00,801.01,801.02,801.03,801.04,801.05,801.06,801.09,801.1,801.10,801.11,801.12,801.13,801.14,801.15,801.16,801.19,801.2,801.20,801.21,801.22,801.23,801.24,801.25,801.26,801.29,801.3,801.30,801.31,801.32,801.33,801.34,801.35,801.36,801.39,801.4,801.40,801.41,801.42,801.43,801.44,801.45,801.46,801.49,801.5,801.50,801.51,801.52,801.53,801.54,801.55,801.56,801.59,801.6,801.60,801.61,801.62,801.63,801.64,801.65,801.66,801.69,801.7,801.70,801.71,801.72,801.73,801.74,801.75,801.76,801.79,801.8,801.80,801.81,801.82,801.83,801.84,801.85,801.86,801.89,801.9,801.90,801.91,801.92,801.93,801.94,801.95,801.96,801.99,802.0,802.1,802.2,802.20,802.21,802.22,802.23,802.24,802.25,802.26,802.27,802.28,802.29,802.3,802.30,802.31,802.32,802.33,802.34,802.35,802.36,802.37,802.38,802.39,802.4,802.5,802.6,802.7,802.8,802.9,803.0,803.00,803.01,803.02,803.03,803.04,803.05,803.06,803.09,803.1,803.10,803.11,803.12,803.13,803.14,803.15,803.16,803.19,803.2,803.20,803.21,803.22,803.23,803.24,803.25,803.26,803.29,803.3,803.30,803.31,803.32,803.33,803.34,803.35,803.36,803.39,803.4,803.40,803.41,803.42,803.43,803.44,803.45,803.46,803.49,803.5,803.50,803.51,803.52,803.53,803.54,803.55,803.56,803.59,803.6,803.60,803.61,803.62,803.64,803.65,803.66,803.69,803.7,803.70,803.71,803.72,803.73,803.74,803.75,803.76,803.79,803.8,803.80,803.81,803.82,803.83,803.84,803.85,803.86,803.89,803.9,803.90,803.91,803.92,803.93,803.94,803.95,803.96,803.99,807.0,807.00,807.01,807.02,807.03,807.04,807.05,807.06,807.07,807.08,807.09,807.1,807.10,807.11,807.12,807.13,807.14,807.15,807.16,807.17,807.18,807.19,807.2,807.3,807.4,807.5,807.6,808.0,808.1,808.2,808.3,808.4,808.41,808.42,808.43,808.49,808.5,808.51,808.52,808.53,808.59,808.8,808.9,809.0,809.1,810.0,810.00,810.01,810.02,810.03,810.1,810.10,810.11,810.12,810.13,811.0,811.00,811.01,811.02,811.03,811.09,811.1,811.10,811.11,811.12,811.13,811.19,812.0,812.00,812.01,812.02,812.03,812.0

	9,812.1,812.10,812.11,812.12,812.13,812.19,812.2,812.20,812.21,812.3,812.30,812.31,812.4,812.40,812.41,812.42,812.43,812.44,812.49,812.5,812.50,812.51,812.52,812.53,812.54,812.59,813,813.0,813.00,813.01,813.02,813.03,813.04,813.05,813.06,813.07,813.08,813.1,813.10,813.11,813.12,813.13,813.14,813.15,813.16,813.17,813.18,813.2,813.20,813.21,813.22,813.23,813.3,813.30,813.31,813.32,813.33,813.4,813.40,813.41,813.42,813.43,813.44,813.45,813.46,813.47,813.5,813.50,813.51,813.52,813.53,813.54,813.8,813.80,813.81,813.82,813.83,813.9,813.90,813.91,813.92,813.93,814,814.0,814.00,814.01,814.02,814.03,814.04,814.05,814.06,814.07,814.08,814.09,814.1,814.10,814.11,814.12,814.13,814.14,814.15,814.16,814.17,814.18,814.19,815,815.0,815.00,815.01,815.02,815.03,815.04,815.09,815.1,815.10,815.11,815.12,815.13,815.14,815.19,816.0,816.00,816.01,816.02,816.03,817,817.0,817.1,818,818.0,818.1,820,820.0,820.00,820.01,820.02,820.03,820.09,820.1,820.10,820.11,820.12,820.13,820.19,820.2,820.20,820.21,820.22,820.3,820.30,820.31,820.32,820.8,820.9,821,821.0,821.00,821.01,821.1,821.10,821.11,821.2,821.20,821.21,821.22,821.23,821.29,821.3,821.30,821.31,821.32,821.33,821.39,822,822.0,822.1,823,823.0,823.00,823.01,823.02,823.1,823.10,823.11,823.12,823.2,823.20,823.21,823.22,823.3,823.30,823.31,823.32,823.4,823.40,823.41,823.42,823.8,823.80,823.81,823.82,823.9,823.90,823.91,823.92,824,824.0,824.1,824.2,824.3,824.4,824.5,824.6,824.7,824.8,824.9,825,825.0,825.1,825.2,825.20,825.21,825.22,825.23,825.24,825.25,825.29,825.3,825.30,825.31,825.32,825.33,825.34,825.35,825.39,826,826.0,826.1,829,829.0,829.1,E887
GI Perforation	531.0,531.00,531.01,531.1,531.10,531.11,531.2,531.20,531.21,531.4,531.40,531.41,531.5,531.50,531.51,531.6,531.60,531.61,532.0,532.00,532.01,532.1,532.10,532.11,532.2,532.20,532.21,532.4,532.40,532.41,532.5,532.50,532.51,532.6,532.60,532.61,533.0,533.00,533.01,533.1,533.10,533.11,533.2,533.20,533.21,533.4,533.40,533.41,533.5,533.50,533.51,533.6,533.60,533.61,534.0,534.00,534.01,534.1,534.10,534.11,534.2,534.20,534.21,534.4,534.40,534.41,534.5,534.50,534.51,534.6,534.60,534.61,569.83,569.89,578.0,578.1,578.9
Herpes Zoster	053,053.0,053.1,053.10,053.11,053.12,053.13,053.14,053.19,053.2,053.20,053.21,053.22,053.29,053.7,053.71,053.79,053.8,053.9
Hyperlipidemia	272.0,272.2,272.4
Hypertension	348.2,401,401.0,401.1,401.9,405,405.0,405.01,405.09,405.1,405.11,405.19,405.9,405.91,405.99,416.0
Interstitial Lung Disease	515,518.1,786,786.0,786.00,786.01,786.02,786.03,786.04,786.05,786.06,786.07,786.09,786.1,786.2,786.3,786.30,786.31,786.39,786.4,786.5,786.50,786.51,786.52,786.59,786.6,786.7,786.8,786.9
Lymphoma	200,200.0,200.00,200.01,200.02,200.03,200.04,200.05,200.06,200.07,200.08,200.1,200.10,200.11,200.12,200.13,200.14,200.15,200.16,200.17,200.18,200.2,200.20,200.21,200.22,200.23,200.24,200.25,200.26,200.27,200.28,200.3,200.30,200.31,200.32,200.33,200.34,200.35,200.36,200.37,200.38,200.4,200.40,200.41,200.42,200.43,200.44,200.45,200.46,200.47,200.48,200.5,200.50,200.51,200.52,200.53,200.54,200.55,200.57,200.58,200.6,200.60,200.61,200.62,200.63,200.64,200.65,200.66,200.67,200.68,200.7,200.70,200.71,200.72,200.73,200.74,200.75,200.76,200.77,200.78,200.8,200.80,200.81,200.82,200.83,200.84,200.85,200.86,200.87,200.88,201,201.0,201.00,201.01,201.02,201.03,201.04,201.05,201.06,201.07,201.08,201.1,201.10,201.11,201.12,201.13,201.14,201.15,201.16,201.17,201.18,201.2,201.20,201.21,201.22,201.23,201.24,201.25,201.26,201.27,201.28,201.4,201.40,201.41,201.42,201.43,201.44,201.45,201.46,201.47,201.48,201.5,201.50,201.51,201.52,201.53,201.54,201.55,201.56,201.57,201.58,201.6,201.60,201.61,201.62,201.63,201.64,201.65,201.66,201.67,201.68,201.7,201.70,201.71,201.72,201.73,201.74,201.75,201.76,201.77,201.78,201.9,201.90,201.91,201.92,201.93,201.94,201.95,201.96,201.97,201.98,202,202.0,202.00,202.01,202.02,202.03,202.04,202.0

	5,202.06,202.07,202.08,202.1,202.10,202.11,202.12,202.13,202.14,202.15,202.16,202.17,202.18,202.2,202.20,202.21,202.22,202.23,202.24,202.25,202.26,202.27,202.28,202.3,202.30,202.31,202.32,202.33,202.34,202.35,202.36,202.37,202.38,202.4,202.40,202.41,202.42,202.43,202.44,202.45,202.46,202.47,202.48,202.5,202.50,202.51,202.52,202.53,202.54,202.55,202.56,202.57,202.58,202.6,202.60,202.61,202.62,202.63,202.64,202.65,202.66,202.67,202.68,202.7,202.70,202.71,202.72,202.73,202.74,202.75,202.76,202.77,202.78,202.8,202.80,202.81,202.82,202.83,202.84,202.85,202.86,202.87,202.88,202.9,202.90,202.91,202.92,202.93,202.94,202.95,202.96,202.97,202.98,204,204.0,204.00,204.01,204.02,204.1,204.10,204.11,204.12,204.2,204.20,204.21,204.22,204.8,204.80,204.81,204.82,204.9,204.90,204.91,204.92
Orthostatic Hypotension	458,458.0,458.1,458.2,458.21,458.29,458.8,458.9
Pneumonia	003.22,011.6,011.60,011.64,011.65,011.66,041.3,055.1,073.0,115.05,115.15,115.95,480,480.0,480.1,480.2,480.8,480.9,481,482,482.0,482.1,482.2,482.3,482.30,482.31,482.32,482.39,482.4,482.40,482.41,482.49,482.8,482.81,482.82,482.83,482.89,482.9,483,483.0,483.1,483.8,484,484.3,484.5,484.6,484.7,484.8,485,486,487.0,488.01,516.30,516.35,516.36,516.37,517.1,997.31,997.32,V12.61
Proteinuria	593.6,791.0

Table 2: Code List of Outcomes Using THIN Database

TERM	Readcode
Fractures	7206100,7206200,7206400,7206700,7403600,7J02200,7J02300,7J03.00,7J03000,7J03100,7J03200,7J03300,7J03y00,7J03z00,7J12.00,7J12.11,7J12000,7J12100,7J12200,7J12y00,7J12z00,7J13.00,7J13000,7J13100,7J13200,7J13300,7J13400,7J13500,7J13600,7J13y00,7J13z00,7J14.00,7J14.11,7J14.12,7J14000,7J14100,7J14300,7J14400,7J14500,7J14600,7J14y00,7J14z00,7J15.00,7J15.11,7J15000,7J15100,7J15200,7J15300,7J15311,7J15400,7J15500,7J15600,7J15700,7J15y00,7J17700,7J41.00,7J41000,7J41100,7J41200,7J41300,7J41y00,7J41z00,7J42.00,7J42.11,7J42000,7J42100,7J42200,7J42300,7J42400,7J42500,7J42600,7J42700,7J42800,7J42900,7J42A00,7J42B00,7J42C00,7J42D00,7J42E00,7J42F00,7J42G00,7J42H00,7J42J00,7J42K00,7J42L00,7J42M00,7J42N00,7J42P00,7J42Q00,7J42R00,7J42S00,7J42T00,7J42U00,7J42V00,7J42W00,7J42X00,7J42Y00,7J42Z00,7J42a00,7J42b00,7J42c00,7J42d00,7J42e00,7J42f00,7J42g00,7J42h00,7J42j00,7J42k00,7J42l00,7J42m00,7J42y00,7J42z00,7J43.00,7J43.11,7J43000,7J43100,7J43200,7J43211,7J43212,7J43300,7J43400,7J43600,7J43700,7J43800,7J43900,7J43A00,7J43C00,7J43D00,7J43y00,7J43z00,7K14.00,7K14y00,7K14z00,7K15.00,7K15y00,7K15z00,7K1D.00,7K1D000,7K1D011,7K1D012,7K1D017,7K1D019,7K1D01A,7K1D01B,7K1D01E,7K1D01F,7K1D100,7K1D111,7K1D200,7K1D211,7K1D212,7K1D300,7K1D400,7K1D411,7K1D500,7K1D511,7K1D600,7K1D700,7K1D800,7K1D900,7K1DB00,7K1DC00,7K1DD00,7K1Dy00,7K1Dz00,7K1E.00,7K1E000,7K1E011,7K1E012,7K1E013,7K1E100,7K1E111,7K1E200,7K1E300,7K1E400,7K1E600,7K1E700,7K1E800,7K1E900,7K1EA00,7K1EB00,7K1Ey00,7K1Ez00,7K1F.00,7K1F000,7K1F100,7K1F200,7K1F300,7K1F400,7K1F500,7K1Fy00,7K1Fz00,7K1G.00,7K1G000,7K1G100,7K1G200,7K1G300,7K1G400,7K1G500,7K1G600,7K1Gy00,7K1Gy11,7K1Gz00,7K1H.00,7K1H.11,7K1H000,7K1H100,7K1H200,7K1H300,7K1H400,7K1H500,7K1H600,7K1H700,7K1H800,7K1H900,7K1HC00,7K1HD00,7K1HE00,7K1HG00,7K1HH00,7K1HJ00,7K1HL00,7K1HM00,7K1HP00,7K1HQ00,7K1HS00,7K1HT00,7K1Hy00,7K1Hz00,7K1J.00,7K1J000,7K1J013,7K1J100,7K1J300,7K1J500,7K1J600,7K1J700,7K1J800,7K1JA00,7K1JB00,7K1JC00,7K1JD00,7K1JE00,7

K1JG00,7K1JH00,7K1JJ00,7K1JK00,7K1JL00,7K1JM00,7K1JN00,7K1JP00,7K1JRO
0,7K1JS00,7K1JT00,7K1JY00,7K1JZ00,7K1Ja00,7K1Jb00,7K1Jc00,7K1Jd00,7K1Jy
00,7K1Jz00,7K1K.00,7K1K000,7K1K100,7K1K200,7K1K300,7K1K700,7K1K800,7
K1K900,7K1KA00,7K1KB00,7K1KC00,7K1KD00,7K1KE00,7K1KG00,7K1KJ00,7
K1Ky00,7K1Kz00,7K1Kz11,7K1L.00,7K1L000,7K1L011,7K1L100,7K1L200,7K1L2
11,7K1L300,7K1L400,7K1L500,7K1L600,7K1L700,7K1L800,7K1L900,7K1LA00,7
K1LB00,7K1LC00,7K1LC11,7K1LD00,7K1LE00,7K1LF00,7K1LG00,7K1LH00,7K
1LJ00,7K1LK00,7K1LL00,7K1LM00,7K1LN00,7K1LN11,7K1LT00,7K1LV00,7K1
LW00,7K1LX00,7K1LY00,7K1LZ00,7K1La00,7K1Lb00,7K1Lc00,7K1Ld00,7K1Le
00,7K1Lf00,7K1Lg00,7K1Ly00,7K1Lz00,7K1M.00,7K1M400,7K1M500,7K1My00,7
K1Mz00,7K1N900,7K1NA00,7K1P.00,7K1P000,7K1P100,7K1P111,7K1P112,7K1P2
00,7K1P300,7K1P400,7K1P500,7K1P600,7K1P700,7K1PD00,7K1PE00,7K1PF00,7K
1Pw00,7K1Px00,7K1Py00,7K1Pz00,7K1T100,7K22500,7K6F000,7K6F200,7K6F400
,7K6FE00,7K6FJ00,7K6FK00,7K6FM00,7K6FN00,7K6FQ00,7K6G000,7K6G200,7K
6GN00,7K6GX00,7K6GZ00,7K6Ga00,7K6Gb00,7K6Gc00,7K6Gd00,7K6H000,7K6
H200,7K6H400,7K6H411,7K6H700,7K6HX00,7K6HZ00,7K6Hf00,7LOG000,7LOG0
11,82...11,8F86.00,8HB9.00,9N0X.00,B585000,N1y1.00,N331.00,N331.11,N331.12,
N331.13,N331.14,N331000,N331011,N331100,N331111,N331200,N331300,N331400
,N331500,N331600,N331700,N331800,N331900,N331A00,N331B00,N331C00,N331
C11,N331D00,N331E00,N331F00,N331G00,N331H00,N331J00,N331K00,N331L00,
N331M00,N331y00,N331z00,N338.00,N338000,N338100,N338111,N338200,N33830
0,N338400,N338500,N338600,N338z00,Nyu6700,NyuB000,NyuB800,NyuCE00,Q20
2.00,Q203.11,Q203.12,Q203000,Q203100,Q203111,Q203112,Q203200,Q203300,Q20
3400,Q203y11,Q203y12,Q204100,S0...00,S00..00,S00..11,S00..12,S000.00,S000000,S
000100,S000200,S001.00,S001400,S001600,S002.00,S002000,S002100,S003.00,S003
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Hypertension	G2...00,G2...11,G20..00,G20..11,G200.00,G201.00,G202.00,G20z.00,G20z.11,G24..00,G240.00,G240000,G240z00,G241.00,G241000,G241z00,G244.00,G24z.00,G24z000,G24z100,G24zz00,G2y..00,G2z..00
Orthostatic Hypotension	2468.00,F130300,G870.00,G870.11
Proteinuria	1Z17.00,1Z17.11,1Z19.00,1Z19.11,1Z1B.00,1Z1B.11,1Z1D.00,1Z1D.11,1Z1F.00,1Z1F.11,1Z1H.00,1Z1H.11,1Z1K.00,1Z1K.11,4673.00,4674.00,4675.00,4676.00,4677.00,4678.00,46N2.00,46O2.00,46O5.00,46W0.00,C10EK00,C10EK11,C10EL00,C10EL11,C10FL00,C10FL11,C10FM00,C10FM11,D011100,K0A4.00,K0A4000,K0A4100,K0A4200,K0A4300,K0A4400,K0A4500,K0A4600,K0A4700,K0A4W00,K0A4X00,K136.00,K136.11,K190X00,Kyu0D00,Kyu0E00,Kyu5G00,L12B.00,L162.11,L16C.00,L16C000,L16C100,Lyu1.00,R110.00,R110000,R110100,R110200,R110300,R110z00