

Supplemental Online Content

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

eMETHODS

1. Rationale for definition of gout flare used in the current study

Zheng et al. used data from 3.6 million people registered with the Kaiser Permanente Southern California database (gathering data from 14 hospitals and 202 family doctors) and found a positive predictive value of claims-based gout flare definition using consultation and prescription/procedure to be 95% [1]. They allowed a 7-day window between diagnosis, and either qualifying prescriptions or procedures to happen. We modified this definition to require the consultation and prescription to occur on the same date to minimize the chances of misclassifications, as steroids and NSAIDs may be prescribed for other reasons such as asthma and pain due to osteoarthritis, respectively.

In a single tertiary center study, restricting the window from 7 days to 1 day improved the positive predictive value of a similar gout flare definition [2]. Furthermore, a flare algorithm more parsimonious than the one used in the present study, including the prescription of colchicine without Read codes for gout and with a 7-day window for prescriptions and consultations was validated against a manual review of 100 random UK primary-care chart samples by Rothenbacher et al. [3]. However, they only reported the results narratively and the positive predictive value of such approach was not published.

2. Rationale for self-controlled case series sensitivity analyses

The self-controlled case series method relies on three main assumptions. First, the occurrence of an outcome should not appreciably affect subsequent outcomes [4]. As cardiovascular events can recur, and, therefore, this assumption could be violated, we considered only the first cardiovascular event during the study period. This strategy has been shown to be a valid approach to overcoming this potential bias [4]. Second, the occurrence of an outcome should not alter the probability of subsequent exposures. Since acute conditions such as cardiovascular events may temporarily increase the probability of gout flares, we included a pre-exposure period into the baseline period and a 30-day induction interval to reduce this potential bias [4]. Third, the outcome should not increase the probability of death. However, the self-controlled case series method has successfully been applied to outcomes that increase mortality [5-7]. Nevertheless, we ran a sensitivity analysis excluding subjects with fatal cardiovascular events within the study period to account for it [4].

3. Sample size estimation:

Nested case control study A total of 62,234 incident gout patients were ascertained in the Clinical Practice Research Datalink between 1998 and 2017 in an earlier study [8]. In another study, 38% of patients with gout experienced at least one gout flare in a 3.8-year follow-up period [3,9]. Given these estimates, we expected to have at least 20,000 gout patients that consulted for at least one gout flare in the Clinical Practice Research Datalink between 1997-2011, with an additional equal number of consultations for gout flare in the period between 2011 and 2020 given the increased prevalence of gout over time [3].

Previous research using Clinical Practice Research Datalink demonstrated approximately 10% incident gout patients developed cardiovascular events [8,10–13]. Thus, assuming at least 6,500 individuals with cardiovascular events, 1.0% of controls with an exposure of interest, and a case-control ratio of 1:5, the study has 87% power to detect an odds ratio of at-least 1.50 or greater with a type I error of 2.5% (STATA command “power mcc”).

Self-controlled case series As outlined above, we expected at least 6,500 individuals with cardiovascular events. For an at-risk period of 180 days, a baseline period of 510 days, 100% of cases exposed during the observational period, the study had 95% power to detect an incidence rate ratio associated with the exposure of 1.5 with a type I error of 2.5% provided there were 437 cardiovascular events in the exposed period (STATA command “sampsi_sccs”).

4. European Society of Cardiology (ESC) cardiovascular risk categories:

According to the European Society of Cardiology, very-high cardiovascular risk was defined as any of the following: eGFR <30 ml/min/1.73 m², diabetes mellitus with target organ damage or at least three major cardiovascular risk factors, type 1 diabetes mellitus with a disease duration for >20 years, familiar hypercholesterolemia with atherosclerotic cardiovascular disease or with another major risk factor, or documented atherosclerotic cardiovascular disease either clinical or unequivocal by imaging. High cardiovascular risk was defined as any of the following: markedly elevated single risk factors (e.g., total cholesterol >310 mg/dl, LDL cholesterol >190 mg/dl, blood pressure >180/110 mmHg), familiar hypercholesterolemia without other major risk factors, diabetes mellitus without target organ damage + disease duration >10 years + an additional risk factor, eGFR 30-59 ml/min/1.73 m² [14].

eTable 1. Codelists for Case, Exposure, and Covariate Definition**Acute coronary syndrome or ischaemic heart disease prior to gout diagnosis**

Medcode	Readcode	Readterm
737	792..11	Coronary artery bypass graft operations
3159	792Dy00	Other specified other bypass of coronary artery
5030	ZV45K00	[V]Presence of coronary artery bypass graft
5674	ZV45K11	[V]Presence of coronary artery bypass graft - CABG
5744	7927500	Open angioplasty of coronary artery
7134	7921.11	Other autograft bypass of coronary artery
7137	7920y00	Saphenous vein graft replacement of coronary artery OS
7442	7920200	Saphenous vein graft replacement of three coronary arteries
7609	7921z00	Other autograft replacement of coronary artery NOS
7634	7920100	Saphenous vein graft replacement of two coronary arteries
8312	7920.11	Saphenous vein graft bypass of coronary artery
8679	7920000	Saphenous vein graft replacement of one coronary artery
9414	7921	Other autograft replacement of coronary artery
10209	7921200	Autograft replacement of three coronary arteries NEC
11610	7920300	Saphenous vein graft replacement of four+ coronary arteries
12734	SP07600	Coronary artery bypass graft occlusion
18249	7920	Saphenous vein graft replacement of coronary artery
18913	ZV45700	[V]Presence of aortocoronary bypass graft
19193	7923z00	Prosthetic replacement of coronary artery NOS
19402	7923	Prosthetic replacement of coronary artery
19413	7921100	Autograft replacement of two coronary arteries NEC
22647	7925311	LIMA single anastomosis
28837	7925.11	Creation of bypass from mammary artery to coronary artery
31519	7925100	Double implant of mammary arteries into coronary arteries
31540	7924200	Revision of bypass for three coronary arteries
31556	7922	Allograft replacement of coronary artery
32651	7922.11	Allograft bypass of coronary artery
33461	7924	Revision of bypass for coronary artery
33471	792Dz00	Other bypass of coronary artery NOS
33718	7925000	Double anastomosis of mammary arteries to coronary arteries
34963	792D.00	Other bypass of coronary artery
36011	7923.11	Prosthetic bypass of coronary artery
37682	7925	Connection of mammary artery to coronary artery
37719	7925y00	Connection of mammary artery to coronary artery OS
42708	7921300	Autograft replacement of four of more coronary arteries NEC
44561	7921000	Autograft replacement of one coronary artery NEC
45370	7922300	Allograft replacement of four or more coronary arteries
45886	7922200	Allograft replacement of three coronary arteries
48767	7922z00	Allograft replacement of coronary artery NOS
51507	7925300	Single anastomosis of mammary artery to coronary artery NEC
51515	7920z00	Saphenous vein graft replacement coronary artery NOS
52938	7924000	Revision of bypass for one coronary artery
55092	792C000	Replacement of coronary arteries using multiple methods
55598	792C.00	Other replacement of coronary artery
56990	7925z00	Connection of mammary artery to coronary artery NOS
57241	7922100	Allograft replacement of two coronary arteries
57634	7924z00	Revision of bypass for coronary artery NOS
59423	7922y00	Other specified allograft replacement of coronary artery
60753	7926300	Single implantation thoracic artery into coronary artery NEC
61310	7921y00	Other autograft replacement of coronary artery OS
62608	7926000	Double anastom thoracic arteries to coronary arteries NEC
66236	7923200	Prosthetic replacement of three coronary arteries
66664	7923100	Prosthetic replacement of two coronary arteries

67554	7924100	Revision of bypass for two coronary arteries
67591	7926200	Single anastomosis of thoracic artery to coronary artery NEC
67761	7923300	Prosthetic replacement of four or more coronary arteries
68123	7925312	RIMA single anastomosis
68139	7925400	Single implantation of mammary artery into coronary artery
69776	SP00300	Mechanical complication of coronary bypass
70111	7922000	Allograft replacement of one coronary artery
70755	792Cz00	Replacement of coronary artery NOS
72780	7926z00	Connection of other thoracic artery to coronary artery NOS
92419	7923000	Prosthetic replacement of one coronary artery
93828	792Cy00	Other specified replacement of coronary artery
96804	7926	Connection of other thoracic artery to coronary artery
97953	7924y00	Other specified revision of bypass for coronary artery
101569	7924300	Revision of bypass for four or more coronary arteries
18643	ZV45800	[V]Presence of coronary angioplasty implant and graft
6980	ZV45L00	[V]Status following coronary angioplasty NOS
2901	7928	Transluminal balloon angioplasty of coronary artery
5703	7928.11	Percutaneous balloon coronary angioplasty
18670	7928000	Percut transluminal balloon angioplasty one coronary artery
33735	7928100	Percut translum balloon angioplasty mult coronary arteries
42462	7928200	Percut translum balloon angioplasty bypass graft coronary a
86071	7928300	Percut translum cutting balloon angioplasty coronary artery
41547	7928y00	Transluminal balloon angioplasty of coronary artery OS
732	7928z00	Transluminal balloon angioplasty of coronary artery NOS
22828	7929000	Percutaneous transluminal laser coronary angioplasty
19046	7929300	Rotary blade coronary angioplasty
8942	7929400	Insertion of coronary artery stent
42304	7929500	Insertion of drug-eluting coronary artery stent
93618	7929600	Percutaneous transluminal atherectomy of coronary artery
22020	792B000	Endarterectomy of coronary artery NEC
105184	792E.00	Percutaneous coronary intervention
107406	7.92E+02	Emergency percutaneous coronary intervention
43939	793G.00	Perc translumin balloon angioplasty stenting coronary artery
60067	793G000	Perc translum ball angio insert 1-2 drug elut stents cor art
87849	793G100	Perc tran ball angio ins 3 or more drug elut stents cor art
85947	793G200	Perc translum balloon angioplasty insert 1-2 stents cor art
92927	793G300	Percutaneous cor balloon angiop 3 more stents cor art NEC
96537	793Gy00	OS perc translumina balloon angioplast stenting coronary art
61208	793Gz00	Perc translum balloon angioplasty stenting coronary art NOS
733	7A54000	Percutaneous transluminal angioplasty of artery NEC
38813	7A54500	Rotary blade angioplasty
70185	7A54800	Percutaneous transluminal atherectomy
86773	7A56400	Percutaneous transluminal balloon angioplasty of artery
20903	7A6G100	Peroperative angioplasty
64923	7A6H300	Prosthetic graft patch angioplasty
66921	7A6H400	Percutaneous transluminal angioplasty of vascular graft
8246	322..00	ECG: myocardial ischaemia
26973	3222	ECG:shows myocardial ischaemia
35287	322Z.00	ECG: myocardial ischaemia NOS
42104	32E4.00	ECG: S-T depression
26965	32F2.00	ECG: T wave abnormal
46230	32F3.00	ECG: T wave flattened
26967	32F4.00	ECG: T wave inverted
26966	32E3.00	ECG: S-T elevation
7783	323..00	ECG: myocardial infarction
39904	3232	ECG: old myocardial infarction
26975	3233	ECG: antero-septal infarct.
26972	3234	ECG:posterior/inferior infarct
100496	8CEJ.00	Coronary heart disease leaflet given

103932	8CMP.00	Coronary heart disease care plan
8516	8F9..00	Cardiac rehabilitation
37990	8F90.00	Cardiac rehabilitation - phase 1
37991	8F91.00	Cardiac rehabilitation - phase 2
41032	8F92.00	Cardiac rehabilitation - phase 3
46565	8F93.00	Cardiac rehabilitation - phase 4
104675	8F97.00	Cardiac rehabilitation programme completed
110535	8F98.00	Cardiac rehabilitation programme offered
10127	8H7v.00	Referral to cardiac rehabilitation nurse
102447	8Hkk.00	Referral to cardiac rehabilitation programme
102943	8Hkl.00	Referral to cardiac rehabilitation service by secondary care
19744	8I37.00	Coronary heart disease monitoring refused
19250	8I3a.00	Cardiac rehabilitation declined
18150	9Ob..00	Coronary heart disease monitoring administration
35373	9Ob0.00	Attends coronary heart disease monitoring
35277	9Ob1.00	Refuses coronary heart disease monitoring
47798	9Ob2.00	Coronary heart disease monitoring default
25814	9Ob3.00	Coronary heart disease monitoring 1st letter
34207	9Ob4.00	Coronary heart disease monitoring 2nd letter
34329	9Ob5.00	Coronary heart disease monitoring 3rd letter
37908	9Ob6.00	Coronary heart disease monitoring verbal invitation
54007	9Ob7.00	Coronary heart disease monitoring deleted
39500	9Ob8.00	Coronary heart disease monitoring check done
70160	9Ob9.00	Coronary heart disease monitoring telephone invite
6331	G341.00	Aneurysm of heart
27484	G341.11	Cardiac aneurysm
2155	G341000	Ventricular cardiac aneurysm
67087	G341100	Other cardiac wall aneurysm
105250	G341111	Mural cardiac aneurysm
41677	G341z00	Aneurysm of heart NOS
18218	Z677.00	Cardiac rehabilitation class
19067	ZL22200	Under care of cardiac rehabilitation nurse
23098	ZV57900	[V]Cardiac rehabilitation
18135	6A2..00	Coronary heart disease annual review
10260	6A4..00	Coronary heart disease review
11648	8B3k.00	Coronary heart disease medication review
95550	8H2V.00	Admit ischaemic heart disease emergency
27951	G31..00	Other acute and subacute ischaemic heart disease
61072	G311000	Myocardial infarction aborted
55137	G311011	MI - myocardial infarction aborted
9413	G31y.00	Other acute and subacute ischaemic heart disease
39693	G31y200	Subendocardial ischaemia
21844	G31y300	Transient myocardial ischaemia
27977	G31yz00	Other acute and subacute ischaemic heart disease NOS
5413	G340.00	Coronary atherosclerosis
1344	G340.12	Coronary artery disease
7320	G343.00	Ischaemic cardiomyopathy
29421	G344.00	Silent myocardial ischaemia
18889	G34z000	Asymptomatic coronary heart disease
22383	G3y..00	Other specified ischaemic heart disease
1676	G3z..00	Ischaemic heart disease NOS
52517	Gyu3.00	[X]Ischaemic heart diseases
68401	Gyu3200	[X]Other forms of acute ischaemic heart disease
33650	7929100	Percut transluminal coronary thrombolysis with streptokinase
40996	7929111	Percut translum coronary thrombolytic therapy- streptokinase
94504	8B3a.00	Door to needle time
70440	8B3g.00	Pain to thrombolysis time
35674	14A3.00	H/O: myocardial infarct <60
40399	14A4.00	H/O: myocardial infarct >60

50372	14AH.00	H/O: Myocardial infarction in last year
100139	14AT.00	History of myocardial infarction
23579	G310.00	Postmyocardial infarction syndrome
4017	G32..00	Old myocardial infarction
16408	G32..11	Healed myocardial infarction
17464	G32..12	Personal history of myocardial infarction
9555	G33z500	Post infarct angina
36423	G36..00	Certain current complication follow acute myocardial infarct
24126	G360.00	Haemopericardium/current comp folow acut myocard infarct
23708	G361.00	Atrial septal defect/curr comp folow acut myocardial infarct
37657	G362.00	Ventric septal defect/curr comp fol acut myocardal infarctn
59189	G363.00	Ruptur cardiac wall w'out haemopericard/cur comp fol ac MI
59940	G364.00	Ruptur chordae tendinae/curr comp fol acute myocard infarct
69474	G365.00	Rupture papillary muscle/curr comp fol acute myocard infarct
29553	G366.00	Thrombosis atrium,auric append&vent/curr comp foll acute MI
35119	G501.00	Post infarction pericarditis
61670	889A.00	Diab mellit insulin-glucose infus acute myocardial infarct
241	G30..00	Acute myocardial infarction
13566	G30..11	Attack - heart
2491	G30..12	Coronary thrombosis
30421	G30..13	Cardiac rupture following myocardial infarction (MI)
1204	G30..14	Heart attack
1677	G30..15	MI - acute myocardial infarction
13571	G30..16	Thrombosis - coronary
17689	G30..17	Silent myocardial infarction
12139	G300.00	Acute anterolateral infarction
5387	G301.00	Other specified anterior myocardial infarction
40429	G301000	Acute anteroapical infarction
17872	G301100	Acute anteroseptal infarction
14897	G301z00	Anterior myocardial infarction NOS
8935	G302.00	Acute inferolateral infarction
29643	G303.00	Acute inferoposterior infarction
23892	G304.00	Posterior myocardial infarction NOS
14898	G305.00	Lateral myocardial infarction NOS
63467	G306.00	True posterior myocardial infarction
3704	G307.00	Acute subendocardial infarction
9507	G307000	Acute non-Q wave infarction
1678	G308.00	Inferior myocardial infarction NOS
30330	G309.00	Acute Q-wave infarct
17133	G30A.00	Mural thrombosis
32854	G30B.00	Acute posterolateral myocardial infarction
29758	G30X.00	Acute transmural myocardial infarction of unspecif site
34803	G30y.00	Other acute myocardial infarction
28736	G30y000	Acute atrial infarction
62626	G30y100	Acute papillary muscle infarction
41221	G30y200	Acute septal infarction
46017	G30yz00	Other acute myocardial infarction NOS
14658	G30z.00	Acute myocardial infarction NOS
15661	G310.11	Dressler's syndrome
68357	G31y100	Microinfarction of heart
18842	G35..00	Subsequent myocardial infarction
45809	G350.00	Subsequent myocardial infarction of anterior wall
38609	G351.00	Subsequent myocardial infarction of inferior wall
72562	G353.00	Subsequent myocardial infarction of other sites
46166	G35X.00	Subsequent myocardial infarction of unspecified site
32272	G38..00	Postoperative myocardial infarction
46112	G380.00	Postoperative transmural myocardial infarction anterior wall
46276	G381.00	Postoperative transmural myocardial infarction inferior wall
106812	G383.00	Postoperative transmural myocardial infarction unspec site

41835	G384.00	Postoperative subendocardial myocardial infarction
68748	G38z.00	Postoperative myocardial infarction, unspecified
96838	Gyu3400	[X]Acute transmural myocardial infarction of unspecif site
109035	Gyu3500	[X]Subsequent myocardial infarction of other sites
99991	Gyu3600	[X]Subsequent myocardial infarction of unspecified site
10562	G307100	Acute non-ST segment elevation myocardial infarction
12229	G30X000	Acute ST segment elevation myocardial infarction
21195	G575100	Sudden cardiac death, so described
36523	G311.00	Preinfarction syndrome
4656	G311.11	Crescendo angina
39655	G311.12	Impending infarction
1431	G311.13	Unstable angina
19655	G311.14	Angina at rest
7347	G311100	Unstable angina
17307	G311200	Angina at rest
34328	G311300	Refractory angina
18118	G311400	Worsening angina
54251	G311z00	Preinfarction syndrome NOS
39449	G312.00	Coronary thrombosis not resulting in myocardial infarction
9276	G31y000	Acute coronary insufficiency
66388	G33z000	Status anginosus
303771	4109TC	THROMBOSIS CORONARY
306424	4109NC	CORONARY INFARCTION

ICD-10 code

I20 (0)	Unstable angina
I21 (0,1,2,3,4,9)	Acute myocardial infarction
I22 (0,1,2,8,9)	Subsequent myocardial infarction
I23 (0,1,2,3,4,5,6,8)	Certain current complications following AMI
I24 (0,2,8,9)	Other acute ischaemic heart disease

Stroke prior to gout diagnosis

Medcode	Readcode	Readterm
28914	662o.00	Haemorrhagic stroke monitoring
48149	G681.00	Sequelae of intracerebral haemorrhage
43451	G682.00	Sequelae of other nontraumatic intracranial haemorrhage
5051	G61..00	Intracerebral haemorrhage
6960	G61..11	CVA - cerebrovascular accid due to intracerebral haemorrhage
18604	G61..12	Stroke due to intracerebral haemorrhage
31595	G610.00	Cortical haemorrhage
40338	G611.00	Internal capsule haemorrhage
46316	G612.00	Basal nucleus haemorrhage
13564	G613.00	Cerebellar haemorrhage
7912	G614.00	Pontine haemorrhage
30045	G616.00	External capsule haemorrhage
30202	G617.00	Intracerebral haemorrhage, intraventricular
57315	G618.00	Intracerebral haemorrhage, multiple localized
107440	G619.00	Lobar cerebral haemorrhage
31060	G61X.00	Intracerebral haemorrhage in hemisphere, unspecified
28314	G61X000	Left sided intracerebral haemorrhage, unspecified
19201	G61X100	Right sided intracerebral haemorrhage, unspecified
3535	G61z.00	Intracerebral haemorrhage NOS
53810	Gyu6200	[X]Other intracerebral haemorrhage
96630	Gyu6F00	[X]Intracerebral haemorrhage in hemisphere, unspecified
56007	G601.00	Subarachnoid haemorrhage from carotid siphon and bifurcation
19412	G602.00	Subarachnoid haemorrhage from middle cerebral artery
17326	G60X.00	Subarachnoid haemorrh from intracranial artery, unspecif
108668	Gyu6000	[X]Subarachnoid haemorrhage from other intracranial arteries
108630	Gyu6E00	[X]Subarachnoid haemorrh from intracranial artery, unspecif
31805	G62..00	Other and unspecified intracranial haemorrhage

20284	G62z.00	Intracranial haemorrhage NOS
35916	7A20300	Endarterectomy and patch repair of carotid artery
12733	7A20311	Carotid endarterectomy and patch
2654	7A20400	Endarterectomy of carotid artery NEC
93134	7A20500	High-flow inter extrac intrac byp ext carot art mid cer art
89365	7A20600	Byp carot art anastom superfic tempor artery middle cere art
91775	7A20700	Intracranial bypass from carotid artery NEC
29973	7A22000	Percutaneous transluminal angioplasty of carotid artery
47580	7A22300	Percutaneous transluminal insertion stent carotid artery
93770	7A25600	Percutaneous transluminal insertion of stent cerebral artery
68906	7A26C00	Endarterectomy of vertebral artery NEC
55074	7A28200	Percutaneous transluminal angioplasty of vertebral artery
68905	7A28500	Percutaneous transluminal embolectomy of vertebral artery
41577	1477	H/O: cerebrovascular disease
2418	G6...00	Cerebrovascular disease
45781	G63..00	Precerebral arterial occlusion
63830	G63..12	Stenosis of precerebral arteries
32447	G630.00	Basilar artery occlusion
4240	G631.00	Carotid artery occlusion
2156	G631.11	Stenosis, carotid artery
4152	G631.12	Thrombosis, carotid artery
40847	G632.00	Vertebral artery occlusion
98642	G633.00	Multiple and bilateral precerebral arterial occlusion
2652	G634.00	Carotid artery stenosis
51326	G63y.00	Other precerebral artery occlusion
71585	G63z.00	Precerebral artery occlusion NOS
8837	G64..00	Cerebral arterial occlusion
16517	G640.00	Cerebral thrombosis
15019	G641.00	Cerebral embolism
34758	G641.11	Cerebral embolus
18689	G660.00	Middle cerebral artery syndrome
19280	G661.00	Anterior cerebral artery syndrome
19260	G662.00	Posterior cerebral artery syndrome
13577	G67..00	Other cerebrovascular disease
24385	G671100	Chronic cerebral ischaemia
12555	G671z00	Generalised ischaemic cerebrovascular disease NOS
31704	G677.00	Occlusion/stenosis cerebral arts not result cerebral infarct
51759	G677000	Occlusion and stenosis of middle cerebral artery
57527	G677100	Occlusion and stenosis of anterior cerebral artery
65770	G677200	Occlusion and stenosis of posterior cerebral artery
55602	G677300	Occlusion and stenosis of cerebellar arteries
71274	G677400	Occlusion+stenosis of multiple and bilat cerebral arteries
34117	G67y.00	Other cerebrovascular disease OS
37493	G67z.00	Other cerebrovascular disease NOS
23361	G68..00	Late effects of cerebrovascular disease
51138	G68W.00	Sequelae/other + unspecified cerebrovascular diseases
51311	G6y..00	Other specified cerebrovascular disease
10062	G6z..00	Cerebrovascular disease NOS
37199	G70y000	Carotid artery atherosclerosis
22677	G70y011	Carotid artery disease
73901	Gyu6.00	[X]Cerebrovascular diseases
109679	5C13.00	Old cerebral infarction on imaging
39403	G683.00	Sequelae of cerebral infarction
57495	G63..11	Infarction - precerebral
23671	G63y000	Cerebral infarct due to thrombosis of precerebral arteries
24446	G63y100	Cerebral infarction due to embolism of precerebral arteries
5363	G64..11	CVA - cerebral artery occlusion
569	G64..12	Infarction - cerebral
6155	G64..13	Stroke due to cerebral arterial occlusion

36717	G640000	Cerebral infarction due to thrombosis of cerebral arteries
27975	G641000	Cerebral infarction due to embolism of cerebral arteries
3149	G64z.00	Cerebral infarction NOS
15252	G64z.11	Brainstem infarction NOS
5602	G64z.12	Cerebellar infarction
25615	G64z000	Brainstem infarction
9985	G64z200	Left sided cerebral infarction
10504	G64z300	Right sided cerebral infarction
26424	G64z400	Infarction of basal ganglia
39344	G676000	Cereb infarct due cerebral venous thrombosis, nonpyogenic
40758	G6W..00	Cereb infarct due unsp occlus/stenos precerebr arteries
33543	G6X..00	Cerebrl infarctn due/unspcf occlusn or sten/cerebrl artr
91627	Gyu6300	[X]Cerebrl infarctn due/unspcf occlusn or sten/cerebrl artr
53745	Gyu6400	[X]Other cerebral infarction
90572	Gyu6500	[X]Occlusion and stenosis of other precerebral arteries
92036	Gyu6600	[X]Occlusion and stenosis of other cerebral arteries
94482	Gyu6G00	[X]Cereb infarct due unsp occlus/stenos precerebr arteries
34135	14A7.00	H/O: CVA/stroke
6305	14A7.11	H/O: CVA
5871	14A7.12	H/O: stroke
66873	14AK.00	H/O: Stroke in last year
100639	1M4..00	Central post-stroke pain
107195	661M700	Stroke self-management plan agreed
109743	661N700	Stroke self-management plan review
105100	662M100	Stroke 6 month review
7138	ZV12512	[V]Personal history of cerebrovascular accident (CVA)
104505	662M200	Stroke initial post discharge review
93459	Fyu5600	[X]Other lacunar syndromes
47642	G64z100	Wallenberg syndrome
5185	G64z111	Lateral medullary syndrome
1469	G66..00	Stroke and cerebrovascular accident unspecified
1298	G66..11	CVA unspecified
6253	G66..12	Stroke unspecified
6116	G66..13	CVA - Cerebrovascular accident unspecified
8443	G663.00	Brain stem stroke syndrome
17322	G664.00	Cerebellar stroke syndrome
33499	G665.00	Pure motor lacunar syndrome
51767	G666.00	Pure sensory lacunar syndrome
7780	G667.00	Left sided CVA
12833	G668.00	Right sided CVA
13567	14AB.00	H/O: TIA
101251	ZV12D00	[V]Personal history of transient ischaemic attack
100015	8CRB.00	Transient ischaemic attack clinical management plan
63746	Fyu5500	[X]Other transnt cerebral ischaemic attacks+related syndroms
504	G65..00	Transient cerebral ischaemia
1433	G65..12	Transient ischaemic attack
105738	G657.00	Carotid territory transient ischaemic attack
19354	G65y.00	Other transient cerebral ischaemia
1895	G65z.00	Transient cerebral ischaemia NOS
15788	G65zz00	Transient cerebral ischaemia NOS
44740	G680.00	Sequelae of subarachnoid haemorrhage
10792	662M.00	Stroke monitoring
40053	G671.00	Generalised ischaemic cerebrovascular disease NOS
238210	4309M	MENINGEAL HAEMORRHAGE
99367	Gyu6A00	[X]Other cerebrovascular disorders in diseases CE
54744	F11x200	Cerebral degeneration due to cerebrovascular disease
225147	G661.00	Anterior cerebral artery syndrome
25114	E030400	Acute confusional state, of cerebrovascular origin
65745	Gyu6100	[X]Other subarachnoid haemorrhage

29939	G600.00	Ruptured berry aneurysm
306476	4389	CEREBROVASCULAR DISEASE
5268	G650.11	Insufficiency - basilar artery
70536	G671000	Acute cerebrovascular insufficiency NOS
225202	Gyu6700	[X]Other specified cerebrovascular diseases
10794	G656.00	Vertebrobasilar insufficiency
33377	G651.00	Vertebral artery syndrome
24035	E031400	Subacute confusional state, of cerebrovascular origin
1786	G60..00	Subarachnoid haemorrhage
265818	4319CR	HAEMORRHAGE INTRACRANIAL
41910	G605.00	Subarachnoid haemorrhage from basilar artery
105520	8Hd6.00	Admission to stroke unit
16507	G65z100	Intermittent cerebral ischaemia
50594	G654.00	Multiple and bilateral precerebral artery syndromes
60781	P7y0z00	Cerebrovascular system anomaly NOS
303847	4369B	STROKE
306468	4319CE	HAEMORRHAGE INTRACEREBRAL
247398	4380	CEREBROVASCULAR DISEASE WITH HYPERTENSIO
62342	G615.00	Bulbar haemorrhage
9696	G604.00	Subarachnoid haemorrhage from posterior communicating artery
60692	G606.00	Subarachnoid haemorrhage from vertebral artery
94105	P7y0y00	Other specified cerebrovascular anomaly
42331	G603.00	Subarachnoid haemorrhage from anterior communicating artery
303829	4309	SUBARACHNOID HAEMORRHAGE
23942	G650.00	Basilar artery syndrome
284069	4310	HAEMORRHAGE INTRACEREBRAL WITH HYPERTENS
256592	4300	SUBARACHNOID HAEMORRHAGE WITH HYPERTENSI
7017	7004300	Evacuation of intracerebral haematoma NEC
276128	1477	H/O: cerebrovascular disease
303835	4350	TRANSIENT CEREBRAL ISCHAEMIA WITH HYPERT
31451	P7y0.00	Cerebrovascular system anomalies
23580	G60z.00	Subarachnoid haemorrhage NOS
95347	Fyu5700	[X]Other vascular syndroms/brain in cerebrovasculr diseases
2417	G65..13	Vertebro-basilar insufficiency
13707	8HBJ.00	Stroke / transient ischaemic attack referral
52246	13YA.00	Stroke group member
21118	G651000	Vertebro-basilar artery syndrome
234331	Gyu6D00	[X]Sequelae/other unspecified cerebrovascular diseases
44765	G653.00	Carotid artery syndrome hemispheric
ICD-10 code		
G45 (0,1,2,3,4,8,9)	Transient cerebral ischaemic attacks and related syndromes	
I60 (0,1,2,3,4,5,6,7,8,9)	Subarachnoid hemorrhage	
I61 (0,1,2,3,4,5,6,8,9)	Intracerebral hemorrhage	
I63 (0,1,2,3,4,5,6,8,9)	Cerebral infarction	
I64	Stroke, not specified as haemorrhage or infarction	
Acute Myocardial Infarction (used to define cardiovascular event)		
Medcode	Readcode	Readterm
241	G30..00	Acute myocardial infarction
1204	G30..14	Heart attack
1677	G30..15	MI - acute myocardial infarction
1678	G308.00	Inferior myocardial infarction NOS
2491	G30..12	Coronary thrombosis
3704	G307.00	Acute subendocardial infarction
5387	G301.00	Other specified anterior myocardial infarction
8935	G302.00	Acute inferolateral infarction
9276	G31y000	Acute coronary insufficiency
9507	G307000	Acute non-Q wave infarction
10562	G307100	Acute non-ST segment elevation myocardial infarction

11983	G311500	Acute coronary syndrome
12139	G300.00	Acute anterolateral infarction
12229	G30X000	Acute ST segment elevation myocardial infarction
13566	G30..11	Attack - heart
13571	G30..16	Thrombosis - coronary
14658	G30z.00	Acute myocardial infarction NOS
14897	G301z00	Anterior myocardial infarction NOS
14898	G305.00	Lateral myocardial infarction NOS
17689	G30..17	Silent myocardial infarction
17872	G301100	Acute anteroseptal infarction
18842	G35..00	Subsequent myocardial infarction
23708	G361.00	Atrial septal defect/curr comp folow acut myocardal infarct
23892	G304.00	Posterior myocardial infarction NOS
24126	G360.00	Haemopericardium/current comp folow acut myocard infarct
27951	G31..00	Other acute and subacute ischaemic heart disease
27977	G31yz00	Other acute and subacute ischaemic heart disease NOS
28736	G30y000	Acute atrial infarction
29421	G344.00	Silent myocardial ischaemia
29553	G366.00	Thrombosis atrium,auric append&vent/curr comp foll acute MI
29643	G303.00	Acute inferoposterior infarction
29758	G30X.00	Acute transmural myocardial infarction of unspecif site
30330	G309.00	Acute Q-wave infarct
30421	G30..13	Cardiac rupture following myocardial infarction (MI)
32272	G38..00	Postoperative myocardial infarction
32854	G30B.00	Acute posterolateral myocardial infarction
34803	G30y.00	Other acute myocardial infarction
36423	G36..00	Certain current complication follow acute myocardial infarct
36523	G311.00	Preinfarction syndrome
37657	G362.00	Ventric septal defect/curr comp fol acut myocardal infarctn
38609	G351.00	Subsequent myocardial infarction of inferior wall
39693	G31y200	Subendocardial ischaemia
40429	G301000	Acute anteroapical infarction
41221	G30y200	Acute septal infarction
41835	G384.00	Postoperative subendocardial myocardial infarction
45809	G350.00	Subsequent myocardial infarction of anterior wall
46017	G30yz00	Other acute myocardial infarction NOS
46112	G380.00	Postoperative transmural myocardial infarction anterior wall
46166	G35X.00	Subsequent myocardial infarction of unspecified site
46276	G381.00	Postoperative transmural myocardial infarction inferior wall
54251	G311z00	Preinfarction syndrome NOS
59189	G363.00	Ruptur cardiac wall w/out haemopericard/cur comp fol ac MI
59940	G364.00	Ruptur chordae tendinae/curr comp fol acute myocard infarct
61670	889A.00	Diab mellit insulin-glucose infus acute myocardial infarct
62626	G30y100	Acute papillary muscle infarction
63467	G306.00	True posterior myocardial infarction
68357	G31y100	Microinfarction of heart
68748	G38z.00	Postoperative myocardial infarction, unspecified
69474	G365.00	Rupture papillary muscle/curr comp fol acute myocard infarct
72562	G353.00	Subsequent myocardial infarction of other sites
95550	8H2V.00	Admit ischaemic heart disease emergency
96838	Gyu3400	[X]Acute transmural myocardial infarction of unspecif site
99991	Gyu3600	[X]Subsequent myocardial infarction of unspecified site
106812	G383.00	Postoperative transmural myocardial infarction unspec site
109035	Gyu3500	[X]Subsequent myocardial infarction of other sites
35119	G501.00	Post infarction pericarditis
40996	7929111	Percut translum coronary thrombolytic therapy - streptokinase
33650	7929100	Percut transluminal coronary thrombolysis with streptokinase
107406	7.92E+02	Emergency percutaneous coronary intervention
94504	8B3a.00	Door to needle time

70440	8B3g.00	Pain to thrombolysis time
ICD-10 code		
I21 (0,1,2,3,4,9)		Acute myocardial infarction
I22 (0,1,2,8,9)		Subsequent myocardial infarction
I23 (0,1,2,3,4,5,6,8)		Certain current complications following AMI
ICD-9 code		
410		Acute myocardial infarction
411		Postmyocardial infarction syndrome
Stroke (used to define cardiovascular event)		
Medcode	Readcode	Readterm
569	G64..12	Infarction - cerebral
1298	G66..11	CVA unspecified
1469	G66..00	Stroke and cerebrovascular accident unspecified
1786	g60..00	1 Subarachnoid haemorrhage
3149	G64z.00	Cerebral infarction NOS
3535	G61z.00	Intracerebral haemorrhage NOS
4152	g631.12	1 Thrombosis, carotid artery
4240	G631.00	Carotid artery occlusion
5051	G61..00	Intracerebral haemorrhage
5185	G64z111	Lateral medullary syndrome
5363	G64..11	CVA - cerebral artery occlusion
5602	G64z.12	Cerebellar infarction
6116	G66..13	CVA - Cerebrovascular accident unspecified
6155	G64..13	Stroke due to cerebral arterial occlusion
6253	G66..12	Stroke unspecified
6960	G61..11	CVA - cerebrovascular accid due to intracerebral haemorrhage
7780	G667.00	Left sided CVA
7912	G614.00	Pontine haemorrhage
8443	G663.00	Brain stem stroke syndrome
8837	G64..00	Cerebral arterial occlusion
9696	g604.00	1 Subarachnoid haemorrhage from posterior communicating artery
9985	G64z200	Left sided cerebral infarction
10504	G64z300	Right sided cerebral infarction
12833	G668.00	Right sided CVA
13564	G613.00	Cerebellar haemorrhage
15019	G641.00	Cerebral embolism
15252	G64z.11	Brainstem infarction NOS
16517	G640.00	Cerebral thrombosis
16956	G669.00	Cerebral palsy, not congenital or infantile, acute
17322	G664.00	Cerebellar stroke syndrome
17326	g60x.00	1 Subarachnoid haemorrh from intracranial artery, unspecif
18604	G61..12	Stroke due to intracerebral haemorrhage
18689	G660.00	Middle cerebral artery syndrome
19201	G61X100	Right sided intracerebral haemorrhage, unspecified
19260	G662.00	Posterior cerebral artery syndrome
19280	G661.00	Anterior cerebral artery syndrome
19412	g602.00	1 Subarachnoid haemorrhage from middle cerebral artery
20284	g62z.00	1 Intracranial haemorrhage NOS
23580	g60z.00	1 Subarachnoid haemorrhage NOS
23671	G63y000	Cerebral infarct due to thrombosis of precerebral arteries
24446	G63y100	Cerebral infarction due to embolism of precerebral arteries
25615	G64z000	Brainstem infarction
26424	G64z400	Infarction of basal ganglia
27975	G641000	Cerebral infarction due to embolism of cerebral arteries
28314	G61X000	Left sided intracerebral haemorrhage, unspecified
29939	g600.00	1 Ruptured berry aneurysm
30045	G616.00	External capsule haemorrhage
30202	G617.00	Intracerebral haemorrhage, intraventricular

31060	G61X.00	Intracerebral haemorrhage in hemisphere, unspecified
31595	G610.00	Cortical haemorrhage
31704	G677.00	Occlusion/stenosis cerebral arts not result cerebral infarct
31805	g62..00	1 Other and unspecified intracranial haemorrhage
33499	G665.00	Pure motor lacunar syndrome
33543	G6X..00	Cerebrl infarctn due/unspcf occlusn or sten/cerebrl artr
34758	G641.11	Cerebral embolus
36717	G640000	Cerebral infarction due to thrombosis of cerebral arteries
39344	G676000	Cereb infarct due cerebral venous thrombosis, nonpyogenic
40338	G611.00	Internal capsule haemorrhage
40758	G6W..00	Cereb infarct due unsp occlus/stenos precerebr arteries
41910	G605.00	Subarachnoid haemorrhage from basilar artery
42331	G603.00	Subarachnoid haemorrhage from anterior communicating artery
44765	G653.00	Carotid artery syndrome hemispheric
46316	G612.00	Basal nucleus haemorrhage
47642	G64z100	Wallenberg syndrome
50594	G654.00	Multiple and bilateral precerebral artery syndromes
51759	G677000	Occlusion and stenosis of middle cerebral artery
51767	G666.00	Pure sensory lacunar syndrome
53745	Gyu6400	[X]Other cerebral infarction
53755	Fyu9.00	[X]Cerebral palsy and other paralytic syndromes
53810	Gyu6200	[X]Other intracerebral haemorrhage
55602	G677300	Occlusion and stenosis of cerebellar arteries
56007	G601.00	Subarachnoid haemorrhage from carotid siphon and bifurcation
57315	G618.00	Intracerebral haemorrhage, multiple localized
57495	G63..11	Infarction - precerebral
57527	G677100	Occlusion and stenosis of anterior cerebral artery
60692	G606.00	Subarachnoid haemorrhage from vertebral artery
62342	G615.00	Bulbar haemorrhage
65745	Gyu6100	[X]Other subarachnoid haemorrhage
65770	G677200	Occlusion and stenosis of posterior cerebral artery
71274	G677400	Occlusion+stenosis of multiple and bilat cerebral arteries
71585	G63z.00	Precerebral artery occlusion NOS
90572	Gyu6500	[X]Occlusion and stenosis of other precerebral arteries
91627	Gyu6300	[X]Cerebrl infarctn due/unspcf occlusn or sten/cerebrl artr
92036	Gyu6600	[X]Occlusion and stenosis of other cerebral arteries
94482	Gyu6G00	[X]Cereb infarct due unsp occlus/stenos precerebr arteries
96630	Gyu6F00	[X]Intracerebral haemorrhage in hemisphere, unspecified
98642	G633.00	Multiple and bilateral precerebral arterial occlusion
101733	G67A.00	Cerebral vein thrombosis
107440	G619.00	Lobar cerebral haemorrhage
108630	Gyu6E00	[X]Subarachnoid haemorrh from intracranial artery, unspecif
108668	Gyu6000	[X]Subarachnoid haemorrhage from other intracranial arteries
2418	G6...00	Cerebrovascular disease
ICD-10 code		
60 (0,1,2,3,4,5,6,7,8,9)		Subarachnoid hemorrhage
I61 (0,1,2,3,4,5,6,8,9)		Intracerebral hemorrhage
I63 (0,1,2,3,4,5,6,8,9)		Cerebral infarction
I64		Stroke, not specified as haemorrhage or infarction
ICD-9 code		
430		Subarachnoid haemorrhage
431		Intracerebral haemorrhage
432		Other and unspecified intracranial haemorrhage
433		Occlusion and stenosis of precerebral arteries
434		Occlusion of cerebral arteries
436		Acute, but ill-defined, cerebrovascular disease
437		Other and ill-defined cerebrovascular disease
Gout		

Medcode	Readcode	Readterm
709	C34..00	Gout
2857	N023.00	Gouty arthritis
3759	1443.00	H/O: gout
4440	C34y200	Gouty tophi of other sites
9874	C34y500	Gouty tophi of hand
10080	C340.00	Gouty arthropathy
11462	C342.00	Idiopathic gout
12594	N023z00	Gouty arthritis NOS
14996	6691.00	Initial gout assessment
16475	669..00	Gout monitoring
17284	2D52.00	O/E - auricle of ear - tophi
21687	C345.00	Gout due to impairment of renal function
24153	C34z.00	Gout NOS
27521	C34yz00	Other specified gouty manifestation NOS
28999	C34y.00	Other specified gouty manifestation
29658	6693.00	Joints gout affected
34006	6695.00	Date gout treatment started
34105	6699.00	Gout treatment changed
35660	6692.00	Follow-up gout assessment
35664	N023700	Gouty arthritis of the ankle and foot
36481	C34y000	Gouty tophi of ear
43646	669A.00	Date gout treatment stopped
44566	C344.00	Drug-induced gout
45465	N023300	Gouty arthritis of the forearm
49775	N023600	Gouty arthritis of the lower leg
50067	C34y300	Gouty iritis
52101	N023400	Gouty arthritis of the hand
52103	6698.00	Gout drug side effects
52117	669Z.00	Gout monitoring NOS
52969	C341.00	Gouty nephropathy
57334	G557300	Gouty tophi of heart
58064	N023x00	Gouty arthritis of multiple sites
58746	6697.00	Gout associated problems
59344	C34y400	Gouty neuritis
60541	N023y00	Gouty arthritis of other specified site
61145	C341z00	Gouty nephropathy NOS
68209	6696.00	Date of last gout attack
72471	N023100	Gouty arthritis of the shoulder region
93677	N023800	Gouty arthritis of toe
93689	C34y100	Gouty tophi of heart
94539	Nyu1700	[X]Other secondary gout
97539	N023200	Gouty arthritis of the upper arm
108901	C346.00	Acute exacerbation of gout
111834	C343.00	Lead-induced gout
113314	N023000	Gouty arthritis of unspecified site
114211	C341000	Gout nephropathy unspecified
ICD-10 code		
M10		Gout
Gout flare		
Medcode	Readcode	Readterm
45465	N023300	Gouty arthritis of the forearm
12594	N023z00	Gouty arthritis NOS
97539	N023200	Gouty arthritis of the upper arm
2857	N023.00	Gouty arthritis
93677	N023800	Gouty arthritis of toe
60541	N023y00	Gouty arthritis of other specified site

52101	N023400	Gouty arthritis of the hand
58064	N023x00	Gouty arthritis of multiple sites
108901	C346.00	Acute exacerbation of gout
35664	N023700	Gouty arthritis of the ankle and foot
49775	N023600	Gouty arthritis of the lower leg
72471	N023100	Gouty arthritis of the shoulder region
113314	N023000	Gouty arthritis of unspecified site
ICD-10 code		
M10		Gout
Atrial fibrillation		
Medcode	Readcode	Readterm
2212	G573.00	Atrial fibrillation and flutter
1268	G573200	Paroxysmal atrial fibrillation
6345	14AN.00	H/O: atrial fibrillation
96277	G573400	Permanent atrial fibrillation
18746	662S.00	Atrial fibrillation monitoring
1664	G573000	Atrial fibrillation
23437	G573z00	Atrial fibrillation and flutter NOS
45773	6A9..00	Atrial fibrillation annual review
90187	90s0.00	Atrial fibrillation monitoring first letter
105554	8CMW200	Atrial fibrillation care pathway
96076	G573500	Persistent atrial fibrillation
35127	G573300	Non-rheumatic atrial fibrillation
9479	936A00	Implant intravenous pacemaker for atrial fibrillation
ICD-10 code		
I48.0		Paroxysmal atrial fibrillation
I48.1		Persistent atrial fibrillation
I48.2		Chronic atrial fibrillation
Dyslipidaemia		
Medcode	Readcode	Readterm
339	C320.00	Pure hypercholesterolaemia
637	C324.00	Hyperlipidaemia NOS
2091	9N0J.00	Seen in cholesterol clinic
2493	44P3.00	Serum cholesterol raised
3386	C320000	Familial hypercholesterolaemia
3484	C320.11	Familial hypercholesterolaemia
5791	C322.00	Mixed hyperlipidaemia
7447	C320z00	Pure hypercholesterolaemia NOS
12111	8BL1.00	Patient on maximal tolerated lipid lowering therapy
16085	1442	H/O: raised blood lipids
16937	8B28.00	Lipid lowering therapy
34224	C320300	Low-density-lipoprotein-type (LDL) hyperlipoproteinaemia
35720	44P4.00	Serum cholesterol very high
52992	C322.11	Fredrickson type IIb lipidaemia
53091	C320y00	Other specified pure hypercholesterolaemia
54499	C321.11	Fredrickson type IV lipidaemia
55855	C320.12	Fredrickson type IIa lipidaemia
59095	C320.13	Low density lipoproteinaemia
59564	C322.12	Fredrickson type III lipidaemia
95952	C328.00	Dyslipidaemia
99456	C321.12	Very low density lipoprotinaemia
107252	C329.00	Hypercholesterolaemia
9936	66X..00	Lipid disorder monitoring
ICD-10 code		
I78.0		Pure hypercholesterolaemia
I78.1		Pure hyperglyceridaemia
I78.2		Mixed hyperlipidaemia
I78.4		Other hyperlipidaemia

178.5	Hyperlipidaemia, unspecified	
Hypertension		
Medcode	Readcode	Readterm
204	G2...00	Hypertensive disease
351	G20..11	High blood pressure
799	G20..00	Essential hypertension
1894	G201.00	Benign essential hypertension
2666	14A2.00	H/O: hypertension
3425	662O.00	On treatment for hypertension
3712	G20z.11	Hypertension NOS
4372	G202.00	Systolic hypertension
4668	G22..00	Hypertensive renal disease
7057	G2z..00	Hypertensive disease NOS
7329	G24..00	Secondary hypertension
8732	G2...11	BP - hypertensive disease
8857	G21z011	Cardiomegaly - hypertensive
10818	G20z.00	Essential hypertension NOS
13188	662G.00	Hypertensive treatm.changed
15106	G22z.00	Hypertensive renal disease NOS
15377	G200.00	Malignant essential hypertension
16059	G24z.00	Secondary hypertension NOS
16173	G21zz00	Hypertensive heart disease NOS
16292	G21..00	Hypertensive heart disease
16565	6627	Good hypertension control
18590	662b.00	Moderate hypertension control
18765	G2y..00	Other specified hypertensive disease
21826	662F.00	Hypertension treatm. started
21837	G232.00	Hypertensive heart&renal dis wth (congestive) heart failure
22333	813N.00	Hypertension treatment refused
24127	9OIA.11	Hypertension monitored
25371	G241000	Secondary benign renovascular hypertension
27511	6628	Poor hypertension control
29310	G22z.11	Renal hypertension
31341	G24z100	Hypertension secondary to drug
31387	G24z000	Secondary renovascular hypertension NOS
31464	G21z.00	Hypertensive heart disease NOS
31755	G240.00	Secondary malignant hypertension
32423	G222.00	Hypertensive renal disease with renal failure
34744	G244.00	Hypertension secondary to endocrine disorders
39649	G220.00	Malignant hypertensive renal disease
42229	G24zz00	Secondary hypertension NOS
43935	G221.00	Benign hypertensive renal disease
50157	G210.00	Malignant hypertensive heart disease
51635	G241z00	Secondary benign hypertension NOS
52127	G211100	Benign hypertensive heart disease with CCF
52427	G211.00	Benign hypertensive heart disease
57288	G241.00	Secondary benign hypertension
57987	G234.00	Hyperten heart&renal dis+both(congestv)heart and renal fail
59383	G240000	Secondary malignant renovascular hypertension
69753	Gyu2.00	[X]Hypertensive diseases
73293	G240z00	Secondary malignant hypertension NOS
83473	G203.00	Diastolic hypertension
95334	G210000	Malignant hypertensive heart disease without CCF
97533	Gyu2100	[X]Hypertension secondary to other renal disorders
105274	G28..00	Stage 2 hypertension (NICE - Nat Ins for Hth Clin Excl 2011)
105316	G25..11	Stage 1 hypertension
105371	G25..00	Stage 1 hypertension (NICE - Nat Ins for Hth Clin Excl 2011)
105480	G27..00	Hypertension resistant to drug therapy
105487	G26..11	Severe hypertension

107704	G20..12	Primary hypertension
4444	662..12	Hypertension monitoring
13186	662P.00	Hypertension monitoring
5215	90I..00	Hypertension monitoring admin.
Diabetes mellitus		
Medcode	Readcode	Readterm
506	C100112	Non-insulin dependent diabetes mellitus
711	C10..00	Diabetes mellitus
758	C10F.00	Type 2 diabetes mellitus
1038	C100011	Insulin dependent diabetes mellitus
1407	C10FJ00	Insulin treated Type 2 diabetes mellitus
1549	C10E.00	Type 1 diabetes mellitus
1647	C108.00	Insulin dependent diabetes mellitus
1682	C101.00	Diabetes mellitus with ketoacidosis
1684	66A4.00	Diabetic on oral treatment
2378	66AJ.00	Diabetic - poor control
2471	K01x100	Nephrotic syndrome in diabetes mellitus
2475	C104.11	Diabetic nephropathy
4513	C109.00	Non-insulin dependent diabetes mellitus
5884	C109.11	NIDDM - Non-insulin dependent diabetes mellitus
6509	C108700	Insulin dependent diabetes mellitus with retinopathy
6791	C108800	Insulin dependent diabetes mellitus - poor control
7059	8H2J.00	Admit diabetic emergency
7795	C106.12	Diabetes mellitus with neuropathy
8403	C109700	Non-insulin dependent diabetes mellitus - poor control
8842	66A5.00	Diabetic on insulin
9013	66AJ.11	Unstable diabetes
10098	C10yy00	Other specified diabetes mellitus with other spec comps
10418	C10ED00	Type 1 diabetes mellitus with nephropathy
10692	C10EM00	Type 1 diabetes mellitus with ketoacidosis
11047	66AH000	Conversion to insulin
11471	8B3I.00	Diabetes medication review
11551	C10B.00	Diabetes mellitus induced by steroids
11848	C314.11	Renal diabetes
12213	8BL2.00	Patient on maximal tolerated therapy for diabetes
12455	C10E.11	Type I diabetes mellitus
12640	C10FC00	Type 2 diabetes mellitus with nephropathy
12736	C10F500	Type 2 diabetes mellitus with gangrene
13071	66AI.00	Diabetic - good control
13279	C104y00	Other specified diabetes mellitus with renal complications
14803	C100100	Diabetes mellitus, adult onset, no mention of complication
14889	C100111	Maturity onset diabetes
15690	C103.00	Diabetes mellitus with ketoacidotic coma
16230	C106.00	Diabetes mellitus with neurological manifestation
16490	66AH.00	Diabetic treatment changed
16491	C106.13	Diabetes mellitus with polyneuropathy
16502	C104.00	Diabetes mellitus with renal manifestation
17067	F171100	Autonomic neuropathy due to diabetes
17262	C109600	Non-insulin-dependent diabetes mellitus with retinopathy
17545	C108F11	Type I diabetes mellitus with diabetic cataract
17858	C108.12	Type 1 diabetes mellitus
17859	C109.12	Type 2 diabetes mellitus
18056	2G5C.00	Foot abnormality - diabetes related
18143	C109G11	Type II diabetes mellitus with arthropathy
18209	C109012	Type 2 diabetes mellitus with renal complications
18219	C109.13	Type II diabetes mellitus
18230	C108J12	Type 1 diabetes mellitus with neuropathic arthropathy

18264	C109J12	Insulin treated Type II diabetes mellitus
18278	C109J00	Insulin treated Type 2 diabetes mellitus
18387	C10E700	Type 1 diabetes mellitus with retinopathy
18390	C10FM00	Type 2 diabetes mellitus with persistent microalbuminuria
18425	C10FB00	Type 2 diabetes mellitus with polyneuropathy
18496	C10F600	Type 2 diabetes mellitus with retinopathy
18505	C108.11	IDDM-Insulin dependent diabetes mellitus
18642	C10EH00	Type 1 diabetes mellitus with arthropathy
18662	8HBH.00	Diabetic retinopathy 6 month review
18683	C10E500	Type 1 diabetes mellitus with ulcer
18777	C10F000	Type 2 diabetes mellitus with renal complications
21482	C102.00	Diabetes mellitus with hyperosmolar coma
21983	C108012	Type 1 diabetes mellitus with renal complications
22023	66AJz00	Diabetic - poor control NOS
22487	C10N.00	Secondary diabetes mellitus
22573	C106z00	Diabetes mellitus NOS with neurological manifestation
22871	C10EP00	Type 1 diabetes mellitus with exudative maculopathy
22884	C10F.11	Type II diabetes mellitus
22967	2BBF.00	Retinal abnormality - diabetes related
24363	8A13.00	Diabetic stabilisation
24423	C108.13	Type I diabetes mellitus
24458	C109711	Type II diabetes mellitus - poor control
24490	C100000	Diabetes mellitus, juvenile type, no mention of complication
24693	C109G00	Non-insulin dependent diabetes mellitus with arthropathy
24694	C108B00	Insulin dependent diabetes mellitus with mononeuropathy
24836	C109C12	Type 2 diabetes mellitus with nephropathy
25591	C10FQ00	Type 2 diabetes mellitus with exudative maculopathy
25627	C10F700	Type 2 diabetes mellitus - poor control
26054	C10FL00	Type 2 diabetes mellitus with persistent proteinuria
26855	C108400	Unstable insulin dependent diabetes mellitus
28769	66AV.00	Diabetic on insulin and oral treatment
29041	66AN.00	Date diabetic treatment start
29979	C109900	Non-insulin-dependent diabetes mellitus without complication
30294	C10EL00	Type 1 diabetes mellitus with persistent microalbuminuria
30323	C10EK00	Type 1 diabetes mellitus with persistent proteinuria
31310	C108900	Insulin dependent diabetes maturity onset
31790	F372.00	Polyneuropathy in diabetes
32193	C11y000	Steroid induced diabetes
32403	C107.11	Diabetes mellitus with gangrene
32556	C107.12	Diabetes with gangrene
32627	C10FN00	Type 2 diabetes mellitus with ketoacidosis
33254	C105.00	Diabetes mellitus with ophthalmic manifestation
33343	C10y.00	Diabetes mellitus with other specified manifestation
33807	C107200	Diabetes mellitus, adult with gangrene
33969	C10A100	Malnutrition-related diabetes mellitus with ketoacidosis
34268	C10F200	Type 2 diabetes mellitus with neurological complications
34283	C105z00	Diabetes mellitus NOS with ophthalmic manifestation
34450	C10FK00	Hyperosmolar non-ketotic state in type 2 diabetes mellitus
34912	C109400	Non-insulin dependent diabetes mellitus with ulcer
35105	C104100	Diabetes mellitus, adult onset, with renal manifestation
35107	C104z00	Diabetes mellitus with nephropathy NOS
35288	C10E800	Type 1 diabetes mellitus - poor control
35385	C10FH00	Type 2 diabetes mellitus with neuropathic arthropathy
35399	C107.00	Diabetes mellitus with peripheral circulatory disorder
36633	C109K00	Hyperosmolar non-ketotic state in type 2 diabetes mellitus
36695	C10D.00	Diabetes mellitus autosomal dominant type 2
37648	C109J11	Insulin treated non-insulin dependent diabetes mellitus
37806	C10FF00	Type 2 diabetes mellitus with peripheral angiopathy
38161	C108711	Type I diabetes mellitus with retinopathy

38617	C101y00	Other specified diabetes mellitus with ketoacidosis
38986	C100.00	Diabetes mellitus with no mention of complication
39070	C10EE00	Type 1 diabetes mellitus with hypoglycaemic coma
39317	C106100	Diabetes mellitus, adult onset, + neurological manifestation
39809	C108J00	Insulin dependent diab mell with neuropathic arthropathy
40023	C102000	Diabetes mellitus, juvenile type, with hyperosmolar coma
40401	C109500	Non-insulin dependent diabetes mellitus with gangrene
40682	C10E900	Type 1 diabetes mellitus maturity onset
40837	C10EN00	Type 1 diabetes mellitus with ketoacidotic coma
40962	C109H00	Non-insulin dependent d m with neuropathic arthropathy
41049	C108712	Type 1 diabetes mellitus with retinopathy
41389	C105100	Diabetes mellitus, adult onset, + ophthalmic manifestation
41686	Cyu2000	[X]Other specified diabetes mellitus
41716	C108C00	Insulin dependent diabetes mellitus with polyneuropathy
42505	C101z00	Diabetes mellitus NOS with ketoacidosis
42567	C103000	Diabetes mellitus, juvenile type, with ketoacidotic coma
42729	C108E11	Type I diabetes mellitus with hypoglycaemic coma
42762	C109612	Type 2 diabetes mellitus with retinopathy
42831	C10E200	Type 1 diabetes mellitus with neurological complications
43139	C102100	Diabetes mellitus, adult onset, with hyperosmolar coma
43227	C10F311	Type II diabetes mellitus with multiple complications
43453	C10C.00	Diabetes mellitus autosomal dominant
43785	C109D00	Non-insulin dependent diabetes mellitus with hypoglyca coma
43921	C10E400	Unstable type 1 diabetes mellitus
44260	C108F00	Insulin dependent diabetes mellitus with diabetic cataract
44440	C108E00	Insulin dependent diabetes mellitus with hypoglycaemic coma
44443	C108500	Insulin dependent diabetes mellitus with ulcer
44779	C109E12	Type 2 diabetes mellitus with diabetic cataract
44982	C10FE00	Type 2 diabetes mellitus with diabetic cataract
45276	C10E312	Insulin dependent diabetes mellitus with multiple complicat
45467	C109B00	Non-insulin dependent diabetes mellitus with polyneuropathy
45491	C10z.00	Diabetes mellitus with unspecified complication
45913	C109712	Type 2 diabetes mellitus - poor control
45914	C108812	Type 1 diabetes mellitus - poor control
45919	C109212	Type 2 diabetes mellitus with neurological complications
46150	C109512	Type 2 diabetes mellitus with gangrene
46290	C108y00	Other specified diabetes mellitus with multiple comps
46301	C10EC00	Type 1 diabetes mellitus with polyneuropathy
46624	C10C.11	Maturity onset diabetes in youth
46850	C108811	Type I diabetes mellitus - poor control
46917	C10FD00	Type 2 diabetes mellitus with hypoglycaemic coma
46963	C108000	Insulin-dependent diabetes mellitus with renal complications
47315	C10F711	Type II diabetes mellitus - poor control
47321	C10F100	Type 2 diabetes mellitus with ophthalmic complications
47341	8A12.00	Diabetic crisis monitoring
47377	C105y00	Other specified diabetes mellitus with ophthalmic complicatn
47409	C109B11	Type II diabetes mellitus with polyneuropathy
47582	C10E000	Type 1 diabetes mellitus with renal complications
47649	C10E100	Type 1 diabetes mellitus with ophthalmic complications
47650	C10E300	Type 1 diabetes mellitus with multiple complications
47816	C109H11	Type II diabetes mellitus with neuropathic arthropathy
47954	C10F900	Type 2 diabetes mellitus without complication
48192	C109E11	Type II diabetes mellitus with diabetic cataract
49074	C10F400	Type 2 diabetes mellitus with ulcer
49146	C108211	Type I diabetes mellitus with neurological complications
49276	C108100	Insulin-dependent diabetes mellitus with ophthalmic comps
49554	C10EF00	Type 1 diabetes mellitus with diabetic cataract
49655	C10F611	Type II diabetes mellitus with retinopathy
49869	C109G12	Type 2 diabetes mellitus with arthropathy

49949	C10E411	Unstable type I diabetes mellitus
50225	C109011	Type II diabetes mellitus with renal complications
50429	C109100	Non-insulin-dependent diabetes mellitus with ophthalm comps
50527	C10FB11	Type II diabetes mellitus with polyneuropathy
50813	C109A11	Type II diabetes mellitus with mononeuropathy
50960	L180500	Pre-existing diabetes mellitus, insulin-dependent
50972	C100z00	Diabetes mellitus NOS with no mention of complication
51261	C10E.12	Insulin dependent diabetes mellitus
51697	C10G.00	Secondary pancreatic diabetes mellitus
51756	C10FP00	Type 2 diabetes mellitus with ketoacidotic coma
51957	C108511	Type I diabetes mellitus with ulcer
52104	C108300	Insulin dependent diabetes mellitus with multiple complicatn
52212	Cyu2.00	[X]Diabetes mellitus
52236	C10A.00	Malnutrition-related diabetes mellitus
52283	C108200	Insulin-dependent diabetes mellitus with neurological comps
52303	C109000	Non-insulin-dependent diabetes mellitus with renal comps
53200	C101000	Diabetes mellitus, juvenile type, with ketoacidosis
53238	66AG.00	Diabetic drug side effects
53392	C10F911	Type II diabetes mellitus without complication
54008	C10EJ00	Type 1 diabetes mellitus with neuropathic arthropathy
54212	C109F00	Non-insulin-dependent d m with peripheral angiopath
54600	C10E412	Unstable insulin dependent diabetes mellitus
54856	C101100	Diabetes mellitus, adult onset, with ketoacidosis
54899	C109F11	Type II diabetes mellitus with peripheral angiopathy
55075	C109411	Type II diabetes mellitus with ulcer
55239	C10EQ00	Type 1 diabetes mellitus with gastroparesis
55842	C109200	Non-insulin-dependent diabetes mellitus with neuro comps
56268	C109D11	Type II diabetes mellitus with hypoglycaemic coma
56448	C108A00	Insulin-dependent diabetes without complication
56803	C107400	NIDDM with peripheral circulatory disorder
57278	C10F011	Type II diabetes mellitus with renal complications
58604	C109611	Type II diabetes mellitus with retinopathy
59253	C10FG00	Type 2 diabetes mellitus with arthropathy
59288	C103y00	Other specified diabetes mellitus with coma
59365	C109C00	Non-insulin dependent diabetes mellitus with nephropathy
59725	C109111	Type II diabetes mellitus with ophthalmic complications
59903	C106.11	Diabetic amyotrophy
59991	C10D.11	Maturity onset diabetes in youth type 2
60107	C108411	Unstable type I diabetes mellitus
60208	C108J11	Type I diabetes mellitus with neuropathic arthropathy
60499	C108600	Insulin dependent diabetes mellitus with gangrene
60699	C109F12	Type 2 diabetes mellitus with peripheral angiopathy
60796	C10FL11	Type II diabetes mellitus with persistent proteinuria
61021	68AB.00	Diabetic digital retinopathy screening offered
61071	C109D12	Type 2 diabetes mellitus with hypoglycaemic coma
61122	C10H.00	Diabetes mellitus induced by non-steroid drugs
61344	C108011	Type I diabetes mellitus with renal complications
61470	66AI.00	Diabetic monitoring - higher risk albumin excretion
61523	C106y00	Other specified diabetes mellitus with neurological comps
61670	889A.00	Diab mellit insulin-glucose infus acute myocardial infarct
61829	C108212	Type 1 diabetes mellitus with neurological complications
62107	C109511	Type II diabetes mellitus with gangrene
62146	C109300	Non-insulin-dependent diabetes mellitus with multiple comps
62209	C10EM11	Type I diabetes mellitus with ketoacidosis
62352	C108H11	Type I diabetes mellitus with arthropathy
62613	C10EA11	Type I diabetes mellitus without complication
62674	C10FA00	Type 2 diabetes mellitus with mononeuropathy
63017	C108911	Type I diabetes mellitus maturity onset
63357	C107100	Diabetes mellitus, adult, + peripheral circulatory disorder

63371	C10y100	Diabetes mellitus, adult, + other specified manifestation
63690	C10FR00	Type 2 diabetes mellitus with gastroparesis
63762	C10z100	Diabetes mellitus, adult onset, + unspecified complication
64283	C10zy00	Other specified diabetes mellitus with unspecified comps
64357	C10zz00	Diabetes mellitus NOS with unspecified complication
64446	C108G00	Insulin dependent diab mell with peripheral angiopathy
64449	C108z00	Unspecified diabetes mellitus with multiple complications
64571	C109C11	Type II diabetes mellitus with nephropathy
64668	C10FJ11	Insulin treated Type II diabetes mellitus
65025	C107z00	Diabetes mellitus NOS with peripheral circulatory disorder
65062	C103z00	Diabetes mellitus NOS with ketoacidotic coma
65267	C10F300	Type 2 diabetes mellitus with multiple complications
65616	C108H00	Insulin dependent diabetes mellitus with arthropathy
65704	C109412	Type 2 diabetes mellitus with ulcer
66145	C10EN11	Type I diabetes mellitus with ketoacidotic coma
66675	C10A000	Malnutrition-related diabetes mellitus with coma
66872	C108D11	Type I diabetes mellitus with nephropathy
66965	C109H12	Type 2 diabetes mellitus with neuropathic arthropathy
67212	C10H000	DM induced by non-steroid drugs without complication
67853	C106000	Diabetes mellitus, juvenile, + neurological manifestation
67905	C109211	Type II diabetes mellitus with neurological complications
68105	C10EB00	Type 1 diabetes mellitus with mononeuropathy
68390	C108512	Type 1 diabetes mellitus with ulcer
68792	C10z000	Diabetes mellitus, juvenile type, + unspecified complication
68843	C103100	Diabetes mellitus, adult onset, with ketoacidotic coma
69124	C107300	IDDM with peripheral circulatory disorder
69278	C109E00	Non-insulin depend diabetes mellitus with diabetic cataract
69676	C10EA00	Type 1 diabetes mellitus without complication
69748	C105000	Diabetes mellitus, juvenile type, + ophthalmic manifestation
69993	C10E600	Type 1 diabetes mellitus with gangrene
70316	C109112	Type 2 diabetes mellitus with ophthalmic complications
70448	C107000	Diabetes mellitus, juvenile +peripheral circulatory disorder
70766	C108E12	Type 1 diabetes mellitus with hypoglycaemic coma
70821	C10yz00	Diabetes mellitus NOS with other specified manifestation
72320	C109A00	Non-insulin dependent diabetes mellitus with mononeuropathy
72345	C102z00	Diabetes mellitus NOS with hyperosmolar coma
72702	C10E812	Insulin dependent diabetes mellitus - poor control
83485	66Am.00	Insulin dose changed
85991	C10FM11	Type II diabetes mellitus with persistent microalbuminuria
91646	C10F411	Type II diabetes mellitus with ulcer
91942	C10E311	Type I diabetes mellitus with multiple complications
91943	C10EC11	Type I diabetes mellitus with polyneuropathy
93468	C10EG00	Type 1 diabetes mellitus with peripheral angiopathy
93727	C10FE11	Type II diabetes mellitus with diabetic cataract
93875	C10E712	Insulin dependent diabetes mellitus with retinopathy
93878	C10E511	Type I diabetes mellitus with ulcer
93922	C104000	Diabetes mellitus, juvenile type, with renal manifestation
94383	C10N000	Secondary diabetes mellitus without complication
94699	ZRB5.00	Diabetes treatment satisfaction questionnaire
95343	C10E711	Type I diabetes mellitus with retinopathy
95539	C10FS00	Maternally inherited diabetes mellitus
95636	C10ER00	Latent autoimmune diabetes mellitus in adult
95992	C108A11	Type I diabetes mellitus without complication
96010	66Ap.00	Insulin treatment initiated
96235	C10E911	Type I diabetes mellitus maturity onset
96506	C10G000	Secondary pancreatic diabetes mellitus without complication
97446	C108912	Type 1 diabetes mellitus maturity onset
97474	C108412	Unstable type 1 diabetes mellitus
97849	C10E912	Insulin dependent diabetes maturity onset

97894	C10EP11	Type I diabetes mellitus with exudative maculopathy
98071	C10E112	Insulin-dependent diabetes mellitus with ophthalmic comps
98392	C10C.12	Maturity onset diabetes in youth type 1
98616	C10F211	Type II diabetes mellitus with neurological complications
98704	C10E512	Insulin dependent diabetes mellitus with ulcer
98723	C10FD11	Type II diabetes mellitus with hypoglycaemic coma
98954	3883.00	Diabetes treatment satisfaction questionnaire
99231	C108B11	Type I diabetes mellitus with mononeuropathy
99311	C10E111	Type I diabetes mellitus with ophthalmic complications
99716	C10EE12	Insulin dependent diabetes mellitus with hypoglycaemic coma
99719	C10EA12	Insulin-dependent diabetes without complication
100292	Cyu2300	[X]Unspecified diabetes mellitus with renal complications
100347	C10A500	Malnutritn-relat diabetes melitus wth periph circul complctn
101311	C10EC12	Insulin dependent diabetes mellitus with polyneuropathy
106360	K27y700	Erectile dysfunction due to diabetes mellitus
ICD-10		
E11.2	Type II Diabetes Mellitus With renal complications	
E11.3	Type II Diabetes Mellitus With ophthalmic complications	
E11.4	Type II Diabetes Mellitus With neurological complications	
E11.5	Type II Diabetes Mellitus With peripheral circulatory complications	
E11.6	Type II Diabetes Mellitus With other specified complications	
E11.7	Type II Diabetes Mellitus With multiple complications	
E11.8	Type II Diabetes Mellitus With unspecified complications	
E11.9	Type II Diabetes Mellitus Without complications	
E10.2	Type I Diabetes Mellitus With renal complications	
E10.3	Type I Diabetes Mellitus With ophthalmic complications	
E10.4	Type I Diabetes Mellitus With neurological complications	
E10.5	Type I Diabetes Mellitus With peripheral circulatory complications	
E10.6	Type I Diabetes Mellitus With other specified complications	
E10.7	Type I Diabetes Mellitus With multiple complications	
E10.8	Type I Diabetes Mellitus With unspecified complications	
E10.9	Type I Diabetes Mellitus Without complications	
E13.2	Other specified Diabetes Mellitus With renal complications	
E13.3	Other specified Diabetes Mellitus With ophthalmic complications	
E13.4	Other specified Diabetes Mellitus With neurological complications	
E13.5	Other specified Diabetes Mellitus With peripheral circulatory complications	
E13.6	Other specified Diabetes Mellitus With other specified complications	
E13.7	Other specified Diabetes Mellitus With multiple complications	
E13.8	Other specified Diabetes Mellitus With unspecified complications	
E13.9	Other specified Diabetes Mellitus Without complications	
Peripheral artery disease		
medcode	readcode	readterm
1318	G700.00	Aortic atherosclerosis
1517	G73z000	Intermittent claudication
1735	G71..00	Aortic aneurysm
1736	7A14.11	Aortic aneurysm repair
1826	G73..12	Ischaemia of legs
1867	G714.00	Abdominal aortic aneurysm without mention of rupture
2066	7A48z00	Other bypass of femoral artery or popliteal artery NOS
2760	G73zz00	Peripheral vascular disease NOS
2761	7A12100	Bypass bifurc aorta by anastom aorta to femoral artery NEC
3530	G73z.00	Peripheral vascular disease NOS
3778	7A12311	Aorto biiliac graft
4325	G73yz00	Other specified peripheral vascular disease NOS
5597	7A16400	Bypass of abdominal aorta by anastomosis aorta to aorta NEC
5640	G70..00	Atherosclerosis
5702	G73..11	Peripheral ischaemic vascular disease

5943	G73..00	Other peripheral vascular disease
6256	7A4B200	Percutaneous transluminal embolectomy of femoral artery
6308	M271.12	Ischaemic leg ulcer
6356	7A4B000	Percutaneous transluminal angioplasty of femoral artery
6617	7A49z00	Reconstruction of femoral or popliteal artery NOS
6827	G73..13	Peripheral ischaemia
6872	G71z.00	Aortic aneurysm NOS
7111	7A44300	Insertion of iliac artery stent
9099	7A47.00	Other emergency bypass of femoral artery or popliteal artery
9119	7A4A200	Open embolectomy of femoral artery
9759	G718.00	Leaking abdominal aortic aneurysm
10827	7A44000	Percutaneous transluminal angioplasty of iliac artery
11430	G715000	Thoracoabdominal aortic aneurysm, ruptured
11766	7A47.16	Other emergency bypass of femoral artery
12331	7A48.15	Other bypass of popliteal artery
12736	C10F500	Type 2 diabetes mellitus with gangrene
13572	G713.11	Ruptured abdominal aortic aneurysm
14797	G702.00	Extremity artery atheroma
14895	7A12111	Aorto bifemoral graft
15302	G742z00	Peripheral arterial embolism and thrombosis NOS
15304	G715.00	Ruptured aortic aneurysm NOS
15532	7A12300	Bypass bifurcation aorta by anastom aorta to iliac artery
16034	G716.00	Aortic aneurysm without mention of rupture NOS
16260	G702z00	Extremity artery atheroma NOS
16284	G701.00	Renal artery atherosclerosis
16363	7A4A211	Open thrombectomy of femoral artery
16993	14AE.00	H/O: aortic aneurysm
17220	7A13.11	Emergency repair of aortic aneurysm
17328	7A1..00	Aorta operations
17336	7A4A212	Open femoral embolectomy
17345	G714.11	AAA - Abdominal aortic aneurysm without mention of rupture
17767	G713.00	Abdominal aortic aneurysm which has ruptured
18030	7A4B800	Percut translum thrombolysis femoral graft streptokinase
18038	7A50200	Revision of reconstruction involving femoral artery
18060	7A48.14	Other bypass of femoral artery
18816	7A49200	Endarterectomy of femoral artery NEC
19825	5593	Femoral arteriogram abnormal
19996	7A14400	Replace aneurysm abdominal aorta by anast aorta to aorta NEC
20078	7A18z00	Plastic repair of aorta NOS
20657	7A50.00	Revision of reconstruction of artery
20892	7A4A.13	Other open operations on popliteal artery
21927	7A41.00	Other bypass of iliac artery
22016	7A48E00	Femoro-femoral prosthetic cross over graft
23352	7A10100	Bypass aorta by anastomosis axillary to femoral artery NEC
23871	G73y100	Peripheral angiopathic disease EC NOS
24097	7A48300	Bypass popliteal artery by pop/pop a anast c vein graft NEC
24229	7A44400	Percutaneous transluminal insertion of iliac artery stent
24327	M271000	Ischaemic ulcer diabetic foot
24371	7A18.00	Plastic repair of aorta
24677	7A4Ay00	Other open operation on femoral or popliteal artery OS
24692	7A48.00	Other bypass of femoral artery or popliteal artery
25735	7A1z.00	Aorta operations NOS
26232	7A14411	Tube graft of Abdominal aortic aneurysm
27580	7A48000	Bypass femoral artery by fem/pop art anast c prosthesis NEC
28030	7A48200	Bypass femoral artery by fem/pop art anast c vein graft NEC
28119	7A4A100	Repair of popliteal artery NEC
28125	7A49.14	Reconstruction of popliteal artery
28166	7A12112	Dacron aortofemoral Y graft
28616	7A41100	Bypass iliac artery by iliac/femoral artery anastomosis NEC

28777	7A49000	Endarterectomy and patch repair of femoral artery
28894	7A44y00	Other specified transluminal operation on iliac artery
29112	7A4B100	Percutaneous transluminal angioplasty of popliteal artery
30296	7A1A000	Percutaneous transluminal balloon angioplasty of aorta
30466	7A1A100	Percutaneous transluminal angioplasty of aorta NEC
30989	7A41311	Femoro-femoral prosthetic cross over graft
31053	R054300	[D]Widespread diabetic foot gangrene
31338	7A49.00	Reconstruction of femoral artery or popliteal artery
31613	7A13.00	Emergency replacement of aneurysmal segment of aorta
31822	7A15.00	Other emergency bypass of segment of aorta
32403	C107.11	Diabetes mellitus with gangrene
32492	7A41900	Bypass common iliac artery by aorta/com iliac art anast NEC
32556	C107.12	Diabetes with gangrene
33430	7A19400	Operation on aneurysm of aorta NEC
33555	7A4A000	Repair of femoral artery NEC
33807	C107200	Diabetes mellitus, adult with gangrene
34037	7A43300	Open insertion of iliac artery stent
34152	G73y000	Diabetic peripheral angiopathy
34153	7A10200	Axillo-bifemoral bypass graft
35023	7A1y.00	Other specified operations on aorta
35399	C107.00	Diabetes mellitus with peripheral circulatory disorder
36008	7A19100	Endarterectomy of aorta NEC
36065	7A42011	Endarterectomy and patch repair of common iliac artery
36136	7A49300	Endarterectomy of popliteal artery NEC
36443	7A41300	Bypass iliac artery by femoral/femoral art anastomosis NEC
36651	7A14z00	Other replacement of aneurysmal segment of aorta NOS
36928	7A19z00	Other open operation on aorta NOS
36952	7A12.00	Other bypass of bifurcation of aorta
37639	7A16.00	Other bypass of segment of aorta
37787	7A48.12	Other bypass of common femoral artery
37806	C10FF00	Type 2 diabetes mellitus with peripheral angiopathy
38546	7A1..11	Dacron graft operations on aorta
38907	G73y.00	Other specified peripheral vascular disease
38921	7A41z00	Other bypass of iliac artery NOS
39039	7A42.00	Reconstruction of iliac artery
39437	7A4A300	Open embolectomy popliteal artery
39776	7A47.14	Other emergency bypass of popliteal artery
39877	7A48400	Bypass femoral artery by fem/tib art anast c prosthesis NEC
39962	7A18000	Plastic repair of aorta and end to end anastomosis of aorta
40302	7A10300	Axillo-unifemoral PTFE bypass graft
40397	7A4A.00	Other open operations on femoral artery or popliteal artery
40401	C109500	Non-insulin dependent diabetes mellitus with gangrene
40619	7A4B500	Percutaneous transluminal embolisation of popliteal artery
40732	7A48.16	Other bypass of superficial femoral artery
40787	G716000	Thoracoabdominal aortic aneurysm, without mention of rupture
41768	7A41F00	Ilio-femoral prosthetic cross over graft
41823	7A48600	Bypass femoral artery by fem/tib art anast c vein graft NEC
41825	55A2.00	Lower limb arteriogram abnorm.
42115	7A48D00	Bypass popliteal artery by pop/fem artery anastomosis NEC
42142	7A3..00	Branches of abdominal aorta operations
42465	7A12312	Dacron aortoiliac Y graft
42640	7A48y00	Other bypass of femoral artery or popliteal artery OS
42645	7A4A311	Open thrombectomy of popliteal artery
42751	7A16z00	Other bypass of segment of aorta NOS
43108	7A14.00	Other replacement of aneurysmal segment of aorta
43179	7A19000	Endarterectomy of aorta and patch repair of aorta
43648	7A41211	Emergency femoro-femoral prosthetic cross over graft
43651	7A47000	Emerg bypass femoral art by fem/pop art anast c prosth NEC
44250	7A41000	Emerg bypass iliac art by iliac/femoral art anastomosis NEC

44430	7A42111	Endarterectomy of common iliac artery NEC
44553	7A14300	Replace aneurys infrarenal aorta by anast aorta to aorta NEC
45428	7A48C00	Bypass femoral artery by femoral/femoral art anastomosis NEC
45474	7A13z00	Emergency replacement of aneurysmal segment of aorta NOS
45477	7A13y00	Emergency replacement of aneurysmal segment of aorta OS
45521	G714000	Juxtarenal aortic aneurysm
46150	C109512	Type 2 diabetes mellitus with gangrene
47562	7A43111	Open embolectomy of common iliac artery
47835	7A49600	Profundoplasty of femoral artery NEC
48700	7A48700	Bypass popliteal artery by pop/tib a anast c vein graft NEC
48755	7A12000	Emerg bypass bifurc aorta by anast aorta to femoral artery
48768	7A1Az00	Transluminal operation on aorta NOS
48939	7A47C00	Emerg bypass femoral artery by fem/fem art anastomosis NEC
49273	7A50100	Revision of reconstruction involving iliac artery
49319	7A4A.14	Other open operations on superficial femoral artery
49878	7A18100	Plastic repair of aorta using subclavian flap
50122	7A1A200	Percutaneous transluminal embolectomy of aortic bifurcation
50894	7A42y00	Other specified reconstruction of iliac artery
51166	7A11311	Y graft abdominal Aortic aneurysm
51211	7A42100	Endarterectomy of iliac artery NEC
51331	7A43.00	Other open operations on iliac artery
52289	7A4B300	Percutaneous transluminal embolectomy of popliteal artery
52342	7A47200	Emerg bypass femoral art by fem/pop a anast c vein graft NEC
52357	7A41y00	Other specified other bypass of iliac artery
52358	7A11.00	Replacement of aneurysmal bifurcation of aorta
52497	7A18y00	Other specified plastic repair of aorta
52695	7A49100	Endarterectomy and patch repair of popliteal artery
52869	7A49800	Reconstruction of femoral artery with vein graft
53163	7A19.00	Other open operations on aorta
53580	7A43.11	Other open operations on common iliac artery
53634	R054200	[D]Gangrene of toe in diabetic
53675	7A48A00	Bypass femoral artery by fem/peron a anast c vein graft NEC
53891	7A1Ay00	Other specified transluminal operation on aorta
54071	7A50000	Revision of reconstruction involving aorta
54192	7A13400	Emerg replace aneurysm abdom aorta by anast aorta/aorta NEC
54212	C109F00	Non-insulin-dependent d m with peripheral angiopath
54379	7A14200	Replace aneurys suprarenal aorta by anast aorta to aorta NEC
54899	C109F11	Type II diabetes mellitus with peripheral angiopathy
55319	7A18200	Plastic repair of aorta using patch graft
55402	7A19200	Open embolectomy of bifurcation of aorta
55445	7A14y00	Other replacement of aneurysmal segment of aorta OS
55554	7A41B00	Bypass leg artery by aorta/com femoral art anastomosis NEC
55825	7A12y00	Other specified other bypass of bifurcation of aorta
55877	7A44z00	Transluminal operation on iliac artery NOS
56495	7A11100	Replace aneurysm bifurc aorta by anast aorta to femoral art
56510	7A11300	Replace aneurysm bifurc aorta by anast aorta to iliac artery
56803	C107400	NIDDM with peripheral circulatory disorder
57141	7A1A.00	Transluminal operations on aorta
57539	7A1A.11	Percutaneous transluminal operations on aorta
57793	7A49400	Profundoplasty femoral artery & patch repair deep fem artery
59518	7A16y00	Other specified other bypass of segment of aorta
59534	14NB.00	H/O: Peripheral vascular disease procedure
59602	7A42012	Iliac endarterectomy and patch
60212	7A4A.11	Other open operations on common femoral artery
60465	7A48500	Bypass popliteal artery by pop/tib a anast c prosthesis NEC
60499	C108600	Insulin dependent diabetes mellitus with gangrene
60693	7A47300	Emerg bypass pop art by pop/pop art anast c vein graft NEC
60699	C109F12	Type 2 diabetes mellitus with peripheral angiopathy
61255	7A43100	Open embolectomy of iliac artery

61256	7A43000	Repair of iliac artery NEC
61974	7A48.11	Other bypass of femoral or popliteal artery by anastomosis
61978	7A16300	Bypass of infrarenal aorta by anastomosis aorta to aorta NEC
62107	C109511	Type II diabetes mellitus with gangrene
62301	7A11y00	Replacement of aneurysmal bifurcation of aorta OS
62775	7A47B00	Emerg bypass pop art by pop/peron art anast c vein graft NEC
62818	7A42000	Endarterectomy and patch repair of iliac artery
62866	7A42z00	Reconstruction of iliac artery NOS
63238	7A47.13	Other emergency bypass of deep femoral artery
63280	7A42.11	Reconstruction of common iliac artery
63357	C107100	Diabetes mellitus, adult, + peripheral circulatory disorder
63368	7A4A700	Repair of femoral artery with temporary silastic shunt
63396	7A49.13	Reconstruction of femoral artery
63408	7A13411	Tube graft abdominal Aortic aneurysm (emergency)
63605	7A49500	Profundoplasty and patch repair of popliteal artery
63920	G713000	Ruptured suprarenal aortic aneurysm
64446	C108G00	Insulin dependent diab mell with peripheral angiopathy
64555	7A48100	Bypass popliteal artery by pop/pop a anast c prosthesis NEC
64798	7A12z00	Other bypass of bifurcation of aorta NOS
65025	C107z00	Diabetes mellitus NOS with peripheral circulatory disorder
65286	7A50300	Revision of reconstruction of popliteal artery
65669	7A49700	Profundoplasty of popliteal artery NEC
65692	7A47y00	Other emergency bypass of femoral or popliteal artery OS
65813	7A17200	Revision of prosthesis of abdominal aorta NEC
66232	7A13300	Emerg replace aneurysm infrarenal aorta by anast aorta/aorta
66316	7A17100	Revision of prosthesis of bifurcation of aorta
66437	7A43011	Repair of common iliac artery NEC
66761	7A11z00	Replacement of aneurysmal bifurcation of aorta NOS
66804	7A41C00	Bypass leg artery by aorta/deep femoral art anastomosis NEC
66820	7A47400	Emerg bypass femoral art by fem/tib art anast c prosth NEC
66869	7A4A800	Repair of popliteal artery with temporary silastic shunt
66879	7A47700	Emerg bypass pop art by pop/tib art anast c vein graft NEC
66914	7A10.00	Extraanatomic bypass of aorta
66917	7A41600	Emerg bypass leg artery by aorta/com fem art anastomosis NEC
66930	7A44100	Percutaneous transluminal embolectomy of iliac artery
67083	7A49y00	Reconstruction of femoral or popliteal artery OS
67818	7A47100	Emerg bypass popliteal art by pop/pop art anast c prosth NEC
67839	7A10y00	Other specified extraanatomic bypass of aorta
67982	7A48800	Bypass femoral artery by fem/peron a anast c prosthesis NEC
68141	7A41400	Emerg bypass comm iliac art by aorta/com iliac art anast NEC
68320	7A47z00	Other emergency bypass of femoral or popliteal artery NOS
68412	7A48B00	Bypass popliteal art by pop/peron art anast c vein graft NEC
69124	C107300	IDDM with peripheral circulatory disorder
69519	7A49900	Reconstruction of popliteal artery with vein graft
69922	7A11200	Emerg repl aneurysm bifurc aorta by anast aorta to iliac a
69993	C10E600	Type 1 diabetes mellitus with gangrene
70446	7A1B000	Endovascular stenting infrarenal abdominal aortic aneurysm
70448	C107000	Diabetes mellitus, juvenile +peripheral circulatory disorder
70922	7A47D00	Emerg bypass popliteal artery by pop/fem art anastomosis NEC
71041	7A4B400	Percutaneous transluminal embolisation of femoral artery
72448	7A41200	Emerg bypass iliac artery by femoral/femoral art anast NEC
72491	7A47.11	Other emerg bypass femoral or popliteal art by anastomosis
73822	7A49.11	Reconstruction of common femoral artery
73961	Gyu7400	[X]Other specified peripheral vascular diseases
81445	7A4B900	Percutaneous transluminal insertion of stent femoral artery
83577	7A1C000	Endovas ins stent graft for infrarenal abdom aortic aneurysm
86053	7A19y00	Other specified other open operation on aorta
86810	7A1A600	Percutan transluminal aortic stent graft fenestration NEC
87370	7A1A700	Percutaneous transluminal aortic stent graft branches NEC

89198	7A1A500	Percutaneous transluminal balloon angioplasty stenting aorta
89731	7A1AA00	Percutaneous transluminal insertion of stent into aorta
90549	7A1B400	Endovascular stenting of aortic bifurcation NEC
90861	7A1Bz00	Transluminal operations on aneurysmal segment of aorta NOS
92925	7A11211	Y graft of abdominal Aortic aneurysm (emergency)
93468	C10EG00	Type 1 diabetes mellitus with peripheral angiopathy
93627	7A1Cz00	Translum ins stent graft for aneurysmal segment of aorta NOS
93959	7A1B.00	Transluminal operations on aneurysmal segment of aorta
94069	7A1C400	Endovas insertion of stent graft for aortic bifurcation NEC
94331	7A1C.00	Translum insert stent graft for aneurysmal segment of aorta
94682	7A1C100	Endovas insert of stent graft for suprarenal aortic aneurysm
95573	7A10000	Emerg aortic bypass by anastomosis axillary to femoral art
95721	7A17300	Removal of prosthesis from aorta
95976	7A1B500	Endovascular stenting of aorto-uniliac aneurysm
96255	7A47600	Emerg bypass femoral art by fem/tib a anast c vein graft NEC
96654	7A11000	Emerg repl aneurysm bifurc aorta by anast aorta to fem art
96809	7A49.15	Reconstruction of superficial femoral artery
96912	7A1A800	Transluminal aortic stent graft with fenestration NEC
97030	7A1B100	Endovascular stenting of suprarenal aortic aneurysm
97109	7A1B700	Endovascular stenting for aorto-uniliac aneurysm
97217	7A1B800	Endovascul insert stent infrarenal abdominal aortic aneurysm
97596	7A17z00	Attention to prosthesis of aorta NOS
97606	7A47.15	Other emergency bypass of superficial femoral artery
98082	7A15300	Emerg bypass infrarenal aorta by anastom aorta to aorta NEC
98174	G733.00	Ischaemic foot
98175	7A1BD00	Endovascular insertion of stent for aorto-uniliac aneurysm
98211	7A17.00	Attention to prosthesis of aorta
98565	7A1Cy00	OS translum ins stent graft for aneurysmal segment of aorta
99676	7A47800	Emerg bypass femoral art by fem/peron art anast c prosth NEC
99722	7A13000	Emerg replace aneurysm asc aorta by anastom aorta to aorta
99787	7A1BB00	Endovascular ins stent for aortic dissection in any position
99859	7A1BC00	Endovas insert stent for aortic aneurysm of bifurcation NEC
100036	7A41D00	Bypass iliac artery by iliac/iliac artery anastomosis NEC
100113	7A47.12	Other emergency bypass of common femoral artery
100195	7A1B600	Endovascular stenting for aortic aneurysm of bifurcation NEC
100579	Gyu7000	[X]Atherosclerosis of other arteries
100712	7A10z00	Extraanatomic bypass of aorta NOS
101017	7A3y.00	Other specified operations on branches of abdominal aorta
101195	G714300	Aneurysm of suprarenal aorta
101379	G714200	Infrarenal abdominal aortic aneurysm
101835	7A15y00	Other specified other emergency bypass of segment of aorta
101866	G73z012	Vascular claudication
101910	7A41.11	Other bypass of iliac artery by anastomosis
102031	7A15400	Emerg bypass abdominal aorta by anastom aorta to aorta NEC
102112	C10E611	Type I diabetes mellitus with gangrene
102684	7A10400	Bypass aorta anastomosis axillary artery bi femoral arteries
102719	Gyu7200	[X]Aortic aneurysm of unspecified site, nonruptured
102725	Gyu7100	[X]Aortic aneurysm of unspecified site, ruptured
103427	7A1C500	Endovas insertion of stent graft for aorto-uniliac aneurysm
104323	C10F511	Type II diabetes mellitus with gangrene
104639	C10FF11	Type II diabetes mellitus with peripheral angiopathy
104815	7A15z00	Other emergency bypass of segment of aorta NOS
105136	7A18400	Revision of plastic repair of aorta
105317	G734.00	Peripheral arterial disease
105621	Gyu7800	[X]Aneurysm of aorta in diseases classified elsewhere
106780	7A1B900	Endovascular insertion stent for suprarenal aortic aneurysm
107071	G701011	ARAS - Atherosclerotic renal artery stenosis
107158	7A48900	Bypass popliteal artery by pop/peron art anast c prosth NEC
107284	7A17y00	Other specified attention to prosthesis of aorta

109034	1M11000	Ischaemic foot pain at rest
109051	C10E612	Insulin dependent diabetes mellitus with gangrene
109217	1M11100	Ischaemic foot pain when walking
114579	G701000	Atherosclerotic renal artery stenosis
18499	662U.00	Peripheral vascular disease monitoring
ICD-10		
I70	Atherosclerosis	
I71	Aortic aneurysm and dissection	
I72	Other aneurysm and dissection	
I74	Arterial embolism and thrombosis	
I73.9	Peripheral vascular disease, unspecified	
I79.2	Peripheral angiopathy in diseases classified elsewhere	
Chronic Kidney Disease (stage≥3)		
medcode	readcode	readterm
350	K06..00	Renal failure unspecified
512	K05..00	Chronic renal failure
2994	7L1A100	Peritoneal dialysis
2996	7L1A200	Haemodialysis NEC
6712	K050.00	End stage renal failure
8330	K0D..00	End-stage renal disease
11773	7L1A.11	Dialysis for renal failure
12479	1Z13.00	Chronic kidney disease stage 4
12566	1Z12.00	Chronic kidney disease stage 3
12585	1Z14.00	Chronic kidney disease stage 5
20073	7L1A000	Renal dialysis
20196	14V2.00	H/O: renal dialysis
28158	TB11.00	Kidney dialysis with complication, without blame
44422	14V2.11	H/O: kidney dialysis
53852	K05..12	End stage renal failure
53940	Kyu2100	[X]Other chronic renal failure
61930	Kyu2.00	[X]Renal failure
63502	Z91A.00	Peritoneal dialysis bag procedure
64828	7L1A600	Peritoneal dialysis NEC
66714	TB11.11	Renal dialysis with complication, without blame
69760	ZVu3G00	[X]Other dialysis
94793	1Z1B.00	Chronic kidney disease stage 3 with proteinuria
94965	1Z15.00	Chronic kidney disease stage 3A
95122	1Z1H.00	Chronic kidney disease stage 4 with proteinuria
95123	1Z1C.00	Chronic kidney disease stage 3 without proteinuria
95145	1Z1B.11	CKD stage 3 with proteinuria
95175	1Z1E.00	Chronic kidney disease stage 3A without proteinuria
95176	1Z1E.11	CKD stage 3A without proteinuria
95177	1Z1G.00	Chronic kidney disease stage 3B without proteinuria
95178	1Z1F.00	Chronic kidney disease stage 3B with proteinuria
95179	1Z16.00	Chronic kidney disease stage 3B
95180	1Z1F.11	CKD stage 3B with proteinuria
95188	1Z1C.11	CKD stage 3 without proteinuria
95405	1Z1L.00	Chronic kidney disease stage 5 without proteinuria
95406	1Z1J.00	Chronic kidney disease stage 4 without proteinuria
95408	1Z1D.00	Chronic kidney disease stage 3A with proteinuria
95508	1Z1K.00	Chronic kidney disease stage 5 with proteinuria
95571	1Z1D.11	CKD stage 3A with proteinuria
97587	1Z1J.11	CKD stage 4 without proteinuria
97683	1Z1L.11	CKD stage 5 without proteinuria
99160	1Z1K.11	CKD stage 5 with proteinuria
99312	1Z1H.11	CKD stage 4 with proteinuria
100633	1Z1G.11	CKD stage 3B without proteinuria
104619	K053.00	Chronic kidney disease stage 3
104963	K054.00	Chronic kidney disease stage 4

105151	K055.00	Chronic kidney disease stage 5
109657	1Z1Y.00	CKD with GFR category G3b & albuminuria category A2
109804	1Z1T.00	CKD with GFR category G3a & albuminuria category A1
109805	1Z1V.00	CKD with GFR category G3a & albuminuria category A2
109857	451M.00	eGFR using cystatin C (CKD-EPI) per 1.73 square metres
109905	1Z1W.00	CKD with GFR category G3a & albuminuria category A3
109963	1Z1X.00	CKD with GFR category G3b & albuminuria category A1
109990	1Z1Z.00	CKD with GFR category G3b & albuminuria category A3
ICD-10		
I13.1		Hypertensive heart and renal disease with renal failure
I13.2		Hypertensive heart and renal disease with both (congestive) heart failure and renal failure
N18.3		Chronic kidney disease, stage 3
N18.4		Chronic kidney disease, stage 4
N18.5		Chronic kidney disease, stage 5
N19		Unspecified kidney failure
I12.0		Hypertensive renal disease with renal failure

eTable 2. Association Between Cardiovascular Events and Recent Prior Gout Flare: Sensitivity Analyses of the Nested Case-Control Study

	Exposure window	No. (%) of individuals	No. (%) of controls	Unadjusted difference, % (95%CI)	aOR (95%CI) ^j
Applying shorter time intervals for exposure to accrue^a	0-15 days	46 (0.4)	178 (0.3)	0.1 (0.0-0.3)	2.07 (1.35-3.18)
	16-30 days	55 (0.5)	170 (0.3)	0.2 (0.0-0.4)	2.39 (1.57-3.64)
	31-60 days	103 (1.0)	395 (0.8)	0.2 (0.0-0.5)	1.73 (1.31-2.28)
	61-90 days	85 (0.8)	325 (0.6)	0.2 (0.0-0.4)	1.50 (1.10-2.05)
	91-120 days	85 (0.8)	303 (0.6)	0.2 (0.0-0.5)	1.66 (1.22-2.25)
	121-150 days	82 (0.8)	341 (0.7)	0.1 (-0.1-0.4)	1.25 (0.92-1.71)
	151-180 days	66 (0.6)	321 (0.6)	0.0 (-0.2-0.2)	0.89 (0.64-1.24)
	>180 days or no gout flare	9953 (95.0)	50066 (96.1)	-1.1 (-1.7 - -0.5)	Reference
Excluding patients with gout for <1 year^b	0-60 days	38 (0.4)	147 (0.3)	0.1 (0.0-0.3)	1.74 (1.17-2.60)
	61-120 days	44 (0.5)	141 (0.3)	0.2 (0.0-0.4)	1.86 (1.28-2.72)
	121-180 days	45 (0.5)	163 (0.4)	0.1 (-0.1-0.3)	1.39 (0.96-2.01)
	>180 days or no gout flare	8690 (98.6)	43611 (99.0)	-0.4 (-0.8 - -0.1)	Reference
Excluding patients with cardiovascular event on the same date as the consultation for the gout flare^c	0-60 days	199 (1.9)	703 (1.4)	0.5 (0.2-0.9)	1.89 (1.53-2.33)
	61-120 days	170 (1.6)	619 (1.2)	0.4 (0.1-0.8)	1.58 (1.26-1.97)
	121-180 days	148 (1.4)	651 (1.3)	0.2 (-0.2-0.5)	1.06 (0.84-1.34)
	>180 days or no gout flare	9953 (95.1)	50041 (96.2)	-1.1 (-1.7 - -0.6)	Reference
Excluding patients with cardiovascular diseases prior to gout diagnosis^d	0-60 days	91 (1.8)	537 (1.3)	0.5 (0.0-1.0)	2.17 (1.51-3.11)
	61-120 days	67 (1.3)	441 (1.1)	0.3 (0.0-0.7)	1.51 (1.03-2.21)
	121-180 days	76 (1.5)	487 (1.2)	0.3 (-0.1-0.8)	1.21 (0.84-1.74)
	>180 days or no gout flare	4793 (95.3)	39869 (96.5)	-1.1 (-1.9 - -0.3)	Reference
Excluding patients without record of gout flares^e	0-60 days	204 (4.3)	743 (3.2)	1.1 (0.3-1.9)	2.15 (1.38-3.33)
	61-120 days	170 (3.6)	628 (2.7)	0.9 (0.2-1.6)	1.80 (1.20-2.69)
	121-180 days	148 (3.1)	662 (2.8)	0.3 (0.0-1.0)	1.53 (1.01-2.29)
	>180 days	4211 (89.0)	21353 (91.3)	-2.3 (-3.6 - -1.1)	Reference
Changing reference period to 180-240 days prior to cardiovascular event^f	0-60 days	204 (1.9)	743 (1.4)	0.5 (0.2-0.9)	2.17 (1.21-3.90)
	61-120 days	170 (1.6)	628 (1.2)	0.4 (0.1-0.8)	1.82 (1.04-3.19)
	121-180 days	148 (1.4)	662 (1.3)	0.1 (-0.1-0.5)	1.55 (0.89-2.27)
	180-240 days	134 (1.3)	620 (1.2)	0.1 (-0.2-0.4)	Reference
	>240 days or no gout flare	9819 (93.7)	49446 (94.9)	-1.2 (-1.8 - -0.5)	1.01 (0.67-1.54)
Considering fatal cardiovascular event as outcome^g	0-60 days	67 (1.7)	67 (0.5)	1.2 (0.7-1.8)	4.76 (1.69-8.43)
	61-120 days	41 (1.1)	61 (0.4)	0.6 (0.2-1.0)	2.05 (1.19-3.54)
	121-180 days	84 (2.2)	221 (1.6)	0.6 (-0.1-1.2)	1.28 (0.74-2.19)
	>180 days or no gout flare	3697 (95.1)	13459 (97.5)	-2.4 (-3.4 - -1.5)	Reference
Excluding patients with low/moderate cardiovascular risk^h	0-60 days	202 (2.0)	518 (1.5)	0.5 (0.1-0.9)	1.93 (1.57-2.39)
	61-120 days	170 (1.7)	455 (1.3)	0.4 (0.0-0.7)	1.60 (1.28-2.01)
	121-180 days	145 (1.4)	467 (1.3)	0.1 (-0.3-0.4)	1.05 (0.83-1.33)
	>180 days or no gout flare	9804 (95.0)	33740 (95.9)	-0.9 (-1.5 - -0.3)	Reference
Excluding patients with cardiovascular event or controls with matched index date before 1st January 2010ⁱ	0-60 days	64 (1.3)	330 (1.2)	0.1 (-0.1-0.4)	1.71 (1.04-2.82)
	61-120 days	67 (1.4)	283 (1.1)	0.3 (-0.1-0.8)	1.72 (1.06-2.80)
	121-180 days	59 (1.2)	314 (1.2)	0.0 (-0.4-0.5)	1.31 (0.80-2.17)
	>180 days or no gout flare	4637 (96.1)	25579 (96.5)	-0.4 (-1.2-0.3)	Reference

Abbreviations: 95%CI: 95% confidence interval, aOR: adjusted odds ratio, NSAIDs: non-steroidal anti-inflammatory drugs.
^a The number of individuals included in this analysis was 62574 (10475 with cardiovascular events and 52099 without cardiovascular events).
^b The number of individuals included in this analysis was 52879 (8817 with cardiovascular events and 44062 without cardiovascular events).
^c The number of individuals included in this analysis was 62484 (10470 with cardiovascular events and 52014 without cardiovascular events).
^d The number of individuals included in this analysis was 46361 (5027 with cardiovascular events and 41334 without cardiovascular events).
^e The number of individuals included in this analysis was 28119 (4733 with cardiovascular events and 23386 without cardiovascular events).
^f The number of individuals included in this analysis was 62574 (10475 with cardiovascular events and 52099 without cardiovascular events).
^g The number of individuals included in this analysis was 17697 (3889 with cardiovascular events and 13808 without cardiovascular events).
^h The number of individuals included in this analysis was 45501 (10321 with cardiovascular events and 35180 without cardiovascular events).
ⁱ The number of individuals included in this analysis was 31333 (4827 with cardiovascular events and 26506 without cardiovascular events).

[†] These results were based on Model 4 (Adjusted for: age, sex, disease duration, body mass index, smoking status, alcohol intake status, English Index of Multiple Deprivation, Charlson Comorbidity Index, hypertension, atrial fibrillation, hypercholesterolemia, number of hospitalizations in the previous year, number of primary-care consultations in the previous year, European Society of Cardiology cardiovascular risk score, and prescription of diuretics, anti-platelet drugs, statins, urate lowering therapy, anti-hypertensive drugs, NSAIDs, corticosteroids and colchicine). Prescriptions were categorized as current (≤ 60 days), past (>60 days), or not prescribed prior to the cardiovascular event date or matched index date.

eTable 3. Association Between Gout Flare and Cardiovascular Event Using Self-Controlled Case Series Analysis: Sensitivity Analyses

Time period	Number of events ^a	Total follow-up time (person-days)	Events / 1000 person-days (95%CI)	Unadjusted absolute difference in event rate / 1000 person-days (95%CI)	aIRR (95%CI) ^d
Including gout flares treated with colchicine ^b [N=587]					
30 to 1 days before flare ^c	20	17471	1.14	-0.23 (-0.75 - 0.29)	0.83 (0.53-1.31)
Flare date to 60 days after flare	62	36108	1.72	0.34 (-0.11 - 0.79)	1.26 (1.01-1.81)
61-120 days after flare	70	34929	2.00	0.63 (0.14 - 1.12)	1.47 (1.21-1.79)
121-180 days after flare	70	34940	2.00	0.63 (0.14 - 1.12)	1.46 (1.00-2.06)
Baseline period: 180 to 31 days before flare + 181-540 days after flare	361	262801	1.37	Reference	Reference
Including gout flares treated with NSAIDs ^b [N=576]					
30 to 1 days before flare ^c	7	17134	0.41	-0.96(-1.29 to -0.63)	0.30 (0.14-0.63)
Flare date to 60 days after flare	84	35448	2.37	1.00 (0.47 - 1.53)	1.74 (1.26-2.39)
61-120 days after flare	78	34284	2.28	0.91 (0.38 - 1.43)	1.59 (1.31-1.93)
121-180 days after flare	50	34278	1.46	0.09 (-0.34 - 0.52)	1.07 (0.71-1.60)
Baseline period: 180 to 31 days before flare + 181-540 days after flare	353	257908	1.37	Reference	Reference
Including gout flares treated with corticosteroids ^b [N=146]					
30 to 1 days before flare ^c	3	4348	0.69	-0.46 (-1.28 - 0.37)	0.70 (0.53-1.91)
Flare date to 60 days after flare	40	8998	4.45	3.30 (1.90 - 4.70)	3.82 (2.33-6.27)
61-120 days after flare	21	8681	2.42	1.27 (0.20 - 2.34)	2.09 (1.43-3.05)
121-180 days after flare	12	8692	1.38	0.23 (-0.59 - 1.06)	1.17 (0.51-2.70)
Baseline period: 180 to 31 days before flare + 181-540 days after flare	75	65359	1.15	Reference	Reference

Abbreviations. 95%CI: 95% confidence interval, aIRR: incidence risk ratio.

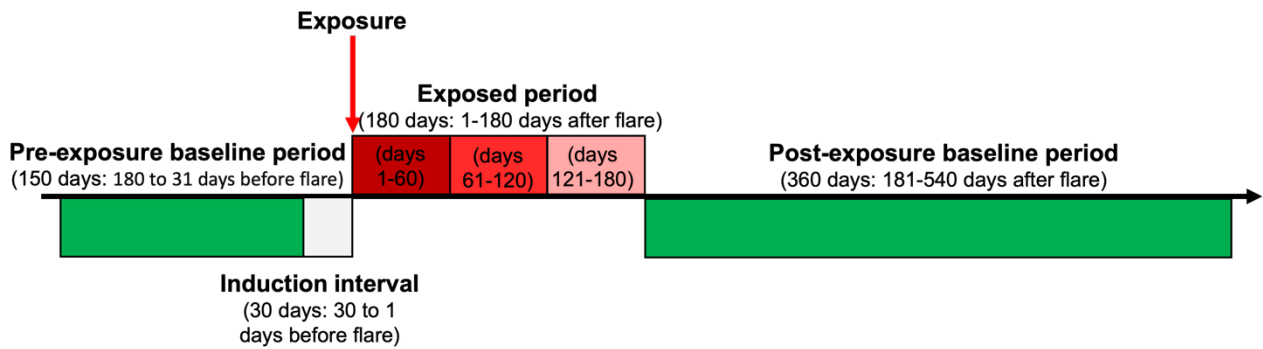
^a **Events:** cardiovascular events were defined as either acute myocardial infarction or a stroke.

^b The number of individuals included in each analysis is reported in square brackets.

^c Induction interval.

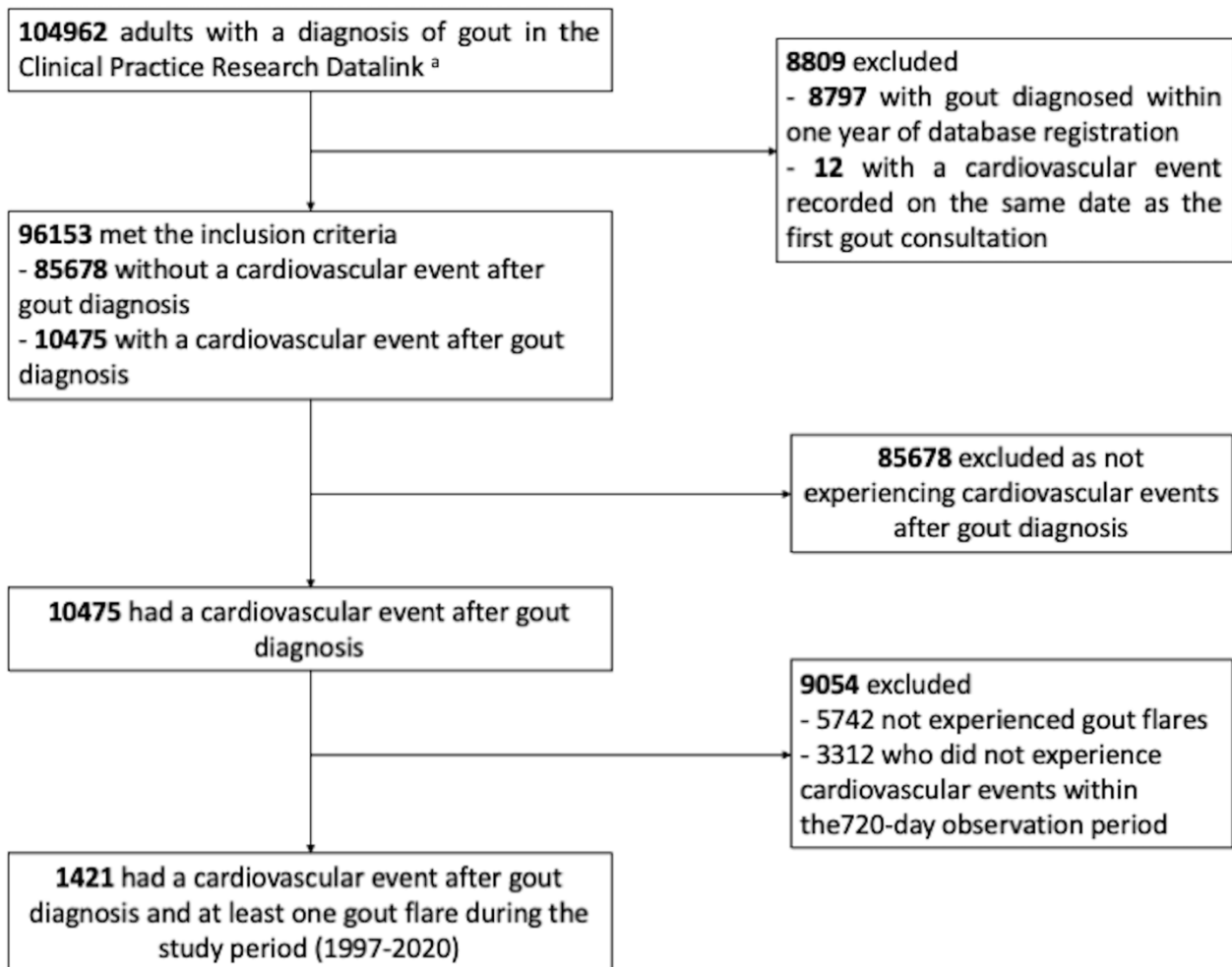
^d the analyses were adjusted for age and calendar season.

eFigure 1. Self-Controlled Case Series: Schematic Description



The at-risk period (coloured red) began with the date of gout flare consultation or hospitalization and lasted for 180 days. It was divided as 1-60, 61-120, and 121-180 days. The 30-day interval immediately preceding the exposure was the induction interval (coloured grey). The baseline period (coloured green) consisted of 150 days before the start of induction period and 360 days after the end of the exposed period. All patients included in self-controlled case series had at least one gout flare, and one cardiovascular event in the 720-day observation period.

eFigure 2. Cohort Development in a Self-Controlled Case Series Study of Cardiovascular Events After New Diagnosis of Gout



^a Clinical Practice Research Datalink is a longitudinal primary care database of anonymized health records of 15 million people across the United Kingdom from over 700 practices. It contains data on socio-demographics, lifestyle factors, diagnoses, consultations, and prescriptions recorded in primary care, hospitalization records, and mortality data.

eReferences.

- [1] Zheng C, Rashid N, Wu YL, et al. Using natural language processing and machine learning to identify gout flares from electronic clinical notes. *Arthritis Care Res (Hoboken)*. 2014;66(11):1740-8.
- [2] MacFarlane LA, Liu CC, Solomon DH, Kim SC. Validation of claims-based algorithms for gout flares. *Pharmacoepidemiol Drug Saf*. 2016;25(7):820-6.
- [3] Rothenbacher D, Primatesta P, Ferreira A, Cea-Soriano L, Rodríguez LAG. Frequency and risk factors of gout flares in a large population-based cohort of incident gout. *Rheumatology (Oxford)* 2011;50(5):973–81.
- [4] Petersen I, Douglas I, Whitaker H. Self controlled case series methods: an alternative to standard epidemiological study designs. *BMJ* 2016;354:i4515.
- [5] Smeeth L, Thomas SL, Hall AJ, Hubbard R, Farrington P, Vallance P. Risk of Myocardial Infarction and Stroke after Acute Infection or Vaccination. *N Engl J Med* 2004;351(25):2611–8.
- [6] Douglas IJ, Smeeth L. Exposure to antipsychotics and risk of stroke: self controlled case series study. *BMJ* 2008;337:616–8.
- [7] Di Bartolomeo S, Marino M, Guastaroba P, Valent F, De Palma R. Self-Controlled Case-Series Study to Verify the Effect of Adherence to Beta-Blockers in Secondary Prevention of Myocardial Infarction. *J Am Heart Assoc* 2015;4(1):e001575
- [8] Sultan AA, Muller S, Whittle R, Roddy E, Mallen C, Clarkson L. Venous thromboembolism in patients with gout and the impact of hospital admission, disease duration and urate-lowering therapy. *CMAJ* 2019;191(22):E597-603.
- [9] Kuo CF, Grainge MJ, Zhang W, Doherty M. Global epidemiology of gout: prevalence, incidence and risk factors. *Nat Rev Rheumatol* 2015;11(11):649–62.
- [10] Kuo CF, Grainge MJ, Mallen C, Zhang W, Doherty M. Comorbidities in patients with gout prior to and following diagnosis: Case-control study. *Ann Rheum Dis* 2016;75(1):210–7.
- [11] Seminog O, Goldacre M. Gout as a risk factor for myocardial infarction and stroke in England: evidence from record linkage studies. *Rheumatology (Oxford)* 2013;52(12):2251–9.
- [12] Clarkson L, Hider S, Belcher J, Heneghan C, Roddy E, Mallen C. Increased risk of vascular disease associated with gout: a retrospective, matched cohort study in the UK clinical practice research datalink. *Ann Rheum Dis* 2015;74(4):642–7.
- [13] Kuo CF, Grainge MJ, Mallen C, Zhang W, Doherty M. Rising burden of gout in the UK but continuing suboptimal management: a nationwide population study. *Ann Rheum Dis* 2015;74(4):661–7.
- [14] Mach F, Baigent C, Catapano AL, et al. 2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk. *Eur Heart J*. 2020;41(1):111-88.