

SUPPLEMENTARY FIGURES AND TABLES

Figure S1: Cohort derivation flowchart

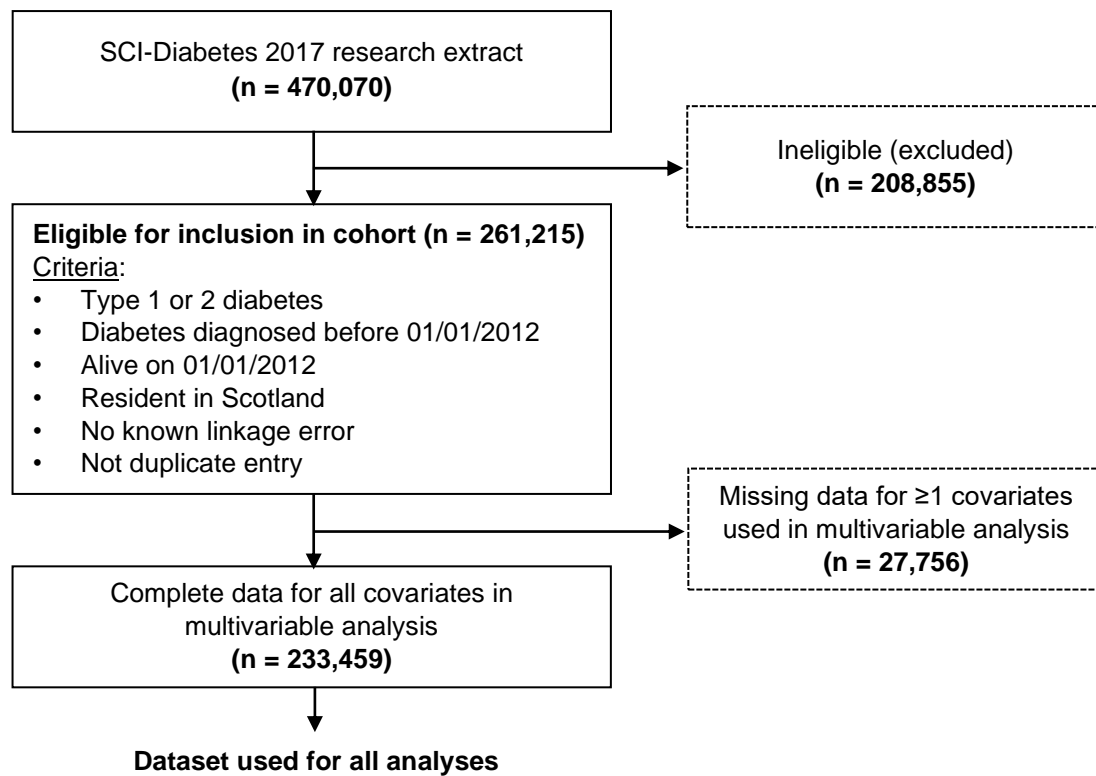
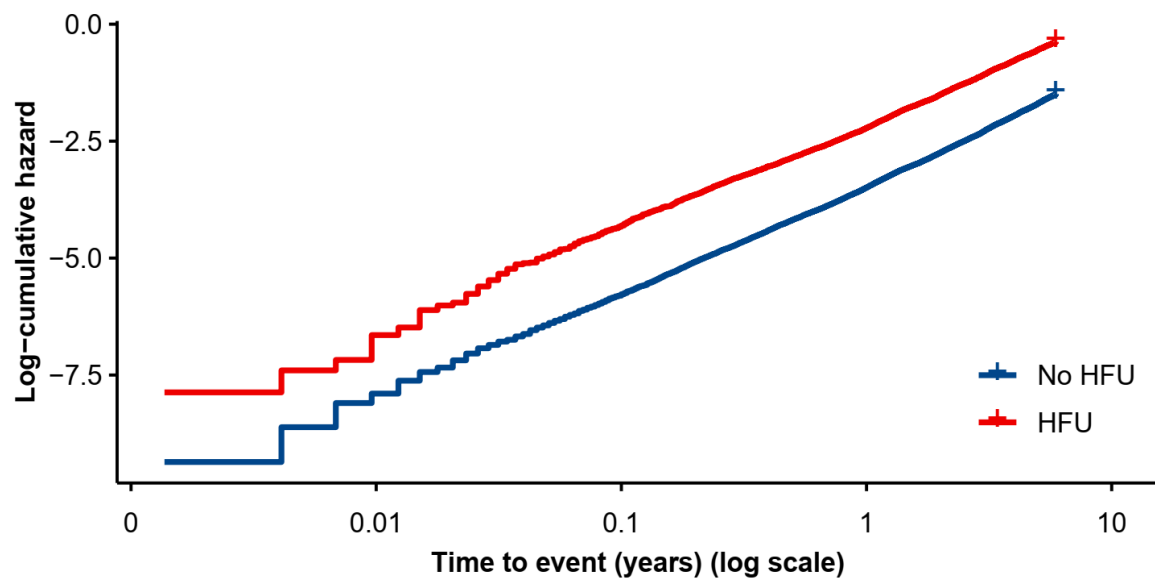


Figure S2: Log cumulative hazard plot for amputation-free survival



Supplementary Table S1. Codes used to identify foot ulcers and co-morbidities.

Foot ulcer

ICD codes for foot ulcer

ICD-9 code	Description
707.1	Ulcer of lower limb, except decubitus
ICD-10 code	Description
E10.5 ¹	Type 1 diabetes mellitus with peripheral circulatory complications
E11.5 ¹	Type 2 diabetes mellitus with peripheral circulatory complications
E14.5 ¹	Unspecified diabetes mellitus with peripheral circulatory complications
L97	Ulcer of lower limb, not elsewhere classified

Legend:

¹. Codes marked with a dagger (†) are excluded because † indicates pairing with asterix codes for peripheral angiopathy (I79.2*).

Abbreviations: ICD-9, International Classification of Diseases, version 9; ICD-10, International Classification of Diseases, version 10.

IHD

ICD codes for ischaemic heart disease

ICD-9 code	Description
410-414	Ischaemic heart diseases
410 (all sub-codes i.e. .9)	Acute myocardial infarction
411 (all sub-codes i.e. .9)	Other acute and subacute forms of ischaemic heart disease
412 (all sub-codes i.e. .9)	Old myocardial infarction
413 (all sub-codes i.e. .9)	Angina pectoris
414 (all sub-codes i.e. .0, .1, .8, .9)	Other forms of chronic ischaemic heart disease
ICD-10 code	Description
I20-I25	Ischaemic heart diseases
I20 (all sub-codes i.e. .0, .1, .8, .9)	Angina pectoris
I21 (all sub-codes i.e. .0-4, .9, .X)	Acute myocardial infarction
I22 (all sub-codes i.e. .0, .1, .8, .9)	Subsequent myocardial infarction
I23 (all sub-codes i.e. .0-6, .8)	Certain current complications following acute myocardial infarction
I24 (all sub-codes i.e. .0, .1, .8, .9)	Other acute ischaemic heart diseases
I25 (all sub-codes i.e. .0-6, .8, .9)	Chronic ischaemic heart disease

Legend:

Diagnoses in primary or secondary positions were all included.

Abbreviations: ICD-9, International Classification of Diseases, version 9; ICD-9, International Classification of Diseases, version 10.

OPCS codes for coronary revascularisation and stenting (i.e. indicate IHD)

OPCS-3 code	Description
304.1	Operations affecting myocardium: coronary endarterectomy
304.2	Operations affecting myocardium: revascularization (poudrage)
304.3	Operations affecting myocardium: coronary anastomosis or graft
OPCS-4 code	Description
K40 (all subcodes i.e. .1-.4, .8, .9)	Saphenous vein graft replacement of coronary artery
K41 (all subcodes i.e. .1-.4, .8, .9)	Other autograft replacement of coronary artery
K42 (all subcodes i.e. .1-.4, .8, .9)	Allograft replacement of coronary artery
K43 (all subcodes i.e. .1-.4, .8, .9)	Prosthetic replacement of coronary artery
K44 (all subcodes i.e. .1, .2, .8, .9)	Other replacement of coronary artery
K45 (all subcodes i.e. .1-.6, .8, .9)	Connection of thoracic artery to coronary artery
K46 (all subcodes i.e. .1-.5, .8, .9)	Other bypass of coronary artery
K49 (all subcodes i.e. .1-.4, .8, .9)	Transluminal balloon angioplasty of coronary artery
K50.1	Percutaneous transluminal laser coronary angioplasty
K50.8	Other specified therapeutic transluminal operations on coronary artery
K75 (all subcodes i.e. .1-.4, .8, .9)	Percutaneous transluminal balloon angioplasty and insertion of stent into coronary artery

Legend:

Diagnoses in primary or secondary positions were all included.

Abbreviations: OPCS-3, OPCS Classification of Interventions and Procedures version 3; OPCS-4, OPCS Classification of Interventions and Procedures version 4.

PVD

ICD codes for peripheral vascular disease

ICD-9 code	Description
440.2	Atherosclerosis of arteries of the extremities
443.8	Peripheral angiopathy in diseases classified elsewhere
443.9	Peripheral vascular disease, unspecified
444.2	Embolism and thrombosis of arteries of the extremities
ICD-10 code	Description
I70.2	Atherosclerosis of arteries of extremities
I73.9	Peripheral vascular disease, unspecified
I74.3	Embolism and thrombosis of arteries of the lower extremities
I74.4	Embolism and thrombosis of arteries of extremities, unspecified
I74.5	Embolism and thrombosis of iliac artery
I79.2 <i>asterix</i>	Peripheral angiopathy in diseases classified elsewhere (<i>asterix</i>)

E10.5 <i>dagger</i> ¹	Type 1 diabetes mellitus with peripheral circulatory complications (<i>dagger</i>)
E11.5 <i>dagger</i> ¹	Type 2 diabetes mellitus with peripheral circulatory complications (<i>dagger</i>)
E14.5 <i>dagger</i> ¹	Unspecified diabetes mellitus with peripheral circulatory complications (<i>dagger</i>)

Legend:

¹In all records in the cohort where these codes are used, they are paired with I79.2 (asterix) i.e. the complication is specified as peripheral angiopathy. The E1X.5(†) codes therefore do not identify any additional records beyond those already identified by I79.2*, but are included for completeness.

Diagnoses in primary or secondary positions were all included.

Abbreviations: ICD-9, International Classification of Diseases, version 9; ICD-10, International Classification of Diseases, version 10.

OPCS codes for procedures indicating peripheral vascular disease

OPCS-3 code	Description
884	Repair of artery
884.1	Repair of artery: by-pass graft (vein)
884.2	Repair of artery: repair by tissue graft, not elsewhere classified
884.3	Repair of artery: repair by prosthesis
884.4	Repair of artery: excision with re-anastomosis
887	Arterial catheterization, not elsewhere classified
889.2	Other operations on arteries: revision of previous vascular operation
OPCS-4 code	Description
L50 (all subcodes i.e. .1-.6, .8, .9)	Other emergency bypass of iliac artery
L51 (all subcodes i.e. .1-.6, .8, .9)	Other bypass of iliac artery
L52 (all subcodes i.e. .1-.2, .8, .9)	Reconstruction of iliac artery
L53.1	Repair of iliac artery NEC
L54.1	Percutaneous transluminal angioplasty of iliac artery
L54.4	Percutaneous transluminal insertion of stent into iliac artery
L58 (all subcodes i.e. .1-.9)	Other emergency bypass of femoral artery
L59 (all subcodes i.e. .1-.9)	Other bypass of femoral artery
L60 (all subcodes i.e. .1-.4, .8,.9)	Reconstruction of femoral artery
L62.1	Repair of femoral artery NEC
L62.2	Open embolectomy of femoral artery
L62.8	Other specified other open operations on femoral artery
L62.9	Unspecified other open operations on femoral artery
L63.1	Percutaneous transluminal angioplasty of femoral artery

L63.2	Percutaneous transluminal embolectomy of femoral artery
L63.5	Percutaneous transluminal insertion of stent into femoral artery
L63.8	Other specified transluminal operations on femoral artery
L63.9	Unspecified transluminal operations on femoral artery
L65.2	Revision of reconstruction involving iliac artery
L65.3	Revision of reconstruction involving femoral artery
L66.1	Percutaneous transluminal arterial thrombolysis and reconstruction
L66.2	Percutaneous transluminal stent reconstruction of artery
L66.5	Percutaneous transluminal balloon angioplasty of artery
L66.7	Percutaneous transluminal placement of peripheral stent in artery
L66.8	Other specified other therapeutic transluminal operations on artery
L66.9	Unspecified other therapeutic transluminal operations on artery

Legend:

Diagnoses in primary or secondary positions were all included.

Abbreviations: NEC, Not Elsewhere Classified; OPCS-3, OPCS Classification of Interventions and Procedures version 3; OPCS-4, OPCS Classification of Interventions and Procedures version 4.

Stroke

ICD codes for stroke

ICD-9 code	Description
430 (all subcodes i.e. .9)	Subarachnoid haemorrhage
431 (all subcodes i.e. .9)	Intracerebral haemorrhage
434 (all subcodes i.e. .0, .1, .9)	Occlusion of cerebral arteries
436 (all subcodes i.e. .9)	Acute, ill-defined cerebrovascular disease
ICD-10 code	Description
I60 (all subcodes i.e. .0-.9)	Subarachnoid haemorrhage
I61 (all subcodes i.e. .0-.6, .8, .9)	Intracerebral haemorrhage
I63 (all subcodes i.e. .0-.6, .8, .9)	Cerebral infarction
I64	Stroke, not specified as haemorrhage or infarction

Legend:

Diagnoses in primary or secondary positions were all included.

Abbreviations: ICD-9, International Classification of Diseases, version 9; ICD-10, International Classification of Diseases, version 10.

End-stage renal failure

ICD codes for end-stage renal failure

End-stage renal failure	
ICD-10 code	Description
N18.0	End-stage renal disease

N18.5	Chronic kidney disease, stage 5
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ICD and OPCS codes indicating renal dialysis

Renal dialysis	
ICD-10 code	Description
Z49 (all subcodes i.e. .0-.2)	Care involving dialysis
OPCS-3 code	Description
950.3	Other vascular procedures: haemodialysis
OPCS-4 code	Description
X40 (all subcodes i.e. .1-.9)	Compensation for renal failure
X41 (all subcodes i.e. .1, .2, .8, .9)	Placement of ambulatory apparatus for compensation for renal failure
X42 (all subcodes i.e. .1, .8, .9)	Placement of other apparatus for compensation for renal failure

Legend:

Diagnoses in primary or secondary positions were all included.

No sufficiently specific ICD-9 codes available.

Abbreviations: ICD-9, International Classification of Diseases, version 9; ICD-10, International Classification of Diseases, version 10; OPCS-3, OPCS Classification of Interventions and Procedures version 3; OPCS-4, OPCS Classification of Interventions and Procedures version 4.

Lower limb amputation

OPCS-4 and OPCS-3 codes for amputations of the leg, foot or toe (i.e. to include)

OPCS-3 code	Description
Major amputation	
870	Removal of lower limb
871 (all subcodes i.e. .1-.4)	Amputation through thigh
872	Disarticulation at knee
873	Amputation through lower leg
874	Amputation of foot
Minor amputation	
875 (all subcodes i.e. .1, .2, .5)	Amputation of toe
OPCS-4 code	Description
Major amputation	
X09 (all subcodes, as listed below:)	Amputation of leg
X091	Hindquarter amputation
X092	Disarticulation of hip
X093	Amputation of leg above knee
X094	Amputation of leg through knee
X095	Amputation of leg below knee
X098	Other specified amputation of leg
X099	Unspecified amputation of leg
X10	Amputation of foot
X101	Amputation of foot through ankle
Minor amputation	
X102	Disarticulation of tarsal bones

X103	Disarticulation of metatarsal bones
X104	Amputation through metatarsal bones
X108	Other specified amputation of foot
X109	Unspecified amputation of foot
X11 (all subcodes, as listed below:)	Amputation of toe
X111	Amputation of great toe
X112	Amputation of phalanx of toe
X118	Other specified amputation of toe
X119	Unspecified amputation of toe

Legend:

Diagnoses in primary or secondary positions were all included.

Abbreviations: OPCS-3, OPCS Classification of Interventions and Procedures version 3; OPCS-4, OPCS Classification of Interventions and Procedures version 4.

ICD codes for traumatic amputation of the leg, foot or toe (i.e. to exclude)

ICD-9 code	Description
895 (all subcodes i.e. .0, .1)	Traumatic amputation of toe(s) (complete) (partial)
896 (all subcodes i.e. .0-.3)	Traumatic amputation of foot (complete) (partial)
897 (all subcodes i.e. .0-.7)	Traumatic amputation of leg(s) (complete) (partial)
ICD-10 code	Description
S78 (all subcodes i.e. .0, .1, .9)	Traumatic amputation of hip and thigh
S88 (all subcodes i.e. .0, .1, .9)	Traumatic amputation of lower limb
S98 (all subcodes i.e. .0-.4)	Traumatic amputation of ankle and foot
T05.3	Traumatic amputation of both feet
T05.4	Traumatic amputation of 1 foot and other leg (any level, except foot)
T05.5	Traumatic amputation of both legs (any level)
T13.6	Traumatic amputation of lower limb, level unspecified

Legend:

Diagnoses in primary or secondary positions were all included.

Abbreviations: ICD-9, International Classification of Diseases, version 9; ICD-10, International Classification of Diseases, version 10.