

## Supplementary File

### **Supplementary File 1.** Search strategy based to Read codes.

Relevant codes were collated in a spreadsheet. A further text search was carried out on the THIN Read codes list and potentially relevant codes flagged taking all codes below relevant stem codes. Existing Read code lists used in published research by the Institute of Applied Health Research, University of Birmingham were merged with collated lists and filtered for duplicates. Separate lists were created and been compared. A final set of codes agreed on as a variation of Delphi process. [20] Drugs codes and ethnicity codes were provided by the department. Final lists were converted to Comma Separated Values files for the data extraction process. Final sets of Read codes for main outcomes, exposure type 2 DM and risk stratification of baseline foot risk score are the following:

#### A1.1 Type 2 diabetes

C106100	Diabetes mellitus, adult onset, + neurological manifestation
C109611	Type II diabetes mellitus with retinopathy
C109212	Type 2 diabetes mellitus with neurological complications
C109.13	Type II diabetes mellitus
C109.12	Type 2 diabetes mellitus
C109211	Type II diabetes mellitus with neurological complications
C10FE00	Type 2 diabetes mellitus with diabetic cataract
C10FQ00	Type 2 diabetes mellitus with exudative maculopathy
C109.11	NIDDM - Non-insulin dependent diabetes mellitus
C109J00	Insulin treated Type 2 diabetes mellitus
C10FM00	Type 2 diabetes mellitus with persistent microalbuminuria
C10F111	Type II diabetes mellitus with ophthalmic complications
C109F00	Non-insulin-dependent d m with peripheral angiopath
C10F911	Type II diabetes mellitus without complication
C10F511	Type II diabetes mellitus with gangrene
C109B00	Non-insulin dependent diabetes mellitus with polyneuropathy
C10FA11	Type II diabetes mellitus with mononeuropathy
C100112	Non-insulin dependent diabetes mellitus
C109500	Non-insulin dependent diabetes mellitus with gangrene
C10FJ11	Insulin treated Type II diabetes mellitus
C109100	Non-insulin-dependent diabetes mellitus with ophthalm comps
C10FF11	Type II diabetes mellitus with peripheral angiopathy
C109J12	Insulin treated Type II diabetes mellitus
C10FR11	Type II diabetes mellitus with gastroparesis
C109J11	Insulin treated non-insulin dependent diabetes mellitus

C109F12	Type 2 diabetes mellitus with peripheral angiopathy
C10D.00	Diabetes mellitus autosomal dominant type 2
C10F100	Type 2 diabetes mellitus with ophthalmic complications
C10FN11	Type II diabetes mellitus with ketoacidosis
C109F11	Type II diabetes mellitus with peripheral angiopathy
C10F900	Type 2 diabetes mellitus without complication
C109B12	Type 2 diabetes mellitus with polyneuropathy
C10F500	Type 2 diabetes mellitus with gangrene
C109B11	Type II diabetes mellitus with polyneuropathy
C10FA00	Type 2 diabetes mellitus with mononeuropathy
C109612	Type 2 diabetes mellitus with retinopathy
C109511	Type II diabetes mellitus with gangrene
C10FH00	Type 2 diabetes mellitus with neuropathic arthropathy
C109512	Type 2 diabetes mellitus with gangrene
C104100	Diabetes mellitus, adult onset, with renal manifestation
C109111	Type II diabetes mellitus with ophthalmic complications
C10FD00	Type 2 diabetes mellitus with hypoglycaemic coma
C109112	Type 2 diabetes mellitus with ophthalmic complications
C10FP00	Type 2 diabetes mellitus with ketoacidotic coma
C10FL00	Type 2 diabetes mellitus with persistent proteinuria
C10F011	Type II diabetes mellitus with renal complications
C109E00	Non-insulin depend diabetes mellitus with diabetic cataract
C10F411	Type II diabetes mellitus with ulcer
C109A00	Non-insulin dependent diabetes mellitus with mononeuropathy
C109900	Non-insulin-dependent diabetes mellitus without complication
C107100	Diabetes mellitus, adult, + peripheral circulatory disorder
C10z100	Diabetes mellitus, adult onset, + unspecified complication
C109400	Non-insulin dependent diabetes mellitus with ulcer
C10FE11	Type II diabetes mellitus with diabetic cataract
C109000	Non-insulin-dependent diabetes mellitus with renal comps
C10FQ11	Type II diabetes mellitus with exudative maculopathy
C10FM11	Type II diabetes mellitus with persistent microalbuminuria
C10F000	Type 2 diabetes mellitus with renal complications
C109E11	Type II diabetes mellitus with diabetic cataract
C109E12	Type 2 diabetes mellitus with diabetic cataract
C10F400	Type 2 diabetes mellitus with ulcer
C109912	Type 2 diabetes mellitus without complication
C109412	Type 2 diabetes mellitus with ulcer
C109411	Type II diabetes mellitus with ulcer
C10FK00	Hyperosmolar non-ketotic state in type 2 diabetes mellitus
C109012	Type 2 diabetes mellitus with renal complications
C109011	Type II diabetes mellitus with renal complications
C10FG00	Type 2 diabetes mellitus with arthropathy
C10F311	Type II diabetes mellitus with multiple complications
C109H00	Non-insulin dependent d m with neuropathic arthropathy
C109D00	Non-insulin dependent diabetes mellitus with hypoglyca coma
C10F711	Type II diabetes mellitus - poor control
C10FC11	Type II diabetes mellitus with nephropathy
C10FH11	Type II diabetes mellitus with neuropathic arthropathy

C105100	Diabetes mellitus, adult onset, + ophthalmic manifestation
C107400	NIDDM with peripheral circulatory disorder
C109300	Non-insulin-dependent diabetes mellitus with multiple comps
C10FD11	Type II diabetes mellitus with hypoglycaemic coma
C10FP11	Type II diabetes mellitus with ketoacidotic coma
C109H12	Type 2 diabetes mellitus with neuropathic arthropathy
C10F300	Type 2 diabetes mellitus with multiple complications
C10FL11	Type II diabetes mellitus with persistent proteinuria
C109H11	Type II diabetes mellitus with neuropathic arthropathy
C109D12	Type 2 diabetes mellitus with hypoglycaemic coma
C109D11	Type II diabetes mellitus with hypoglycaemic coma
C10F700	Type 2 diabetes mellitus - poor control
C102100	Diabetes mellitus, adult onset, with hyperosmolar coma
C10FC00	Type 2 diabetes mellitus with nephropathy
C10y100	Diabetes mellitus, adult, + other specified manifestation
C109311	Type II diabetes mellitus with multiple complications
C10FJ00	Insulin treated Type 2 diabetes mellitus
C109312	Type 2 diabetes mellitus with multiple complications
C10FF00	Type 2 diabetes mellitus with peripheral angiopathy
C10F.11	Type II diabetes mellitus
C109K00	Hyperosmolar non-ketotic state in type 2 diabetes mellitus
C10FR00	Type 2 diabetes mellitus with gastroparesis
C10P111	Type 2 diabetes mellitus in remission
C10F211	Type II diabetes mellitus with neurological complications
C109G00	Non-insulin dependent diabetes mellitus with arthropathy
C10FN00	Type 2 diabetes mellitus with ketoacidosis
C109C00	Non-insulin dependent diabetes mellitus with nephropathy
C10F611	Type II diabetes mellitus with retinopathy
C10FB11	Type II diabetes mellitus with polyneuropathy
C109700	Non-insulin dependent diabetes mellitus - poor control
C109600	Non-insulin-dependent diabetes mellitus with retinopathy
C10FK11	Hyperosmolar non-ketotic state in type II diabetes mellitus
C109200	Non-insulin-dependent diabetes mellitus with neuro comps
C10FG11	Type II diabetes mellitus with arthropathy
C10F.00	Type 2 diabetes mellitus
C109.00	Non-insulin dependent diabetes mellitus
C10P100	Type II diabetes mellitus in remission
C10F200	Type 2 diabetes mellitus with neurological complications
C109G12	Type 2 diabetes mellitus with arthropathy
C109C11	Type II diabetes mellitus with nephropathy
C109C12	Type 2 diabetes mellitus with nephropathy
C10F600	Type 2 diabetes mellitus with retinopathy
D10z100	Diabetes mellitus, adult onset, no mention of complication
C10FB00	Type 2 diabetes mellitus with polyneuropathy
C109711	Type II diabetes mellitus - poor control
C109712	Type 2 diabetes mellitus - poor control

### A1.2 Foot Ulcer

14F6.00	H/O: foot ulcer
14F6.00	H/O: foot ulcer
2G48.00	O/E - ankle ulcer
2G54.00	O/E - Right foot ulcer
2G55.00	O/E - Left foot ulcer
2G5H.00	O/E - Right diabetic foot - ulcerated
2G5L.00	O/E - Left diabetic foot - ulcerated
2G5S.00	O/E - right healed foot ulcer
2G5T.00	O/E - left healed foot ulcer
2G5V.00	O/E - right chronic diabetic foot ulcer
2G5W.00	O/E - left chronic diabetic foot ulcer
2G63.00	Ischaemic toe
C109400	Non-insulin dependent diabetes mellitus with ulcer
C109411	Type II diabetes mellitus with ulcer
C109412	Type 2 diabetes mellitus with ulcer
C10E512	Insulin dependent diabetes mellitus with ulcer
C10F400	Type 2 diabetes mellitus with ulcer
C10F411	Type II diabetes mellitus with ulcer
M271.11	Foot ulcer
M271000	Ischaemic ulcer diabetic foot
M271100	Neuropathic diabetic ulcer - foot
M271100	Neuropathic diabetic ulcer - foot
M271200	Mixed diabetic ulcer - foot
M271700	Neuropathic foot ulcer
M271700	Neuropathic foot ulcer

### A1.3 Peripheral Neuropathy

1M8..0	Diabetic peripheral neuropathic pain
C106.12	Diabetes mellitus with neuropathy
C106.13	Diabetes mellitus with polyneuropathy
C109A00	Non-insulin dependent diabetes mellitus with mononeuropathy
C109A11	Type II diabetes mellitus with mononeuropathy
C109A12	Type 2 diabetes mellitus with mononeuropathy
C109B00	Non-insulin dependent diabetes mellitus with polyneuropathy
C109B11	Type II diabetes mellitus with polyneuropathy
C109B12	Type 2 diabetes mellitus with polyneuropathy
C109H00	Non-insulin dependent d m with neuropathic arthropathy
C109H11	Type II diabetes mellitus with neuropathic arthropathy
C109H12	Type 2 diabetes mellitus with neuropathic arthropathy
C10FA00	Type 2 diabetes mellitus with mononeuropathy
C10FA11	Type II diabetes mellitus with mononeuropathy
C10FB00	Type 2 diabetes mellitus with polyneuropathy
C10FB11	Type II diabetes mellitus with polyneuropathy
F366.00	Polyneuropathy

F367.00	Peripheral neuropathy
F36y.00	Other idiopathic peripheral neuropathy
F36yz00	Other idiopathic peripheral neuropathy NOS
F372.00	Polyneuropathy in diabetes
F372.11	Diabetic polyneuropathy
F372.12	Diabetic neuropathy
F372000	Acute painful diabetic neuropathy
F372100	Chronic painful diabetic neuropathy
F372200	Asymptomatic diabetic neuropathy
F3y0.00	Diabetic mononeuropathy
Fyu6B00	[X]Other mononeuropathies of lower limb
Fyu7500	[X]Polyneuropathy/other endocrine+metabolic diseases CE
FyuAC00	[X]Autonomic neuropathy/endocrine+metabolic diseases CE
SD72200	Neuropathic foot blister
29B9.00	10g monofilament sensation R foot abnormal
29BA.00	10g monofilament sensation L foot abnormal
29B2.11	O/E - loss of touch sensation
29B8.00	10g monofilament sensation absent
29H2.00	O/E - vibration sense reduced
29H3.00	O/E - vibration sense absent
29H4.00	O/E - Vibration sense of right foot abnormal
29H6.00	O/E - Vibration sense of left foot abnormal
29H8.00	O/E - vibration sense left foot reduced
29H9.00	O/E - vibration sense right foot reduced
29HA.00	O/E - Vibration sense of right foot absent
29HB.00	O/E - Vibration sense of left foot absent
29BM.00	10g monofil sensation plantar aspect gt toe R foot absent
29BN.00	10g monofil sensation plantar aspect gt toe L foot absent
29BP.00	10g monofil sensation plantar aspect mid toe R foot absent
29BQ.00	10g monofil sensation plantar aspect mid toe L foot absent
29BR.00	10g monofil sensation plantar aspect lit toe R foot absent
29BS.00	10g monofil sensation plantar aspect lit toe L foot absent
29BT.00	10g monofil sensit plantar aspect 1st met hd R foot absent
29BV.00	10g monofil sensit plantar aspect 1st met hd L foot absent
29C2.00	O/E - tactile discrim.abnormal
29C3.00	Pin prick sensation of right foot abnormal
29C4.00	Pin prick sensation of left foot abnormal
29C7.00	Tactile discrimination right foot abnormal
29C8.00	Tactile discrimination left foot abnormal
29D2.00	O/E - deep sensation reduced
29D3.00	O/E - deep sensation absent
29E2.00	O/E - pain sensation reduced
29E3.00	O/E - analgesia present
29E4.00	On examination allodynia
29F2.00	O/E - temp. discrim. reduced
29F3.00	O/E - temp. discrim. absent
29G2.00	O/E - joint posn.sense reduced
29G3.00	O/E - joint posn.sense absent
29I2.00	O/E - stereognosis - reduced

#### A1.4 Lower Limb Amputations

Codes	Description
14N4.00	H/O: limb amputation
14N4.11	Amputee - limb
14N4100	H/O: lower limb amputation
14N4Z00	H/O: limb amputation NOS
2G42.00	O/E - Amputated right leg
2G43.00	O/E - Amputated left leg
2G44.00	O/E - Amputated right above knee
2G45.00	O/E - Amputated left above knee
2G46.00	O/E - Amputated right below knee
2G47.00	O/E - Amputated left below knee
2G4A.00	O/E - amputated left midfoot
2G4B.00	O/E - amputated right midfoot
2G56.00	O/E - Amputated right forefoot
2G57.00	O/E - Amputated left forefoot
2G61.00	O/E - Amputated right toe
2G62.00	O/E - Amputated left toe
7L06.00	Amputation of leg
7L06000	Hindquarter amputation
7L06011	Ferre hindquarter amputation
7L06012	Gordon - Taylor hindquarter amputation
7L06013	Jaboulay hindquarter amputation
7L06014	King hindquarter amputation
7L06015	Sorrondo hindquarter amputation
7L06016	Steelquist hindquarter amputation
7L06017	Taylor hindquarter amputation
7L06100	Disarticulation of hip
7L06111	Boyd disarticulation of hip
7L06112	Fitzmaurice - Kelly disarticulation of hip
7L06200	Amputation above knee
7L06211	Kirk amputation of leg through thigh
7L06212	Amputation of leg through thigh
7L06300	Amputation through knee
7L06311	Batch disarticulation of knee
7L06312	Callander disarticulation of knee
7L06313	Disarticulation of knee
7L06314	Gritti-Stokes disarticulation of knee
7L06315	Kirk disarticulation of knee
7L06316	Mazet disarticulation of knee
7L06317	McFaddin disarticulation of knee
7L06318	Slocum disarticulation of knee
7L06319	Spittler disarticulation of knee
7L06400	Amputation below knee
7L06411	Boyd amputation of leg below knee
7L06412	Burgess amputation of leg below knee
7L06413	Guyon amputation of leg below knee
7L06y00	Other specified amputation of leg
7L06z00	Amputation of leg NOS
7L07.00	Amputation of foot

7L07000	Amputation through ankle
7L07011	Pirogoff amputation of foot through ankle
7L07012	Syme amputation of foot through ankle
7L07100	Disarticulation of tarsal bones
7L07111	Boyd amputation of hindfoot
7L07200	Disarticulation tarsometatarsal joint
7L07211	Lisfranc tarsometatarsal amputation
7L07212	Tarsometatarsal amputation
7L07213	Disarticulation of metatarsal bones
7L07300	Amputation through metatarsal bones
7L07311	Chopart midtarsal amputation
7L07312	Ray transmetatarsal amputation
7L07y00	Other specified amputation of foot
7L07z00	Amputation of foot NOS
7L07z11	Hey amputation of foot
7L08.00	Amputation of toe
7L08.11	Disarticulation of toe
7L08000	Amputation hallux
7L08011	Amputation great toe
7L08100	Amputation of phalanx of toe
7L08200	Proximal hemiphalangectomy of toe
7L08300	Amputation lesser toe
7L08400	Terminalisation of hallux
7L08500	Terminalisation of lesser toe
7L08y00	Other specified amputation of toe
7L08z00	Amputation of toe NOS
7L08z11	Disarticulation of toe NOS
Z6P3100	Lower limb amputee mobility practice
Z6X2.00	Lower limb amputee transfer practice

#### A1.5 Peripheral Vascular Disease

1M11000	Ischaemic foot pain at rest
1M11100	Ischaemic foot pain when walking
C107.12	Diabetes with gangrene
G73..00	Other peripheral vascular disease
G73..11	Peripheral ischaemic vascular disease
G73..12	Ischaemia of legs
G73..13	Peripheral ischaemia
G731.00	Thromboangiitis obliterans
G731000	Buerger's disease
G731100	Presenile gangrene
G731z00	Thromboangiitis obliterans NOS
G732.00	Peripheral gangrene
G732000	Gangrene of toe
G732100	Gangrene of foot
G732200	Gangrene of finger
G732300	Gangrene of thumb
G732400	Gangrene of hand
G733.00	Ischaemic foot

G734.00	Peripheral arterial disease
G73y.00	Other specified peripheral vascular disease
G73y000	Diabetic peripheral angiopathy
G73y100	Peripheral angiopathic disease EC NOS
G73y200	Acrocyanosis
G73yz00	Other specified peripheral vascular disease NOS
G73z.00	Peripheral vascular disease NOS
G73z000	Intermittent claudication
G73z011	Claudication
G73z012	Vascular claudication
G73z100	Spasm of peripheral artery
G73zz00	Peripheral vascular disease NOS
Gyu7400	[X]Other specified peripheral vascular diseases
R054.00	[D]Gangrene
R054000	[D]Gangrene, spreading cutaneous
R054200	[D]Gangrene of toe in diabetic
R054300	[D]Widespread diabetic foot gangrene
R054z00	[D]Gangrene NOS
24E3.00	O/E - R.femoral pulse absent
24E5.00	O/E - R.popliteal pulse absent
24E7.00	O/E - R.post.tib pulse absent
24E9.00	O/E - R.dorsalis pedis absent
24EA.00	O/E - Absent right foot pulses
24EC.00	O/E - Right dorsalis pedis abnormal
24ED.00	O/E - Right posterior tibial pulse abnormal
24EG.00	O/E right leg pulses all absent
24EH.00	Right posterior tibial pulse impalpable
24EL.00	Right dorsalis pedis pulse impalpable
24F3.00	O/E - L.femoral pulse absent
24F5.00	O/E - L.popliteal pulse absent
24F7.00	O/E - L.post.tib. pulse absent
24F9.00	O/E - L.dorsalis pedis absent
24FA.00	O/E - Absent left foot pulses
24FC.00	O/E - left dorsalis pedis abnormal
24FD.00	O/E - Left posterior tibial pulse abnormal
24FG.00	O/E left leg pulses all absent
24FJ.00	Left posterior tibial pulse impalpable
24FL.00	Left dorsalis pedis pulse impalpable
24H..00	O/E - poor tissue perfusion

#### A1.6 Charcot Arthropathy

C109H00	Non-insulin dependent d m with neuropathic arthropathy
C109H11	Type II diabetes mellitus with neuropathic arthropathy
C109H12	Type 2 diabetes mellitus with neuropathic arthropathy
C10FH00	Type 2 diabetes mellitus with neuropathic arthropathy
C10FH11	Type II diabetes mellitus with neuropathic arthropathy
N030100	Diabetic Charcot arthropathy
N035.00	Neuropathic arthropathy
N035.11	Charcot's arthropathy



N06z700	Arthropathy NOS, of the ankle and foot
N030.00	Arthropathy associated with endocrine and metabolic disorder
C109G00	Non-insulin dependent diabetes mellitus with arthropathy
C109G11	Type II diabetes mellitus with arthropathy
C109G12	Type 2 diabetes mellitus with arthropathy
C10FG00	Type 2 diabetes mellitus with arthropathy
C10FG11	Type II diabetes mellitus with arthropathy
N065700	Unspecified polyarthropathy of the ankle and foot
N06y700	Other specified arthropathy of the ankle and foot

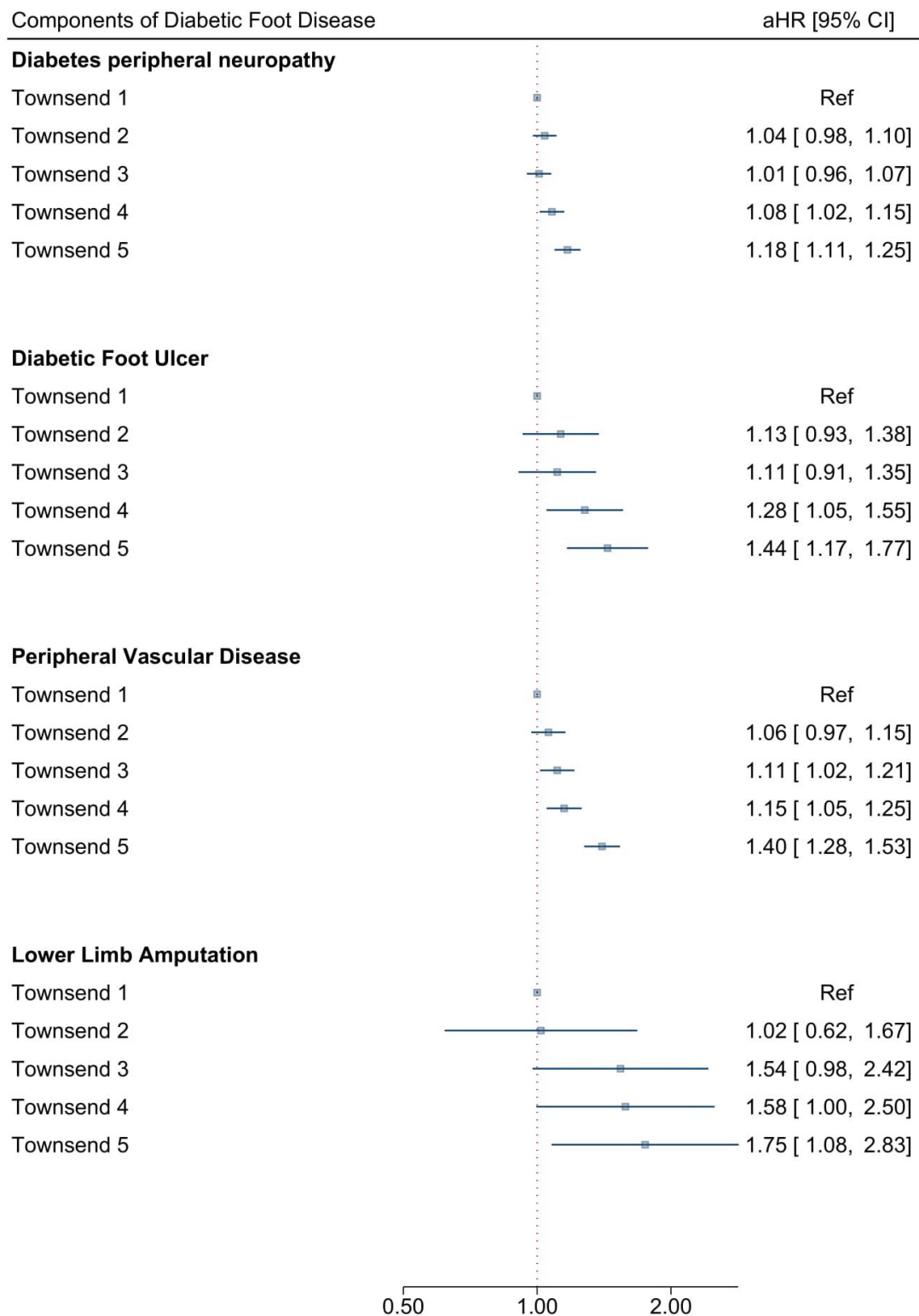
#### A1.7 Gangrene

R054200	[D]Gangrene of toe in diabetic
R054300	[D]Widespread diabetic foot gangrene
R054200	[D]Gangrene of toe in diabetic
R054300	[D]Widespread diabetic foot gangrene
G732.	Peripheral gangrene
G7320	Gangrene of toe
G7321	Gangrene of foot
C107.11	Diabetes mellitus with gangrene
C107.12	Diabetes with gangrene
C1072	Diabetes mellitus, adult with gangrene
C1095	Non-insulin dependent diabetes mellitus with gangrene
A3A0F	Gas gangrene-foot

#### A1.8 Foot Risk Stratification

8I3W.00	Diabetic foot examination declined	Nonattendance of foot exam
2G5G.00	O/E - Right diabetic foot at high risk	High risk
2G5K.00	O/E - Left diabetic foot at high risk	High risk
2G5E.00	O/E - Right diabetic foot at low risk	Low risk
2G5I.00	O/E - Left diabetic foot at low risk	Low risk
2G5d.00	O/E - Left diabetic foot at increased risk	Moderate risk
2G5e.00	O/E - Right diabetic foot at increased risk	Moderate risk
2G5F.00	O/E - Right diabetic foot at moderate risk	Moderate risk
2G5J.00	O/E - Left diabetic foot at moderate risk	Moderate risk

**Supplementary File 2.** Townsend deprivation quintiles and the incident risk of individual components of diabetic foot disease.



Forest plot does not report gangrene and charcot arthropathy as outcomes due to large confidence intervals