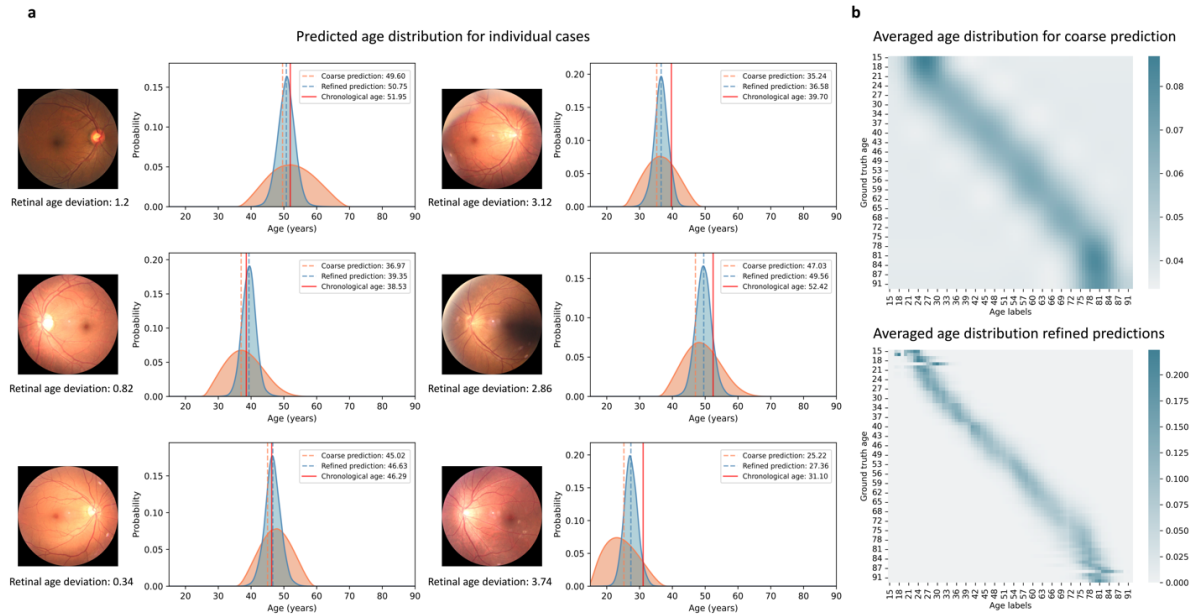
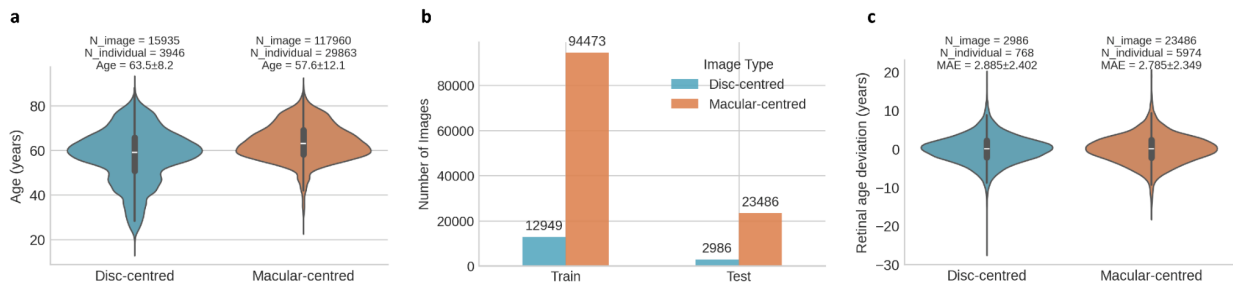


Supplementary Figures and Tables

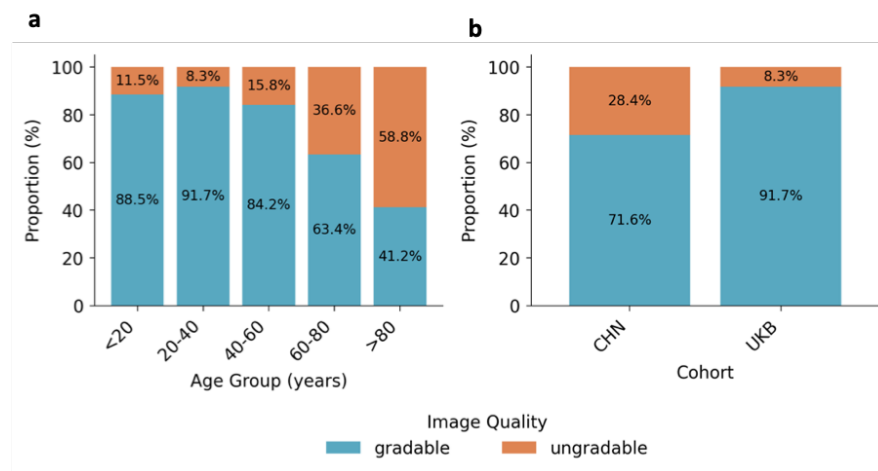


Supplementary Figure 1. Distribution of predicted retinal ages for individual samples and averaged predictions probability across age labels. **a** predicted age distributions for six individual image samples, with three samples showing retinal age deviations greater than 2.79 (above our model's threshold) and three samples with deviations below this threshold. **b** averaged probability distributions of the predicted ages for the coarse and refined prediction stages, demonstrating the model's overall performance in mapping retinal age predictions to the corresponding age labels.

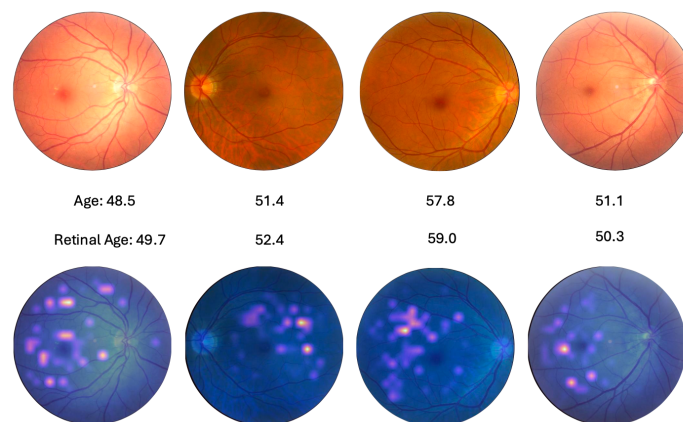


Supplementary Figure 2. Distribution and performance analysis of macular-centered and disc-centered retinal images. **a** age distribution for disc-centered (N=15,935 images from 3,946 individuals, MAE=63.5±8.2 years) and macular-centered images (N=117,960 images from 29,863 individuals, MAE=57.6±12.1 years). **b** numerical distribution of disc-centered (blue) and macular-centered (orange) images in training (12,949 vs 94,473 images) and testing (2,986 vs 23,486 images) datasets. **c** distribution of retinal age deviation (predicted minus chronological age) for disc-centered (N=2,986 images from 768 individuals, MAE=2.885±2.402 years) and macular-

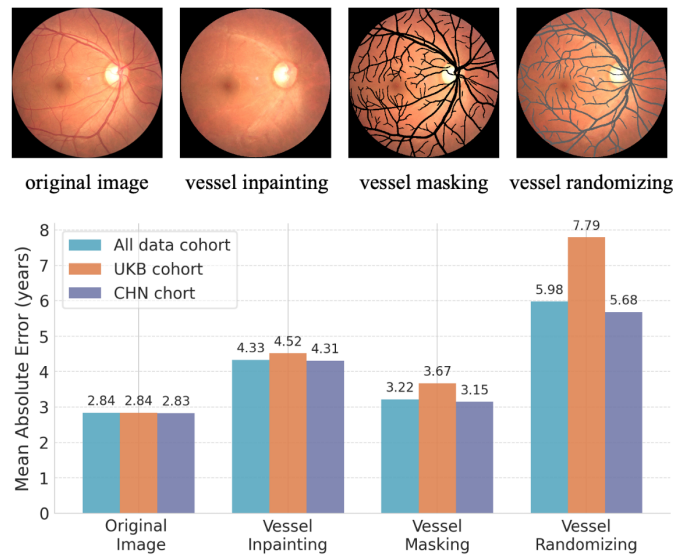
centered images (N=23,486 images from 5,974 individuals, MAE=2.785±2.349 years) in the testing dataset.



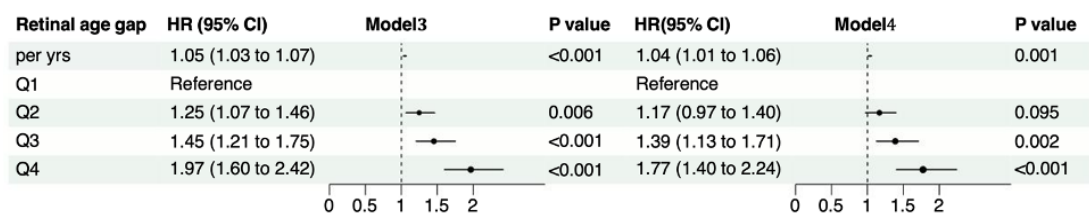
Supplementary Figure 3. Proportional distribution of image quality stratified by age group and cohort. **a** image quality is categorized into gradable (blue) and ungradable (orange) across age groups, illustrating an increasing proportion of ungradable images with advancing age (from 11.5% in <20 years to 58.8% in >80 years). **b** comparison of image quality between the Chinese (CHN) and UK Biobank (UKB) cohorts reveals a higher proportion of ungradable images in the CHN cohort (28.4%) compared to the UKB cohort (8.3%). Percentages within bars indicate the proportion of images classified as gradable or ungradable within each category.



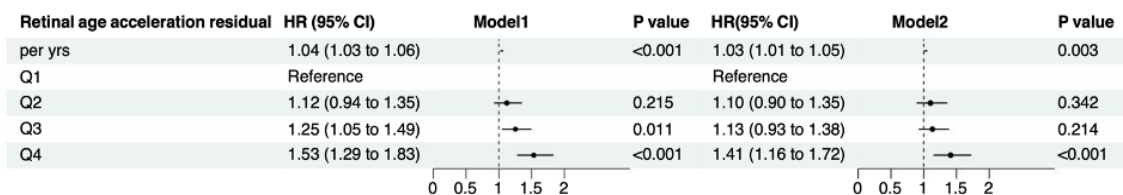
Supplementary Figure 4. Visualization of additional attention map results. The top row displays the original retinal images, while the bottom row presents the corresponding attention maps. The model predominantly focuses on regions surrounding the vessel structures within the retinal images, highlighting their importance in retinal age prediction.



Supplementary Figure 5. Impact of different vessel removal methods on retinal age prediction performance. The methods include vessel inpainting, where segmented vessels are replaced with content from the surrounding region; vessel masking, where vessels are directly masked out; and vessel randomizing, where vessel structures from other images are randomly added to the inpainted retinal image. The top row illustrates examples of the original image and the three vessel removal methods. The bottom bar plot shows the Mean Absolute Error (MAE) of retinal age prediction for each method across the entire dataset (All data cohort), the UK Biobank (UKB) cohort, and the Chinese (CHN) cohort.



Supplementary Figure 6. Sensitivity analysis of association between retinal age gap with risk of mortality. HR = hazard ratio; CI = confidence interval. Model 3 adjusted for age, age square, log(age), gender and Townsend. Model 4 adjusted for covariates in Model 3 + education, smoking status, physical activity, body mass index (BMI) and Charlson Comorbidity index (CCI) scores.



Supplementary Figure 7. Sensitivity analysis of association between retinal age acceleration residual with risk of mortality. HR = hazard ratio; CI = confidence interval. Model 1 adjusted for

age, gender, and Townsend. Model 2 adjusted for covariates in Model 1 + education, smoking status, physical activity, body mass index (BMI) and Charlson Comorbidity index (CCI) scores.

Retinal age gap	HR (95% CI)	Model3	P value	HR(95% CI)	Model4	P value
Cardiometabolic diseases						
Hypertension	1.03 (1.02 to 1.03)	→	<0.001	1.02 (1.01 to 1.03)	→	<0.001
Atrial fibrillation	1.03 (1.02 to 1.05)	→	<0.001	1.02 (1.01 to 1.04)	→	0.006
Heart failure	1.05 (1.03 to 1.07)	→	<0.001	1.04 (1.02 to 1.07)	→	<0.001
Peripheral vascular disease	1.05 (1.02 to 1.08)	→	<0.001	1.04 (1.01 to 1.07)	→	0.013
High cholesterol	1.03 (1.02 to 1.04)	→	<0.001	1.02 (1.01 to 1.04)	→	<0.001
Stroke	1.03 (1.01 to 1.06)	→	0.012	1.04 (1.01 to 1.07)	→	0.008
Diabetes	1.02 (1.01 to 1.04)	→	0.004	1.02 (1.00 to 1.04)	→	0.028
Coronary heart disease	1.03 (1.02 to 1.04)	→	<0.001	1.03 (1.02 to 1.04)	→	<0.001
Neurological diseases						
Anxiety	1.02 (1.01 to 1.04)	→	<0.001	1.01 (1.00 to 1.03)	→	0.104
Depression	1.02 (1.01 to 1.04)	→	0.008	1.02 (1.00 to 1.03)	→	0.085
Epilepsy	1.06 (1.02 to 1.10)	→	0.008	1.06 (1.02 to 1.11)	→	0.013
Multiple sclerosis	1.00 (0.91 to 1.09)	→	0.947	0.97 (0.88 to 1.07)	→	0.665
Parkinson's disease	1.00 (0.96 to 1.04)	→	0.942	1.00 (0.96 to 1.05)	→	0.890
Schizophrenia	1.01 (0.92 to 1.10)	→	0.947	1.02 (0.92 to 1.12)	→	0.798
Dementia	1.03 (1.00 to 1.06)	→	0.106	1.05 (1.01 to 1.09)	→	0.030
Other systemic diseases						
Chronic kidney disease	1.03 (1.02 to 1.04)	→	<0.001	1.02 (1.01 to 1.04)	→	0.005
Bronchiectasis	1.03 (1.00 to 1.07)	→	0.075	1.05 (1.01 to 1.09)	→	0.027
Chronic obstructive pulmonary disease (COPD)	1.06 (1.04 to 1.08)	→	<0.001	1.05 (1.03 to 1.07)	→	<0.001
Psoriasis	1.04 (1.01 to 1.06)	→	0.005	1.03 (1.01 to 1.06)	→	0.021
Prostate disorder	1.00 (0.99 to 1.02)	→	0.947	1.00 (0.98 to 1.02)	→	0.889
Osteoporosis	1.00 (0.99 to 1.01)	→	0.991	0.99 (0.98 to 1.01)	→	0.485
Chronic liver disease	1.10 (1.02 to 1.18)	→	0.012	1.08 (1.00 to 1.16)	→	0.067
Fracture	1.05 (1.01 to 1.08)	→	0.008	1.05 (1.01 to 1.09)	→	0.014
Chronic fatigue syndrome	0.96 (0.89 to 1.05)	→	0.480	0.99 (0.90 to 1.08)	→	0.850
Dyspepsia	1.02 (1.01 to 1.03)	→	<0.001	1.02 (1.01 to 1.03)	→	<0.001
Diverticular disease	1.01 (1.00 to 1.02)	→	0.092	1.00 (0.99 to 1.01)	→	0.798
Treated constipation	1.04 (1.02 to 1.05)	→	<0.001	1.03 (1.01 to 1.04)	→	0.002
Age-related eye diseases						
Cataract	1.12 (1.11 to 1.13)	→	<0.001	1.11 (1.10 to 1.13)	→	<0.001
Glaucoma	1.09 (1.06 to 1.11)	→	<0.001	1.08 (1.05 to 1.11)	→	<0.001
AMD	1.09 (1.06 to 1.12)	→	<0.001	1.08 (1.05 to 1.11)	→	<0.001

Supplementary Figure 8. Sensitivity analysis of association between retinal age gap with incidence of age-related diseases. HR = hazard ratio; CI = confidence interval. Model 3 adjusted for age, age square, log(age), gender and Townsend. Model 4 adjusted for covariates in Model 3 + education, smoking status, physical activity, body mass index (BMI) and Charlson Comorbidity index (CCI) scores.

Retinal age acceleration residual	HR (95% CI)	Model1	P value	HR(95% CI)	Model2	P value
Cardiometabolic diseases						
Hypertension	1.02 (1.01 to 1.03)	→	<0.001	1.01 (1.00 to 1.02)	→	0.026
Atrial fibrillation	1.03 (1.01 to 1.04)	→	<0.001	1.02 (1.00 to 1.04)	→	0.026
Heart failure	1.04 (1.02 to 1.06)	→	<0.001	1.03 (1.01 to 1.06)	→	0.009
Peripheral vascular disease	1.04 (1.01 to 1.07)	→	0.005	1.03 (1.00 to 1.06)	→	0.058
High cholesterol	1.03 (1.02 to 1.04)	→	<0.001	1.02 (1.01 to 1.04)	→	<0.001
Stroke	1.03 (1.01 to 1.05)	→	0.016	1.04 (1.01 to 1.06)	→	0.020
Diabetes	1.02 (1.01 to 1.04)	→	0.004	1.02 (1.00 to 1.03)	→	0.072
Coronary heart disease	1.03 (1.02 to 1.04)	→	<0.001	1.03 (1.02 to 1.04)	→	<0.001
Neurological diseases						
Anxiety	1.02 (1.00 to 1.03)	→	0.016	1.01 (0.99 to 1.02)	→	0.416
Depression	1.02 (1.00 to 1.03)	→	0.038	1.01 (1.00 to 1.03)	→	0.183
Epilepsy	1.05 (1.01 to 1.09)	→	0.016	1.06 (1.01 to 1.10)	→	0.025
Multiple sclerosis	1.00 (0.91 to 1.09)	→	0.965	0.97 (0.88 to 1.08)	→	0.670
Parkinson's disease	1.00 (0.96 to 1.04)	→	0.965	1.01 (0.96 to 1.05)	→	0.787
Schizophrenia	1.00 (0.92 to 1.09)	→	0.965	1.02 (0.93 to 1.12)	→	0.787
Dementia	1.02 (0.99 to 1.05)	→	0.312	1.03 (1.00 to 1.07)	→	0.105
Other systemic diseases						
Chronic kidney disease	1.02 (1.01 to 1.04)	→	<0.001	1.02 (1.00 to 1.03)	→	0.027
Bronchiectasis	1.04 (1.00 to 1.07)	→	0.039	1.05 (1.01 to 1.09)	→	0.025
Chronic obstructive pulmonary disease (COPD)	1.06 (1.04 to 1.08)	→	<0.001	1.05 (1.03 to 1.07)	→	<0.001
Psoriasis	1.03 (1.01 to 1.06)	→	0.011	1.03 (1.01 to 1.06)	→	0.032
Prostate disorder	1.01 (1.00 to 1.03)	→	0.214	1.01 (0.99 to 1.03)	→	0.293
Osteoporosis	1.00 (0.99 to 1.01)	→	0.965	1.00 (0.98 to 1.01)	→	0.511
Chronic liver disease	1.11 (1.04 to 1.18)	→	0.005	1.09 (1.01 to 1.17)	→	0.032
Fracture	1.04 (1.01 to 1.08)	→	0.013	1.05 (1.01 to 1.09)	→	0.027
Chronic fatigue syndrome	0.98 (0.90 to 1.07)	→	0.713	1.01 (0.91 to 1.11)	→	0.908
Dyspepsia	1.02 (1.01 to 1.03)	→	<0.001	1.02 (1.01 to 1.03)	→	<0.001
Diverticular disease	1.01 (1.00 to 1.02)	→	0.088	1.00 (0.99 to 1.01)	→	0.869
Treated constipation	1.03 (1.01 to 1.04)	→	<0.001	1.02 (1.00 to 1.03)	→	0.032
Age-related eye diseases						
Cataract	1.11 (1.10 to 1.13)	→	<0.001	1.11 (1.09 to 1.12)	→	<0.001
Glaucoma	1.09 (1.06 to 1.11)	→	<0.001	1.09 (1.06 to 1.11)	→	<0.001
AMD	1.09 (1.06 to 1.11)	→	<0.001	1.08 (1.05 to 1.11)	→	<0.001

Supplementary Figure 9. Sensitivity analysis of association between retinal age acceleration residual with incidence of age-related diseases. HR = hazard ratio; CI = confidence interval. Model 1 adjusted for age, gender and Townsend. Model 2 adjusted for covariates in Model 1 + education, smoking status, physical activity, body mass index (BMI) and Charlson Comorbidity index (CCI) scores.

Supplementary table 1. Field codes for diseases of interest

Long term condition grouping	Conditions included as reported by participants	Field Code
1. High cholesterol	High cholesterol	1473
2. Hypertension	Hypertension	1065
	Essential Hypertension	1072
3. Atrial Fibrillation	Atrial Fibrillation	1471
4. Coronary heart disease	Heart attack/Myocardial Infarction	1075
	Angina	1074

5. Heart failure	Cardiomyopathy	1079
	Hypertrophic cardiomyopathy	1588
	Heart failure/pulmonary oedema	1076
6. Stroke/Transient Ischaemic Attack (TIA)	Stroke	1081
	TIA	1082
	Subarachnoid haemorrhage	1083
	Brain haemorrhage	1086
	Ischaemic stroke	1583
7. Peripheral vascular disease	Peripheral vascular disease	1067
	Leg claudication/intermittent claudication	1087
8. Diabetes	Diabetic nephropathy	1607
	Diabetic neuropathy/ulcers	1468
	Diabetes	1220
	Type 1 diabetes	1222
	Type 2 diabetes	1223
	Diabetic eye disease	1276
9. Chronic Obstructive Pulmonary Disease (COPD)	COPD/chronic obstructive airways disease	1112
	Emphysema/chronic bronchitis	1113
	Emphysema	1472
10. Bronchiectasis	Bronchiectasis	1114
11. Depression	Depression	1286
	Postnatal Depression	1531
12. Anxiety	Anxiety/panic attacks	1287
	Nervous breakdown	1288
	Post-traumatic stress disorder	1469
	Obsessive compulsive disorder	1615

	Stress	1614
13.	Schizophrenia	1289
Schizophrenia/bipolar disorder	mania/bipolar disorder/manic depression	1291
14. Parkinson's disease	Parkinson's disease	1262
15. Multiple sclerosis	Multiple Sclerosis	1261
16. Epilepsy	Epilepsy	1264
17. Dementia	Dementia, Alzheimer's disease, Cognitive impairment	1263
18. Chronic fatigue syndrome	Chronic fatigue syndrome	1482
19. Dyspepsia	Gastro-oesophageal reflux (GORD)/gastric reflux	1138
	Oesophagitis /Barrett's oesophagus	1139
	Gastric stomach ulcers	1142
	Gastric erosions/gastritis	1143
	Duodenal ulcer	1457
	Dyspepsia/indigestion	1510
	Hiatus hernia	1474
	Helicobacter pylori	1442
20. Diverticular disease	Diverticular disease	1458
	Diverticulitis	1458
21. Treated constipation	Constipation	1599
22. Osteoporosis	Osteoporosis	1465
23. Fracture	fracture pelvis	1647
	fracture neck of femur / hip	1648
	fracture patella / knee	1650
24. Chronic kidney disease	Polycystic kidney	1427
	Diabetic nephropathy	1607

	Renal/kidney failure	1192
	Renal failure requiring dialysis	1193
	Renal failure not requiring dialysis	1194
	Kidney nephropathy	1519
	Immunoglobulin A (IgA) nephropathy	1520
25. Prostate disorders	Prostate problem (not cancer)	1207
	Enlarged prostate	1396
	Benign prostatic hypertrophy	1516
26. Psoriasis/eczema	Eczema/dermatitis	1452
	Psoriasis	1453
27. Chronic liver disease	Oesophageal varices	1141
	Non infective hepatitis	1157
	Liver failure/cirrhosis	1158
	Primary biliary cirrhosis	1506
28. Glaucoma	Glaucoma	1277
29. Cataract	Cataract	1278
30. AMD	AMD	1528

Supplementary Table 2. ICD codes for diseases of interest

Long term condition grouping	Conditions included as reported by participants	ICD10 code	ICD9 code
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1. High cholesterol	Disorders of lipoprotein metabolism and other lipidaemia	E78	2720
2. Hypertension	Essential (primary) hypertension	I10	401
	Hypertensive heart disease	I11	402
	Hypertensive heart disease with (congestive) heart failure	I110	403
	Hypertensive heart disease without (congestive) heart failure	I119	404
	Hypertensive renal disease	I12	405
	Hypertensive renal disease with renal failure	I120	
	Hypertensive renal disease without renal failure	I129	
	Hypertensive heart and renal disease	I13	
	Hypertensive heart and renal disease with (congestive) heart failure	I130	
	Hypertensive heart and renal disease with renal failure	I131	
	Hypertensive heart and renal disease with both (congestive) heart failure and renal failure	I132	
	Hypertensive heart and renal disease, unspecified	I139	
	Secondary hypertension	I15	
	Renovascular hypertension	I150	
	Hypertension secondary to other renal disorders	I151	
	Hypertension secondary to endocrine disorders	I152	
	Other secondary hypertension	I158	
	Secondary hypertension, unspecified	I159	
3. Atrial Fibrillation	Atrial fibrillation and flutter	I48	427
	Paroxysmal atrial fibrillation	I480	
	Persistent atrial fibrillation	I481	
	Chronic atrial fibrillation	I482	
	Atrial fibrillation and atrial flutter, unspecified	I489	
4. Coronary Heart Disease	Angina pectoris	I20	413
	Acute myocardial infarction	I21	410

	Subsequent myocardial infarction	I22	411
	Certain current complications following acute myocardial infarction	I23	412
	Other acute ischaemic heart diseases	I24	414
	Chronic ischaemic heart disease	I25	
5. Heart failure	Cardiomyopathy	I42	425
	Heart failure	I50	428
6. Stroke/Transient Ischaemic Attack (TIA)	Stroke, not specified as haemorrhage or infarction	I64	438
	Occlusion and stenosis of precerebral arteries, not resulting in cerebral infarction	I65	435
	Subarachnoid haemorrhage	I60	430
	Intracerebral haemorrhage	I61	431
	Other nontraumatic intracranial haemorrhage	I62	432
	Occlusion and stenosis of cerebral arteries, not resulting in cerebral infarction	I66	433
	Cerebral infarction	I63	434
	Acute but ill-defined cerebrovascular disease		436
	Other and ill-defined cerebrovascular disease		437
7. Peripheral vascular disease	Other aneurysm	I72	440
	Other peripheral vascular diseases	I73	443
	Arterial embolism and thrombosis		444
8. Diabetes	Diabetic polyneuropathy	G632	250
	Diabetic mononeuropathy	G590	
	Diabetic retinopathy	H360	
	Diabetic cataract	H280	
	Insulin-dependent diabetes mellitus	E10	
	Non-insulin-dependent diabetes mellitus	E11	

	Malnutrition-related diabetes mellitus	E12	
	Other specified diabetes mellitus	E13	
	Unspecified diabetes mellitus	E14	
	Congenital iodine-deficiency syndrome	E00	240
9. Chronic obstructive pulmonary disease (COPD)	Simple and mucopurulent chronic bronchitis	J41	491
	Unspecified chronic bronchitis	J42	
	Emphysema	J43	492
	Other chronic obstructive pulmonary disease	J44	494
10. Bronchiectasis	Bronchiectasis	J47	494
11. Depression	Depressive episode	F32	2962
	Recurrent depressive disorder	F33	2963
	Dysthymia	F341	3004
	Other recurrent mood [affective] disorders	F381	311
	Postschizophrenic depression	F204	
12. Anxiety	Phobic anxiety disorders	F40	3000
	Other anxiety disorders	F41	3002
	Reaction to severe stress, and adjustment disorders	F43	3009
	Posttraumatic stress disorder	F431	
	Obsessive-compulsive disorder	F42	3003
	Stress, not elsewhere classified	Z733	308
	Disorders of initiating and maintaining sleep [insomnias]	G470	7805
	Mental disorder, not otherwise specified	F99	
13. Schizophrenia /bipolar disorder	Schizophrenia	F20	295
	Schizotypal disorder	F21	
	Manic episode	F30	296

14. Parkinson's disease	Parkinson's disease	G20	332
	Secondary Parkinsonism	G21	3321
	Parkinsonism in diseases classified elsewhere	G22	333
	Other degenerative diseases of basal ganglia	G23	
	Extrapyramidal and movement disorder, unspecified	G259	
	Extrapyramidal and movement disorders in diseases classified elsewhere	G26	
	Multisystem degeneration	G903	
15. Multiple Sclerosis	Multiple sclerosis	G35	340
16. Epilepsy	Epilepsy	G40	345
17. Dementia	Creutzfeldt-Jakob disease	A810	290
	Dementia in Alzheimer's disease	F00	
	Vascular dementia	F01	
	Unspecified dementia	F03	
	Delirium superimposed on dementia	F051	
	Amnesic syndrome	F106	
	Alzheimer's disease	G30	
	Other degenerative diseases of nervous system, not elsewhere classified	G31	
	Progressive vascular leukoencephalopathy	I673	
18. Chronic fatigue syndrome	Postviral fatigue syndrome	G933	7807
19. Dyspepsia	Gastro-oesophageal reflux disease	K21	53081
	Gastro-oesophageal reflux disease with oesophagitis	K210	5368
	Gastro-oesophageal reflux disease without oesophagitis	K219	

	Oesophagitis	K20	
	Barrett's oesophagus	K227	
	Other specified diseases of oesophagus	K228	
	Disease of oesophagus, unspecified	K229	
	Disorders of oesophagus in diseases classified elsewhere	K23	
	Gastric ulcer	K25	
	Gastritis and duodenitis	K29	
	Duodenal ulcer	K26	
	Dyspepsia	K30	
	Congenital hiatus hernia	Q401	
	Helicobacter pylori [H.pylori] as the cause of diseases classified to other chapters	B980	
20.	Diverticular disease of intestine	K57	562
Diverticular disease			
21. Treated constipation	Constipation	K590	5640
22.	Polyarthrosis	M15	7330
Osteoporosis			
	Primary generalised (osteo)arthrosis	M150	
	Primary generalized (osteo)arthrosis, Multiple sites	M1500	
	Heberden's nodes (with arthropathy)	M151	
	Coxarthrosis [arthrosis of hip]	M16	
	Gonarthrosis [arthrosis of knee]	M17	
23. Fracture	Multiple fractures of lumbar spine and pelvis	S327	808
	Multiple fractures of lumbar spine and pelvis (closed)	S3270	
	Fracture of femur	S72	820

	Fracture of patella	S820	8210
	Fracture of patella (closed)	S8200	824
24. Chronic kidney disease	Polycystic kidney, infantile type	Q611	75315
	Polycystic kidney, adult type	Q612	
	Polycystic kidney, unspecified	Q613	
	Acute renal failure	N17	584
	Chronic renal failure	N18	585
	Unspecified renal failure	N19	586
	Renal complications	E112	587
	Other	N028	588
25. Prostate disorders	Hyperplasia of prostate	N40	600
	Inflammatory diseases of prostate	N41	601
	Other disorders of prostate	N42	602
	Disorders of prostate in diseases classified elsewhere	N510	
26. Psoriasis/eczema	Bipolar affective disorder	F31	
	Atopic dermatitis	L20	696
	Seborrhoeic dermatitis	L21	692
	Diaper [napkin] dermatitis	L22	
	Allergic contact dermatitis	L23	
	Irritant contact dermatitis	L24	
	Unspecified contact dermatitis	L25	
	Exfoliative dermatitis	L26	
	Dermatitis due to substances taken internally	L27	
	Other dermatitis	L30	
	Psoriasis	L40	

	Parapsoriasis	L41	
27. Chronic Liver disease	Oesophageal varices	I85	571
	Toxoplasma hepatitis	B581	
	Alcoholic hepatitis	K701	
	Toxic liver disease with acute hepatitis	K712	
	Toxic liver disease with chronic persistent hepatitis	K713	
	Toxic liver disease with chronic lobular hepatitis	K714	
	Toxic liver disease with chronic active hepatitis	K715	
	Toxic liver disease with hepatitis, not elsewhere classified	K716	
	Fibrosis and cirrhosis of liver	K74	
	Primary biliary cirrhosis	K743	
28. Glaucoma	Glaucoma	H40	365
29. Cataract	Senile cataract	H25	366
	Other cataract	H26	
	Cataract and other disorders of lens in diseases classified elsewhere	H28	
30. AMD	Degeneration of macula and posterior pole	H353	3625

Supplementary Table 3. Charlson Comorbidity Index

Charlson Comorbidity Index	Points	UKB data field
Age <50	0	UKB data field 21022
Age 50-59	1	UKB data field 21022

Age 60-69	2	UKB data field 21022
Age 70-79	3	UKB data field 21022
Age ≥80	4	UKB data field 21022
Myocardial infarction	1	ICD10 codes prior to/at baseline (UKB data field 41270) and self-reported baseline non-cancer illness codes (20002)
Congestive heart failure	1	ICD10 codes prior to/at baseline (UKB data field 41270) and self-reported baseline non-cancer illness codes (20002)
Peripheral vascular disease	1	ICD10 codes prior to/at baseline (UKB data field 41270) and self-reported baseline non-cancer illness codes (20002)
Cerebrovascular disease	1	ICD10 codes prior to/at baseline (UKB data field 41270) and self-reported baseline non-cancer illness codes (20002)
Hemiplegia or paraplegia	2	ICD10 codes prior to/at baseline (UKB data field 41270) and self-reported baseline non-cancer illness codes (20002)
Dementia	1	ICD10 codes prior to/at baseline (UKB data field 41270) and self-reported baseline non-cancer illness codes (20002)
Chronic pulmonary disease	1	ICD10 codes prior to/at baseline (UKB data field 41270) and self-reported baseline non-cancer illness codes (20002)
Rheumatologic disease	1	ICD10 codes prior to/at baseline (UKB data field 41270) and self-reported baseline non-cancer illness codes (20002)
Peptic ulcer disease	1	ICD10 codes prior to/at baseline (UKB data field 41270) and self-reported baseline non-cancer illness codes (20002)
Diabetes without chronic complications	1	ICD10 codes prior to/at baseline (UKB data field 41270) and self-reported baseline non-cancer illness codes (20002)
Diabetes with chronic complications	2	ICD10 codes prior to/at baseline (UKB data field 41270) and self-reported baseline non-cancer illness codes (20002)
Moderate to severe CKD	2	ICD10 codes prior to/at baseline (UKB data field 41270) and self-reported baseline non-cancer illness codes (20002) or Creatinine >3 mg/dl(UKB data field 30700)
Malignancy	2	Self-reported cancer codes (UKB data field 20001) or ICD10 codes prior to/at baseline (UKB data field 41270)
Leukemia	2	Self-reported cancer codes (UKB data field 20001) or ICD10 codes prior to/at baseline (UKB data field 41270)
Lymphoma	2	Self-reported cancer codes (UKB data field 20001) or ICD10 codes prior to/at baseline (UKB data field 41270)

Metastatic solid tumor	6	Self-reported cancer codes (UKB data field 20001) or ICD10 codes prior to/at baseline (UKB data field 41270)
Mild liver disease	1	ICD10 codes prior to/at baseline (UKB data field 41270) and self-reported baseline non-cancer illness codes (20002)
Moderate or severe liver disease	3	ICD10 codes prior to/at baseline (UKB data field 41270) and self-reported baseline non-cancer illness codes (20002)
AIDS/HIV	6	ICD10 codes prior to/at baseline (UKB data field 41270) and self-reported baseline non-cancer illness codes (20002)
