

Supplementary eTable 1: Numbers and reasons for exclusions

	Number
Subject level	
Alcohol daily or almost	15,525
Body mass index ≥ 30	17,977
Cognitive impairment	15,168
Pre-diabetes	235
Diabetes	5,056
Diabetic Neuropathy/Ulcers	121
Gestational diabetes	227
Hypertension	25,874
Heart disease	6,694
Neurological diseases	4,862
Glycated hemoglobin > 29 %	1
Sickle cell disease	131
Retinal detachment	783
Retinal Surgery	414
Other serious eye condition	1,434
Eye Surgery	663
Disorders of optic nerve	88
Macular degeneration	145
Glaucoma	2,983
Chorioretinal diseases	470
Cataract surgery	882
Cataract	3,236
Blindness and low vision	238
Eye level	
Cataract	406
Cataract surgery	29

Intraocular pressure (mmHg) >21	2,149
Visual acuity in LogMAR >0.3 (20/40 Snellen Equivalent)	2,298
Macular degeneration	138
Refractive error (diopeters)	1,198
Eye injury	38
Glaucoma	22
Intraocular pressure (mmHg) < 5	25
Diabetic retinopathy	280

Some patients met multiple criteria

Supplementary eTable 2: Comparison between included and excluded participants

Characteristic	Include (N)	Include Mean (SD)/ Percent	Exclude (N)	Exclude Mean (SD)/ Percent	p-value
Age (years)	20,237	54.7 (8.1)	64,223	58.4 (7.8)	< .001
Gender					
Female	12,284	60.7%	33,063	51.5%	
Male	7,953	39.3%	31,160	48.5%	
Ancestral background					
White	18,858	93.2%	58,275	90.7%	< .001
Black	91	0.5%	851	1.3%	< .001
Prefer not to answer	132	0.7%	371	0.6%	
Asian	548	2.7%	2,150	3.4%	< .001
Other	608	3.0%	2,576	4.0%	< .001
Intraocular pressure (mmHg)	19,709	15.0 (3.0)	50,652	15.9 (4.2)	< .001
Refractive error (diopters)	20,038	-0.3 (2.0)	51,730	-0.3 (2.9)	< .001
Visual acuity (LogMAR)	20,214	-0.0 (0.1)	52,313	0.0 (0.2)	< .001

Supplementary eTable 3: Association between retinal layer thickness and co-variables

Covariable	mRNFL - Univariable Regressions			GC-IPL - Univariable Regressions		
	Coefficient (95%CI)	p-value	Percent variation in thickness explained by each co-variable (%)	Coefficient (95%CI)	p-value	Percent variation in thickness explained by each co-variable (%)
Gender			0.1			0.7
Female	Reference	Reference		Reference	Reference	
Male	-0.2 (-0.3, -0.1)	< .001		1.0 (0.9, 1.2)	< .001	
Ancestral background			0.3			0.2
White	Reference	Reference		Reference	Reference	
Asian	-0.8 (-1.1, -0.5)	< .001		-1.3 (-1.8, -0.8)	< .001	
Black	-1.5 (-2.2, -0.8)	< .001		-1.1 (-2.3, 0.1)	.07	
Other	-0.5 (-0.7, -0.2)	< .001		0.0 (-0.5, 0.4)	.89	
Prefer not to answer	-0.3 (-0.9, 0.3)	.33		-0.1 (-1.1, 0.9)	.79	
Alcohol intake			0.1			0.1
Never	Reference	Reference		Reference	Reference	
Once or twice a week	0.3 (0.1, 0.5)	.004		0.4 (0.1, 0.8)	.01	
One to three times a month	0.3 (0.1, 0.5)	.012		0.4 (0.0, 0.7)	.05	
Prefer not to answer	0.0 (-1.6, 1.6)	.96		-0.3 (-3.1, 2.5)	.82	
Special occasions only	0.2 (0.0, 0.4)	.10		0.1 (-0.3, 0.5)	.62	
Three or four times a week	0.2 (0.0, 0.4)	.03		0.1 (-0.2, 0.4)	.52	
Age (years)	0.0 (0.0, 0.0)	< .001	0.2	-0.1 (-0.1, -0.1)	< .001	2.4
Glycated hemoglobin (only < 6.5%)	-0.4 (-0.6, -0.3)	< .001	0.2	-0.9 (-1.2, -0.6)	< .001	0.3
Diastolic blood pressure (mmHg)	0.0 (0.0, 0.0)	.004	0.0	0.0 (0.0, 0.0)	.08	0.0
Systolic blood pressure (mmHg)	0.0 (0.0, 0.0)	< .001	0.2	0.0 (0.0, 0.0)	< .001	0.3
Intraocular pressure (mmHg)	0.0 (0.0, 0.0)	.03	0.0	-0.1 (-0.1, 0.0)	< .001	0.1
Visual acuity in LogMAR	-1.1 (-1.5, -0.7)	< .001	0.2	-3.1 (-3.7, -2.5)	< .001	0.5

Spherical power(diopters)	-0.3 (-0.3, -0.3)	< .001	3.1	0.5 (0.5, 0.5)	< .001	3.1
Spherical Equivalent (diopters)	-0.3 (-0.3, -0.3)	< .001	3.4	0.5 (0.5, 0.5)	< .001	2.9
Total retinal thickness (μm)	0.1 (0.1, 0.1)	< .001	16.3	0.3 (0.3, 0.3)	< .001	54.6

Supplementary eFigure 1 legend: shows the distribution of the mRNFL and GC-IPL thickness

Supplementary eFigure 2. shows the relationship between macular retinal nerve fiber layer (RNFL) and ganglion cell inner plexiform layer (GC-IPL) and total retinal thickness.

The linear form of total thickness accounts for 54.6% of the GC-IPL thickness variation and the quadratic form accounts for 54.6%. This is without accounting for any other subject information such as ethnicity, sex, age etc. The linear form of total thickness accounts for 16.3% of the RNFL thickness variation and the quadratic form accounts for 16.2%. This is without accounting for any other subject information such as ethnicity, sex, age, etc.