Supplementary Online Content

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

eTable 1. Study-Specific Definition of Known History of Diabetes at Baseline

Study name	Geographical location	Population source / sampling method	Diabetes definition	N (%) of people with diabetes excluded
ALLHAT[1]	US/Ca/PR/VI†	Population register/NS	●●	5,343 (45.9)
ARIC[2,3]	USA	Household listings/Random	●	714 (6.0)
AUSDIAB[4,5,6]	Australia	General population/Random	●	386 (4.5)
BHS[7]	Australia	Electoral roll/Complete	●	88 (3.0)
BRHS[8]	UK	GP lists/Random	●	76 (1.2)
BRUN[10,11,12]	Italy	Populationregister/Random	●●	25 (3.2)
BUPA[9]	UK	Medical center list/Complete	●	61 (0.7)
BWHHS[13]	UK	Populationregister/Random	●	97 (3.6)
CAPS[14]	UK	Electoral rolls/Random	●	30 (1.4)
CASTEL[15]	Italy	Populationscreening/Complete	●	316 (13.1)
CHARL[77]	USA	Household listing/Random	●●	96 (9.3)
CHS1[16,17,18]	USA	Medicare lists/Random	●	259 (6.9)
CHS2[18]	USA	Medicare lists/Random	●	77 (17.7)
COPEN[19]	Denmark	PopulationRegister/Random	●	241 (2.9)
D.E.S.I.R[20,21]	France	Health check-up	●●	122 (3.2)
DRECE[22]	Spain	General population/Random	●●	148 (5.2)
DUBBO[23]	Australia	Electoral roll/Complete	●	90 (4.4)
EAS[24]	Scotland	GP list/Random	●	45 (4.5)
EPESEBOS[26,27]	USA	PopulationRegister/Complete	●	146 (19.8)
EPESEIOW[26]	USA	PopulationRegister/Complete	●	133 (11.5)
EPESENCA[26,28]	USA	PopulationRegister/Random	●	173 (17.7)
EPESENHA[26]	USA	PopulationRegister/Random	●	95 (16.4)
EPICNOR1[29]	UK	GP lists/Complete	●	183 (1.8)
ProspectEPIC[61]	The Netherlands	Breast screening/complete	●	262 (10.9)
ESTHER[30]	Germany	GP lists/Health check-up	●	542 (11.9)
FIA[31]	Sweden	PopulationRegister/Random	●	7 (1.8)
FINE_FIN[32]	Finland	Birth cohort/Complete	●●	25 (9.2)
FINE_IT[32]	Italy	Survivors of existing cohort/Complete	●●	8 (11.1)
FINNMARK[36]	Norway	Population screening/Complete	●	199 (4.1)
FLETCHER[33]	New Zealand	Occupational, electoral roll/complete, random	●	9 (5.1)
FRAMOFF[34,35,36]	USA	Offspring & spouse to FHS/Complete	●●	277 (10.2)
FUNAGATA[37,38]	Japan	Population. Register/Random	●●	19 (1.7)
GOH[39,40]	Israel	Population Register/Random	●	167 (13.2)
GOTO43[41]	Sweden	PopulationRegister/Complete	●●	13 (1.8)
GOTOW[42,43]	Sweden	Population register/Random	●●	25 (4.3)
GRIPS[44]	Germany	Occupational/Complete	●	123 (2.1)
HISAYAMA[45]	Japan	Population register/Complete	●	206 (8.0)
HOORN[46]	The Netherlands	Populationregister/Random	●●	202 (9.1)
HUBRO[36,47]	Norway	Population screening/Complete	●	382 (2.6)
IKNS[48,49]	Japan	Populationscreening/Complete	●●	1359 (18.7)
ISRAEL[50]	Israel	Occupational/Complete	●	281 (6.2)
KIHD[51,52]	Finland	Populationregister/Random	●●	87 (4.3)
MATISS83[25]	Italy	Electoral roll/Random	●	124 (4.9)
MATISS87[25]	Italy	Electoral roll/Random	●	77 (3.8)
MATISS93[25]	Italy	Electoral roll/Random	●	58 (4.8)
MESA[53,54]	USA	General population/Random	●●	851 (12.6)
MONFRI94[25]	Italy	Electoral roll/Random	●	57 (4.5)
MORGEN[80]	The Netherlands	General population/Random	●	212 (1.3)
MOSWEGOT[55]	Sweden	Populationscreening/Random	●	36 (3.0)
MRFIT[56]	USA	Populationscreening/Complete	●	107 (2.8)
NHANES III[57]	USA	Census list / Cluster	●	890 (12.6)
OPPHED[36]	Norway	Population screening/Complete	●	220 (2.5)

OSAKA[58]	Japan	Occupational & Population. register / NS	●●	1614 (14.6)
OSLO II[36,59]	Norway	Population screening/Complete	●	255 (5.2)
PREVEND[60]	The Netherlands	Population Register / Complete	●	241 (3.4)
PROSPER[62]	Scot/Ire/Neth[‡]	Primary care screening / Complete	●	397 (12.3)
QUEBEC[78]	Canada	Population register/Random	●●	46 (6.0)
RANCHO B.[63]	USA	Household listings/Complete	●	76 (4.2)
REYK[64]	Iceland	Population register/Complete	●	309 (2.1)
ROTT[65]	The Netherlands	Population register/Complete	●●	379 (8.8)
SHHEC[66]	UK	GP list/Random	●	112 (1.2)
SHS[67]	UK	GP list/Complete	●●	1996 (49.0)
TARFS[68]	Turkey	Household listings/Random	●●	223 (9.3)
TOYAMA[69]	Japan	Occupational/Random	●●	209 (4.6)
TROMS[36]	Norway	Population screening/Complete	●	53 (2.9)
TROMSØ[70]	Norway	Population screening/Complete	●	15 (1.7)
ULSAM[71]	Sweden	Population register/Complete	●●	131 (7.3)
WHIHABPS[73]	USA	Health centres/complete	●●	131 (10.8)
WHITE II[72]	UK	Civil servant/complete	●●	24 (0.3)
WHS[79]	USA	Health professionals/complete	●	727 (3.1)
WOSCOPS[74]	UK	Heart screening clinic/complete	●	70 (1.1)
ZARAGOZA[75]	Spain	Family doctor roster/ Complete	●●	334 (14.0)
ZUTE[76]	The Netherlands	General Population/Random	●●	28 (8.0)

GP = General Practitioner; NS = Not Stated

Diabetes definition based on ●: self-report, medical records and diabetes medication use; ●●: self-report, medical records, diabetes medication use and baseline glycaemia marker measurements.Information on diabetes type (i.e.,type 1 or 2) was generally not available.

†USA, Canada, Puerto Rico, US Virgin Islands

‡ Scotland/Ireland/The Netherlands

References are listed in eAppendix 1.

eTable 2. Characteristics of Baseline and Incident Cardiovascular Disease Outcomes by Study

Study name	Coronary disease assessed at baseline				Definition of incident endpoints						Classification of incident endpoints						
					Death	Non-fatal MI			Non-fatal stroke		MI			Stroke			
	MI	Angina	Coronary revascularization	Heart failure		Clinical feature	ECG	Cardiac enzymes	Clinical features	CT/MRI imaging	Definite	Probable	Silent	Ischemic	Hemorrhagic	SAH	Unclassified
ALLHAT	++	++NC	++NC	++NC	**	√	√	√	√	√		o	o	NS	NS	NS	√
ARIC	++	++	++	+	**	√	√	√	√	√	√	√	√NC	√	√	√	√
AUSDIAB	+	+	NS	NS	**	√	√	√	√	NS	√	o	o	√	√	√	√
BHS	++	++	-	-	*	NA	NA	NA	NA	NA	√	o	o	√	√	√	√
BRHS	++	++	-	++	*	√	√	√	√	NS	√	o	o	√	√	√	√
BRUN	++	++	++	++NC	**	√	√	√	√	√	√	o	o	√	√	o	o
BUPA	++	++	NS	NS	*	NA	NA	NA	NA	NA	√	o	o	√	√	√	√
BWHHS	++	++	++	-	**	√	√	√	√	√	√	o	o	√	√	√	√
CAPS	++	++NC	-	-	**	√	√	o	√NC	√NC	√	√NC	o	√	√	√	√
CASTEL	++	++	-	++	**	√	√	√	√	√	√	o	o	√ NC	√ NC	o	√
CHARL	++	++	-	+	**	√	√	o	√	o	√	√	o	√	√	√	√
CHS&	++	++	++	++	**	√	√	√	√	√	√	√ NC	√ NC	√	√	o	√
CONOR†	+	+	-	-	*	NS	NS	NS	NS	NS	√	NS	NS	√	NS	NS	NS
COPEN	++	++	-	-	**	√	√	√	√	√	√	o	o	√	√	√	√
CUORE±	++	++	-	-	**	√	√	√	√	√	√	√	√	√	√	√	√
D.E.S.I.R	++	+	+	+	NS	√	NS	NS	√	NS	√	NS	NS	√	√	√	√
DRECE	+	+	+	+	*	NA	NA	NA	NA	NA	√	o	o	√	√	√	√
DUBBO	++	++	++	-	**	√	√	√	√	√	√	NS	o	√	√	√	√
EAS	++	++	-	-	**	√	√	√	√	√	√	√	√NC	√	√	√	√
EPESEBOS	+	+	-	+	*	√	-	-	√	-	√	o	o	√	√	√	o
EPESEIOW	+	+	-	+	*	√	-	-	√	-	√	o	o	√	√	√	o
EPESENCA	+	+	-	+	*	√	-	-	√	-	√	o	o	√	√	√	o
EPESENHA	+	+	-	-	*	√	-	-	√	-	√	o	o	√	√	√	o
EPICNOR1	+	-	-	-	*	√	√	√	√	√	√	o	o	√NC	√NC	√NC	√
ProspectEPIC	+	+	-	-	*	√	NS	NS	√	NS	√	o	o	√	√	NS	√
ESTHER	+	NS	NS	+	*	√	NS	NS	√	NS	√	√	o	√	√	√	√
FIA	++	-	-	-	**	√	√	√	NA	NA	√	o	o	√NC	√NC	√NC	√NC
FINE_FIN	+	+	NS	NS	**	√	√	√	√	NS	√	NS	√NC	√	√	√NC	
FINE_IT	++	++	-	++	**	√	√	√	√	NA	√	NS	√NC	√	√	√NC	√
FLETCHER	++	+	+ NC	-	*	√	√	√	√	√	√	o	o	√ NC	√ NC	√ NC	√ NC
FRAMOFF	++	++	-	++ NC	**	√	√	√	√	√	√	o	√	√	√	√	√
FUNAGATA	NS	NS	NS	NS	NS	√	o	o	√	NS	√	NS	o	√	√	√	√

GOH	++	-	-	+	**	NA	NA	NA	NA	NA	√	√NC	o	√	√	√	√
GOTO43	++	++	-	-	**	√	√	√	√	√	√	o	o	√	√	GOTO43	√
GOTOW	++	+	NS	NS	*	√	√	√	√	√	√	o	o	√	√	GOTOW	√
GRIPS	++	++ NC	++ NC	-	**	√	√	√	√	√	√	√	o	√	√	GRIPS	√
HISAYAMA	++	++	++	++	**	√	√	√	√	√	√	√NC	√NC	√	√	HISAYAMA	√
HOORN	++	++	++ NC	NS	*	√	√	√	√	o	√	o	o	√	√	HOORN	√
IKNS	++ NC	++ NC	-	-	**	√	√	√	√	√	√	√	o	√	√	IKNS	√
ISRAEL	++	++	-	-	**	NA	NA	NA	NA	NA	√NC	o	o	√NC	√NC	√NC	√
KIHD	++	++	++	++	**	√	√	√	√	√	√	√NC	o	√	√	KIHD	√
MESA	++	++	++	++	**	√	√	√	√	√	√	√	√NC	√	√	MESA	√
MORGEN	+	+	NS	NS	*	NA	NA	NA	NA	NA	√	NS	NS	√	√	MORGEN	√
MOSWEGOT	+	+	-	-	**	√	√	√	√	√	√	o	o	√	√	MOSWEGOT	√
MRFIT	++	++	-	+	**	√	√	√	√	√	√	o	√	√	√	MRFIT	√
NHANES3	+	+	-	+	*	NA	NA	NA	NA	NA	√	o	o	√NC	√NC	√NC	√
OSAKA	++	++	-	-	**	√	√	√	√	√	√	√NC	o	√	√	OSAKA	√
PREVEND	+	+	NS	NS	**	√	√	√	√	√	√	NS	NS	√	√	PREVEND	√
PROSPER	++	++	++	++	**	√	√	√	√	√	√	o	o	NS	NS	NS	√
QUEBEC	++	++	-	-	**	√	√	√	√	√	√	o	√	o	o	o	√
RANCHO B.	++	++	++	+	*	√	√	√	√	√	√	o	o	√	√	RANCHO B.	√
REYK	++	++	++	-	**	√	√	√	NA	NA	√	√NC	o	√	√	REYK	√
ROTT	++	++ NC	++	++	**	√	√	√	NA	NA	√	√NC	o	√	√	ROTT	√
SHHEC	++	++	++ NC	-	**	√	√	√	√	√	√	√NC	o	√	√	SHHEC	√
SHS	++	++ NC	++ NC	-	**	√	√	√	√	√	√	√NC	o	√	√	SHS	√
TARFS	++	++	++ NC	-	*	√	√	o	√	o	√	o	√NC	√	o	o	√
TOYAMA	++	++	++	-	**	√	√	√	√	√	√	o	o	√	√	√	√NC
TROMSO	+	+	-	-	*	√	√	√	√	√	√	√	√	√	√	TROMSO	√
ULSAM	++	++	++	++	**	√	√	√	√	√	√	o	o	√	√	√	√

WHIHABPS	+	+	+	+	**	√	√	√		√	√		√	o	o		√
WHITE II	++	++ NC	++ NC	++	*	√	√	√	√NC	√NC	√	o	o	√	√	√	√
WHS	+	+	+	-	**	√	√	√	√	√	√	o	o	√	√	√	√
WOSCOPS	++	++	++ NC	++ NC	**	√	√	√	√	√	√	√	√ NC	o	o	o	√
ZARAGOZA	++	++	NS	-	**	√	√	√	NS	NS	√	√NC	o	√	o	o	√
ZUTE	++	++	++ NC	++ NC	**	√	√	√	√	√	√	o	o	√	√	√	√

–: Not recorded; +: Self-report only; ++: Self-report supplemented by objective criteria (e.g., Electrocardiogram, Physical examination)

* Death certificate only; ** Death certificate supplemented by medical record

o: Feature not included in criteria; √: Feature included in criteria

SAH: Subarachnoid haemorrhage; NS: Not stated

NC = reportedly measured but data not contributed to the ERFC; NA = not applicable, where cohorts contributed data on fatal endpoints only

†CONOR consists of FINNMARK, HUBRO, OPPHED, OSLO II, TROMS which have contributed to the analysis of glycemia markers

& CHS consists of CHS1 and CHS2.

‡ CUORE originally consists of 8 cohorts in ERFC, but only MATISS83, MATISS87, MATISS93 and MONFRI94 contributed to the analyses of glycemia markers.

eTable 3. Characteristics of Prospective Studies Contributing to Analyses of HbA_{1c}

Study name	No. of participants	Age (SD)	Male Sex (%)	HbA_{1c} (%) Mean (SD)	No. of participants having $HbA_{1c} \geq 6.5\%$ (%)	HbA_{1c} Storage duration	HbA_{1c} assay storage temperature	Assay method	Assay standard	Median follow-up (yrs) (5th & 95th percentiles)	CVD events	CHD events	Stroke events
ARIC*	9955	57.0 (5.7)	4371 (43.9%)	5.51 (0.64)	408 (4.1%)	>1year	Frozen, -70°C	HPLC	DCCT	11.2 (5.4, 12.7)	632	376	256
AUSDIAB*	8235	52.8 (12.0)	3588 (43.6%)	5.16 (0.39)	62 (0.8%)	>1 month	Frozen, -70°C	HPLC	DCCT	5 (1.9, 8.5)	93	59	34
BRUN	769	57.1 (11.1)	377 (49.0%)	5.41 (0.50)	17 (2.2%)	< 1 day	Fresh	HPLC	NS	20.2 (4.8, 20.5)	112	57	55
BWHHS*	2514	68.4 (5.4)	0 (0.0%)	4.87 (0.67)	34 (1.4%)	NS	NS	HPLC	NS	7.3 (3.1, 8.4)	156	75	81
CHS1*	764	71.6 (5.0)	281 (36.8%)	6.18 (1.16)	235 (30.8%)	NS	Frozen, -70°C	ACM	NS	12.2 (2.7, 12.9)	182	99	83
D.E.S.I.R	3706	47.9 (9.6)	1786 (48.2%)	5.43 (0.40)	21 (0.6%)	<2 days	NS	HPLC	DCCT	9 (8.5, 9.4)	31	19	12
EPESEBOS*	581	77.1 (4.3)	182 (31.3%)	5.87 (0.74)	44 (7.6%)	NS	NS	NS	NS	4 (1.4, 4.5)	41	23	18
EPESEIOW*	906	77.9 (4.7)	255 (28.1%)	5.48 (1.02)	102 (11.3%)	NS	NS	NS	NS	4.8 (1.6, 4.9)	79	40	39
EPICNOR1*	9980	57.7 (9.6)	4325 (43.3%)	5.24 (0.70)	251 (2.5%)	1 week	4-7°C	HPLC	NS	8.9 (6.2, 10)	348	190	158
ESTHER*	3994	61.1 (6.5)	1697 (42.5%)	5.56 (0.49)	124 (3.1%)	NS	Frozen, -70°C	HPLC	NS	5 (1.9, 5.9)	101	36	65
FINE_FIN	218	76.3 (4.7)	218 (100.0%)	5.51 (0.69)	21 (9.6%)	NS	NS	NS	NS	6.9 (1.6, 10)	83	58	25
FRAMOFF	2198	59.9 (9.4)	934 (42.5%)	5.42 (0.58)	59 (2.7%)	NS	NS	HPLC	DCCT	5 (3, 6.9)	47	32	15
FUNAGATA	1102	53.2 (12.3)	491 (44.6%)	5.33 (0.48)	28 (2.5%)	<1 day	Fresh, 4 °C	HPLC	JDS	7.3 (5.3, 10.2)	41	10	31
HISAYAMA*	2371	59.0 (11.6)	974 (41.1%)	5.46 (0.56)	79 (3.3%)	<1 day	0-4°C	HPLC	local standard	14 (3.5, 14)	258	67	191
HOORN	2013	61.0 (7.3)	892 (44.3%)	5.33 (0.48)	18 (0.9%)	NS	NS	HPLC	NS	8.8 (3.4, 9.9)	107	62	45
IKNS	3286	63.8 (9.4)	1087 (33.1%)	4.89 (0.38)	0 (0.0%)	NS	Frozen, -80°C	NS	NS	5.6 (1.1, 9.7)	66	12	54
MESA	5125	63.2 (10.2)	2393 (46.7%)	5.44 (0.42)	82 (1.6%)	NS	Frozen, -80°C	HPLC	DCCT	6.7 (2.9, 7.4)	163	88	75
NHANESIII*	6151	49.1 (17.6)	2850 (46.3%)	5.38 (0.70)	200 (3.3%)	NS	Frozen, -70°C	HPLC	DCCT	14.6 (4.8, 17.7)	376	278	98
OSAKA	5608	55.6 (10.0)	3729 (66.5%)	4.98 (0.33)	0 (0.0%)	NS	NS	HPLC	NS	3.6 (1.8, 11.2)	33	5	28
SHS	2024	55.6 (8.1)	882 (43.6%)	5.10 (0.65)	28 (1.4%)	NS	NS	NS	NS	12.5 (2.8, 14.2)	238	177	61
TOYAMA	4315	45.4 (6.6)	2735 (63.4%)	5.01 (0.38)	8 (0.2%)	NS	NS	NS	NS	12.7 (7.9, 12.8)	75	31	44
TROMSØ*	883	59.9 (8.8)	534 (60.5%)	5.37 (0.40)	7 (0.8%)	NS	Frozen, -70°C	ITA	NS	11.1 (2.5, 11.3)	143	83	60
ProspectEPIC*	2143	58.6 (6.3)	0 (0.0%)	6.02 (0.99)	352 (16.4%)	NS	Frozen, -70°C	ITA	NS	13.9 (2.8, 17.1)	443	208	235
WHS*	22439	55.8 (7.2)	0 (0.0%)	5.04 (0.38)	123 (0.5%)	NS	NS	ITA	DCCT	10.2 (8.4, 10.8)	419	193	226
TOTAL (24 studies)	**101280**	**60.2 (9.4)**	**34581 (34.1%)**	**5.37 (0.54)**	**2303 (2.3%)**					**9.4 (2.5, 14.2)**	**4267**	**2278**	**1989**

* Studies with diabetes definition based on self-report information, medical records and diabetes medication use.

JDS: Japanese Diabetes Society; DCCT: Diabetes Control and Complications Trial; HPLC: High Performance Liquid Chromatography; ITA, immunoturbidimetric assay; ACM: Affinity column method; NS, not specified

eTable 4. Characteristics of Prospective Studies Contributing to Analyses of Fasting Glucose

Study name	No. of participants	Age (SD)	Male Sex (%)	Fasting glucose (mmol/l) Mean (SD)	No. of participants having fasting glucose≥7mmol/l	Fasting glucose sample type	Assay method (source)	Median follow-up (yrs) (5th & 95th percentiles)	CVD events	CHD events	Stroke events
ARIC*	11016	54.3 (5.7)	4968 (45.1%)	5.67 (0.79)	404 (3.7%)	Serum	Hex	14.1 (7.2, 15.7)	856	524	332
AUSDIAB*	8245	52.8 (12.0)	3596 (43.6%)	5.46 (0.72)	194 (2.4%)	Plasma	GO	5 (2.6, 8.5)	93	59	34
BHS*	2871	49.4 (16.8)	1279 (44.5%)	5.45 (0.73)	68 (2.4%)	Plasma	Hex	24.1 (6.7, 24.2)	313	217	96
BRUN	769	57.1 (11.1)	377 (49.0%)	5.43 (0.72)	17 (2.2%)	Plasma	GO	20.2 (4.8, 20.5)	112	57	55
BUPA*	7135	46.7 (7.8)	7135 (100.0%)	4.75 (0.91)	105 (1.5%)	NS	NS	21.7 (11.4, 24.3)	341	273	68
BWHHS*	2584	68.4 (5.4)	0 (0.0%)	5.81 (0.76)	122 (4.7%)	Plasma	GO	7.3 (3.2, 8.4)	159	77	82
CAPS*	2067	52.1 (4.6)	2067 (100.0%)	4.93 (1.00)	41 (2.0%)	Plasma	GO	13 (4.1, 13)	252	236	16
CASTEL*	2097	73.5 (5.2)	829 (39.5%)	5.85 (1.14)	200 (9.5%)	Plasma	NS	11.2 (2.3, 14)	152	60	92
CHARL	924	55.3 (11.0)	468 (50.6%)	5.14 (1.06)	46 (5.0%)	NS	NS	19.4 (3, 37.3)	319	209	110
CHS1*	3494	72.2 (5.2)	1308 (37.4%)	5.72 (1.07)	210 (6.0%)	Serum	NS	12.1 (2.3, 12.9)	899	508	391
CHS2*	359	72.1 (5.2)	138 (38.4%)	5.66 (1.44)	18 (5.0%)	Serum	NS	9.1 (1.9, 9.5)	65	32	33
D.E.S.I.R	3707	47.9 (9.6)	1787 (48.2%)	5.28 (0.53)	1 (0.0%)	Plasma	NS	9 (8.5, 9.4)	31	19	12
DRECE	2719	38.5 (11.2)	1321 (48.6%)	5.22 (0.85)	55 (2.0%)	NS	NS	19.4 (17.8, 19.6)	19	13	6
DUBBO*	1895	68.3 (6.7)	778 (41.1%)	5.06 (0.87)	41 (2.2%)	Plasma	GO	14.1 (2, 14.9)	415	245	170
EAS*	955	64.2 (5.6)	473 (49.5%)	5.58 (0.69)	30 (3.1%)	Plasma	Enzymatic methods†	20.2 (2.8, 21.3)	172	88	84
ESTHER*	3522	61.1 (6.5)	1484 (42.1%)	5.09 (0.88)	78 (2.2%)	NS	NS	5 (1.9, 5.9)	83	30	53
FINE_FIN	246	76.3 (4.7)	246 (100.0%)	5.69 (0.79)	16 (6.5%)	Plasma	GO	6.9 (1.6, 10)	88	62	26
FRAMOFF	2400	60.0 (9.4)	1024 (42.7%)	5.38 (0.54)	0 (0.0%)	NS	NS	5.2 (3.1, 7)	54	37	17
FUNAGATA	1101	53.2 (12.4)	490 (44.5%)	5.22 (0.71)	27 (2.5%)	NS	NS	7.3 (5.3, 10.2)	41	10	31
GOH*	1096	55.0 (10.8)	521 (47.5%)	5.52 (0.88)	40 (3.6%)	Plasma	Enzymatic methods†	25.2 (1.2, 28.7)	28	18	10
GOTO43	721	50.0 (0.0)	721 (100.0%)	4.61 (0.70)	8 (1.1%)	Plasma	NS	11 (8.3, 11.7)	37	23	14
GOTOW	552	69.9 (5.8)	0 (0.0%)	5.60 (0.86)	24 (4.3%)	Whole blood	Hex	8.2 (2.7, 8.7)	66	20	46
HISAYAMA*	2296	58.5 (11.2)	954 (41.6%)	5.60 (0.78)	86 (3.7%)	Plasma	GO	14 (3.8, 14)	240	63	177
HOORN	2014	61.0 (7.3)	892 (44.3%)	5.41 (0.53)	0 (0.0%)	Plasma	GDH	8.8 (3.4, 9.9)	107	62	45
IKNS	776	57.9 (10.0)	321 (41.4%)	5.61 (0.51)	0 (0.0%)	Serum	NS	15.5 (4.3, 18.6)	44	8	36
KIHD	1943	52.5 (5.3)	1943 (100.0%)	5.69 (0.54)	47 (2.4%)	Serum	NS	21.1 (3, 25.1)	499	362	137
MATISS83*	2430	51.3 (9.6)	1140 (46.9%)	5.16 (0.83)	68 (2.8%)	Plasma	Hex/GO	18.7 (7.1, 19.5)	162	75	87
MATISS87*	1963	52.2 (9.5)	882 (44.9%)	5.20 (0.72)	39 (2.0%)	Plasma	Hex/GO	15.6 (7.3, 16.2)	93	43	50
MATISS93*	1150	49.0 (9.3)	558 (48.5%)	4.84 (0.71)	14 (1.2%)	Serum	Hex/GO	8.3 (7.1, 9.3)	18	13	5
MESA	5933	61.8 (10.3)	2753 (46.4%)	5.07 (0.61)	54 (0.9%)	Serum	NS	8.5 (2.8, 8.9)	217	115	102
MONFRI94*	1217	48.6 (8.1)	586 (48.2%)	5.64 (0.99)	61 (5.0%)	Serum	NS	8.5 (8.2, 8.8)	25	9	16
NHANESIII*	3784	48.0 (17.5)	1783 (47.1%)	5.40 (1.08)	119 (3.1%)	Plasma	Hex	14.7 (5.4, 17.7)	208	159	49

OSAKA	4082	50.4 (8.4)	3324 (81.4%)	5.35 (0.50)	1 (0.0%)	Serum	NS	5.6 (3.8, 14.8)	26	7	19
QUEBEC	720	55.7 (6.4)	720 (100.0%)	5.25 (0.60)	4 (0.6%)	NS	NS	15.1 (4.7, 15.7)	77	57	20
RANCHO*	1713	68.4 (11.1)	693 (40.5%)	5.46 (0.84)	54 (3.2%)	Plasma	Hex	14.3 (2, 18.1)	378	204	174
REYK*	14636	52.8 (8.3)	6791 (46.4%)	4.81 (0.63)	80 (0.5%)	Capillary Blood	NS	24.6 (6.4, 36.5)	3439	2770	669
SHS	2074	55.5 (8.1)	898 (43.3%)	5.63 (0.59)	0 (0.0%)	Plasma	Hex	12.6 (2.8, 14.3)	246	182	64
TARFS	1625	48.5 (11.2)	795 (48.9%)	5.29 (0.70)	18 (1.1%)	Plasma	NS	8 (1.3, 10)	25	17	8
TOYAMA	4315	45.4 (6.6)	2735 (63.4%)	5.01 (0.56)	24 (0.6%)	NS	NS	12.7 (7.9, 12.8)	75	31	44
ULSAM	1666	54.0 (8.6)	1666 (100.0%)	6.14 (0.60)	140 (8.4%)	Whole Blood	GO	22.4 (4.8, 37.3)	632	411	221
WHITEII	7382	49.5 (6.0)	5119 (69.3%)	5.23 (0.65)	73 (1.0%)	Plasma	GO	12.3 (5.1, 13)	265	260	5
ZARAGOZA	2058	59.3 (11.7)	889 (43.2%)	5.39 (0.57)	0 (0.0%)	Serum	Hex	5.1 (3.9, 5.1)	67	36	31
ZUTE	322	75.3 (4.4)	322 (100.0%)	5.80 (0.87)	21 (6.5%)	NS	NS	9.1 (1.1, 10.1)	78	47	31
FIA*&	111	52.4 (8.9)	81 (73.0%)	5.07 (0.71)	1 (0.9%)	NS	NS	5.6 (2.7, 7.6)	33	33	0
WHIHABPS&	948	68.5 (6.0)	0 (0.0%)	5.32 (0.54)	0 (0.0%)	NS	NS	6.8 (1.2, 9.3)	474	0	474
ALLHAT	6311	65.2 (7.2)	3421 (54.2%)	5.52 (1.39)	445 (7.1%)	Serum	NS	4.4 (.5, 6.7)	319	198	121
MRFIT*	3604	46.5 (6.1)	3604 (100.0%)	5.63 (0.87)	148 (4.1%)	Serum	NS	7.4 (5, 8)	232	207	25
PREVEND*	6163	49.2 (12.0)	2940 (47.7%)	4.77 (0.76)	62 (1.0%)	Plasma	Enzymatic methods†	10.6 (4.6, 11.2)	195	156	39
PROSPER*	2762	75.0 (3.3)	1113 (40.3%)	5.12 (0.83)	78 (2.8%)	NS	NS	3.2 (1.2, 3.8)	310	214	96
WOSCOPS*	6144	55.1 (5.5)	6144 (100.0%)	4.75 (0.62)	65 (1.1%)	NS	NS	4.8 (3, 6)	432	363	69
TOTAL (50 studies)	150617	57.5 (8.9)	84077 (55.8%)	5.35 (0.79)	3447 (2.3%)			10.6 (3, 26.7)	13511	8919	4592

* Studies with diabetes definition based on self-report information, medical records and diabetes medication use.
&Nested case-control studies were excluded from the risk prediction analyses.
Hex: Hexokinase; GO: Glucose oxidase; NS: Not stated
†Enzymatic methods used to assess glucose in Auto-analyser based assessments
All values have been harmoized to plasma levels according to EASD/ESC guidelines:
Plasma glucose (mmol/L) =0.558 +1.119* whole blood glucose (mmol/L)
Plasma glucose (mmol/L) = 0.102 + 1.066* capillary blood glucose (mmol/L)
Plasma glucose (mmol/L) = -0.137 + 1.047*serum glucose (mmol/L).

eTable 5. Characteristics of Prospective Studies Contributing to Analyses of Random Glucose

Study name	No. of participants	Age (SD)	Male Sex (%)	Random glucose (mmol/l) Mean (SD)	No. of participants having random glucose≥11.1 mmol/l	Random glucose sample type	Random glucose storage duration	Random glucose storage temperature	Assay method (source)	Median follow-up (yrs) (5th & 95th percentiles)	CVD events	CHD events	Stroke events
BRHS*	6447	49.9 (5.8)	6447 (100.0%)	5.69 (1.23)	32 (0.5%)	Serum	13-15yrs	Frozen, -20°C	Enzymatic methods†	24.5 (4.7, 25.4)	1623	1136*	487
BUPA*	1601	46.3 (7.7)	1601 (100.0%)	4.49 (0.72)	1 (0.1%)	NS	NS	NS	NS	21 (12.9, 21.9)	50	41	9
COPEN*	7986	58.0 (14.7)	3369 (42.2%)	5.77 (1.48)	76 (1.0%)	Plasma	NS	NS	Enzymatic methods†	13.2 (2.6, 14.9)	1160	485	675
DUBBO*	67	70.6 (7.7)	40 (59.7%)	5.07 (1.11)	0 (0.0%)	Plasma	NS	NS	GO	10.4 (.6, 14.7)	17	9	8
EPESEBOS*	589	77.1 (4.3)	187 (31.7%)	6.46 (2.00)	21 (3.6%)	Serum	NS	NS	Enzymatic methods†	4 (1.4, 4.5)	43	24	19
EPESEIOW*	1023	77.9 (4.7)	291 (28.4%)	6.17 (1.87)	26 (2.5%)	Serum	NS	NS	Enzymatic methods†	4.8 (1.6, 4.9)	91	44	47
EPESENCA*	806	77.2 (4.7)	262 (32.5%)	6.18 (1.87)	18 (2.2%)	Serum	12h	Fresh	Enzymatic methods†	4 (1.3, 4.6)	69	31	38
EPESENHA*	483	77.9 (4.8)	185 (38.3%)	6.22 (1.97)	11 (2.3%)	Serum	NS	NS	Enzymatic methods†	4.4 (1.6, 4.7)	31	15	16
FINE_IT	64	84.4 (2.6)	64 (100.0%)	5.88 (1.84)	2 (3.1%)	Plasma	NS	Fresh	NS	5.8 (1.1, 6.5)	10	2	8
FINNMARK*	4717	58.7 (9.9)	2109 (44.7%)	5.44 (1.21)	17 (0.4%)	Serum	NS	Fresh	Enzymatic methods†	7.5 (5, 7.5)	71	40	31
GRIPS*	5660	47.7 (5.1)	5660 (100.0%)	5.62 (1.34)	40 (0.7%)	NS	NS	NS	NS	9.8 (4.8, 10)	380	288*	92
HISAYAMA*	75	73.9 (13.1)	20 (26.7%)	6.54 (1.41)	1 (1.3%)	Plasma	NS	NS	GO	10.6 (1, 14)	18	4	14
HUBRO*	14305	51.0 (13.8)	6088 (42.6%)	5.31 (1.07)	33 (0.2%)	Serum	NS	Fresh	Enzymatic methods†	8.5 (7, 9.5)	127	66	61
IKNS	5144	58.3 (10.3)	1918 (37.3%)	6.13 (1.01)	0 (0.0%)	Serum	NS	NS	Hex	10.1 (4.1, 17.5)	196	39	157
ISRAEL*	4253	50.9 (6.7)	4253 (100.0%)	4.80 (0.85)	5 (0.1%)	NS	NS	NS	NS	21.3 (6.8, 21.8)	518	390	128
MORGEN*	16159	45.7 (8.7)	7403 (45.8%)	5.32 (1.21)	74 (0.5%)	Whole blood	NS	NS	NS	10.6 (8.3, 12.7)	79	57	22
MOSWEGOT*	1156	48.3 (9.5)	543 (47.0%)	5.15 (0.73)	1 (0.1%)	NS	NS	NS	NS	9.7 (8.8, 10.2)	39	18	21
NHANESIII*	2306	50.7 (17.5)	1036 (44.9%)	5.25 (1.11)	7 (0.3%)	NS	NS	NS	NS	14.4 (4.2, 17.6)	166	120	46
OPPHED*	8663	51.7 (12.1)	3923 (45.3%)	5.33 (1.14)	28 (0.3%)	Serum	NS	Fresh	Enzymatic methods†	8.5 (7, 9.5)	97	58	39
OSAKA	5327	55.1 (10.2)	2761 (51.8%)	5.68 (0.85)	0 (0.0%)	NS	NS	NS	NS	13.8 (3.9, 18.8)	75	9	66
OSLO II*	4634	68.7 (6.6)	4634 (100.0%)	5.56 (1.18)	18 (0.4%)	Serum	NS	Fresh	Enzymatic methods†	9.5 (3, 9.5)	136	78	58
ROTT	3930	67.3 (8.0)	1558 (39.6%)	6.45 (1.38)	14 (0.4%)	Serum	<1h	Fresh	Hex	12 (3.2, 14.2)	294	185	109
SHHEC*	9122	49.4 (7.1)	4620 (50.6%)	4.98 (1.06)	27 (0.3%)	NS	NS	NS	NS	10 (7, 10)	389	287	102
TROMS*	1769	50.5 (11.7)	763 (43.1%)	5.22 (0.96)	3 (0.2%)	Serum	NS	Fresh	Enzymatic methods†	7.5 (7.5, 7.5)	14	12	2
FIA*&	239	54.5 (8.4)	187 (78.2%)	5.04 (0.74)	0 (0.0%)	NS	NS	NS	Hex	6.4 (.3, 11.1)	71	71&	0
FLETCHER*&	155	44.0 (12.2)	134 (86.5%)	4.54 (1.16)	1 (0.6%)	NS	NS	NS	NS	5.7 (1.7, 6.4)	57	57	0
PREVEND*	603	46.9 (11.2)	347 (57.5%)	4.56 (0.82)	0 (0.0%)	Plasma	NS	NS	NS	10.8 (4.4, 11.2)	24	21	3
PROSPER*	81	74.7 (3.3)	35 (43.2%)	5.77 (1.58)	1 (1.2%)	NS	NS	NS	NS	3.3 (.9, 3.8)	10	9	1
TOTAL (28studies)	**107364**	**59.5 (10.3)**	**60438 (56.3%)**	**5.51 (1.18)**	**457 (0.4%)**					**9.7 (4, 21.7)**	**5855**	**3596**	**2259**

* Studies with diabetes definition based on self-report information, medical records and diabetes medication use. &Nested case-control studies were excluded from the risk prediction analyses.
Hex: Hexokinase; GO: Glucose oxidase; NS: Not stated,†Enzymatic methods used to assess glucose in Auto-analyser based assessments.
All glucose values have been harmonized to plasma levels according to EASD/ESC guidelines:
Plasma glucose (mmol/L) =0.558 +1.119* whole blood glucose (mmol/L); Plasma glucose (mmol/L) = 0.102 + 1.066* capillary blood glucose (mmol/L)
Plasma glucose (mmol/L) = -0.137 + 1.047*serum glucose (mmol/L).

eTable 6. Characteristics of Prospective Studies Contributing to Analyses of Postload Glucose

Study name	No. of participants	Age (SD)	Male Sex (%)	Post-load glucose (mmol/l) Mean (SD)	No. of participants having post-load glucose≥11.1 mmol/l	Glucose load	Time to measure post load glucose after load(hrs)	Post-load glucose storage temperature	Assay method	Median follow-up (yrs) (5th & 95th percentiles)	CVD events	CHD events	Stroke events
ARIC	5784	62.7 (5.6)	2396 (41.4%)	7.30 (2.31)	421 (7.3%)	NS	NS	NS	Hex	5.4 (4.1, 6.7)	164	88	76
AUSDIAB*	8208	52.8 (11.9)	3586 (43.7%)	6.24 (2.21)	275 (3.4%)	75	2	Fresh	GO	5 (2.1, 8.5)	92	59	33
BHS*	474	57.8 (10.7)	191 (40.3%)	8.06 (2.67)	60 (12.7%)	50	1	NS	Enzymatic methods†	24.1 (6, 24.2)	67	47	20
BRUN	764	57.1 (11.0)	377 (49.3%)	5.58 (2.38)	25 (3.3%)	75	2	Fresh	Enzymatic methods†	20.2 (4.9, 20.5)	111	56	55
CHS1*	3396	72.2 (5.2)	1288 (37.9%)	7.98 (3.02)	433 (12.8%)	75	2	Frozen, -70°C	Enzymatic methods†	12.2 (2.3, 12.9)	870	492*	378
EAS*	956	64.2 (5.6)	474 (49.6%)	5.74 (1.73)	0 (0.0%)	75	2	4°C	Enzymatic methods†	20.3 (2.8, 21.3)	172	88	84
FINE_FIN	224	76.0 (4.6)	224 (100.0%)	7.57 (2.88)	21 (9.4%)	75	2	NS	GO	7.3 (1.6, 10)	79	56	23
FRAMOFF	908	60.9 (9.4)	391 (43.1%)	6.81 (2.24)	51 (5.6%)	75	2	NS	NS	5.2 (3.4, 7)	18	10	8
FUNAGATA	1099	53.2 (12.4)	489 (44.5%)	6.00 (2.07)	34 (3.1%)	75	2	Fresh	GO	7.3 (5.3, 10.2)	41	10	31
GOH*	884	54.7 (10.6)	449 (50.8%)	8.37 (2.99)	150 (17.0%)	100	2	Fresh	Enzymatic methods†	25.2 (.8, 28.6)	18	14	4
HISAYAMA*	2249	58.0 (10.8)	936 (41.6%)	6.95 (2.44)	119 (5.3%)	75	2	0-4°C	GO	14 (4.3, 14)	223	56	167
HOORN	2013	61.0 (7.3)	892 (44.3%)	5.50 (1.64)	0 (0.0%)	75	2	NS	GDH	8.8 (3.5, 9.9)	107	62	45
KIHD	520	55.4 (6.9)	520 (100.0%)	6.47 (1.80)	8 (1.5%)	NS	NS	NS	NS	16.7 (3.5, 18.6)	103	78	25
NHANESIII*	2889	55.7 (10.4)	1390 (48.1%)	7.63 (3.30)	350 (12.1%)	75	2	NS	Hex	14.6 (5.7, 17.6)	140	107	33
RANCHO*	1653	68.3 (11.1)	669 (40.5%)	7.23 (2.64)	130 (7.9%)	75	2	NS	Hex	14.4 (2, 18.1)	367	198	169
REYK*	14313	52.6 (8.0)	6676 (46.6%)	7.80 (1.88)	732 (5.1%)	50	1.5	NS	Enzymatic methods†	24.8 (6.5, 36.5)	3345	2701	644
ROTT	3527	67.3 (7.9)	1392 (39.5%)	6.47 (1.64)	18 (0.5%)	75	2	NS	Hex	12 (3.3, 14.2)	259	165	94
SHS	2003	55.5 (8.1)	870 (43.4%)	6.78 (1.93)	0 (0.0%)	NS	NS	NS	NS	12.6 (2.9, 14.3)	231	170	61
ULSAM	814	71.0 (0.6)	814 (100.0%)	7.24 (2.29)	52 (6.4%)	NS	NS	NS	NS	13.9 (2.2, 16.8)	205	117	88
WHITEII	7365	49.5 (6.0)	5107 (69.3%)	5.60 (1.92)	109 (1.5%)	75	2	NS	Enzymatic methods†	12.3 (5.1, 13)	265	260	5
ZUTE	322	75.3 (4.4)	322 (100.0%)	6.31 (2.64)	20 (6.2%)	75	2	NS	Hex	9.1 (1.1, 10.1)	78	47	31
FIA*&	359	53.3 (8.6)	276 (76.9%)	6.14 (1.84)	5 (1.4%)	NS	NS	NS	Hex	5.9 (1.7, 10.8)	106	106	0
MRFIT*	3510	46.5 (6.1)	3510 (100.0%)	9.42 (2.78)	862 (24.6%)	75	2	NS	NS	7.4 (5, 8)	225	202	23
TOTAL (23 studies)	**64234**	**60.0 (8.4)**	**33239 (51.7%)**	**6.92 (2.25)**	**3875 (6.0%)**					**11.8 (3.8, 33.2)**	**7286**	**5189**	**2097**

* Studies with diabetes definition based on self-report information, medical records and diabetes medication use.
& Nested case-control studies were excluded from the risk prediction analyses.
Hex: Hexokinase; GO: Glucose oxidase; GDH: Glucose dehydrogenase; NS: Not stated; † Enzymatic methods used to assess glucose in Auto-analyser based assessments
All glucose values have been harmonized to plasma levels according to EASD/ESC guidelines.
Plasma glucose (mmol/L) =0.558 +1.119* whole blood glucose (mmol/L); Plasma glucose (mmol/L) = 0.102 + 1.066* capillary blood glucose (mmol/L)
Plasma glucose (mmol/L) = -0.137 + 1.047*serum glucose (mmol/L).

eTable 7. Hazard Ratios for CVD by Clinical Categories of Dysglycemia, Adjusted For Baseline Levels of Other Factors

	HbA$_{1c}$ (%)			Fasting glucose (mg/dl)			Random glucose (mg/dl)		Post-load glucose (mg/dl)		
	<5.7	5.7-6.4	≥6.5	<101	101 - <126	≥126	<200	≥200	<141	141 - <200	≥200
	24 studies, 101280 participants			50 studies, 150617 participants			28 studies, 107364 participants		23 studies, 64234 participants		
	4267 CVD cases			13511 CVD cases			5855 CVD cases		7286 CVD cases		
	2903 cases	1036 cases	328 cases	9173 cases	3802 cases	536 cases	5783 cases	72 cases	4158 cases	2531 cases	597 cases
Age, sex, smoking status, and systolic blood pressure	1	1.3	1.56	1	1.07	1.55	1	2.15	1	1.07	1.23
	[Reference]	(1.15, 1.47)	(1.17, 2.07)	[Reference]	(1.02, 1.13)	(1.38, 1.74)	[Reference]	(1.70, 2.73)	[Reference]	(1.02, 1.13)	(1.13, 1.35)
plus total cholesterol	1	1.29	1.55	1	1.06	1.53	1	2.1	1	1.07	1.23
	[Reference]	(1.15, 1.46)	(1.16, 2.07)	[Reference]	(1.01, 1.11)	(1.37, 1.72)	[Reference]	(1.66, 2.66)	[Reference]	(1.02, 1.13)	(1.13, 1.35)
plus HDL cholesterol	1	1.25	1.43	1	1.04	1.47	1	1.96	1	1.05	1.19
	[Reference]	(1.12, 1.41)	(1.07, 1.91)	[Reference]	(0.99, 1.10)	(1.32, 1.64)	[Reference]	(1.54, 2.48)	[Reference]	(0.99, 1.11)	(1.09, 1.31)
	24 studies, 101246 participants			50 studies, 150102 participants			25 studies, 81275 participants		21 studies, 59733 participants		
	4263 CVD cases			13405 CVD cases			4544 CVD cases		6826 CVD cases		
	2900 cases	1035 cases	328 cases	9085 cases	3789 cases	531 cases	4481 cases	63 cases	3823 cases	2416 cases	587 cases
Basic model*	1	1.25	1.43	1	1.04	1.47	1	1.89	1	1.05	1.19
	[Reference]	(1.12, 1.41)	(1.07, 1.90)	[Reference]	(0.99, 1.10)	(1.32, 1.64)	[Reference]	(1.47, 2.44)	[Reference]	(0.99, 1.10)	(1.09, 1.30)
plus triglycerides‡	1	1.26	1.45	1	1.04	1.46	1	1.92	1	1.04	1.18
	[Reference]	(1.12, 1.41)	(1.11, 1.89)	[Reference]	(0.99, 1.10)	(1.31, 1.62)	[Reference]	(1.48, 2.48)	[Reference]	(0.99, 1.10)	(1.08, 1.30)
	17 studies, 78377 participants			34 studies, 121109 participants			17 studies, 48315 participants		14 studies, 49182 participants		
	3027 CVD cases			10823 CVD cases			4332 CVD cases		6206 CVD cases		
	2173 cases	639 cases	215 cases	7328 cases	3046 cases	449 cases	4270 cases	62 cases	3319 cases	2326 cases	561 cases
Basic model*	1	1.28	1.65	1	1.02	1.4	1	1.85	1	1.04	1.2
	[Reference]	(1.09, 1.51)	(1.30, 2.09)	[Reference]	(0.97, 1.08)	(1.22, 1.60)	[Reference]	(1.43, 2.39)	[Reference]	(0.99, 1.10)	(1.10, 1.32)
plus eGFR	1	1.28	1.65	1	1.02	1.4	1	1.83	1	1.05	1.21
	[Reference]	(1.08, 1.51)	(1.29, 2.11)	[Reference]	(0.97, 1.08)	(1.22, 1.60)	[Reference]	(1.42, 2.37)	[Reference]	(0.99, 1.11)	(1.10, 1.32)
	14 studies, 48753 participants			24 studies, 66727 participants			10 studies, 14727 participants		16 studies, 42392 participants		
	2283 CVD cases			8014 CVD cases			2059 CVD cases		5989 CVD cases		
	1465 cases	602 cases	216 cases	6001 cases	1781 cases	232 cases	2029 cases	30 cases	3350 cases	2165 cases	474 cases
Basic model*	1	1.17	1.24	1	1.03	1.4	1	1.75	1	1.06	1.23
	[Reference]	(1.04, 1.32)	(0.89, 1.73)	[Reference]	(0.96, 1.10)	(1.22, 1.61)	[Reference]	(1.21, 2.53)	[Reference]	(0.98, 1.14)	(1.11, 1.36)
plus CRP‡	1	1.14	1.17	1	1.01	1.33	1	1.54	1	1.04	1.17
	[Reference]	(1.01, 1.29)	(0.85, 1.61)	[Reference]	(0.95, 1.08)	(1.16, 1.52)	[Reference]	(1.06, 2.22)	[Reference]	(0.96, 1.12)	(1.05, 1.30)

*Basic model includes age, sex, smoking status, systolic blood pressure, total-cholesterol and HDL cholesterol. CVD: cardiovascular disease, defined as fatal or nonfatal CHD event or any stroke. eGFR, estimated glomerular filtration rate calculated using EPI-CKD equation. CRP: C-reactive protein. §To convert HbA$_{1c}$ to IFCC units in mmol/mol = [HbA$_{1c}$ % - 2.15] x 10.929. ‡ Triglycerides and CRP values were log transformed to achieve a normal distribution.

eTable 8. Hazard Ratio for CVD by Clinical Categories of Random Glucose, Adjusted for Baseline Levels of Other Factors in People Without Known History Of Diabetes

	Random glucose (mg/dl)		
	<101	**101 -<126**	**≥126**
	28 studies, 107364 participants and 5855 CVD cases		
Age, sex, smoking status, and systolic blood pressure	[Reference]	1.08 (1.01, 1.14)	1.36 (1.16, 1.59)
plus total-cholesterol	[Reference]	1.07 (1.01, 1.14)	1.36 (1.17, 1.58)
plus HDL-C	[Reference]	1.06 (1.00, 1.13)	1.31 (1.13, 1.53)
	26 studies, 84366 participants and 4634 CVD cases		
Basic model*	[Reference]	1.07 (1.00, 1.15)	1.36 (1.17, 1.57)
plus log-triglycerides	[Reference]	1.07 (1.00, 1.14)	1.34 (1.18, 1.52)
	18 studies, 51400 participants and 4421 CVD cases		
Basic model*	[Reference]	1.03 (0.97, 1.11)	1.26 (1.09, 1.45)
plus eGFR	[Reference]	1.03 (0.97, 1.10)	1.24 (1.08, 1.43)
	11 studies, 17605 participants and 2144 CVD cases		
Basic model*	[Reference]	1.12 (1.01, 1.24)	1.41 (1.00, 1.99)
plus log-CRP	[Reference]	1.11 (1.01, 1.23)	1.36 (0.97, 1.91)

*Basic model includes age, sex, smoking status, systolic blood pressure, total-cholesterol and HDL-C. People with known history of diabetes were excluded. Study-specific definition of known history of diabetes is reported in eTable 1. eGFR, estimated glomerular filtration rate calculated using EPI-CKD equation. CRP: C-reactive protein.
CVD: cardiovascular disease, defined as fatal or nonfatal CHD event or any stroke.

eTable 9. Changes in Cardiovascular Disease Reclassification After the Addition of Information on Glycemia Measures to Conventional Risk Factors

Addition of glycemia measures	No. of studies	No. of participants	No. of cases*	NRI %, Non-cases (95% CI)	NRI %, Cases (95% CI)	NRI (95% CI)	IDI (95% CI)	Relative IDI (95% CI)
HbA$_{1c}$	8	35808	2351	0.13(-0.09, 0.34)	0.30(-0.73, 1.33)	0.42(-0.63, 1.48)	0.0013(0.0006, 0.0020)[b]	1.70%(0.78%, 2.61%) [b]
Fasting glucose	16	60192	3660	0.14(0.02, 0.26)[a]	0.11(-0.42, 0.63)	0.25(-0.29, 0.79)	0.0013(0.0007, 0.0020)[b]	1.13%(0.58%, 1.68%) [b]
Random glucose	12	39508	2236	0.13(-0.01, 0.26)	-0.04(-0.72, 0.63)	0.08(-0.61, 0.77)	0.0009(0.0003, 0.0016)[a]	0.80%(0.24%, 1.37%) [a]
Post-load glucose	8	24588	1923	0.00(-0.16, 0.16)	0.10(-0.42, 0.62)	0.10(-0.44, 0.65)	0.0004(-0.0002, 0.0009)	0.28%(-0.10%, 0.67%)

CVD: cardiovascular disease, defined as fatal or nonfatal CHD event or any stroke. Risk categories were defined as 0-<5%, 5-<7.5%, ≥7.5%
* No. of cases within 10 years of follow-up.
[a] P<0.05; [b] P<0.001.

eFigure 1. Mean(SD) of Baseline HbA1c, Fasting Glucose, Random Glucose and Postload Glucose in Individual Studies

eFigure 2. Correlations Between Different Glycemia Markers

Fasting glucose (mg/dl)
18 studies, 56520 participants
r (95% CI) = 0.42 (0.31 to 0.52)*

Post-load glucose (mg/dl)
10 studies 20818 participants
r (95% CI) = 0.35 (0.24 to 0.46)*

Random glucose (mg/dl)
7 studies, 8713 participants
r (95% CI) = 0.32 (0.13 to 0.49)*

Fasting glucose (mg/dl)
22 studies, 59210 participants
r (95% CI) = 0.50 (0.45 to 0.54)*

Random glucose (mg/dl)
4 studies, 4936 participants
r (95% CI) = 0.35 (0.25 to 0.44)*

— Male
---- Female

Response means are adjusted to age 65* r is partial correlation adjusted for age and sex.

Shape of the association was assessed using linear mixed model with random effects at the study level. The mean values and 95% confidence intervals for HbA1c (top panel) and post-load glucose (bottom panel) were estimated by sex within tenths ("deciles") of other glycaemia markers, and then plotted against the mean values within tenths of other glycemia markers. An inverse-variance weighted polynomial was superimposed on the means of glycaemia markers to aid interpretation of the shapes.

eFigure 3. Comparison of Within-Person Variability in Various Glycemia Measures in People Without Known History of Diabetes

HbA$_{1c}$
RDR = 0.65(0.57, 0.73)*

Fasting glucose
RDR = 0.70(0.64, 0.75)*

Random glucose
RDR = 0.46(0.33, 0.59)*

Post-load glucose
RDR = 0.67(0.61, 0.72)*

* Estimated pooled Regression Dilution Ratio (RDR) shown as the horizontal dashed lines . Analyses were based on (a) for HbA$_{1c}$ 42,833 repeat (re-survey) measurements from 17,511 participants. (b) for fasting glucose, 195,148repeat (re-survey) measurements from 72,314participants. (c) for random glucose, 39,024repeat (re-survey) measurements from 13,829participants. (d) for post-load glucose, 24,361repeat (re-survey) measurements from 20,180participants. For each re-survey, studies with fewer than 50 participants were excluded. Similar estimates were obtained after excluding observationswith known diabetes at repeat measurements.

eFigure 4. Hazard Ratios for Incident Cardiovascular Disease by Baseline Levels of Glycemia Measures Using Fractional Polynomials Model

Analyses were adjusted for age, smoking status, systolic blood pressure, total cholesterol, HDL-C and stratified by sex and trial arm where appropriate. Participants were classified into groups as Figure 1. The HR (95% CI) using fractionalpolynomial models were plotted by solid lines. Participants with glycemia markers values in the top and bottom 0.2% of the distribution were excluded from this analysis. CVD: cardiovascular disease, defined as fatal or nonfatal CHD event or any stroke.

eFigure 5. Hazard Ratios for CVD for HbA$_{1c}$ by Study-Level and Individual Characteristics

	No. of participants	No. of CVD cases		HR (95% CI)	Interaction p-value
Sex					
Male	16836	1263		1.04 (0.99, 1.11)	0.838
Female	26281	1498		1.04 (0.97, 1.12)	
Age at survey (yrs)					
<60	22906	817		1.07 (1.00, 1.16)	0.162
60 - <70	13286	1069		1.07 (1.01, 1.13)	
≥70	6925	875		0.97 (0.88, 1.08)	
Smoking status					
Other	33886	1897		1.05 (0.99, 1.11)	0.389
Current	9231	864		1.07 (1.00, 1.15)	
BMI (kg/m^2)					
Bottom third (<24.5)	13891	898		1.08 (1.03, 1.14)	0.567
Middle third (24.5 − 28.3)	14311	943		1.08 (1.00, 1.16)	
Top third (>28.3)	14731	910		1.06 (0.97, 1.14)	
SBP (mmHg)					
Bottom third (<122)	14608	522		1.14 (1.05, 1.22)	0.665
Middle third (122 − 137)	14174	788		1.06 (0.99, 1.13)	
Top third (>137)	14335	1451		1.06 (1.00, 1.13)	
Total cholesterol (mg/dl)					
Bottom third (<200)	14805	806		1.08 (1.03, 1.14)	0.659
Middle third (200 − 236)	13889	846		1.07 (0.99, 1.15)	
Top third (>236)	14423	1109		1.06 (1.00, 1.13)	
HDL-C (mg/dl)					
Bottom third (<45)	15172	1217		1.03 (0.97, 1.09)	0.029
Middle third (45 − 58)	14576	880		1.06 (0.99, 1.13)	
Top third (>58)	13369	664		1.13 (1.05, 1.23)	
eGRF (ml/min/1.73m^2)					
Bottom third (<66)	10060	960		1.05 (0.97, 1.13)	0.381
Middle third (66 − 85)	9631	541		1.13 (1.06, 1.21)	
Top third (>85)	9628	330		1.05 (0.96, 1.16)	
Duration of follow up					
Median ≥10 yrs	21312	1933		1.04 (0.97, 1.12)	0.940
Median < 10 yrs	21417	828		1.07 (1.02, 1.13)	
Race					
Non-white	9151	623		1.08 (1.03, 1.14)	0.522
White	20272	1293		1.07 (1.01, 1.14)	

HR (95% CI)
0.8   1   1.2   1.4   1.6

Participants below the mean level of HbA$_{1c}$ were excluded. Baseline SD was used to calculate per-SD HR. SD of HbA$_{1c}$ was 0.54.
P-values for interaction were calculated from analyses using continuous variables where appropriate.
Analyses were conducted using studies with information across all levels of each subgroup variable.
CVD: cardiovascular disease, defined as fatal or nonfatal CHD event or any stroke.
eGFR: estimated glomerular filtration rate.

eFigure 6. Hazard Ratios for CVD for Fasting Glucose by Study-Level and Individual Characteristics

	No. of participants	No. of CVD cases		HR (95% CI)	Interaction p-value
Sex					
Male	40289	4411		1.07 (1.04, 1.10)	0.030
Female	27953	2029		1.11 (1.08, 1.15)	
Age at survey (yrs)					
<60	41323	2887		1.09 (1.04, 1.15)	0.636
60 - <70	15653	1635		1.09 (1.03, 1.15)	
≥70	11266	1918		1.07 (1.01, 1.13)	
Smoking status					
Other	49516	4165		1.10 (1.07, 1.13)	0.361
Current	18726	2275		1.08 (1.03, 1.13)	
BMI (kg/m^2)					
Bottom third (<24.8)	22704	2001		1.08 (1.02, 1.15)	0.376
Middle third (24.8 – 28.3)	22628	2287		1.09 (1.04, 1.14)	
Top third (>28.3)	22505	2123		1.10 (1.06, 1.14)	
SBP (mmHg)					
Bottom third (<125)	23114	1272		1.18 (1.12, 1.23)	0.435
Middle third (125 – 142)	23555	2109		1.10 (1.05, 1.15)	
Top third (>142)	21573	3059		1.08 (1.03, 1.12)	
Total cholesterol (mg/dl)					
Bottom third (<206)	22809	1646		1.07 (1.02, 1.13)	0.571
Middle third (206 - 243)	22830	2033		1.09 (1.05, 1.14)	
Top third (>243)	22603	2761		1.09 (1.05, 1.14)	
HDL-C (mg/dl)					
Bottom third (<45)	22941	2406		1.08 (1.04, 1.12)	0.073
Middle third (45-57)	23191	2353		1.10 (1.04, 1.16)	
Top third (>57)	22110	1681		1.11 (1.05, 1.18)	
eGRF (ml/min/1.73m^2)					
Bottom third (<69)	18197	2183		1.12 (1.07, 1.17)	0.363
Middle third (69 – 84)	18174	1446		1.09 (1.05, 1.14)	
Top third (>84)	18176	1663		1.07 (1.03, 1.11)	
Duration of follow up					
Median ≥10 yrs	39325	5177		1.08 (1.05, 1.12)	0.628
Median < 10 yrs	28917	1263		1.07 (1.02, 1.13)	
Race					
Non-white	13480	913		1.06 (1.00, 1.12)	0.352
White	43003	4924		1.09 (1.06, 1.12)	

HR (95% CI) axis: 0.8 1 1.2 1.4 1.6

Participants below the mean level of fasting glucose were excluded. Baseline SD was used to calculate per-SD HR. SD of fasting glucose was 0.8.

P-values for interaction were calculated from analyses using continuous variables where appropriate.
Analyses were conducted using studies with information across all levels of each subgroup variable.
CVD: cardiovascular disease, defined as fatal or nonfatal CHD event or any stroke
eGFR: estimated glomerular filtration rate.

	No. of participants	No. of CVD cases	HR (95% CI)	Interaction p-value
Sex				
Male	24358	2102	1.08 (1.03, 1.13)	0.468
Female	17157	831	1.10 (1.05, 1.16)	
Age at survey (yrs)				
<60	25337	1542	1.11 (1.04, 1.19)	0.641
60 - <70	8046	496	1.06 (1.00, 1.13)	
≥70	8132	895	1.09 (1.04, 1.14)	
Smoking status				
Other	28150	1643	1.10 (1.05, 1.16)	0.117
Current	13365	1290	1.06 (0.99, 1.14)	
BMI (kg/m^2)				
Bottom third (≤24.11)	13623	808	1.14 (1.02, 1.27)	0.206
Middle third (24.12 - 27.25)	13500	946	1.11 (1.02, 1.21)	
Top third (≥27.26)	13422	1045	1.09 (1.02, 1.16)	
SBP (mmHg)				
Bottom third (<128)	14041	457	1.16 (1.05, 1.27)	0.780
Middle third (128 – 144)	13742	820	1.11 (1.02, 1.20)	
Top third (>144)	13732	1656	1.09 (1.02, 1.17)	
Total cholesterol (mg/dl)				
Bottom third (<205)	13886	582	1.12 (1.04, 1.20)	0.478
Middle third (205 – 243)	14062	950	1.13 (1.05, 1.22)	
Top third (>243)	13567	1401	1.09 (1.02, 1.17)	
HDL-C (mg/dl)				
Bottom third (<46)	13981	1292	1.07 (1.01, 1.13)	0.007
Middle third (46 – 58)	14311	959	1.09 (1.02, 1.17)	
Top third (>58)	13223	682	1.18 (1.11, 1.26)	
eGRF (ml/min/1.73m^2)				
Bottom third (<69)	7409	1071	1.09 (1.02, 1.17)	0.934
Middle third (69 – 83)	7427	802	1.11 (1.00, 1.22)	
Top third (>83)	7418	521	1.08 (0.97, 1.19)	
Duration of follow up				
Median ≥10 yrs	25580	2361	1.07 (1.02, 1.13)	0.480
Median < 10 yrs	15935	572	1.08 (1.00, 1.16)	
Race				
Non-white	7069	247	1.18 (0.89, 1.56)	0.890
White	7577	679	1.08 (0.98, 1.19)	

HR (95% CI) axis: 0.8   1   1.2   1.4   1.6

HR (95% CI)

Participants below the mean level of random glucose were excluded. Baseline SD was used to calculate per-SD HR. SD of random glucose was 1.18.

P-values for interaction were calculated from analyses using continuous variables where appropriate.
Analyses were conducted using studies with information across all levels of each subgroup variable.
CVD: cardiovascular disease, defined as fatal or nonfatal CHD event or any stroke
eGFR: estimated glomerular filtration rate.

eFigure 8. Hazard Ratios for CVD for Postload Glucose by Study-Level and Individual Characteristics

	No. of participants	No. of CVD cases		HR (95% CI)	Interaction p-value
Sex					
Male	14121	2586		1.07 (1.02, 1.12)	0.207
Female	12756	1486		1.11 (1.06, 1.17)	
Age at survey (yrs)					
<60	16035	2066		1.17 (1.09, 1.25)	0.024
60 - <70	6198	937		1.12 (0.94, 1.33)	
≥70	4644	1069		1.06 (1.00, 1.13)	
Smoking status					
Other	18748	2487		1.07 (1.03, 1.12)	0.207
Current	8129	1585		1.16 (1.05, 1.28)	
BMI (kg/m^2)					
Bottom third (<24.7)	8962	1390		1.12 (1.02, 1.22)	0.642
Middle third (24.7 – 28.3)	8940	1471		1.02 (0.93, 1.12)	
Top third (>28.3)	8888	1200		1.12 (1.07, 1.19)	
SBP (mmHg)					
Bottom third (<129)	9374	842		1.11 (0.98, 1.27)	0.588
Middle third (129 – 144)	8633	1198		1.05 (0.98, 1.11)	
Top third (>144)	8870	2032		1.10 (1.01, 1.20)	
Total cholesterol (mg/dl)					
Bottom third (<213)	8820	1002		1.03 (0.95, 1.13)	0.215
Middle third (213 – 251)	9055	1293		1.14 (1.04, 1.24)	
Top third (>251)	9002	1777		1.11 (1.00, 1.23)	
HDL-C (mg/dl)					
Bottom third (<46)	9410	1289		1.12 (1.04, 1.20)	0.278
Middle third (46 – 56)	8871	1651		1.12 (1.01, 1.24)	
Top third (>56)	8596	1132		0.98 (0.87, 1.10)	
eGRF (ml/min/1.73m^2)					
Bottom third (<71)	8075	1534		1.11 (1.05, 1.17)	0.712
Middle third (71 - 86)	8113	1272		1.08 (0.98, 1.19)	
Top third (>86)	8032	966		1.10 (1.02, 1.20)	
Glucose load time (hrs)					
Other	13406	2648		1.06 (1.00, 1.12)	0.624
2	13471	1424		1.09 (1.05, 1.14)	
Duration of follow up					
Median ≥ 10 yrs	18716	3672		1.09 (1.05, 1.13)	0.185
Median < 10 yrs	8161	400		1.01 (0.92, 1.11)	
Race					
Non-white	3014	294		1.07 (0.96, 1.18)	0.475
White	20944	3679		1.08 (1.04, 1.12)	

HR (95% CI) axis: 0.8 1 1.2 1.4 1.6

HR (95% CI)

Participants below the mean level of post-load glucose were excluded. Baseline SD was used to calculate per-SD HR. SD of post-load glucose was 2.25.
P-values for interaction were calculated from analyses using continuous variables where appropriate.
Analyses were conducted using studies with information across all levels of each subgroup variable.
CVD: cardiovascular disease, defined as fatal or nonfatal CHD event or any stroke
eGFR: estimated glomerular filtration rate.

eFigure 9. Change in C-Index Upon Addition of HbA$_{1c}$ to Conventional Risk Factors by Study-Level and Individual Characteristics

	No. of participants	No. of CVD cases		Change in C-index (95% CI)	p-value
Age at survey (yrs)					
<60	17899	257		0.0084 (-0.0055, 0.0223)	
60-<70	5894	368		-0.0034 (-0.0132, 0.0063)	
≥70	3827	593		0.0011 (-0.0036, 0.0058)	0.389
Sex					
Male	17360	1172		0.0042 (0.0011, 0.0072)	
Female	22466	980		0.0034 (-0.0003, 0.0071)	0.745
Smoking status					
Other	34364	1691		0.0025 (-0.0000, 0.0050)	
Current	7976	617		0.0089 (0.0024, 0.0153)	0.071
Race					
White	16062	1147		0.0026 (-0.0005, 0.0057)	
Non-white	6538	529		0.0081 (0.0023, 0.0139)	0.100
Duration of follow-up					
median<10 yrs	22216	717		0.0018 (-0.0014, 0.0050)	
median≥10 yrs	20124	1591		0.0048 (0.0017, 0.0078)	0.192
Survey year					
<1990	4622	560		0.0014 (-0.0032, 0.0060)	
1990-<1995	16989	1151		0.0075 (0.0039, 0.0111)	
1995-<2000	9980	348		0.0035 (-0.0009, 0.0078)	
≥2000	10749	249		0.0014 (-0.0048, 0.0076)	0.139
Assay method					
HPLC	39206	1863		0.0052 (0.0029, 0.0076)	
ITA	883	143		0.0032 (-0.0031, 0.0096)	0.784
Other	2251	302		0.0035 (-0.0035, 0.0104)	
Assay standard					
DCCT	24341	1101		0.0085 (0.0047, 0.0123)	
Other	17999	1207		0.0007 (-0.0017, 0.0031)	0.001
BMI (kg/m^2)					
Bottom third (<24.3)	14067	777		0.0018 (-0.0009, 0.0045)	
Middle third (24.3 − 27.8)	14063	757		0.0030 (-0.0003, 0.0064)	
Top third (>27.8)	14057	768		0.0058 (-0.0004, 0.0120)	0.487
SBP (mmHg)					
Bottom third (<120)	14412	390		0.0075 (-0.0028, 0.0178)	
Middle third (120 - 136)	14060	641		0.0118 (0.0046, 0.0190)	
Top third (>136)	13868	1277		0.0033 (0.0001, 0.0066)	0.095
Total cholesterol (mg/dl)					
Bottom third (<201)	14673	698		0.0028 (-0.0023, 0.0080)	
Middle third (201 − 236)	13578	713		0.0060 (0.0007, 0.0114)	
Top third (>236)	14089	897		0.0029 (-0.0004, 0.0061)	0.584
HDL-C (mg/dl)					
Bottom third (<46)	14441	993		0.0070 (0.0024, 0.0117)	
Middle third (46 − 59)	14073	714		0.0028 (-0.0005, 0.0060)	
Top third (>59)	13826	601		0.0022 (-0.0024, 0.0069)	0.269

Change in C-index (95% CI)

Analyses were conducted using studies with information across all levels of each subgroup variable.
CVD: cardiovascular disease, defined as fatal or nonfatal CHD event or any stroke

eFigure 10. Change in C-Index Upon Addition of Fasting Glucose to Conventional Risk Factors by Study-Level and Individual Characteristics

	No. of participants	No. of CVD cases	Change in C-index (95% CI)	Interaction p-value
Age at survey (yrs)				
<60	19859	997	0.0031 (0.0005, 0.0057)	
60-<70	5922	714	0.0008 (-0.0036, 0.0052)	
≥70	4292	1004	-0.0019 (-0.0040, 0.0002)	0.014
Sex				
Male	26145	2976	0.0016 (0.0004, 0.0028)	
Female	31512	2347	0.0020 (0.0003, 0.0038)	0.685
Smoking status				
Other	50422	4131	0.0022 (0.0010, 0.0035)	
Current	19567	2015	0.0002 (-0.0013, 0.0018)	0.054
Race				
White	42604	4212	0.0024 (0.0010, 0.0037)	
Non-white	7077	652	0.0024 (-0.0004, 0.0052)	0.975
Duration of follow-up				
median<10 yrs	26065	1334	0.0017 (-0.0005, 0.0040)	
median≥10 yrs	43924	4812	0.0021 (0.0010, 0.0032)	0.775
Survey year				
<1990	37581	4641	0.0020 (0.0009, 0.0031)	
1990-<1995	12654	748	-0.0002 (-0.0025, 0.0020)	
1995-<2000	8925	505	0.0034 (-0.0020, 0.0087)	
≥2000	10829	252	0.0085 (0.0023, 0.0147)	0.046
Assay method				
Hex / GO	39947	2935	0.0017 (0.0006, 0.0027)	
Enzymaticmethod	7259	223	-0.0007 (-0.0035, 0.0021)	
Other	22783	2988	0.0021 (0.0003, 0.0038)	0.240
Sample				
Serum	20840	2095	0.0035 (0.0007, 0.0063)	
Plasma	37137	2436	0.0014 (0.0003, 0.0025)	
Other	12012	1615	0.0013 (-0.0006, 0.0033)	0.395
BMI (kg/m^2)				
Bottom third (<24.4)	23228	1996	0.0006 (-0.0003, 0.0015)	
Middle third (24.4 – 27.8)	23255	2107	0.0029 (0.0008, 0.0050)	
Top third (>27.8)	23197	2019	0.0022 (0.0001, 0.0043)	0.077
SBP (mmHg)				
Bottom third (<123)	24003	1082	0.0072 (0.0021, 0.0123)	
Middle third (123 – 140)	22875	1840	0.0040 (0.0015, 0.0065)	
Top third (>140)	23111	3224	0.0024 (0.0009, 0.0039)	0.140
Total cholesterol (mg/dl)				
Bottom third (<207)	23683	1671	0.0015 (-0.0001, 0.0031)	
Middle third (207 – 246)	22225	1990	0.0036 (0.0012, 0.0059)	
Top third (>246)	17937	2053	0.0015 (0.0001, 0.0028)	0.286
HDL-C (mg/dl)				
Bottom third (<45)	23804	2176	0.0014 (-0.0001, 0.0029)	
Middle third (45 – 58)	23013	2192	0.0040 (0.0017, 0.0062)	
Top third (>58)	23172	1778	0.0014 (-0.0003, 0.0032)	0.133

-0.01   -0.005   0   0.005   0.01   0.015   0.02

Change in C-index (95% CI)

Analyses were conducted using studies with information across all levels of each subgroup variable.
CVD: cardiovascular disease, defined as fatal or nonfatal CHD event or any stroke

eFigure 11. Change in C-Index Upon Addition of Random Glucose to Conventional Risk Factors by Study-Level and Individual Characteristics

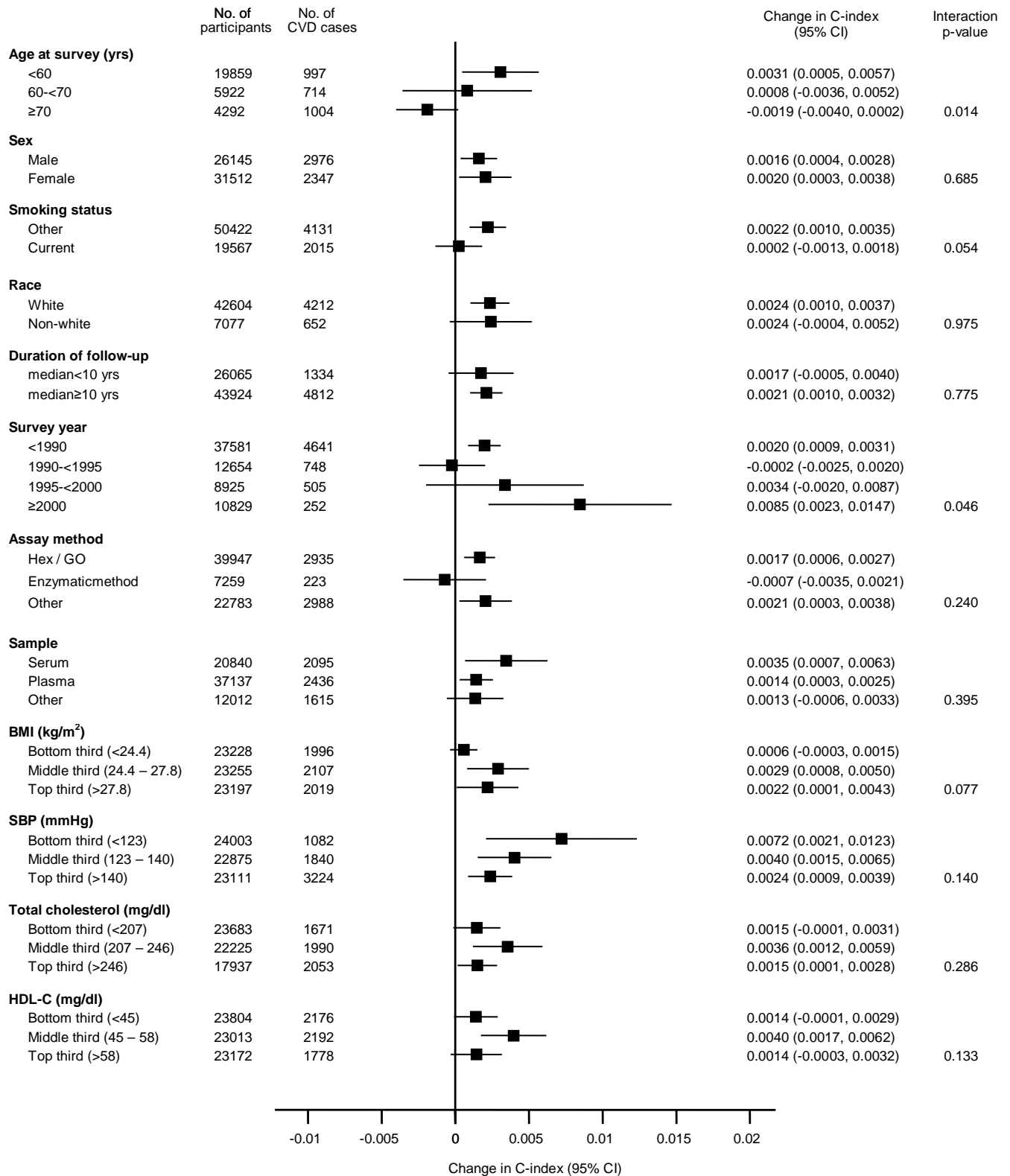|	No. of participants	No. of CVD cases		Change in C-index (95% CI)	Interaction p-value
Age at survey (yrs)					
<60	29146	719		0.0022 (0.0003, 0.0042)	
60-70	10604	604		0.0002 (-0.0055, 0.0058)	
≥70	9486	990		0.0016 (-0.0010, 0.0043)	0.773
Sex					
Male	30678	1240		0.0023 (0.0006, 0.0040)	
Female	38075	1166		0.0008 (-0.0012, 0.0028)	0.254
Smoking status					
Other	51295	2029		0.0006 (-0.0011, 0.0023)	
Current	28539	2136		-0.0003 (-0.0018, 0.0012)	0.435
Race					
White	8300	827		0.0034 (-0.0005, 0.0073)	
Non-white	1237	90		0.0158 (-0.0013, 0.0329)	0.166
Duration of follow-up					
median<10 yrs	37069	689		0.0037 (-0.0005, 0.0079)	
median≥10 yrs	47018	3994		0.0001 (-0.0005, 0.0008)	0.098
Survey year					
<1990	22058	2730		0.0005 (-0.0007, 0.0018)	
1990-<1995	11098	1395		0.0004 (-0.0008, 0.0016)	
1995-<2000	16843	113		0.0060 (-0.0077, 0.0197)	
≥2000	34088	445		0.0015 (-0.0006, 0.0036)	0.708
Assay method					
Enzymaticmethod	51421	3462		0.0006 (-0.0004, 0.0015)	
Hex / GO	2448	201		0.0008 (-0.0005, 0.0022)	
Other	30218	1020		0.0012 (-0.0008, 0.0032)	0.849
Sample					
Serum	43435	2302		0.0010 (-0.0005, 0.0024)	
Plasma	8731	1219		0.0008 (-0.0005, 0.0022)	
NS	15762	1083		0.0012 (-0.0007, 0.0032)	
Whole blood	16159	79		0.0054 (-0.0093, 0.0200)	0.923
BMI (kg/m^2)					
Bottom third (<24.0)	26439	1222		0.0004 (-0.0009, 0.0018)	
Middle third (24.0 – 27.1)	26381	1434		-0.0005 (-0.0014, 0.0004)	
Top third (>27.1)	26317	1447		0.0022 (-0.0004, 0.0049)	0.122
SBP (mmHg)					
Bottom third (<123)	27507	508		0.0008 (-0.0029, 0.0045)	
Middle third (123 – 140)	28202	1282		0.0049 (0.0011, 0.0088)	
Top third (>140)	26453	2851		0.0020 (0.0004, 0.0036)	0.274
Total cholesterol (mg/dl)					
Bottom third (<204)	28103	816		0.0013 (-0.0016, 0.0041)	
Middle third (204 – 242)	28131	1500		0.0006 (-0.0010, 0.0021)	
Top third (>242)	27853	2367		0.0011 (-0.0001, 0.0024)	0.823
HDL-C (mg/dl)					
Bottom third (<46)	28731	2292		0.0003 (-0.0009, 0.0015)	
Middle third (46 – 59)	27522	1327		0.0015 (-0.0009, 0.0039)	
Top third (>59)	27809	1060		0.0010 (-0.0009, 0.0029)	0.646

Change in C-index (95% CI)

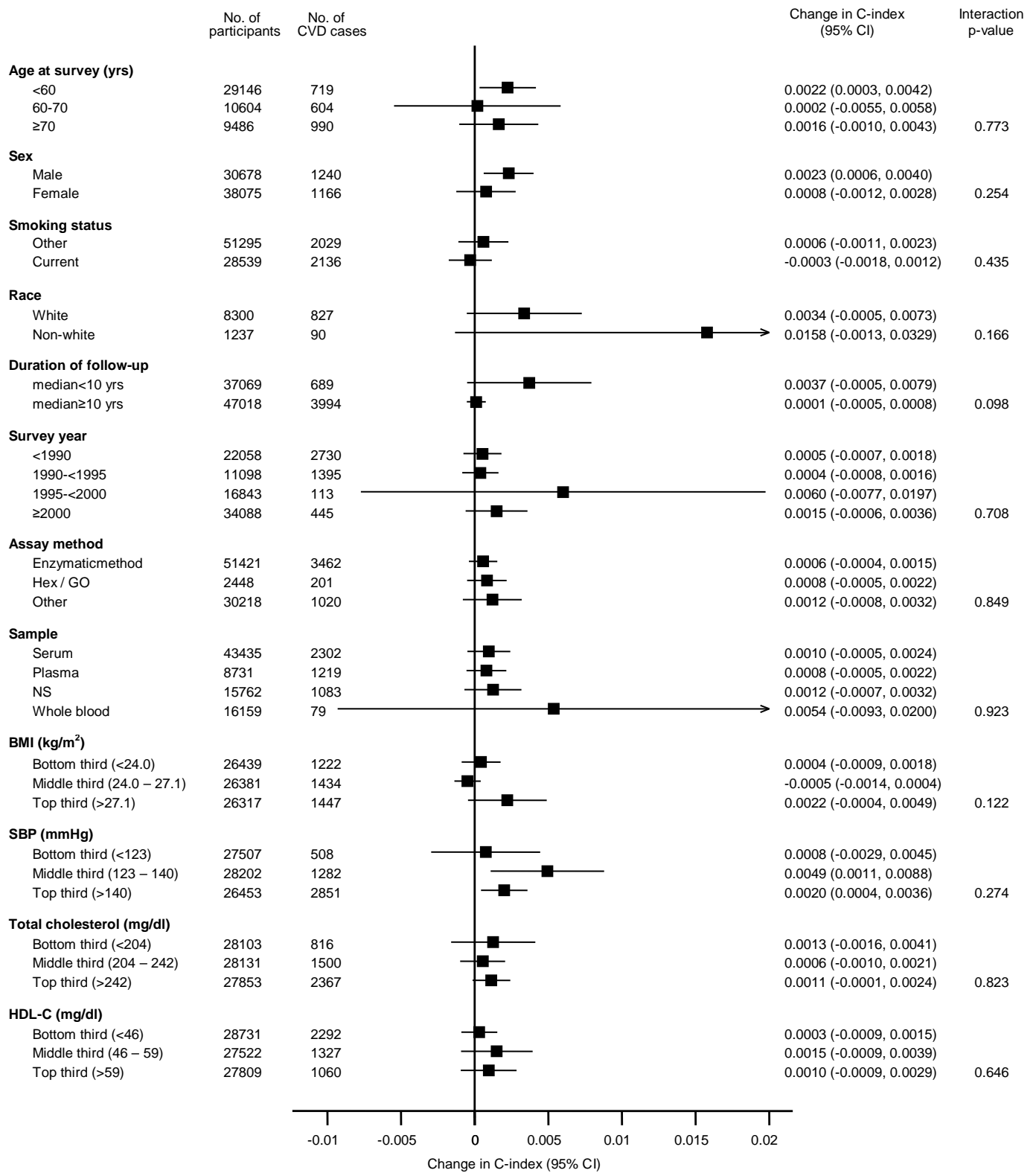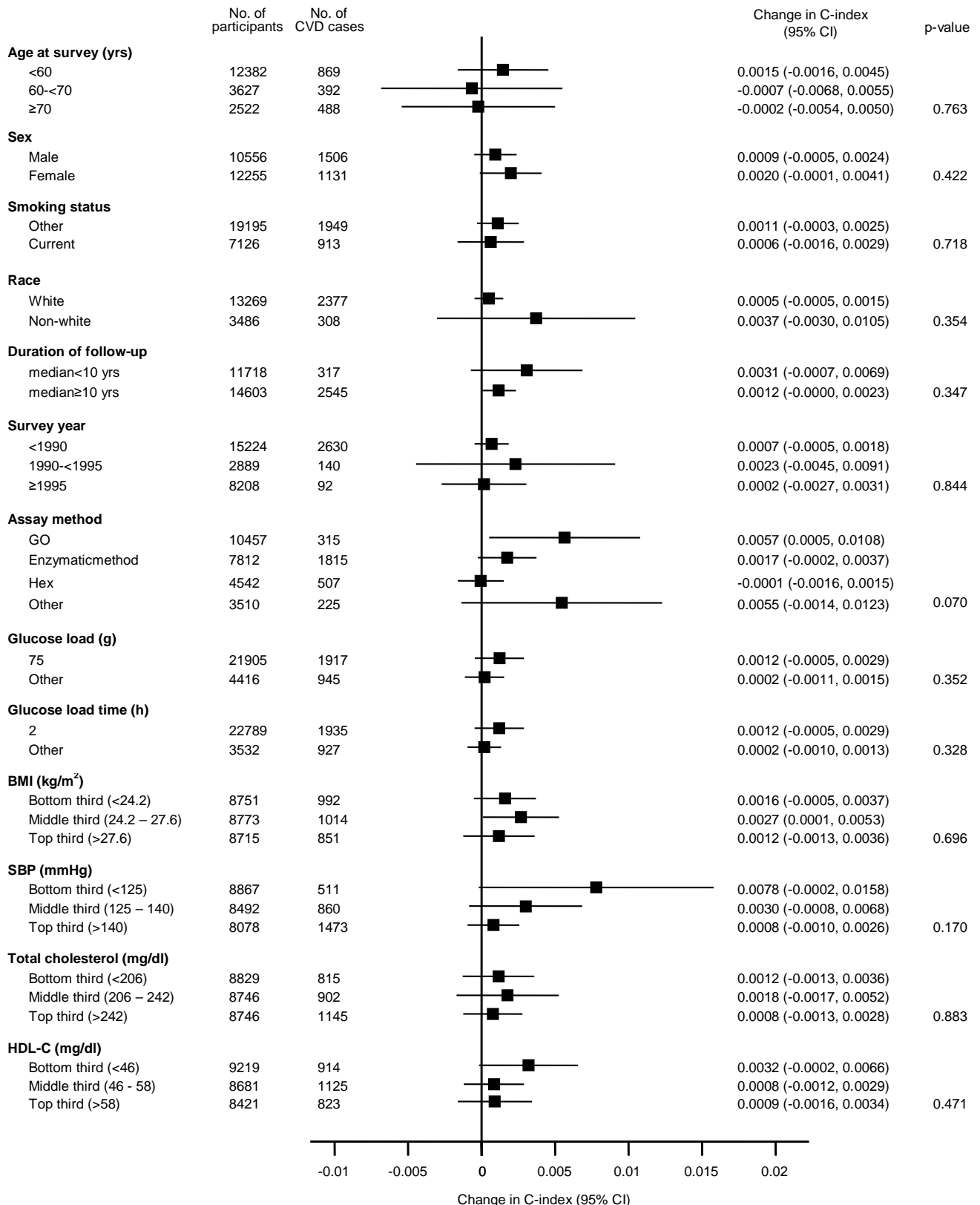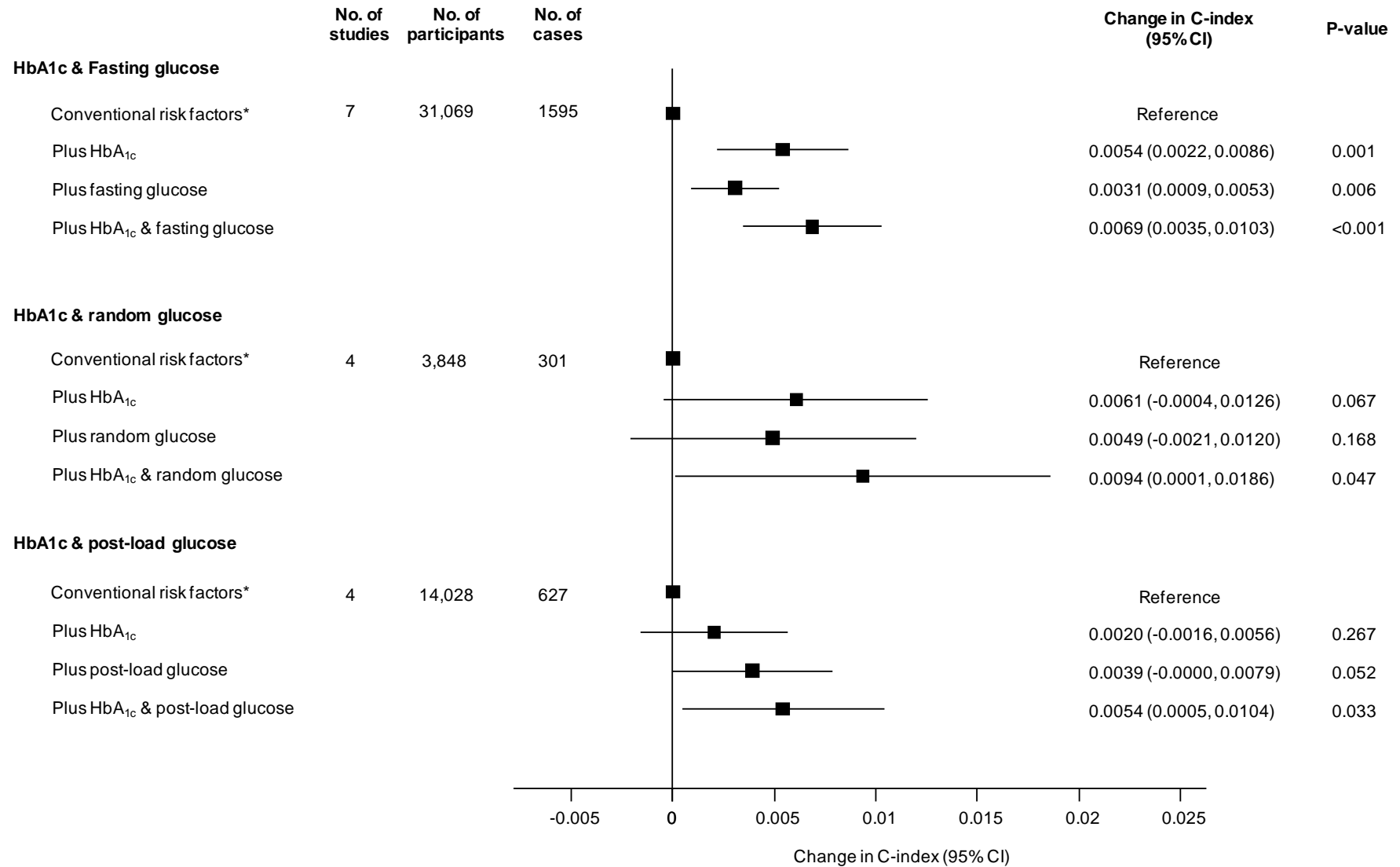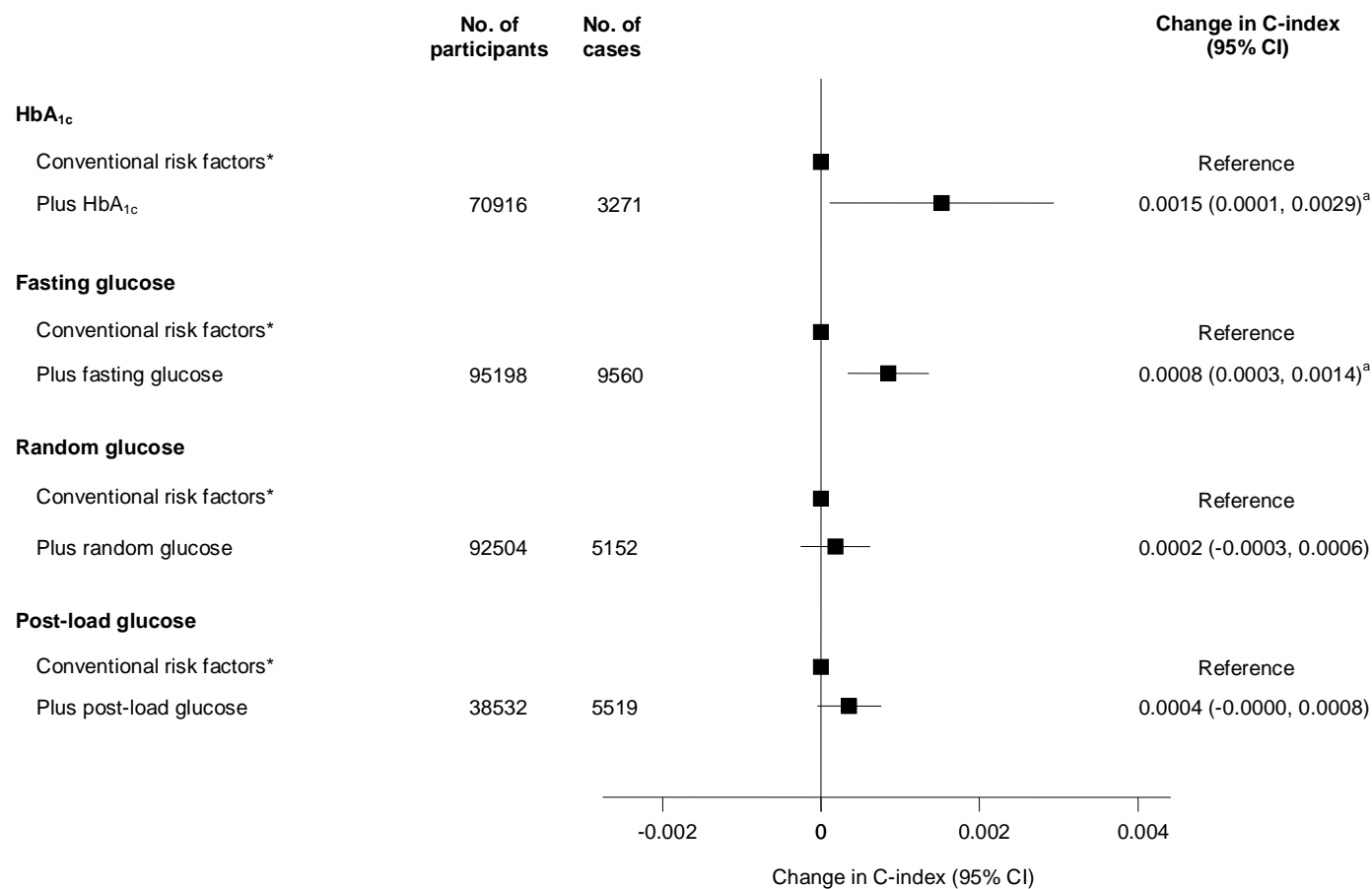-0.01   -0.005   0   0.005   0.01   0.015   0.02

Analyses were conducted using studies with information across all levels of each subgroup variable.
CVD: cardiovascular disease, defined as fatal or nonfatal CHD event or any stroke

eFigure 12. Change in C-Index Upon Addition of Postload Glucose to Conventional Risk Factors by Study-Level and Individual Characteristics

	No. of participants	No. of CVD cases		Change in C-index (95% CI)	p-value
Age at survey (yrs)					
<60	12382	869		0.0015 (-0.0016, 0.0045)	
60-<70	3627	392		-0.0007 (-0.0068, 0.0055)	
≥70	2522	488		-0.0002 (-0.0054, 0.0050)	0.763
Sex					
Male	10556	1506		0.0009 (-0.0005, 0.0024)	
Female	12255	1131		0.0020 (-0.0001, 0.0041)	0.422
Smoking status					
Other	19195	1949		0.0011 (-0.0003, 0.0025)	
Current	7126	913		0.0006 (-0.0016, 0.0029)	0.718
Race					
White	13269	2377		0.0005 (-0.0005, 0.0015)	
Non-white	3486	308		0.0037 (-0.0030, 0.0105)	0.354
Duration of follow-up					
median<10 yrs	11718	317		0.0031 (-0.0007, 0.0069)	
median≥10 yrs	14603	2545		0.0012 (-0.0000, 0.0023)	0.347
Survey year					
<1990	15224	2630		0.0007 (-0.0005, 0.0018)	
1990-<1995	2889	140		0.0023 (-0.0045, 0.0091)	
≥1995	8208	92		0.0002 (-0.0027, 0.0031)	0.844
Assay method					
GO	10457	315		0.0057 (0.0005, 0.0108)	
Enzymaticmethod	7812	1815		0.0017 (-0.0002, 0.0037)	
Hex	4542	507		-0.0001 (-0.0016, 0.0015)	
Other	3510	225		0.0055 (-0.0014, 0.0123)	0.070
Glucose load (g)					
75	21905	1917		0.0012 (-0.0005, 0.0029)	
Other	4416	945		0.0002 (-0.0011, 0.0015)	0.352
Glucose load time (h)					
2	22789	1935		0.0012 (-0.0005, 0.0029)	
Other	3532	927		0.0002 (-0.0010, 0.0013)	0.328
BMI (kg/m^2)					
Bottom third (<24.2)	8751	992		0.0016 (-0.0005, 0.0037)	
Middle third (24.2 – 27.6)	8773	1014		0.0027 (0.0001, 0.0053)	
Top third (>27.6)	8715	851		0.0012 (-0.0013, 0.0036)	0.696
SBP (mmHg)					
Bottom third (<125)	8867	511		0.0078 (-0.0002, 0.0158)	
Middle third (125 – 140)	8492	860		0.0030 (-0.0008, 0.0068)	
Top third (>140)	8078	1473		0.0008 (-0.0010, 0.0026)	0.170
Total cholesterol (mg/dl)					
Bottom third (<206)	8829	815		0.0012 (-0.0013, 0.0036)	
Middle third (206 – 242)	8746	902		0.0018 (-0.0017, 0.0052)	
Top third (>242)	8746	1145		0.0008 (-0.0013, 0.0028)	0.883
HDL-C (mg/dl)					
Bottom third (<46)	9219	914		0.0032 (-0.0002, 0.0066)	
Middle third (46 - 58)	8681	1125		0.0008 (-0.0012, 0.0029)	
Top third (>58)	8421	823		0.0009 (-0.0016, 0.0034)	0.471

-0.01 -0.005 0 0.005 0.01 0.015 0.02

Change in C-index (95% CI)

Analyses were conducted using studies with information across all levels of each subgroup variable. CVD: cardiovascular disease, defined as fatal or nonfatal CHD event or any stroke.

eFigure 13. Change in C-Index After the Addition of HbA₁c to Conventional Risk Factors and Glucose Measurements

	No. of studies	No. of participants	No. of cases		Change in C-index (95% CI)	P-value
HbA1c & Fasting glucose						
Conventional risk factors*	7	31,069	1595		Reference	
Plus HbA₁c					0.0054 (0.0022, 0.0086)	0.001
Plus fasting glucose					0.0031 (0.0009, 0.0053)	0.006
Plus HbA₁c & fasting glucose					0.0069 (0.0035, 0.0103)	<0.001
HbA1c & random glucose						
Conventional risk factors*	4	3,848	301		Reference	
Plus HbA₁c					0.0061 (-0.0004, 0.0126)	0.067
Plus random glucose					0.0049 (-0.0021, 0.0120)	0.168
Plus HbA₁c & random glucose					0.0094 (0.0001, 0.0186)	0.047
HbA1c & post-load glucose						
Conventional risk factors*	4	14,028	627		Reference	
Plus HbA₁c					0.0020 (-0.0016, 0.0056)	0.267
Plus post-load glucose					0.0039 (-0.0000, 0.0079)	0.052
Plus HbA₁c & post-load glucose					0.0054 (0.0005, 0.0104)	0.033

-0.005   0   0.005   0.01   0.015   0.02   0.025

Change in C-index (95% CI)

* Conventional risk factors include age, sex(stratified), smoking status, systolic blood pressure, total-cholesterol and HDL-C.
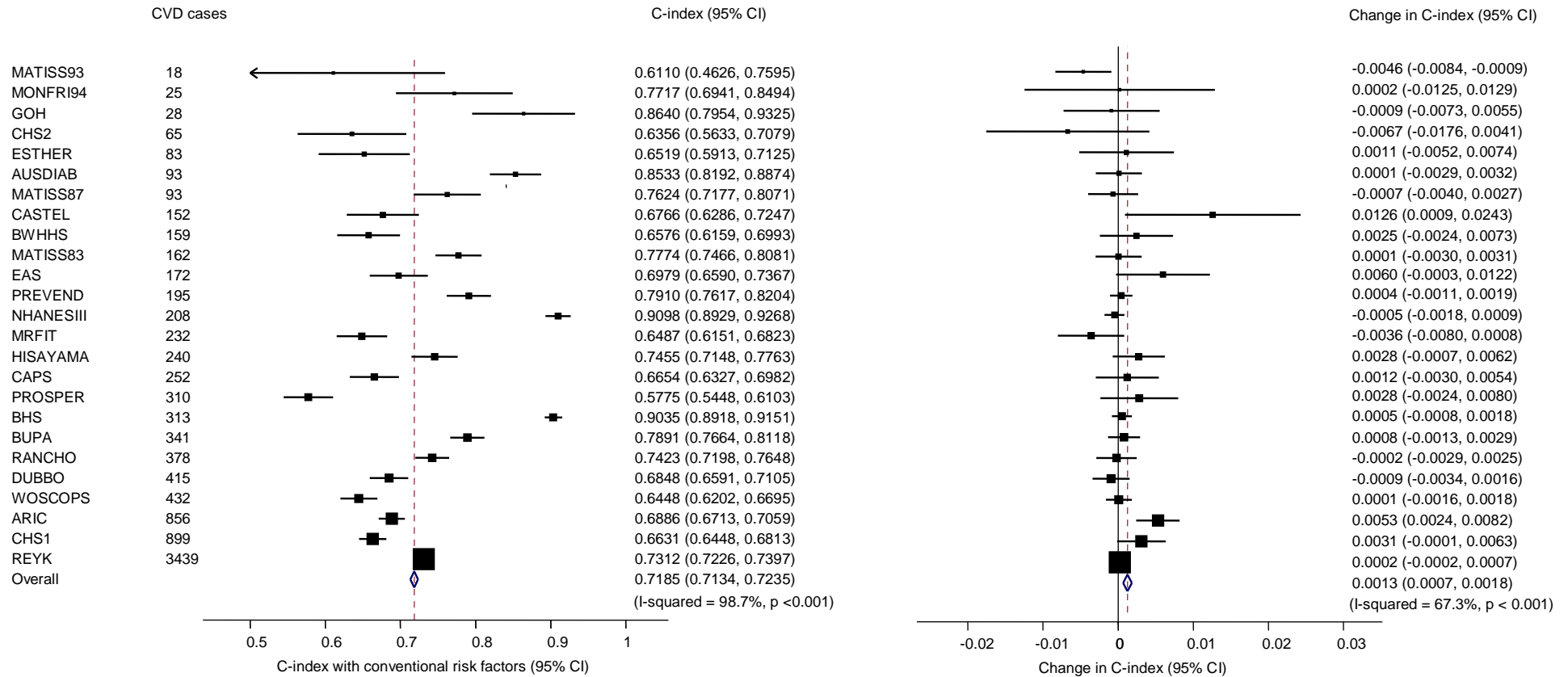CVD: cardiovascular disease, defined as fatal or nonfatal CHD event or any stroke

eFigure 14. Change in C-Index Upon Addition of Glycaemia Markers to Conventional Risk Factors Using Clinically Defined Categories

	No. of participants	No. of cases		Change in C-index (95% CI)
HbA₁c				
Conventional risk factors*				Reference
Plus HbA₁c	70916	3271		0.0015 (0.0001, 0.0029)[a]
Fasting glucose				
Conventional risk factors*				Reference
Plus fasting glucose	95198	9560		0.0008 (0.0003, 0.0014)[a]
Random glucose				
Conventional risk factors*				Reference
Plus random glucose	92504	5152		0.0002 (-0.0003, 0.0006)
Post-load glucose				
Conventional risk factors*				Reference
Plus post-load glucose	38532	5519		0.0004 (-0.0000, 0.0008)

Change in C-index (95% CI)

-0.002   0   0.002   0.004

* Conventional risk factors include age, sex(stratified), smoking status, systolic blood pressure, total-cholesterol and HDL-C.
Glycaemia markers were defined using clinical categories: HbA₁c<5.7, 5.7-6.4, ≥6.5%; fasting glucose <5.6, 5.6-7, ≥7 mmol/l; random glucose <11.1 and ≥11.1 mmol/l; post-load glucose <7.8, 7.8-11.1, ≥11.1 mmol/l.

Excluding people with very low measurements of glycaemia markers (ie. bottom 5%)and using the categories defined as in Figure 1, the change in C-index (95% CI) was 0.0019 (0.0004, 0.0033) for HbA1c, 0.0013 (0.0007, 0.0019) for fasting glucose, 0.0006 (-0.0001, 0.0014) for random glucose and 0.0004 (-0.0001, 0.0009) for post-load glucose.

CVD: cardiovascular disease, defined as fatal or nonfatal CHD event or any stroke

eFigure 15. Changes in Cardiovascular Disease Risk Discrimination and Reclassification After the Addition of Information on Glycaemia Measures to Convential Risk Factors Excluding People With Diabetes

Addition of glycemia measures	No. of Studies	No. of cases		C-index change (95% CI)	Net Reclassification Improvement† (95% CI)	Integrated Discrimination Improvement† (95% CI)
		No. of participants				
HbA$_{1c}$						
Conventional risk factors*						
Plus HbA$_{1c}$	24	95338	3812	0.0013 (0.0003, 0.0024)^a	0.94%(0.10%, 1.77%)	0.0006(0.0002, 0.0011)
Fasting glucose						
Conventional risk factors*						
Plus fasting glucose	48	138734	11909	0.0002 (-0.0000, 0.0005)	-0.04%(-0.35%, 0.27%)	0.0003(0.0001, 0.0005)
Random glucose						
Conventional risk factors*						
Plus random glucose	24	101137	5420	0.0003 (-0.0002, 0.0008)	-0.02%(-0.62%, 0.59%)	0.0003(-0.0000, 0.0006)
Post-load glucose						
Conventional risk factors*						
Plus post-load glucose	22	56694	6344	0.0000 (-0.0002, 0.0002)	-0.09%(-0.44%, 0.27%)	0.0000(-0.0001, 0.0002)

-0.001   0   0.001   0.002   0.003

C-index change(95% CI)

Diabetes status was defined by self-report, anti-diabetic treatment history or biochemical measurements.

†Net reclassification improvement and integrated discrimination improvement were calculated only for participants in studies with at least 10 years of follow-up. Net reclassification improvement was assessed for correct movement of participants between three predicted 10-year CVD risk categories (<5%, 5% to <7.5% and ≥7.5%)

* Conventional risk factors include age, sex(stratified), smoking status, systolic blood pressure, total-cholesterol and HDL-C.

^{a} $P<0.05$; ^{b} $P<0.001$.

CVD: cardiovascular disease, defined as fatal or nonfatal CHD event or any stroke

eFigure 16. Study-Specific C-Index and Change in C-Index Upon Addition of HbA$_{1c}$ to Conventional Risk Factors

	CVD cases		C-index (95% CI)		Change in C-index (95% CI)
EPESEBOS	41		0.6811 (0.6020, 0.7601)		0.0051 (-0.0195, 0.0298)
EPESEIOW	79		0.6239 (0.5605, 0.6872)		-0.0090 (-0.0263, 0.0082)
AUSDIAB	93		0.8525 (0.8188, 0.8863)		-0.0004 (-0.0033, 0.0024)
ESTHER	101		0.6471 (0.5941, 0.7000)		0.0030 (-0.0063, 0.0123)
TROMSØ	143		0.6846 (0.6427, 0.7265)		-0.0045 (-0.0112, 0.0022)
BWHHS	156		0.6628 (0.6212, 0.7044)		0.0002 (-0.0061, 0.0065)
CHS1	182		0.7022 (0.6630, 0.7413)		0.0025 (-0.0069, 0.0119)
HISAYAMA	258		0.7531 (0.7234, 0.7827)		0.0006 (-0.0028, 0.0041)
EPICNOR1	348		0.7682 (0.7451, 0.7912)		0.0010 (-0.0023, 0.0043)
NHANESIII	376		0.9085 (0.8968, 0.9203)		0.0002 (-0.0011, 0.0015)
WHS	419		0.7501 (0.7262, 0.7741)		0.0005 (-0.0014, 0.0023)
ProspectEPIC	443		0.7272 (0.7016, 0.7529)		-0.0028 (-0.0079, 0.0024)
ARIC	632		0.7070 (0.6866, 0.7274)		0.0109 (0.0068, 0.0149)
Overall			0.7452 (0.7368, 0.7535)		0.0018 (0.0004, 0.0033)
			(I-squared = 98.6%, p <0.001)		(I-squared = 69.3%, p <0.001)

C-index with conventional risk factors (95% CI)

Change in C-index (95% CI)

There was no evidence of statistically significant difference between studies with less than 250 CVD cases versus those with 250 or more CVD cases, P value (0.385).

eFigure 17. Study-Specific C-Index and Change in C-Index Upon Addition of Fasting Glucose to Conventional Risk Factors

	CVD cases		C-index (95% CI)		Change in C-index (95% CI)
MATISS93	18		0.6110 (0.4626, 0.7595)		-0.0046 (-0.0084, -0.0009)
MONFRI94	25		0.7717 (0.6941, 0.8494)		0.0002 (-0.0125, 0.0129)
GOH	28		0.8640 (0.7954, 0.9325)		-0.0009 (-0.0073, 0.0055)
CHS2	65		0.6356 (0.5633, 0.7079)		-0.0067 (-0.0176, 0.0041)
ESTHER	83		0.6519 (0.5913, 0.7125)		0.0011 (-0.0052, 0.0074)
AUSDIAB	93		0.8533 (0.8192, 0.8874)		0.0001 (-0.0029, 0.0032)
MATISS87	93		0.7624 (0.7177, 0.8071)		-0.0007 (-0.0040, 0.0027)
CASTEL	152		0.6766 (0.6286, 0.7247)		0.0126 (0.0009, 0.0243)
BWHHS	159		0.6576 (0.6159, 0.6993)		0.0025 (-0.0024, 0.0073)
MATISS83	162		0.7774 (0.7466, 0.8081)		0.0001 (-0.0030, 0.0031)
EAS	172		0.6979 (0.6590, 0.7367)		0.0060 (-0.0003, 0.0122)
PREVEND	195		0.7910 (0.7617, 0.8204)		0.0004 (-0.0011, 0.0019)
NHANESIII	208		0.9098 (0.8929, 0.9268)		-0.0005 (-0.0018, 0.0009)
MRFIT	232		0.6487 (0.6151, 0.6823)		-0.0036 (-0.0080, 0.0008)
HISAYAMA	240		0.7455 (0.7148, 0.7763)		0.0028 (-0.0007, 0.0062)
CAPS	252		0.6654 (0.6327, 0.6982)		0.0012 (-0.0030, 0.0054)
PROSPER	310		0.5775 (0.5448, 0.6103)		0.0028 (-0.0024, 0.0080)
BHS	313		0.9035 (0.8918, 0.9151)		0.0005 (-0.0008, 0.0018)
BUPA	341		0.7891 (0.7664, 0.8118)		0.0008 (-0.0013, 0.0029)
RANCHO	378		0.7423 (0.7198, 0.7648)		-0.0002 (-0.0029, 0.0025)
DUBBO	415		0.6848 (0.6591, 0.7105)		-0.0009 (-0.0034, 0.0016)
WOSCOPS	432		0.6448 (0.6202, 0.6695)		0.0001 (-0.0016, 0.0018)
ARIC	856		0.6886 (0.6713, 0.7059)		0.0053 (0.0024, 0.0082)
CHS1	899		0.6631 (0.6448, 0.6813)		0.0031 (-0.0001, 0.0063)
REYK	3439		0.7312 (0.7226, 0.7397)		0.0002 (-0.0002, 0.0007)
Overall			0.7185 (0.7134, 0.7235)		0.0013 (0.0007, 0.0018)
			(I-squared = 98.7%, p <0.001)		(I-squared = 67.3%, p < 0.001)

C-index with conventional risk factors (95% CI)

Change in C-index (95% CI)

There was no evidence of statistically significant difference between studies with less than 250 CVD cases versus those with 250 or more CVD cases, P value (0.317).

eFigure 18. Study-Specific C-Index and Change in C-Index Upon Addition of Random Glucose to Conventional Risk Factors

	CVD cases	C-index (95% CI)	Change in C-index (95% CI)
PROSPER	10	0.6044 (0.4503, 0.7585)	-0.0440 (-0.0836, -0.0043)
TROMS	14	0.8858 (0.8278, 0.9438)	-0.0018 (-0.0036, 0.0000)
DUBBO	17	0.7400 (0.6238, 0.8561)	-0.0047 (-0.0347, 0.0252)
HISAYAMA	18	0.7281 (0.6170, 0.8393)	0.0056 (-0.0111, 0.0223)
PREVEND	24	0.8091 (0.7230, 0.8953)	-0.0012 (-0.0057, 0.0034)
EPESENHA	31	0.5534 (0.4403, 0.6665)	0.0170 (-0.0120, 0.0459)
MOSWEGOT	39	0.7563 (0.6818, 0.8307)	0.0034 (-0.0006, 0.0074)
EPESEBOS	43	0.6783 (0.5992, 0.7573)	0.0036 (-0.0182, 0.0254)
BUPA	50	0.8406 (0.7917, 0.8894)	0.0006 (-0.0023, 0.0035)
EPESENCA	69	0.5768 (0.5049, 0.6487)	-0.0001 (-0.0112, 0.0109)
FINNMARK	71	0.8038 (0.7589, 0.8486)	0.0021 (-0.0030, 0.0071)
MORGEN	79	0.7949 (0.7483, 0.8415)	0.0021 (-0.0035, 0.0077)
EPESEIOW	91	0.6442 (0.5810, 0.7073)	0.0116 (-0.0018, 0.0251)
OPPHED	97	0.8885 (0.8587, 0.9184)	0.0008 (-0.0008, 0.0023)
HUBRO	127	0.8979 (0.8726, 0.9233)	0.0010 (-0.0008, 0.0027)
OSLO2	136	0.6915 (0.6529, 0.7301)	0.0010 (-0.0045, 0.0065)
NHANESIII	166	0.8993 (0.8819, 0.9167)	0.0003 (-0.0009, 0.0015)
GRIPS	380	0.7282 (0.7043, 0.7522)	0.0011 (-0.0022, 0.0044)
SHHEC	389	0.7157 (0.6922, 0.7393)	0.0012 (-0.0008, 0.0033)
ISRAEL	518	0.7361 (0.7149, 0.7574)	0.0002 (-0.0011, 0.0016)
COPEN	1160	0.7818 (0.7699, 0.7937)	0.0006 (-0.0005, 0.0017)
BRHS	1623	0.6834 (0.6708, 0.6959)	-0.0006 (-0.0020, 0.0007)
Overall (I-squared = 97.5%, p = 0.000)		0.7367 (0.7304, 0.7431)	0.0005 (-0.0002, 0.0013)
		(I-squared = 97.5%, p < 0.001)	(I-squared = 8.9%, p = 0.341)

C-index with conventional risk factors (95% CI)

Change in C-index (95% CI)

There was no evidence of statistically significant difference between studies with less than 250 CVD cases versus those with 250 or more CVD cases, P value (0.877).

eFigure 19. Study-Specific C-Index and Change in C-Index Upon Addition of Postload Glucose to Conventional Risk Factors

	CVD cases	C-index (95% CI)	Change in C-index (95% CI)
GOH	18	0.8898 (0.8466, 0.9330)	0.0017 (-0.0061, 0.0095)
BHS	67	0.8461 (0.8062, 0.8860)	-0.0002 (-0.0037, 0.0034)
AUSDIAB	92	0.8525 (0.8180, 0.8870)	-0.0001 (-0.0018, 0.0015)
NHANESIII	140	0.7905 (0.7518, 0.8291)	-0.0002 (-0.0027, 0.0024)
EAS	172	0.6921 (0.6534, 0.7309)	0.0011 (-0.0012, 0.0034)
HISAYAMA	223	0.7317 (0.6992, 0.7643)	0.0031 (0.0010, 0.0052)
MRFIT	225	0.6542 (0.6207, 0.6877)	-0.0025 (-0.0062, 0.0013)
RANCHO	367	0.7386 (0.7156, 0.7616)	-0.0010 (-0.0027, 0.0007)
CHS1	870	0.6591 (0.6405, 0.6777)	0.0028 (0.0006, 0.0050)
REYK	3345	0.7283 (0.7197, 0.7370)	-0.0000 (-0.0004, 0.0004)
Overall		0.7197 (0.7130, 0.7264)	0.0004 (-0.0001, 0.0009)
		(I-squared = 96.1%, p < 0.001)	(I-squared = 56.5%, p = 0.014)

C-index with conventional risk factors (95% CI)

Change in C-index (95% CI)

There was no evidence of statistically significant difference between studies with less than 250 CVD cases versus those with 250 or more CVD cases, P value (0.922).

eFigure 20. Study-Specific NRI and IDI Upon Addition of HbA$_{1c}$ to Conventional Risk Factors

(a) NRI, % (95% CI)

NRI, % (95% CI)

TROMSØ	0.93 (-1.95, 3.81)
CHS1	0.74 (-1.78, 3.25)
HISAYAMA	-0.39 (-4.62, 3.85)
NHANESIII	0.00 (-1.73, 1.73)
EPICNOR1	0.87 (-3.39, 5.13)
ProspectEPIC	1.34 (-1.31, 3.99)
WHS	-1.62 (-3.82, 0.58)
ARIC	2.54 (-0.19, 5.27)

NRI, % (95% CI)

(b) IDI (95% CI)

IDI (95% CI)

-0.0009 (-0.0055, 0.0038)
0.0015 (-0.0036, 0.0067)
0.0015 (-0.0019, 0.0050)
0.0012 (-0.0020, 0.0043)
0.0011 (-0.0005, 0.0027)
0.0003 (-0.0002, 0.0008)
0.0001 (-0.0004, 0.0007)
0.0035 (0.0023, 0.0048)

IDI (95% CI)

eFigure 21. Study-Specific NRI and IDI Upon Addition of Fasting Glucose to Conventional Risk Factors

(a) NRI, % (95% CI)

(b) IDI (95% CI)

	NRI, % (95% CI)
GOH	20.12 (-7.60, 47.85)
MATISS87	-0.11 (-0.69, 0.46)
MATISS83	1.98 (-4.00, 7.96)
EAS	1.71 (-0.69, 4.10)
BHS	-0.95 (-5.16, 3.25)
BUPA	0.76 (-3.34, 4.86)
CASTEL	6.04 (-0.40, 12.47)
NHANESIII	-1.75 (-4.01, 0.51)
HISAYAMA	0.01 (-2.66, 2.68)
PREVEND	1.09 (-0.52, 2.70)
CAPS	-1.55 (-4.07, 0.96)
RANCHO	0.23 (-0.92, 1.38)
DUBBO	1.08 (-0.25, 2.41)
ARIC	-0.31 (-2.61, 2.00)
CHS1	0.42 (-0.16, 0.99)
REYK	-0.06 (-0.92, 0.80)

	IDI (95% CI)
GOH	0.0079 (-0.0002, 0.0161)
MATISS87	-0.0007 (-0.0016, 0.0001)
MATISS83	-0.0016 (-0.0025, -0.0006)
EAS	0.0062 (0.0007, 0.0117)
BHS	-0.0013 (-0.0030, 0.0004)
BUPA	0.0002 (-0.0008, 0.0011)
CASTEL	0.0076 (0.0034, 0.0119)
NHANESIII	0.0012 (-0.0029, 0.0054)
HISAYAMA	-0.0035 (-0.0051, -0.0018)
PREVEND	-0.0002 (-0.0013, 0.0010)
CAPS	0.0007 (-0.0015, 0.0028)
RANCHO	0.0009 (-0.0025, 0.0044)
DUBBO	-0.0003 (-0.0024, 0.0018)
ARIC	0.0022 (0.0009, 0.0034)
CHS1	0.0047 (0.0021, 0.0073)
REYK	0.0002 (-0.0005, 0.0009)

NRI, % (95% CI)

IDI (95% CI)

eFigure 22. Study-Specific NRI and IDI Upon Addition of Random Glucose to Conventional Risk Factors

(a) NRI, % (95% CI)

(b) IDI (95% CI)

	NRI, % (95% CI)
DUBBO	2.86 (-6.84, 12.56)
HISAYAMA	-5.13 (-15.18, 4.92)
BUPA	-0.06 (-0.28, 0.15)
PREVEND	4.76 (-4.59, 14.11)
MOSWEGOT	0.00 (-1.00, 1.00)
MORGEN	-0.01 (-0.05, 0.03)
SHIP	3.49 (-0.83, 7.81)
NHANESIII	0.00 (-0.37, 0.37)
ISRAEL	-2.07 (-4.26, 0.13)
SHHEC	-0.76 (-2.81, 1.30)
BRHS	-0.57 (-2.11, 0.97)
COPEN	1.45 (0.28, 2.62)

	IDI (95% CI)
	-0.0066 (-0.0119, -0.0013)
	-0.0034 (-0.0173, 0.0105)
	-0.0005 (-0.0011, 0.0002)
	-0.0021 (-0.0045, 0.0003)
	0.0072 (-0.0019, 0.0162)
	0.0003 (-0.0002, 0.0008)
	-0.0000 (-0.0021, 0.0021)
	0.0020 (-0.0009, 0.0049)
	-0.0006 (-0.0012, 0.0001)
	0.0009 (-0.0001, 0.0019)
	0.0005 (-0.0005, 0.0015)
	0.0018 (0.0003, 0.0034)

NRI, % (95% CI)

IDI (95% CI)

eFigure 23. Study-Specific NRI and IDI Upon Addition of Postload Glucose to Conventional Risk Factors

(a) NRI, % (95% CI)

	NRI, % (95% CI)
GOH	-0.15 (-0.45, 0.15)
BHS	-0.24 (-1.28, 0.80)
NHANESIII	-1.70 (-7.80, 4.41)
EAS	-0.29 (-2.58, 2.00)
HISAYAMA	0.75 (-0.65, 2.14)
RANCHO	0.26 (-1.03, 1.56)
CHS1	0.17 (-0.32, 0.66)
REYK	0.36 (-0.83, 1.55)

(b) IDI (95% CI)

	IDI (95% CI)
GOH	0.0023 (-0.0024, 0.0070)
BHS	-0.0008 (-0.0048, 0.0032)
NHANESIII	0.0001 (-0.0012, 0.0014)
EAS	-0.0003 (-0.0016, 0.0010)
HISAYAMA	-0.0001 (-0.0014, 0.0012)
RANCHO	-0.0015 (-0.0031, 0.0001)
CHS1	0.0022 (0.0008, 0.0035)
REYK	-0.0002 (-0.0007, 0.0003)

eAppendix 1. List of Study Acronyms and Study References

ALLHAT, Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial[1]
ARIC, Atherosclerosis Risk in Communities Study[2,3]
AUSDIAB, Australian Diabetes, Obesity and Lifestyle Study[4,5,6]
BHS, Busselton Health Study[7]
BRHS, British Regional Heart Study[8]
BUPA, British Union Provident Association[9]
BRUN, Bruneck Study[10,11,12]
BWHHS, British Women's Heart and Health Study[13]
CAPS, Caerphilly Prospective Study[14]
CASTLE, Cardiovascular Study in the Elderly[15]
CHARL, Charleston Heart Study[77]
CHS-1, original cohort of the Cardiovascular Health Study[16,17,18]
CHS-2, supplemental African American cohort of the Cardiovascular Health Study[18]
COPEN, Copenhagen City Heart Study[19]
D.E.S.I.R, Data from an Epidemiological Study on the Insulin Resistance Syndrome[20,21]
DRECE, Diet and Risk of Cardiovascular Disease in Spain [22]
DUBBO, Dubbo Study of the Elderly[23]
EAS, Edinburgh Artery Study[24]
EMOFRI, cohort of Progetto CUORE[25]
EPESEBOS,Established Populations for the Epidemiologic Study of the Elderly Studies, East Boston[26,27]
EPESEIOW,Established Populations for the Epidemiologic Study of the Elderly Studies, Iowa[26]
EPESENCA, The Established Populations for the Epidemiologic Study of the Elderly Studies, North Carolina[26,28]
EPESENHA, Established Populations for the Epidemiologic Study of the Elderly Studies, New Haven[26]
EPICNOR1, EPIC Norfolk Study[29]
ESTHER, Epidemiological study on chances of prevention, early detection, and treatment optimization of chronic diseases in the elderly[30]
FIA, First Myocardial Infarction in Northern Sweden[31]
FINE_FIN, Finland, Italy and Netherlands Elderly Study - Finland cohort[32]
FINE_IT, Finland, Italy and Netherlands Elderly Study[32]
FINNMARK, Finnmark Health Study[36], cohort of CONOR,http://www.fhi.no/artikler/?id=105583
FLETCHER, Fletcher Challenge Blood Study[33]
FRAMOFF, Framingham Offspring Cohort[34,35,36]
FUNAGATA, The Funagata Study[37,38]
GOH, Glucose Intolerance, Obesity and Hypertension Study[39,40]
GOTO43, Göteborg 1943 Study[41]
GOTOW, Population Study of Women in Gothenburg, Sweden[42,43]
GRIPS, Göttingen Risk Incidence and Prevalence Study[44]
HISAYAMA, Hisayama Study[45]
HOORN, Hoorn Study[46]
HUBRO, The Oslo Health Study[36,47], cohort of CONOR
IKNS, Ikawa, Kyowa, and Noichi Study[48,49]
ISRAEL, Israeli Ischaemic Heart Disease Study[50]
KIHD, Kuopio Ischaemic Heart Disease Study[51,52]
MATISS83, cohort of Progetto CUORE[25]
MATISS87, cohort of Progetto CUORE[25]
MATISS93, cohort of Progetto CUORE[25]
MESA, Multi-Ethnic Study of Atherosclerosis[53, 54]
MONFRI94, cohort of Progetto CUORE[25]
MORGEN, Monitoring Project on Chronic Disease Risk Factors [80]
MOSWEGOT, MONICA Göteborg Study [55]

MRFIT, Multiple Risk Factor Intervention Trial 1[56]

NHANESIII, Third National Health and Nutrition Examination Survey[57]

OPPHED, The Oppland and Hedmark Health Study[36], cohort of CONOR,http://www.fhi.no/artikler/?id=105583

OSAKA, Osaka Study[58]

OSLO II, Oslo Health Study II[36,59], cohort of CONOR, http://www.fhi.no/artikler/?id=105583

PREVEND, Prevention of Renal and Vascular End Stage Disease Study[60]

Prospect EPIC,Prospect-EPIC Utrecht[61]

PROSPER, Prospective Study of Pravastatin in the Elderly at Risk[62]

QUEBEC, Quebec Cardiovascular Study[78]

RANCHO, Rancho Bernardo Study[63]

REYK, Reykjavik Study[64]

ROTT, The Rotterdam Study [65]

SHHEC, Scottish Heart Health Extended Cohort [66]

SHS, Strong Heart Study[67]

TARFS, Turkish Adult Risk Factor Study [68]

TOYAMA, Toyama [69]

TROMS, The Troms Health Study, cohort of CONOR[36],http://www.fhi.no/artikler/?id=105583

TROMSØ, Tromsø Study[70]

ULSAM, Uppsala Longitudinal Study of Adult Men[71]

WHITEII, Whitehall II Study,[72]

WHIHABPS, Women's Health Initiative Hormones and Biomarkers Predicting Stroke Study[73]

WHS, Women's Health Study[79]

WOSCOPS, West of Scotland Coronary Prevention Study[74]

ZARAGOZA, Zaragoza study[75]

ZUTE, Zutphen Elderly Study[76]

eAppendix1

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