

**Supplementary File 1ci\*. Summary statistics of new published GWAS used.**

Disease	PMID	Case definition	N cases	N controls	Age cases (years)	BMI cases (kg/m <sup>2</sup> )	BMI adjusted?	UK Biobank included?	Trans-ethnic?
<b>Alzheimer's disease</b>	34493870	Late-onset Alzheimer's disease (LOAD), defined as diagnosis of Alzheimer's disease after the age of 65. Proxy cases also included and defined by parental LOAD diagnosis weighted by parental age.	90,338	1,036,225	NA	NA	N	Y	N
<b>Asthma</b>	34103634	Asthma defined according to the UK Biobank Outcome Adjudication Group. Cases identified using primary care, hospital records (ICD-9/10 codes), or self-reported asthma in the UK Biobank (field 20002).	56,167	352,255	NA	NA	N	Y	N
<b>Barrett's oesophagus</b>	31527586	Cases from the Esophageal Cancer Consortium were clinically diagnosed, cases from the UK Biobank were identified using ICD-10 code K22.7.	9,680	31,211	NA	NA	N	Y	N
<b>Coronary artery disease</b>	29212778	Cases were obtained from Health Episode Statistics using ICD-10 codes I21-I25, OPCS-4 codes K40-K46, K49, K50 and K7, and self-reported heart attack, myocardial infarction, coronary angioplasty (+/- stent), coronary artery bypass graft or triple heart bypass.	88,192	162,544	63.4 (58.9, 66.8)	29.1 (5.0)	N	Y	N
<b>Lacunar stroke</b>	33773637	Cases were defined using MRI scans or according to the TOAST criteria, both of which require a clinical lacunar syndrome (with anatomically compatible lesion by MRI) and only small vessel disease as cause of stroke, or CT-confirmed non-lacunar infarction.	7,338	254,798	55 (16) - 72 (13)	NA	N	N	N
<b>Multiple sclerosis</b>	21833088	Cases were clinically diagnosed with more than one case of inflammatory demyelination in more than one area of the brain and/or spinal cord, and where multiple sclerosis is the best explanation.	9,772	17,376	32.3	NA	N	N	Y
<b>Osteoarthritis</b>	34450027	Cases were radiographic according to the TREAT-OA consortium, self-reported, or defined by clinical diagnosis or ICD-10 codes including M15-M19 and M47.	177,517	649,173	NA	NA	N	Y	Y
<b>Osteoarthritis (early-onset)</b>	34450027	Cases were radiographic according to the TREAT-OA consortium, self-reported, or defined by clinical diagnosis or ICD-10 codes including M15-M19 and M47, and with age at onset below 45 years.	6,838	41,449	NA	NA	N	Y	N

<b>Osteoarthritis (finger)</b>	34450027	Cases were radiographic according to the TREAT-OA consortium, self-reported, or defined by clinical diagnosis or ICD-10 codes including M19.	10,804	255,814	NA	NA	N	Y	N
<b>Osteoarthritis (hand)</b>	34450027	Cases were radiographic according to the TREAT-OA consortium, self-reported, or defined by clinical diagnosis or ICD-10 codes including M18-M19.	20,901	282,881	NA	NA	N	Y	Y
<b>Osteoarthritis (hip)</b>	34450027	Cases were radiographic according to the TREAT-OA consortium, self-reported, or defined by clinical diagnosis or ICD-10 codes including M16 and M19.	36,445	316,943	NA	NA	N	Y	Y
<b>Osteoarthritis (knee)</b>	34450027	Cases were radiographic according to the TREAT-OA consortium, self-reported, or defined by clinical diagnosis or ICD-10 codes including M17 and M19.	62,497	333,557	NA	NA	N	Y	Y
<b>Osteoarthritis (knee/hip)</b>	34450027	Cases were radiographic according to the TREAT-OA consortium, self-reported, or defined by clinical diagnosis or ICD-10 codes including M16-M17 and M19.	89,741	400,604	NA	NA	N	Y	Y
<b>Osteoarthritis (spine)</b>	34450027	Cases were radiographic according to the TREAT-OA consortium, self-reported, or defined by clinical diagnosis or ICD-10 codes including M47 and M51.	28,372	305,578	NA	NA	N	Y	Y
<b>Osteoarthritis (thumb)</b>	34450027	Cases were radiographic according to the TREAT-OA consortium, self-reported, or defined by clinical diagnosis or ICD-10 codes including M18.	10,536	236,919	NA	NA	N	Y	N
<b>Osteoarthritis (total hip replacement)</b>	34450027	Cases were radiographic according to the TREAT-OA consortium, self-reported, or defined by clinical diagnosis or ICD-10 codes including M15-M19 and M47, and have had total hip replacement.	23,021	296,016	NA	NA	N	Y	N
<b>Osteoarthritis (total joint replacement)</b>	34450027	Cases were radiographic according to the TREAT-OA consortium, self-reported, or defined by clinical diagnosis or ICD-10 codes including M15-M19 and M47, and have had total replacement of a joint.	40,887	327,689	NA	NA	N	Y	N
<b>Osteoarthritis (total knee replacement)</b>	34450027	Cases were radiographic according to the TREAT-OA consortium, self-reported, or defined by clinical diagnosis or ICD-10 codes including M15-M19 and M47, and have had total knee replacement.	18,200	233,841	NA	NA	N	Y	N

**Supplementary File 1cii\*. Summary statistics of FinnGen studies used.**

Disease	Code	N cases	N controls	Age cases (years)	Traits included	ICD-10	ICD-9	ICD-8	ICD-10 Excl.	ICD-9 Excl.	ICD-8 Excl.
Alzheimer's disease	G6_ALZHEIMER	4,500	255,905	78.94		G30	3310	\$!\$			
Aortic aneurysm	I9_AORTANEUR	3,658	244,907	67.08		I71[1-9]	0930A 441[1-9]	0930 441			
Asthma	J10_ASTHMA	25,544	158,452	44.17		J45 J46	493	493			
Atrial fibrillation	I9_AF	28,670	135,821	67.08	I9_E_DRONE	I48	4273	42792			
Barret's oesophagus	K11_BARRET	600	225,008	64.05		K227	5301B	\$!\$			
Breast cancer	C3_BREAST	11,573	135,488	59.04		C50	174	174			
Childhood asthma	ASTHMA_CHILD	3,654	158,452	7.38		J45 J46	493	493			
Chronic kidney disease	N14_CHRONKIDNEYDIS	4,959	252,950	64.06	N14_DIALYSIS	N18	585	\$!\$			
Colon cancer	C3_COLON	2,594	257,811	65.91		C18	153	153			
Colorectal cancer	C3_COLORECTAL	4,401	256,004	65.93	C3_COLON C3_RECTOSIGMOID_JUNCTION C3_RECTUM						
Deep vein thrombosis	I9_PHLETHROMB DVTLOW	5,632	225,735	53.98		I802 I803	4510A 4511A 4512A	4510			
Depression	F5_DEPRESSIO	28,098	228,817	41.22		F3[2-3]	2961 2968 3004	2980 79020			
Embolic stroke	I9_STR_EMBOLIC	785	241,202	66.14		I631	4341A	43400 43499			
Endometrial cancer	C3_CORPUS_UTERI	1,430	145,631	64.06		C54	182	1820			
Gallstones	K11_CHOLELITH	23,089	231,644	51.19		K80	574	574			

<b>Gastro-oesophageal reflux disease</b>	K11_REFLUX	16,043	225,008	54.26		K21	5301A	\$!\$			
<b>Gout</b>	GOUT	4,502	241,230	63.16	M13_GOUT GOUT_IDIO GOUT_KIDNEY GOUT_SCND GOUT_NOS						
<b>Heart failure</b>	I9_HEARTFAIL	15,838	229,946	66.63		I110 I130 I132 I50	4029B 428	42700 42710 428 7824			
<b>Hypertension</b>	FG_HYPERTENSION	68,050	135,821	56.23	I9_HYPTENSESS I9_HYPTENSPUL I9_HYPTENSHR I9_HYPTENS						
<b>Ischaemic heart disease</b>	I9_IHD	39,358	221,047	62.93		I2[0-5] I2[1-5] I46 R96 R98	41[0-4] 798	41[0-4] 798		7980A	
<b>Ischaemic stroke</b>	I9_STR_EXH	12,948	240,124	65.84	I9_STR_EMBOLIC	I63 I64	4330A 4331A 4339A 4340A 4341A 4349A 436	433 434 436	I636		
<b>Lung cancer</b>	C3_BRONCHUS_LUNG	3,061	257,344	69.32		C34	162	152		1620	1620
<b>Meningioma</b>	C3_MENINGES	848	259,557	58.18		C70	1921 1923	192[1-2]			
<b>Multiple sclerosis</b>	G6_MS	1,364	258,340	39.39		G35	340	34099			
<b>Myeloma</b>	CD2_MULTIPLE_MYELOMA_PLASMA_CELL	693	259,712	65.19		C90	203	203			
<b>Osteoarthritis</b>	M13_ARTHROSIS	45,467	173,414	58.57	M13_ARTHROSIS_POLY M13_ARTHROSIS_COX M13_ARTHROSIS_KNEE M13_ARTHROSIS_OTH	M1[5-9]	\$!\$	\$!\$			

<b>Osteoarthritis (hip)</b>	COX_ARTHROSIS	13,119	203,797	63.31	PRIM_COXARTHROSIS SCND_OTH_COXARTHROSIS M13_ARTHROSIS_COX						
<b>Osteoarthritis (knee surgery)</b>	M13_ARTHROSIS_KNEE_PRIM_KNEESURG	10,721	235,423	66.35							
<b>Osteoarthritis (knee)</b>	KNEE_ARTHROSIS	27,799	203,797	58.71	PRIM_KNEEARTHROSIS SCND_OTH_KNEEARTHROSIS M13_ARTHROSIS_KNEE						
<b>Osteoporosis</b>	M13_OSTEOPOROSIS	3,960	249,139	65.28		M8[0-2]	733[0-1]	7230 72391			
<b>Ovarian cancer</b>	C3_OVARY	1,041	146,020	55.96		C56	183	1830			
<b>Pancreatic cancer</b>	C3_PANCREAS	881	259,524	68.57		C25	157	157			
<b>Parkinson's disease</b>	PDSTRICT	2,367	257,909	68.12		G20	3320A	34200			
<b>Peripheral artery disease</b>	I9_PAD	9,021	244,907	65.36	I9_PERIPH	E105 E115 E125 E135 E145 I702 I739	4402 4439	25006 4402 4439			
<b>Polycystic ovary syndrome</b>	E4_PCOS	797	140,558	28.58		E282	2564	25690			
<b>Prostate cancer</b>	C3_PROSTATE	8,709	104,635	68.46		C61	185	185			
<b>Psoriasis</b>	L12_PSORIASIS	5,621	252,323	48.72	L12_PSORI_VULG L12_PSORI_PUSTGEN L12_PSORI_ACRODERM L12_PSORI_PUSTUPALM L12_PSORI_GUTTATE L12_PSORI_ARTHRO L12_PSORI_NAS	L40					
<b>Pulmonary embolism</b>	I9_PULMEMB	5,130	254,771	61.70		I26	415	450			
<b>Renal cancer</b>	C3_KIDNEY_NOTRENALPELVIS	1,393	259,012	63.52		C64	1890	1890			
<b>Rheumatoid arthritis</b>	M13_RHEUMA	7,909	173,414	51.33		M0[5-6]	7140A 7140	712[1-3]			

							B 714 2 724 1				
<b>Stroke</b>	C_STROKE	22,791	190,836	64.01	I9_SAH I9_ICH I9_OTHINTRACRA I9_STR_EXH I9_STR_SAH I9_TIA						
<b>Thyroid cancer</b>	C3_THYROID_GLAND	1,257	259,148	49.83		C73	193	193			
<b>Type 2 diabetes</b>	E4_DM2_STRICT	37,002	215,160	60.05	E4_DM2COMA E4_DM2KETO E4_DM2REN E4_DM2OPHTH E4_DM2NEU E4_DM2PERIPH E4_DM2NASC OMP E4_DM2NOCOMP						
<b>Venous thromboembolism</b>	I9_VTE	11,288	249,117	57.18		I26 I80 O871 O882	415 451 6713 6714 6732	450 451 671 6739	1800	4510	

**Supplementary File 1e\*.** The inverse-variance weighted two-sample MR analysis/meta-analysis of 37 identified diseases from published GWAS and/or FinnGen for body mass index (BMI), body fat percentage, “favourable adiposity” (FA) and “unfavourable adiposity” (UFA) clusters.

			BMI			Body fat percentage			FA			UFA		
System	Disease	Study	OR	95% CI	P	OR	95% CI	P	OR	95% CI	P	OR	95% CI	P
Cardiovascular and metabolic	Abdominal aneurysm	Meta-analysis	1.18	(0.84, 1.66)	0.347	1.21	(0.9, 1.63)	0.213	0.96	(0.77, 1.19)	0.693	1.36	(0.7, 2.62)	0.362
Cardiovascular and metabolic	Atrial fibrillation	Meta-analysis	1.73	(1.29, 2.32)	3.E-04	1.57	(1.18, 2.08)	0.002	0.84	(0.47, 1.49)	0.543	2.06	(1.36, 3.11)	7.E-04
Cardiovascular and metabolic	Chronic kidney disease	Meta-analysis	1.26	(1.06, 1.49)	0.008	1.30	(0.96, 1.76)	0.088	0.66	(0.51, 0.87)	0.003	1.37	(0.89, 2.12)	0.152
Cardiovascular and metabolic	Coronary artery disease	Meta-analysis	1.37	(1.25, 1.51)	4.E-11	1.44	(1.17, 1.76)	5.E-04	0.39	(0.29, 0.53)	5.E-10	1.56	(1.27, 1.92)	2.E-05
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	1.80	(1.34, 2.42)	9.E-05	1.76	(1.49, 2.08)	2.E-11	3.18	(1.77, 5.71)	1.E-04	1.98	(1.22, 3.19)	0.005
Cardiovascular and metabolic	Heart failure	Meta-analysis	1.88	(1.63, 2.16)	7.E-18	1.79	(1.69, 1.9)	4.E-80	0.91	(0.7, 1.17)	0.462	2.31	(1.91, 2.8)	1.E-17
Cardiovascular and metabolic	Hypertension	FinnGen	2.30	(1.9, 2.78)	1.E-17	2.11	(1.89, 2.37)	4.E-39	0.39	(0.24, 0.65)	3.E-04	3.27	(2.38, 4.51)	4.E-13
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	1.70	(1.37, 2.09)	9.E-07	1.71	(1.49, 1.96)	2.E-14	0.25	(0.15, 0.43)	4.E-07	2.56	(1.84, 3.56)	3.E-08
Cardiovascular and metabolic	Polycystic ovary syndrome	Meta-analysis	3.96	(2.89, 5.44)	1.E-17	2.48	(2.01, 3.06)	2.E-17	0.50	(0.22, 1.12)	0.091	6.04	(3.29, 11.08)	6.E-09
Cardiovascular and metabolic	Pulmonary embolism	FinnGen	1.61	(1.23, 2.11)	5.E-04	1.49	(1.27, 1.76)	1.E-06	2.22	(1.23, 4.03)	0.008	1.74	(1.15, 2.64)	0.009
Cardiovascular and metabolic	Stroke	Meta-analysis	1.21	(1.11, 1.32)	3.E-05	1.24	(1.17, 1.32)	2.E-12	0.66	(0.53, 0.83)	4.E-04	1.36	(1.18, 1.56)	1.E-05
Cardiovascular and metabolic	Type 2 diabetes	Meta-analysis	3.08	(2.71, 3.51)	3.E-65	2.45	(2.21, 2.72)	3.E-62	0.11	(0.08, 0.16)	3.E-33	5.64	(4.41, 7.22)	6.E-43
Cardiovascular and metabolic	Venous thromboembolism	Meta-analysis	1.53	(1.34, 1.74)	1.E-10	1.62	(1.48, 1.78)	2.E-24	2.48	(1.85, 3.31)	1.E-09	1.59	(1.25, 2.03)	1.E-04
Musculoskeletal	Gout	Meta-analysis	1.62	(1.38, 1.89)	3.E-09	1.71	(1.54, 1.9)	6.E-24	0.47	(0.31, 0.71)	3.E-04	2.41	(1.87, 3.11)	1.E-11
Musculoskeletal	Osteoarthritis	Meta-analysis	1.60	(1.28, 2.01)	4.E-05	1.64	(1.41, 1.91)	1.E-10	1.38	(1.06, 1.8)	0.017	1.87	(1.38, 2.53)	6.E-05

Musculoskeletal	Osteoporosis	Meta-analysis	1.07	(0.85, 1.35)	0.564	1.09	(0.93, 1.28)	0.287	1.36	(0.71, 2.6)	0.358	1.17	(1.01, 1.35)	0.038
Musculoskeletal	Rheumatoid arthritis	Meta-analysis	1.24	(1.06, 1.45)	0.008	1.44	(1.28, 1.62)	2.E-09	1.69	(1.09, 2.64)	0.019	1.46	(1.05, 2.04)	0.026
Gastrointestinal	Gallstones	FinnGen	1.78	(1.53, 2.06)	4.E-14	1.85	(1.68, 2.04)	2.E-35	1.26	(0.81, 1.95)	0.311	2.11	(1.61, 2.76)	6.E-08
Gastrointestinal	Gastro-oesophageal reflux disease	Meta-analysis	1.14	(1.05, 1.24)	0.003	1.49	(1.04, 2.15)	0.032	1.15	(0.96, 1.39)	0.129	1.31	(1.11, 1.56)	0.002
Nervous	Alzheimer's disease	Meta-analysis	1.01	(1, 1.03)	0.050	1.00	(0.99, 1.01)	0.909	0.98	(0.95, 1)	0.104	1.00	(0.98, 1.02)	0.908
Nervous	Depression	Meta-analysis	1.13	(1.02, 1.24)	0.016	1.16	(1.02, 1.31)	0.022	1.13	(0.94, 1.37)	0.182	1.04	(0.87, 1.25)	0.668
Nervous	Multiple sclerosis	Meta-analysis	1.26	(0.76, 2.09)	0.362	1.28	(0.76, 2.15)	0.361	2.26	(0.88, 5.81)	0.091	1.05	(0.6, 1.82)	0.867
Nervous	Parkinson's disease	Meta-analysis	0.96	(0.79, 1.18)	0.711	0.79	(0.69, 0.9)	5.E-04	1.29	(0.85, 1.95)	0.235	0.74	(0.52, 1.06)	0.101
Integumentary	Psoriasis	Meta-analysis	1.68	(1.34, 2.1)	9.E-06	1.78	(1.57, 2.03)	4.E-18	1.16	(0.71, 1.9)	0.548	2.15	(1.5, 3.09)	4.E-05
Respiratory	Asthma	Meta-analysis	1.29	(1.15, 1.44)	6.E-06	1.43	(1.26, 1.62)	2.E-08	1.06	(0.85, 1.32)	0.612	1.45	(1.07, 1.96)	0.018
Cancer	Barrett's oesophagus	Meta-analysis	1.70	(0.92, 3.15)	0.091	2.72	(1.15, 6.45)	0.023	2.31	(1.25, 4.27)	0.007	1.23	(0.27, 5.66)	0.787
Cancer	Breast cancer	Meta-analysis	0.59	(0.51, 0.68)	6.E-13	0.83	(0.71, 0.98)	0.025	1.04	(0.65, 1.66)	0.884	0.53	(0.4, 0.69)	5.E-06
Cancer	Colorectal cancer	Meta-analysis	1.10	(0.91, 1.33)	0.337	0.95	(0.81, 1.12)	0.544	0.68	(0.55, 0.85)	8.E-04	1.19	(0.97, 1.47)	0.095
Cancer	Endometrial cancer	Meta-analysis	1.83	(1.33, 2.51)	2.E-04	1.30	(0.76, 2.2)	0.339	0.97	(0.57, 1.65)	0.910	1.64	(0.64, 4.2)	0.302
Cancer	Lung cancer	FinnGen	1.31	(0.93, 1.84)	0.119	1.18	(0.97, 1.45)	0.099	0.74	(0.36, 1.51)	0.409	1.34	(0.77, 2.31)	0.297
Cancer	Meningioma	FinnGen	0.99	(0.58, 1.68)	0.963	0.83	(0.57, 1.19)	0.308	0.87	(0.24, 3.12)	0.828	0.61	(0.24, 1.55)	0.297
Cancer	Myeloma	FinnGen	1.57	(0.86, 2.86)	0.145	1.44	(0.97, 2.13)	0.073	4.78	(1.12, 20.48)	0.035	1.25	(0.42, 3.72)	0.684
Cancer	Ovarian cancer	Meta-analysis	1.17	(0.8, 1.7)	0.413	1.09	(0.6, 1.97)	0.789	0.32	(0.17, 0.6)	4.E-04	1.28	(0.83, 1.96)	0.259



<b>Cancer</b>	<b>Pancreatic cancer</b>	<b>FinnGen</b>	1.84	(1.08, 3.13)	0.025	1.32	(0.92, 1.88)	0.127	3.38	(0.94, 12.15)	0.062	1.31	(0.51, 3.36)	0.571
<b>Cancer</b>	<b>Prostate cancer</b>	<b>Meta-analysis</b>	0.91	(0.81, 1.02)	0.107	0.89	(0.83, 0.96)	0.002	1.01	(0.83, 1.23)	0.935	0.93	(0.77, 1.12)	0.443
<b>Cancer</b>	<b>Renal cancer</b>	<b>Meta-analysis</b>	1.37	(1.07, 1.75)	0.013	1.16	(0.93, 1.46)	0.188	1.05	(0.34, 3.22)	0.938	1.49	(0.89, 2.5)	0.128
<b>Cancer</b>	<b>Thyroid cancer</b>	<b>FinnGen</b>	1.07	(0.69, 1.66)	0.768	0.89	(0.66, 1.21)	0.466	0.87	(0.3, 2.51)	0.791	1.34	(0.63, 2.85)	0.447

**Supplementary File 1f\*.** Heterogeneity statistics from random-effects meta-analysis of inverse-variance weighted Mendelian randomisation of published GWAS and FinnGen studies.

		BMI			Body fat percentage			FA			UFA		
System	Disease	Q	P	I <sup>2</sup>	Q	P	I <sup>2</sup>	Q	P	I <sup>2</sup>	Q	P	I <sup>2</sup>
Cardiovascular and metabolic	Abdominal aneurysm	3.92	0.048	74.51	8.36	0.004	88.04	0.58	0.445	0	4.49	0.034	77.74
Cardiovascular and metabolic	Atrial fibrillation	7.62	0.006	86.87	16.08	6.E-05	93.78	4.29	0.038	76.70	4.03	0.045	75.17
Cardiovascular and metabolic	Cardioembolic stroke	1.56	0.211	36.06	2.62	0.105	61.87	0.26	0.613	0	0.02	0.895	0
Cardiovascular and metabolic	Chronic kidney disease	1.61	0.204	38.02	9.43	0.002	89.40	0.04	0.833	0	3.30	0.069	69.73
Cardiovascular and metabolic	Coronary artery disease	0.71	0.399	0	11.36	8.E-04	91.20	0.68	0.408	0	1.65	0.200	39.24
Cardiovascular and metabolic	Heart failure	2.03	0.155	50.62	0.62	0.432	0	0.00	0.977	0	0.65	0.419	0
Cardiovascular and metabolic	Ischaemic stroke	0.15	0.699	0	0.35	0.556	0	0.13	0.715	0	0.16	0.690	0
Cardiovascular and metabolic	Polycystic ovary syndrome	0.59	0.443	0	0.76	0.382	0	0.23	0.635	0	0.01	0.932	0
Cardiovascular and metabolic	Stroke	0.99	0.320	0	0.56	0.454	0	0.54	0.464	0	0.84	0.359	0
Cardiovascular and metabolic	Type 2 diabetes	0.89	0.344	0	0.31	0.580	0	0.00	0.958	0	0.18	0.673	0
Cardiovascular and metabolic	Venous thromboembolism	0.78	0.379	0	0.18	0.669	0	0.19	0.664	0	0.00	0.965	0
Musculoskeletal	Gout	0.49	0.485	0	0.07	0.787	0	0.22	0.636	0	0.65	0.421	0
Musculoskeletal	Osteoarthritis	7.10	0.008	85.91	9.56	0.002	89.53	2.38	0.123	58.04	3.11	0.078	67.85
Musculoskeletal	Osteoarthritis (hip)	1.21	0.271	17.41	0.54	0.462	0	1.00	0.317	0.12	1.02	0.313	1.79
Musculoskeletal	Osteoarthritis (hip and/or knee)	0.72	0.395	0	11.71	6.E-04	91.46	5.56	0.018	82.01	0.50	0.479	0
Musculoskeletal	Osteoarthritis (hip surgery)	0.01	0.917	0	0.21	0.645	0	1.44	0.230	30.67	0.01	0.928	0

Musculoskeletal	Osteoarthritis (joint surgery)	6.23	0.044	70.35	28.41	7.E-07	94.67	9.79	0.007	81.68	3.11	0.211	29.72
Musculoskeletal	Osteoarthritis (knee)	0.77	0.381	0	0.01	0.928	0	0.92	0.338	0	0.38	0.535	0
Musculoskeletal	Osteoarthritis (knee surgery)	0.17	0.680	0	3.32	0.069	69.86	0.46	0.498	0	0.00	0.947	0
Musculoskeletal	Osteoporosis	3.33	0.068	70.00	3.40	0.065	70.62	4.21	0.040	76.27	0.77	0.381	0
Musculoskeletal	Rheumatoid arthritis	0.12	0.730	0	0.12	0.726	0	0.68	0.410	0	0.01	0.908	0
Gastrointestinal	Gastro-oesophageal reflux disease	0.86	0.355	0	37.43	9.E-10	97.33	0.21	0.645	0	0.66	0.416	0
Nervous	Alzheimer's disease	0.08	0.772	0	0.74	0.390	0	0.30	0.582	0	0.82	0.365	0
Nervous	Depression	1.15	0.284	12.91	4.24	0.039	76.44	0.37	0.545	0	0.99	0.320	0
Nervous	Multiple sclerosis	3.42	0.064	70.79	5.71	0.017	82.48	0.02	0.887	0	0.30	0.585	0
Nervous	Parkinson's disease	0.04	0.840	0	0.68	0.411	0	0.87	0.351	0	1.38	0.241	27.34
Integumentary	Psoriasis	1.43	0.233	29.83	0.20	0.658	0	0.66	0.416	0	0.15	0.698	0
Respiratory	Adult-onset asthma	4.10	0.043	75.64	4.54	0.033	77.99	0.17	0.684	0	4.74	0.029	78.90
Respiratory	Asthma	1.88	0.171	46.67	4.55	0.033	78.01	0.54	0.464	0	3.21	0.073	68.87
Respiratory	Child-onset asthma	0.82	0.366	0	12.12	5.E-04	91.75	1.10	0.295	8.87	2.67	0.102	62.59
Cancer	Barrett's oesophagus	3.57	0.059	71.96	14.46	1.E-04	93.09	1.13	0.287	11.63	7.17	0.007	86.06
Cancer	Breast cancer	0.18	0.675	0	2.61	0.106	61.67	0.43	0.514	0	0.16	0.688	0
Cancer	Colon cancer	-	-	-	-	-	-	0.34	0.563	0	6.04	0.014	83.43
Cancer	Colorectal cancer	0.01	0.916	0	1.29	0.257	22.31	1.45	0.483	3.63	2.96	0.228	35.96
Cancer	Endometrial cancer	1.82	0.177	45.03	11.84	6.E-04	91.55	0.19	0.667	0	4.33	0.037	76.91
Cancer	Ovarian cancer	1.84	0.174	45.79	9.58	0.002	89.56	0.21	0.648	0	0.00	0.945	0
Cancer	Prostate cancer	0.00	0.971	0	0.09	0.767	0	0.47	0.495	0	0.19	0.663	0
Cancer	Renal cancer	0.79	0.375	0	0.66	0.417	0	3.64	0.056	72.53	1.53	0.216	34.73

**Supplementary File 1gi\*.** The inverse-variance weighted, weighted median, Egger and penalised weighted median MR analyses for body mass index using FinnGen and published GWAS.

										Heterogeneity		
System	Disease	Study	Analysis	OR	LCI	UCI	P	Egger intercept	Intercept P	Q	P	I <sup>2</sup> MR-Egger
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	Inverse-variance weighted	1.03	0.95	1.11	0.526			82.51	0.186	
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	Weighted median	1.00	0.89	1.13	0.957					
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	MR-Egger	1.05	0.89	1.24	0.566	0.00	0.758	82.40	0.167	0.96
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	Penalised weighted median	1.00	0.88	1.13	0.964					
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	Inverse-variance weighted	1.47	1.04	2.08	0.029			120.79	3.E-04	
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	Weighted median	1.95	1.26	3.02	0.003					
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	MR-Egger	1.10	0.53	2.27	0.804	0.01	0.368	119.42	3.E-04	0.96
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	Penalised weighted median	2.06	1.32	3.22	0.002					
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	Inverse-variance weighted	1.50	1.37	1.66	7.E-17			110.12	0.003	
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	Weighted median	1.45	1.28	1.65	1.E-08					
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	MR-Egger	1.29	1.06	1.58	0.012	0.00	0.090	105.85	0.005	0.96
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	Penalised weighted median	1.55	1.37	1.75	9.E-12					
Cardiovascular and metabolic	Atrial fibrillation	FinnGen	Inverse-variance weighted	2.03	1.68	2.46	3.E-13			125.33	1.E-04	
Cardiovascular and metabolic	Atrial fibrillation	FinnGen	Weighted median	2.41	1.88	3.08	3.E-12					
Cardiovascular and metabolic	Atrial fibrillation	FinnGen	MR-Egger	1.71	1.15	2.54	0.009	0.00	0.330	123.68	1.E-04	0.96

Cardiovascular and metabolic	Atrial fibrillation	FinnGen	Penalised weighted median	2.50	1.93	3.24	4.E-12					
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	Inverse-variance weighted	1.22	0.99	1.50	0.063			66.55	0.659	
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	Weighted median	1.15	0.81	1.65	0.429					
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	MR-Egger	1.19	0.76	1.84	0.448	0.00	0.889	66.53	0.628	0.96
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	Penalised weighted median	1.16	0.81	1.65	0.417					
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	Inverse-variance weighted	1.81	1.01	3.24	0.046			80.05	0.241	
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	Weighted median	1.75	0.68	4.53	0.247					
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	MR-Egger	0.87	0.26	2.94	0.827	0.02	0.181	78.08	0.264	0.96
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	Penalised weighted median	1.75	0.68	4.53	0.249					
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	Inverse-variance weighted	1.19	1.05	1.35	0.007			114.22	0.001	
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	Weighted median	1.23	1.03	1.47	0.023					
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	MR-Egger	1.01	0.78	1.31	0.942	0.00	0.167	111.22	0.002	0.96
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	Penalised weighted median	1.23	1.03	1.48	0.023					
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	Inverse-variance weighted	1.44	1.10	1.87	0.007			96.66	0.028	
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	Weighted median	1.60	1.12	2.28	0.009					
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	MR-Egger	1.50	0.86	2.61	0.153	0.00	0.864	96.62	0.023	0.96
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	Penalised weighted median	1.62	1.13	2.30	0.008					
Cardiovascular and metabolic	Coronary artery disease	Published GWAS	Inverse-variance weighted	1.42	1.26	1.60	2.E-08			338.71	3.E-36	

Cardiovascular and metabolic	Coronary artery disease	Published GWAS	Weighted median	1.40	1.28	1.53	2.E-13					
Cardiovascular and metabolic	Coronary artery disease	Published GWAS	MR-Egger	1.29	0.99	1.67	0.055	0.00	0.405	335.43	6.E-36	0.96
Cardiovascular and metabolic	Coronary artery disease	Published GWAS	Penalised weighted median	1.39	1.27	1.52	1.E-12					
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	Inverse-variance weighted	1.80	1.34	2.42	9.E-05			133.78	1.E-05	
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	Weighted median	2.39	1.69	3.39	8.E-07					
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	MR-Egger	1.88	1.01	3.51	0.047	0.00	0.878	133.73	1.E-05	0.96
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	Penalised weighted median	2.61	1.82	3.72	1.E-07					
Cardiovascular and metabolic	Heart failure	Published GWAS	Inverse-variance weighted	1.75	1.54	2.00	1.E-17			164.10	4.E-09	
Cardiovascular and metabolic	Heart failure	Published GWAS	Weighted median	1.79	1.54	2.09	9.E-14					
Cardiovascular and metabolic	Heart failure	Published GWAS	MR-Egger	1.61	1.23	2.12	6.E-04	0.00	0.493	163.02	3.E-09	0.96
Cardiovascular and metabolic	Heart failure	Published GWAS	Penalised weighted median	1.79	1.54	2.09	1.E-13					
Cardiovascular and metabolic	Heart failure	FinnGen	Inverse-variance weighted	2.03	1.74	2.38	5.E-19			86.75	0.113	
Cardiovascular and metabolic	Heart failure	FinnGen	Weighted median	1.78	1.42	2.23	5.E-07					
Cardiovascular and metabolic	Heart failure	FinnGen	MR-Egger	1.26	0.93	1.70	0.140	0.01	4.E-04	73.70	0.390	0.96
Cardiovascular and metabolic	Heart failure	FinnGen	Penalised weighted median	1.78	1.42	2.23	6.E-07					
Cardiovascular and metabolic	Hypertension	FinnGen	Inverse-variance weighted	2.30	1.90	2.78	1.E-17			236.50	2.E-19	
Cardiovascular and metabolic	Hypertension	FinnGen	Weighted median	2.30	1.92	2.76	3.E-19					
Cardiovascular and metabolic	Hypertension	FinnGen	MR-Egger	1.81	1.22	2.69	0.003	0.01	0.181	230.68	9.E-19	0.96

Cardiovascular and metabolic	Hypertension	FinnGen	Penalised weighted median	2.30	1.91	2.76	6.E-19					
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	Inverse-variance weighted	1.31	1.13	1.52	4.E-04			137.45	5.E-06	
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	Weighted median	1.39	1.14	1.71	0.002					
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	MR-Egger	1.29	0.94	1.76	0.114	0.00	0.920	137.43	4.E-06	0.96
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	Penalised weighted median	1.40	1.15	1.72	0.001					
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	Inverse-variance weighted	1.18	1.03	1.35	0.016			110.66	0.002	
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	Weighted median	1.13	0.94	1.36	0.196					
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	MR-Egger	1.13	0.85	1.51	0.406	0.00	0.728	110.47	0.002	0.96
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	Penalised weighted median	1.13	0.94	1.36	0.201					
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	Inverse-variance weighted	1.23	1.05	1.45	0.012			87.89	0.098	
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	Weighted median	1.20	0.93	1.54	0.153					
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	MR-Egger	0.95	0.68	1.33	0.755	0.01	0.081	84.28	0.134	0.96
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	Penalised weighted median	1.20	0.93	1.53	0.157					
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	Inverse-variance weighted	0.98	0.76	1.27	0.886			99.28	0.018	
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	Weighted median	0.96	0.64	1.43	0.835					
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	MR-Egger	1.09	0.63	1.89	0.760	0.00	0.671	99.03	0.016	0.96
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	Penalised weighted median	0.96	0.64	1.43	0.825					
Cardiovascular and metabolic	Large artery stroke	Published GWAS	Inverse-variance weighted	1.42	1.02	1.97	0.040			107.12	0.005	

Cardiovascular and metabolic	Large artery stroke	Published GWAS	Weighted median	1.77	1.14	2.74	0.010					
Cardiovascular and metabolic	Large artery stroke	Published GWAS	MR-Egger	1.29	0.64	2.62	0.480	0.00	0.772	107.00	0.004	0.96
Cardiovascular and metabolic	Large artery stroke	Published GWAS	Penalised weighted median	1.77	1.14	2.75	0.010					
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	Inverse-variance weighted	1.70	1.37	2.09	9.E-07			101.04	0.014	
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	Weighted median	1.44	1.07	1.92	0.014					
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	MR-Egger	1.34	0.86	2.08	0.194	0.01	0.228	99.01	0.016	0.96
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	Penalised weighted median	1.37	1.02	1.85	0.039					
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	Inverse-variance weighted	4.23	2.96	6.06	3.E-15			81.44	0.209	
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	Weighted median	3.84	2.17	6.79	4.E-06					
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	MR-Egger	2.79	1.31	5.92	0.008	0.01	0.217	79.73	0.224	0.96
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	Penalised weighted median	3.87	2.19	6.84	3.E-06					
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	Inverse-variance weighted	3.14	1.60	6.16	9.E-04			107.47	0.004	
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	Weighted median	1.77	0.74	4.26	0.199					
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	MR-Egger	4.09	0.99	16.93	0.052	-0.01	0.678	107.21	0.004	0.96
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	Penalised weighted median	1.65	0.68	3.98	0.268					
Cardiovascular and metabolic	Pulmonary embolism	FinnGen	Inverse-variance weighted	1.61	1.23	2.11	5.E-04			102.32	0.011	
Cardiovascular and metabolic	Pulmonary embolism	FinnGen	Weighted median	1.90	1.32	2.75	6.E-04					
Cardiovascular and metabolic	Pulmonary embolism	FinnGen	MR-Egger	1.82	1.04	3.19	0.037	0.00	0.630	101.99	0.009	0.96



Cardiovascular and metabolic	Pulmonary embolism	FinnGen	Penalised weighted median	1.91	1.31	2.78	8.E-04					
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	Inverse-variance weighted	1.00	0.72	1.39	0.994			123.45	2.E-04	
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	Weighted median	0.94	0.62	1.43	0.763					
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	MR-Egger	1.05	0.52	2.10	0.899	0.00	0.889	123.41	1.E-04	0.96
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	Penalised weighted median	0.87	0.57	1.31	0.493					
Cardiovascular and metabolic	Stroke	Published GWAS	Inverse-variance weighted	1.15	1.02	1.31	0.027			117.31	6.E-04	
Cardiovascular and metabolic	Stroke	Published GWAS	Weighted median	1.09	0.92	1.29	0.333					
Cardiovascular and metabolic	Stroke	Published GWAS	MR-Egger	1.06	0.81	1.39	0.657	0.00	0.494	116.54	5.E-04	0.96
Cardiovascular and metabolic	Stroke	Published GWAS	Penalised weighted median	1.09	0.92	1.29	0.335					
Cardiovascular and metabolic	Stroke	FinnGen	Inverse-variance weighted	1.26	1.12	1.43	2.E-04			71.60	0.491	
Cardiovascular and metabolic	Stroke	FinnGen	Weighted median	1.10	0.90	1.34	0.365					
Cardiovascular and metabolic	Stroke	FinnGen	MR-Egger	0.94	0.73	1.22	0.659	0.01	0.012	65.24	0.670	0.96
Cardiovascular and metabolic	Stroke	FinnGen	Penalised weighted median	1.09	0.89	1.34	0.382					
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	Inverse-variance weighted	2.91	2.45	3.47	6.E-33			271.64	6.E-25	
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	Weighted median	2.99	2.50	3.59	9.E-33					
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	MR-Egger	3.40	2.36	4.92	7.E-11	0.00	0.346	268.28	1.E-24	0.96
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	Penalised weighted median	2.93	2.46	3.50	2.E-32					
Cardiovascular and metabolic	Type 2 diabetes	FinnGen	Inverse-variance weighted	3.30	2.73	4.00	3.E-34			229.26	3.E-18	

Cardiovascular and metabolic	Type 2 diabetes	FinnGen	Weighted median	3.37	2.73	4.18	5.E-29					
Cardiovascular and metabolic	Type 2 diabetes	FinnGen	MR-Egger	3.49	2.33	5.22	1.E-09	0.00	0.765	228.98	2.E-18	0.96
Cardiovascular and metabolic	Type 2 diabetes	FinnGen	Penalised weighted median	2.85	2.30	3.53	1.E-21					
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	Inverse-variance weighted	1.46	1.25	1.72	3.E-06			72.81	0.451	
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	Weighted median	1.54	1.18	2.00	0.001					
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	MR-Egger	1.56	1.11	2.18	0.010	0.00	0.678	72.63	0.424	0.96
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	Penalised weighted median	1.54	1.18	2.01	0.001					
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	Inverse-variance weighted	1.65	1.33	2.06	7.E-06			141.09	2.E-06	
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	Weighted median	1.85	1.40	2.43	1.E-05					
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	MR-Egger	1.62	1.02	2.57	0.040	0.00	0.929	141.08	2.E-06	0.96
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	Penalised weighted median	1.85	1.40	2.44	2.E-05					
Musculoskeletal	Gout	Published GWAS	Inverse-variance weighted	1.68	1.39	2.04	1.E-07			136.63	7.E-06	
Musculoskeletal	Gout	Published GWAS	Weighted median	1.70	1.31	2.20	5.E-05					
Musculoskeletal	Gout	Published GWAS	MR-Egger	1.82	1.21	2.74	0.004	0.00	0.662	136.27	5.E-06	0.96
Musculoskeletal	Gout	Published GWAS	Penalised weighted median	1.70	1.31	2.20	6.E-05					
Musculoskeletal	Gout	FinnGen	Inverse-variance weighted	1.49	1.13	1.97	0.005			95.99	0.031	
Musculoskeletal	Gout	FinnGen	Weighted median	1.19	0.80	1.76	0.394					
Musculoskeletal	Gout	FinnGen	MR-Egger	0.97	0.55	1.73	0.929	0.01	0.100	92.47	0.044	0.96

Musculoskeletal	Gout	FinnGen	Penalised weighted median	1.13	0.76	1.69	0.539					
Musculoskeletal	Osteoarthritis	Published GWAS	Inverse-variance weighted	1.44	1.34	1.55	1.E-24			145.84	6.E-07	
Musculoskeletal	Osteoarthritis	Published GWAS	Weighted median	1.45	1.32	1.59	9.E-16					
Musculoskeletal	Osteoarthritis	Published GWAS	MR-Egger	1.40	1.21	1.63	8.E-06	0.00	0.674	145.48	5.E-07	0.96
Musculoskeletal	Osteoarthritis	Published GWAS	Penalised weighted median	1.48	1.35	1.61	4.E-18					
Musculoskeletal	Osteoarthritis	FinnGen	Inverse-variance weighted	1.82	1.56	2.12	5.E-14			181.46	2.E-11	
Musculoskeletal	Osteoarthritis	FinnGen	Weighted median	2.06	1.74	2.44	6.E-17					
Musculoskeletal	Osteoarthritis	FinnGen	MR-Egger	1.78	1.28	2.46	6.E-04	0.00	0.877	181.40	1.E-11	0.96
Musculoskeletal	Osteoarthritis	FinnGen	Penalised weighted median	2.21	1.85	2.63	7.E-19					
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	Inverse-variance weighted	1.78	1.44	2.20	1.E-07			61.99	0.794	
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	Weighted median	1.62	1.15	2.28	0.006					
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	MR-Egger	1.21	0.77	1.89	0.413	0.01	0.053	58.25	0.861	0.96
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	Penalised weighted median	1.63	1.16	2.30	0.005					
Musculoskeletal	Osteoarthritis (finger)	Published GWAS	Inverse-variance weighted	1.38	1.12	1.71	0.002			88.35	0.092	
Musculoskeletal	Osteoarthritis (finger)	Published GWAS	Weighted median	1.57	1.16	2.14	0.004					
Musculoskeletal	Osteoarthritis (finger)	Published GWAS	MR-Egger	1.50	0.96	2.35	0.072	0.00	0.679	88.13	0.082	0.96
Musculoskeletal	Osteoarthritis (finger)	Published GWAS	Penalised weighted median	1.52	1.12	2.06	0.008					
Musculoskeletal	Osteoarthritis (hand)	Published GWAS	Inverse-variance weighted	1.14	0.99	1.32	0.079			90.20	0.072	

Musculoskeletal	Osteoarthritis (hand)	Published GWAS	Weighted median	1.24	1.00	1.54	0.045					
Musculoskeletal	Osteoarthritis (hand)	Published GWAS	MR-Egger	1.28	0.94	1.74	0.121	0.00	0.412	89.36	0.070	0.96
Musculoskeletal	Osteoarthritis (hand)	Published GWAS	Penalised weighted median	1.35	1.08	1.68	0.008					
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	Inverse-variance weighted	1.87	1.68	2.08	4.E-30			193.09	5.E-13	
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	Weighted median	2.04	1.82	2.29	1.E-33					
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	MR-Egger	1.81	1.44	2.27	3.E-07	0.00	0.740	192.79	3.E-13	0.96
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	Penalised weighted median	2.05	1.81	2.31	1.E-30					
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	Inverse-variance weighted	1.73	1.43	2.08	9.E-09			181.03	2.E-11	
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	Weighted median	2.04	1.68	2.49	1.E-12					
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	MR-Egger	2.41	1.64	3.55	9.E-06	-0.01	0.056	172.20	2.E-10	0.96
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	Penalised weighted median	2.07	1.70	2.53	9.E-13					
Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	Inverse-variance weighted	1.76	1.39	2.21	2.E-06			115.31	9.E-04	
Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	Weighted median	2.10	1.57	2.79	4.E-07					
Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	MR-Egger	1.71	1.05	2.79	0.030	0.00	0.911	115.29	7.E-04	0.96
Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	Penalised weighted median	2.19	1.63	2.93	2.E-07					
Musculoskeletal	Osteoarthritis (hip)	Published GWAS	Inverse-variance weighted	1.69	1.44	1.98	1.E-10			193.18	5.E-13	
Musculoskeletal	Osteoarthritis (hip)	Published GWAS	Weighted median	1.94	1.65	2.28	4.E-16					
Musculoskeletal	Osteoarthritis (hip)	Published GWAS	MR-Egger	2.00	1.43	2.79	5.E-05	0.00	0.255	189.72	9.E-13	0.96

Musculoskeletal	Osteoarthritis (hip)	Published GWAS	Penalised weighted median	1.99	1.68	2.35	4.E-16					
Musculoskeletal	Osteoarthritis (hip)	FinnGen	Inverse-variance weighted	1.96	1.58	2.42	7.E-10			137.63	5.E-06	
Musculoskeletal	Osteoarthritis (hip)	FinnGen	Weighted median	2.03	1.57	2.62	5.E-08					
Musculoskeletal	Osteoarthritis (hip)	FinnGen	MR-Egger	1.81	1.16	2.84	0.009	0.00	0.706	137.36	4.E-06	0.96
Musculoskeletal	Osteoarthritis (hip)	FinnGen	Penalised weighted median	2.04	1.58	2.65	6.E-08					
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	Inverse-variance weighted	1.98	1.72	2.27	1.E-21			166.66	2.E-09	
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	Weighted median	2.11	1.79	2.48	6.E-19					
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	MR-Egger	1.99	1.48	2.67	6.E-06	0.00	0.965	166.65	1.E-09	0.96
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	Penalised weighted median	2.11	1.78	2.49	2.E-18					
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	Inverse-variance weighted	2.41	2.03	2.86	2.E-23			125.30	1.E-04	
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	Weighted median	2.32	1.83	2.95	3.E-12					
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	MR-Egger	1.92	1.34	2.76	4.E-04	0.01	0.167	122.02	2.E-04	0.96
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	Penalised weighted median	2.32	1.83	2.94	3.E-12					
Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	Inverse-variance weighted	2.55	2.07	3.13	6.E-19			106.22	0.005	
Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	Weighted median	2.91	2.20	3.85	6.E-14					
Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	MR-Egger	2.96	1.92	4.56	8.E-07	0.00	0.434	105.31	0.005	0.96
Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	Penalised weighted median	2.99	2.26	3.96	2.E-14					
Musculoskeletal	Osteoarthritis (knee)	Published GWAS	Inverse-variance weighted	2.01	1.80	2.25	2.E-34			154.95	5.E-08	

Musculoskeletal	Osteoarthritis (knee)	Published GWAS	Weighted median	2.14	1.85	2.47	1.E-24					
Musculoskeletal	Osteoarthritis (knee)	Published GWAS	MR-Egger	1.81	1.43	2.30	7.E-07	0.00	0.331	152.91	6.E-08	0.96
Musculoskeletal	Osteoarthritis (knee)	Published GWAS	Penalised weighted median	2.14	1.84	2.49	4.E-23					
Musculoskeletal	Osteoarthritis (knee)	FinnGen	Inverse-variance weighted	2.20	1.86	2.61	1.E-19			159.60	1.E-08	
Musculoskeletal	Osteoarthritis (knee)	FinnGen	Weighted median	2.36	1.94	2.88	1.E-17					
Musculoskeletal	Osteoarthritis (knee)	FinnGen	MR-Egger	2.28	1.59	3.26	7.E-06	0.00	0.835	159.50	9.E-09	0.96
Musculoskeletal	Osteoarthritis (knee)	FinnGen	Penalised weighted median	2.39	1.96	2.92	1.E-17					
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	Inverse-variance weighted	1.39	1.23	1.56	6.E-08			84.68	0.146	
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	Weighted median	1.32	1.11	1.58	0.002					
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	MR-Egger	1.32	1.03	1.69	0.030	0.00	0.654	84.44	0.132	0.96
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	Penalised weighted median	1.32	1.11	1.58	0.002					
Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	Inverse-variance weighted	1.20	1.00	1.44	0.046			69.99	0.545	
Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	Weighted median	1.25	0.92	1.69	0.152					
Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	MR-Egger	1.18	0.80	1.72	0.408	0.00	0.896	69.97	0.512	0.96
Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	Penalised weighted median	1.25	0.92	1.70	0.152					
Musculoskeletal	Osteoporosis	Published GWAS	Inverse-variance weighted	1.17	1.10	1.24	3.E-07			648.83	1.E-93	
Musculoskeletal	Osteoporosis	Published GWAS	Weighted median	1.28	1.24	1.33	1.E-37					
Musculoskeletal	Osteoporosis	Published GWAS	MR-Egger	1.34	1.18	1.51	3.E-06	0.00	0.014	597.66	3.E-84	0.96

Musculoskeletal	Osteoporosis	Published GWAS	Penalised weighted median	1.30	1.25	1.35	8.E-41					
Musculoskeletal	Osteoporosis	FinnGen	Inverse-variance weighted	0.92	0.71	1.18	0.504			67.79	0.619	
Musculoskeletal	Osteoporosis	FinnGen	Weighted median	0.81	0.55	1.21	0.310					
Musculoskeletal	Osteoporosis	FinnGen	MR-Egger	0.82	0.48	1.39	0.464	0.00	0.639	67.57	0.594	0.96
Musculoskeletal	Osteoporosis	FinnGen	Penalised weighted median	0.81	0.55	1.21	0.301					
Musculoskeletal	Rheumatoid arthritis	Published GWAS	Inverse-variance weighted	1.20	0.95	1.52	0.133			105.85	0.005	
Musculoskeletal	Rheumatoid arthritis	Published GWAS	Weighted median	0.96	0.69	1.33	0.798					
Musculoskeletal	Rheumatoid arthritis	Published GWAS	MR-Egger	0.85	0.53	1.37	0.513	0.01	0.107	102.06	0.007	0.97
Musculoskeletal	Rheumatoid arthritis	Published GWAS	Penalised weighted median	0.91	0.65	1.28	0.602					
Musculoskeletal	Rheumatoid arthritis	FinnGen	Inverse-variance weighted	1.27	1.03	1.56	0.028			89.74	0.077	
Musculoskeletal	Rheumatoid arthritis	FinnGen	Weighted median	1.51	1.10	2.08	0.011					
Musculoskeletal	Rheumatoid arthritis	FinnGen	MR-Egger	1.23	0.79	1.92	0.366	0.00	0.878	89.71	0.066	0.96
Musculoskeletal	Rheumatoid arthritis	FinnGen	Penalised weighted median	1.51	1.10	2.09	0.012					
Gastrointestinal	Gallstones	FinnGen	Inverse-variance weighted	1.78	1.53	2.06	4.E-14			112.56	0.002	
Gastrointestinal	Gallstones	FinnGen	Weighted median	1.72	1.41	2.09	6.E-08					
Gastrointestinal	Gallstones	FinnGen	MR-Egger	1.77	1.29	2.42	4.E-04	0.00	0.983	112.56	0.001	0.96
Gastrointestinal	Gallstones	FinnGen	Penalised weighted median	1.70	1.40	2.06	1.E-07					
Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	Inverse-variance weighted	1.17	1.06	1.29	0.003			179.07	4.E-11	

Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	Weighted median	1.05	0.93	1.18	0.414					
Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	MR-Egger	1.00	0.81	1.23	0.997	0.00	0.101	172.52	2.E-10	0.96
Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	Penalised weighted median	1.05	0.93	1.19	0.436					
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	Inverse-variance weighted	1.07	0.92	1.25	0.385			97.52	0.024	
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	Weighted median	1.04	0.84	1.30	0.701					
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	MR-Egger	1.01	0.73	1.39	0.966	0.00	0.674	97.28	0.021	0.96
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	Penalised weighted median	1.00	0.80	1.25	0.993					
Nervous	Alzheimer's disease	Published GWAS	Inverse-variance weighted	1.01	1.00	1.03	0.050			105.59	0.005	
Nervous	Alzheimer's disease	Published GWAS	Weighted median	1.02	1.00	1.03	0.063					
Nervous	Alzheimer's disease	Published GWAS	MR-Egger	1.01	0.98	1.03	0.648	0.00	0.578	105.12	0.004	0.97
Nervous	Alzheimer's disease	Published GWAS	Penalised weighted median	1.02	1.00	1.03	0.054					
Nervous	Alzheimer's disease	FinnGen	Inverse-variance weighted	0.91	0.45	1.86	0.799			571.14	9.E-79	
Nervous	Alzheimer's disease	FinnGen	Weighted median	1.04	0.71	1.54	0.831					
Nervous	Alzheimer's disease	FinnGen	MR-Egger	1.01	0.23	4.53	0.990	0.00	0.879	570.96	4.E-79	0.96



Nervous	Alzheimer's disease	FinnGen	Penalised weighted median	1.06	0.72	1.56	0.769					
Nervous	Depression	Published GWAS	Inverse-variance weighted	1.19	1.04	1.37	0.012			145.94	6.E-07	
Nervous	Depression	Published GWAS	Weighted median	1.22	1.02	1.46	0.030					
Nervous	Depression	Published GWAS	MR-Egger	1.12	0.84	1.50	0.437	0.00	0.645	145.50	5.E-07	0.96
Nervous	Depression	Published GWAS	Penalised weighted median	1.22	1.02	1.46	0.031					
Nervous	Depression	FinnGen	Inverse-variance weighted	1.08	0.96	1.22	0.217			89.77	0.077	
Nervous	Depression	FinnGen	Weighted median	1.03	0.87	1.22	0.737					
Nervous	Depression	FinnGen	MR-Egger	1.08	0.84	1.39	0.546	0.00	0.983	89.77	0.066	0.96
Nervous	Depression	FinnGen	Penalised weighted median	1.02	0.86	1.20	0.856					
Nervous	Multiple sclerosis	Published GWAS	Inverse-variance weighted	1.62	1.13	2.31	0.008			34.57	0.219	
Nervous	Multiple sclerosis	Published GWAS	Weighted median	1.52	0.94	2.47	0.089					
Nervous	Multiple sclerosis	Published GWAS	MR-Egger	1.63	0.67	3.95	0.283	0.00	0.991	34.57	0.183	0.94
Nervous	Multiple sclerosis	Published GWAS	Penalised weighted median	1.55	0.95	2.51	0.077					
Nervous	Multiple sclerosis	FinnGen	Inverse-variance weighted	0.97	0.64	1.46	0.871			67.06	0.643	
Nervous	Multiple sclerosis	FinnGen	Weighted median	0.69	0.34	1.39	0.298					
Nervous	Multiple sclerosis	FinnGen	MR-Egger	0.97	0.41	2.32	0.954	0.00	0.981	67.06	0.611	0.96
Nervous	Multiple sclerosis	FinnGen	Penalised weighted median	0.67	0.32	1.38	0.278					
Nervous	Parkinson's disease	Published GWAS	Inverse-variance weighted	0.98	0.77	1.24	0.841			115.96	8.E-04	

Nervous	Parkinson's disease	Published GWAS	Weighted median	0.96	0.70	1.31	0.775					
Nervous	Parkinson's disease	Published GWAS	MR-Egger	0.95	0.57	1.59	0.849	0.00	0.914	115.94	6.E-04	0.97
Nervous	Parkinson's disease	Published GWAS	Penalised weighted median	0.96	0.70	1.31	0.777					
Nervous	Parkinson's disease	FinnGen	Inverse-variance weighted	0.93	0.64	1.35	0.711			93.46	0.045	
Nervous	Parkinson's disease	FinnGen	Weighted median	1.03	0.58	1.82	0.915					
Nervous	Parkinson's disease	FinnGen	MR-Egger	0.73	0.34	1.60	0.433	0.01	0.489	92.83	0.042	0.96
Nervous	Parkinson's disease	FinnGen	Penalised weighted median	1.03	0.59	1.82	0.912					
Integumentary	Psoriasis	Published GWAS	Inverse-variance weighted	1.89	1.44	2.47	5.E-06			134.25	1.E-05	
Integumentary	Psoriasis	Published GWAS	Weighted median	1.99	1.43	2.76	4.E-05					
Integumentary	Psoriasis	Published GWAS	MR-Egger	1.92	1.10	3.36	0.023	0.00	0.944	134.25	9.E-06	0.97
Integumentary	Psoriasis	Published GWAS	Penalised weighted median	2.15	1.53	3.01	9.E-06					
Integumentary	Psoriasis	FinnGen	Inverse-variance weighted	1.49	1.14	1.95	0.003			108.12	0.004	
Integumentary	Psoriasis	FinnGen	Weighted median	1.18	0.83	1.67	0.361					
Integumentary	Psoriasis	FinnGen	MR-Egger	1.32	0.75	2.32	0.335	0.00	0.622	107.75	0.003	0.96
Integumentary	Psoriasis	FinnGen	Penalised weighted median	1.03	0.71	1.48	0.884					
Respiratory	Adult-onset asthma	Published GWAS	Inverse-variance weighted	1.14	1.01	1.29	0.037			135.39	9.E-06	
Respiratory	Adult-onset asthma	Published GWAS	Weighted median	1.16	0.98	1.37	0.076					
Respiratory	Adult-onset asthma	Published GWAS	MR-Egger	1.07	0.83	1.40	0.594	0.00	0.612	134.90	7.E-06	0.96

Respiratory	Adult-onset asthma	Published GWAS	Penalised weighted median	1.16	0.98	1.38	0.081					
Respiratory	Asthma	Published GWAS	Inverse-variance weighted	1.23	1.12	1.35	2.E-05			126.36	8.E-05	
Respiratory	Asthma	Published GWAS	Weighted median	1.18	1.05	1.32	0.005					
Respiratory	Asthma	Published GWAS	MR-Egger	1.19	0.97	1.45	0.094	0.00	0.693	126.08	6.E-05	0.96
Respiratory	Asthma	Published GWAS	Penalised weighted median	1.17	1.05	1.32	0.006					
Respiratory	Asthma	FinnGen	Inverse-variance weighted	1.38	1.20	1.57	3.E-06			95.92	0.031	
Respiratory	Asthma	FinnGen	Weighted median	1.44	1.20	1.73	1.E-04					
Respiratory	Asthma	FinnGen	MR-Egger	1.29	0.97	1.70	0.077	0.00	0.595	95.54	0.028	0.96
Respiratory	Asthma	FinnGen	Penalised weighted median	1.45	1.20	1.74	9.E-05					
Respiratory	Child-onset asthma	Published GWAS	Inverse-variance weighted	1.12	0.96	1.31	0.144			112.69	0.002	
Respiratory	Child-onset asthma	Published GWAS	Weighted median	1.05	0.84	1.30	0.689					
Respiratory	Child-onset asthma	Published GWAS	MR-Egger	1.02	0.73	1.42	0.910	0.00	0.516	112.02	0.001	0.96
Respiratory	Child-onset asthma	Published GWAS	Penalised weighted median	1.04	0.83	1.29	0.743					
Respiratory	Child-onset asthma	FinnGen	Inverse-variance weighted	1.32	0.97	1.79	0.079			84.78	0.144	
Respiratory	Child-onset asthma	FinnGen	Weighted median	1.78	1.13	2.81	0.013					
Respiratory	Child-onset asthma	FinnGen	MR-Egger	1.26	0.66	2.40	0.490	0.00	0.870	84.75	0.127	0.96
Respiratory	Child-onset asthma	FinnGen	Penalised weighted median	1.80	1.13	2.85	0.012					
Cancer	Barrett's oesophagus	Published GWAS	Inverse-variance weighted	2.19	1.74	2.77	4.E-11			141.10	1.E-06	

Cancer	Barrett's oesophagus	Published GWAS	Weighted median	1.99	1.47	2.69	9.E-06					
Cancer	Barrett's oesophagus	Published GWAS	MR-Egger	1.91	1.15	3.15	0.012	0.00	0.537	140.32	9.E-07	0.96
Cancer	Barrett's oesophagus	Published GWAS	Penalised weighted median	1.97	1.46	2.67	1.E-05					
Cancer	Barrett's oesophagus	FinnGen	Inverse-variance weighted	1.15	0.62	2.16	0.658			72.05	0.476	
Cancer	Barrett's oesophagus	FinnGen	Weighted median	1.43	0.54	3.83	0.473					
Cancer	Barrett's oesophagus	FinnGen	MR-Egger	2.19	0.59	8.11	0.243	-0.02	0.276	70.87	0.482	0.96
Cancer	Barrett's oesophagus	FinnGen	Penalised weighted median	1.48	0.55	4.00	0.438					
Cancer	Breast cancer	Published GWAS	Inverse-variance weighted	0.56	0.44	0.72	3.E-06			112.91	0.001	
Cancer	Breast cancer	Published GWAS	Weighted median	0.57	0.41	0.79	7.E-04					
Cancer	Breast cancer	Published GWAS	MR-Egger	0.48	0.29	0.80	0.005	0.00	0.482	112.13	0.001	0.96
Cancer	Breast cancer	Published GWAS	Penalised weighted median	0.56	0.41	0.79	7.E-04					
Cancer	Breast cancer	FinnGen	Inverse-variance weighted	0.60	0.50	0.72	4.E-08			90.57	0.069	
Cancer	Breast cancer	FinnGen	Weighted median	0.53	0.41	0.69	2.E-06					
Cancer	Breast cancer	FinnGen	MR-Egger	0.39	0.27	0.56	3.E-07	0.01	0.007	82.16	0.172	0.96
Cancer	Breast cancer	FinnGen	Penalised weighted median	0.53	0.41	0.69	2.E-06					
Cancer	Colon cancer	FinnGen	Inverse-variance weighted	1.03	0.72	1.49	0.858			101.73	0.012	
Cancer	Colon cancer	FinnGen	Weighted median	1.23	0.72	2.09	0.443					
Cancer	Colon cancer	FinnGen	MR-Egger	1.27	0.59	2.75	0.542	-0.01	0.551	101.23	0.011	0.96

Cancer	Colon cancer	FinnGen	Penalised weighted median	1.23	0.72	2.10	0.438					
Cancer	Colorectal cancer	Published GWAS (1)	Inverse-variance weighted	1.11	0.85	1.45	0.444			41.81	4.E-04	
Cancer	Colorectal cancer	Published GWAS (1)	Weighted median	1.04	0.82	1.33	0.738					
Cancer	Colorectal cancer	Published GWAS (1)	MR-Egger	1.12	0.57	2.20	0.749	0.00	0.982	41.81	2.E-04	0.98
Cancer	Colorectal cancer	Published GWAS (1)	Penalised weighted median	1.04	0.82	1.33	0.742					
Cancer	Colorectal cancer	FinnGen	Inverse-variance weighted	1.09	0.82	1.43	0.555			94.48	0.039	
Cancer	Colorectal cancer	FinnGen	Weighted median	1.15	0.77	1.73	0.488					
Cancer	Colorectal cancer	FinnGen	MR-Egger	1.17	0.65	2.09	0.599	0.00	0.780	94.38	0.033	0.96
Cancer	Colorectal cancer	FinnGen	Penalised weighted median	1.17	0.78	1.76	0.453					
Cancer	Endometrial cancer	Published GWAS	Inverse-variance weighted	2.03	1.67	2.47	9.E-13			99.82	0.017	
Cancer	Endometrial cancer	Published GWAS	Weighted median	1.89	1.42	2.53	2.E-05					
Cancer	Endometrial cancer	Published GWAS	MR-Egger	1.64	1.09	2.47	0.017	0.01	0.241	97.92	0.019	0.96
Cancer	Endometrial cancer	Published GWAS	Penalised weighted median	1.89	1.42	2.53	1.E-05					
Cancer	Endometrial cancer	FinnGen	Inverse-variance weighted	1.43	0.89	2.30	0.139			94.53	0.039	
Cancer	Endometrial cancer	FinnGen	Weighted median	1.64	0.83	3.23	0.155					
Cancer	Endometrial cancer	FinnGen	MR-Egger	1.74	0.64	4.72	0.274	-0.01	0.657	94.27	0.034	0.96
Cancer	Endometrial cancer	FinnGen	Penalised weighted median	1.67	0.84	3.29	0.141					
Cancer	Lung cancer	FinnGen	Inverse-variance weighted	1.31	0.93	1.84	0.119			97.99	0.023	

Cancer	Lung cancer	FinnGen	Weighted median	1.14	0.71	1.82	0.591					
Cancer	Lung cancer	FinnGen	MR-Egger	0.93	0.46	1.88	0.836	0.01	0.278	96.39	0.024	0.96
Cancer	Lung cancer	FinnGen	Penalised weighted median	1.22	0.75	1.96	0.424					
Cancer	Meningioma	FinnGen	Inverse-variance weighted	0.99	0.58	1.68	0.963			58.51	0.874	
Cancer	Meningioma	FinnGen	Weighted median	1.01	0.41	2.47	0.979					
Cancer	Meningioma	FinnGen	MR-Egger	1.49	0.49	4.50	0.485	-0.01	0.412	57.83	0.870	0.96
Cancer	Meningioma	FinnGen	Penalised weighted median	1.02	0.42	2.48	0.973					
Cancer	Myeloma	FinnGen	Inverse-variance weighted	1.57	0.86	2.86	0.145			76.36	0.340	
Cancer	Myeloma	FinnGen	Weighted median	1.18	0.44	3.12	0.742					
Cancer	Myeloma	FinnGen	MR-Egger	0.77	0.22	2.72	0.690	0.02	0.211	74.72	0.359	0.96
Cancer	Myeloma	FinnGen	Penalised weighted median	1.17	0.44	3.11	0.757					
Cancer	Ovarian cancer	FinnGen	Inverse-variance weighted	0.92	0.57	1.48	0.729			67.45	0.630	
Cancer	Ovarian cancer	FinnGen	Weighted median	1.18	0.53	2.64	0.690					
Cancer	Ovarian cancer	FinnGen	MR-Egger	2.38	0.87	6.49	0.090	-0.03	0.034	62.96	0.741	0.96
Cancer	Ovarian cancer	FinnGen	Penalised weighted median	1.18	0.53	2.64	0.690					
Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	Inverse-variance weighted	1.19	0.75	1.89	0.470			82.03	0.196	
Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	Weighted median	1.64	0.82	3.26	0.160					
Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	MR-Egger	2.57	0.98	6.74	0.055	-0.02	0.074	78.51	0.253	0.96
Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	Penalised weighted median	1.64	0.82	3.26	0.160					

Cancer	Ovarian cancer (endometrioid)	Published GWAS	Inverse-variance weighted	1.39	0.98	1.97	0.063			90.17	0.073	
Cancer	Ovarian cancer (endometrioid)	Published GWAS	Weighted median	1.48	0.86	2.56	0.159					
Cancer	Ovarian cancer (endometrioid)	Published GWAS	MR-Egger	1.69	0.81	3.52	0.163	-0.01	0.558	89.73	0.066	0.96
Cancer	Ovarian cancer (endometrioid)	Published GWAS	Penalised weighted median	1.50	0.87	2.58	0.147					
Cancer	Ovarian cancer (epithelial)	Published GWAS	Inverse-variance weighted	1.36	1.00	1.85	0.048			61.88	0.797	
Cancer	Ovarian cancer (epithelial)	Published GWAS	Weighted median	1.46	0.89	2.39	0.133					
Cancer	Ovarian cancer (epithelial)	Published GWAS	MR-Egger	1.58	0.83	3.02	0.164	0.00	0.606	61.61	0.779	0.96
Cancer	Ovarian cancer (epithelial)	Published GWAS	Penalised weighted median	1.46	0.89	2.40	0.132					
Cancer	Ovarian cancer (high grade serous)	Published GWAS	Inverse-variance weighted	1.26	1.01	1.58	0.037			69.13	0.574	
Cancer	Ovarian cancer (high grade serous)	Published GWAS	Weighted median	1.16	0.80	1.68	0.430					
Cancer	Ovarian cancer (high grade serous)	Published GWAS	MR-Egger	1.18	0.74	1.87	0.487	0.00	0.736	69.02	0.544	0.96
Cancer	Ovarian cancer (high grade serous)	Published GWAS	Penalised weighted median	1.17	0.81	1.69	0.416					
Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	Inverse-variance weighted	1.24	1.08	1.44	0.003			72.70	0.455	
Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	Weighted median	1.29	1.01	1.65	0.039					
Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	MR-Egger	1.42	1.05	1.92	0.024	0.00	0.334	71.76	0.452	0.96
Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	Penalised weighted median	1.29	1.01	1.65	0.039					

Cancer	Ovarian cancer (low grade)	Published GWAS	Inverse-variance weighted	1.05	0.59	1.86	0.873			87.48	0.103	
Cancer	Ovarian cancer (low grade)	Published GWAS	Weighted median	1.10	0.47	2.59	0.831					
Cancer	Ovarian cancer (low grade)	Published GWAS	MR-Egger	1.22	0.36	4.10	0.754	0.00	0.787	87.39	0.091	0.96
Cancer	Ovarian cancer (low grade)	Published GWAS	Penalised weighted median	1.12	0.48	2.62	0.802					
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	Inverse-variance weighted	1.24	0.88	1.74	0.223			78.65	0.276	
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	Weighted median	1.36	0.78	2.37	0.286					
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	MR-Egger	2.06	1.02	4.19	0.045	-0.01	0.107	75.88	0.324	0.96
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	Penalised weighted median	1.35	0.78	2.36	0.286					
Cancer	Ovarian cancer (serous invasive)	Published GWAS	Inverse-variance weighted	1.19	1.00	1.42	0.051			79.63	0.251	
Cancer	Ovarian cancer (serous invasive)	Published GWAS	Weighted median	1.16	0.86	1.55	0.334					
Cancer	Ovarian cancer (serous invasive)	Published GWAS	MR-Egger	1.18	0.82	1.71	0.378	0.00	0.964	79.63	0.226	0.96
Cancer	Ovarian cancer (serous invasive)	Published GWAS	Penalised weighted median	1.15	0.86	1.54	0.341					
Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	Inverse-variance weighted	1.33	0.97	1.83	0.078			75.28	0.373	
Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	Weighted median	1.62	0.97	2.71	0.064					



Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	MR-Egger	1.56	0.80	3.07	0.194	0.00	0.596	74.99	0.350	0.96
Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	Penalised weighted median	1.64	0.98	2.75	0.060					
Cancer	Pancreatic cancer	FinnGen	Inverse-variance weighted	1.84	1.08	3.13	0.025			74.59	0.394	
Cancer	Pancreatic cancer	FinnGen	Weighted median	1.86	0.73	4.76	0.197					
Cancer	Pancreatic cancer	FinnGen	MR-Egger	1.89	0.62	5.80	0.264	0.00	0.953	74.58	0.363	0.96
Cancer	Pancreatic cancer	FinnGen	Penalised weighted median	1.82	0.72	4.61	0.205					
Cancer	Prostate cancer	Published GWAS	Inverse-variance weighted	0.91	0.80	1.04	0.167			158.17	2.E-08	
Cancer	Prostate cancer	Published GWAS	Weighted median	0.81	0.68	0.96	0.013					
Cancer	Prostate cancer	Published GWAS	MR-Egger	0.83	0.63	1.09	0.176	0.00	0.427	156.78	2.E-08	0.96
Cancer	Prostate cancer	Published GWAS	Penalised weighted median	0.80	0.68	0.95	0.011					
Cancer	Prostate cancer	FinnGen	Inverse-variance weighted	0.91	0.72	1.14	0.407			100.86	0.014	
Cancer	Prostate cancer	FinnGen	Weighted median	0.75	0.55	1.03	0.071					
Cancer	Prostate cancer	FinnGen	MR-Egger	0.93	0.58	1.51	0.777	0.00	0.900	100.84	0.011	0.96
Cancer	Prostate cancer	FinnGen	Penalised weighted median	0.74	0.53	1.03	0.072					
Cancer	Renal cancer	Published GWAS	Inverse-variance weighted	1.48	1.09	2.02	0.012			18.27	0.249	
Cancer	Renal cancer	Published GWAS	Weighted median	1.61	1.07	2.42	0.023					
Cancer	Renal cancer	Published GWAS	MR-Egger	1.34	0.61	2.97	0.468	0.00	0.787	18.17	0.199	0.98

Cancer	Renal cancer	Published GWAS	Penalised weighted median	1.61	1.07	2.42	0.023					
Cancer	Renal cancer	FinnGen	Inverse-variance weighted	1.17	0.77	1.78	0.450			65.33	0.698	
Cancer	Renal cancer	FinnGen	Weighted median	1.48	0.72	3.03	0.286					
Cancer	Renal cancer	FinnGen	MR-Egger	1.44	0.60	3.44	0.411	-0.01	0.600	65.05	0.676	0.96
Cancer	Renal cancer	FinnGen	Penalised weighted median	1.48	0.72	3.06	0.288					
Cancer	Thyroid cancer	FinnGen	Inverse-variance weighted	1.07	0.69	1.66	0.768			59.38	0.856	
Cancer	Thyroid cancer	FinnGen	Weighted median	1.59	0.80	3.18	0.190					
Cancer	Thyroid cancer	FinnGen	MR-Egger	1.13	0.45	2.84	0.799	0.00	0.897	59.36	0.836	0.96
Cancer	Thyroid cancer	FinnGen	Penalised weighted median	1.61	0.80	3.24	0.182					

**Supplementary File 1gii\***. The inverse-variance weighted, weighted median, Egger and penalised weighted median MR analyses for body fat percentage using FinnGen and published GWAS.

										Heterogeneity		
System	Disease	Study	Analysis	OR	LCI	UCI	P	Egger intercept	Intercept P	Q	P	I <sup>2</sup> MR-Egger
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	Inverse-variance weighted	1.05	1.00	1.11	0.048			752.68	0.002	
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	Weighted median	1.07	0.99	1.16	0.092					
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	MR-Egger	1.10	0.96	1.26	0.180	0.00	0.519	752.20	0.002	0.80
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	Penalised weighted median	1.07	0.99	1.16	0.096					
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	Inverse-variance weighted	1.43	1.17	1.75	5.E-04			801.99	5.E-05	
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	Weighted median	1.42	1.05	1.92	0.021					
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	MR-Egger	3.10	1.63	5.90	6.E-04	-0.01	0.013	794.51	9.E-05	0.96
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	Penalised weighted median	1.49	1.11	2.01	0.009					
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	Inverse-variance weighted	1.37	1.27	1.47	1.E-17			1188.60	2.E-34	
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	Weighted median	1.43	1.31	1.56	7.E-16					
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	MR-Egger	1.78	1.42	2.24	8.E-07	0.00	0.017	1178.20	2.E-33	0.73
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	Penalised weighted median	1.46	1.33	1.59	6.E-17					
Cardiovascular and metabolic	Atrial fibrillation	FinnGen	Inverse-variance weighted	1.82	1.61	2.06	3.E-22			1004.46	2.E-17	
Cardiovascular and metabolic	Atrial fibrillation	FinnGen	Weighted median	1.82	1.55	2.13	3.E-13					
Cardiovascular and metabolic	Atrial fibrillation	FinnGen	MR-Egger	2.31	1.56	3.40	2.E-05	0.00	0.212	1002.06	2.E-17	0.96

Cardiovascular and metabolic	Atrial fibrillation	FinnGen	Penalised weighted median	1.71	1.46	2.01	5.E-11					
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	Inverse-variance weighted	1.23	1.04	1.44	0.013			814.22	5.E-06	
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	Weighted median	1.28	1.01	1.63	0.044					
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	MR-Egger	1.15	0.68	1.95	0.595	0.00	0.813	814.15	4.E-06	0.75
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	Penalised weighted median	1.29	1.01	1.64	0.043					
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	Inverse-variance weighted	1.72	1.18	2.51	0.005			662.08	0.384	
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	Weighted median	2.29	1.24	4.21	0.008					
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	MR-Egger	1.73	0.52	5.78	0.376	0.00	0.995	662.08	0.373	0.95
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	Penalised weighted median	2.25	1.22	4.15	0.009					
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	Inverse-variance weighted	1.13	1.03	1.23	0.006			977.27	3.E-16	
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	Weighted median	1.19	1.06	1.33	0.002					
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	MR-Egger	0.94	0.71	1.23	0.648	0.00	0.169	974.40	4.E-16	0.74
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	Penalised weighted median	1.20	1.07	1.35	0.001					
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	Inverse-variance weighted	1.53	1.28	1.83	2.E-06			874.69	1.E-08	
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	Weighted median	1.60	1.25	2.05	2.E-04					
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	MR-Egger	1.03	0.58	1.82	0.922	0.01	0.148	871.88	1.E-08	0.95
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	Penalised weighted median	1.59	1.25	2.03	2.E-04					
Cardiovascular and metabolic	Coronary artery disease	Published GWAS	Inverse-variance weighted	1.59	1.48	1.72	2.E-33			2167.27	8.E-164	

Cardiovascular and metabolic	Coronary artery disease	Published GWAS	Weighted median	1.61	1.48	1.75	1.E-30					
Cardiovascular and metabolic	Coronary artery disease	Published GWAS	MR-Egger	1.27	1.00	1.62	0.050	0.00	0.056	2154.98	3.E-162	0.73
Cardiovascular and metabolic	Coronary artery disease	Published GWAS	Penalised weighted median	1.62	1.50	1.76	5.E-32					
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	Inverse-variance weighted	1.76	1.49	2.08	2.E-11			820.66	7.E-06	
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	Weighted median	2.09	1.66	2.64	6.E-10					
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	MR-Egger	2.97	1.76	5.03	5.E-05	-0.01	0.040	815.38	1.E-05	0.96
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	Penalised weighted median	2.10	1.66	2.65	4.E-10					
Cardiovascular and metabolic	Heart failure	Published GWAS	Inverse-variance weighted	1.76	1.64	1.89	3.E-51			1011.28	9.E-19	
Cardiovascular and metabolic	Heart failure	Published GWAS	Weighted median	1.76	1.60	1.94	5.E-31					
Cardiovascular and metabolic	Heart failure	Published GWAS	MR-Egger	1.91	1.50	2.42	1.E-07	0.00	0.480	1010.49	8.E-19	0.77
Cardiovascular and metabolic	Heart failure	Published GWAS	Penalised weighted median	1.72	1.56	1.89	6.E-28					
Cardiovascular and metabolic	Heart failure	FinnGen	Inverse-variance weighted	1.85	1.67	2.06	8.E-31			775.03	6.E-04	
Cardiovascular and metabolic	Heart failure	FinnGen	Weighted median	2.15	1.83	2.52	4.E-21					
Cardiovascular and metabolic	Heart failure	FinnGen	MR-Egger	1.90	1.36	2.66	2.E-04	0.00	0.867	775.00	6.E-04	0.96
Cardiovascular and metabolic	Heart failure	FinnGen	Penalised weighted median	2.21	1.88	2.60	5.E-22					
Cardiovascular and metabolic	Hypertension	FinnGen	Inverse-variance weighted	2.11	1.89	2.37	4.E-39			1623.06	3.E-84	
Cardiovascular and metabolic	Hypertension	FinnGen	Weighted median	2.34	2.07	2.66	1.E-39					
Cardiovascular and metabolic	Hypertension	FinnGen	MR-Egger	2.25	1.57	3.22	1.E-05	0.00	0.726	1622.76	2.E-84	0.96

Cardiovascular and metabolic	Hypertension	FinnGen	Penalised weighted median	2.51	2.21	2.85	3.E-46					
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	Inverse-variance weighted	1.29	1.18	1.42	9.E-08			1091.95	1.E-24	
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	Weighted median	1.40	1.24	1.59	6.E-08					
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	MR-Egger	1.03	0.76	1.39	0.842	0.00	0.121	1087.94	2.E-24	0.96
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	Penalised weighted median	1.47	1.30	1.66	1.E-09					
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	Inverse-variance weighted	1.24	1.13	1.35	2.E-06			886.42	5.E-10	
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	Weighted median	1.22	1.07	1.39	0.003					
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	MR-Egger	1.04	0.79	1.38	0.763	0.00	0.217	884.31	6.E-10	0.74
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	Penalised weighted median	1.22	1.07	1.39	0.003					
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	Inverse-variance weighted	1.29	1.15	1.44	8.E-06			827.24	4.E-06	
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	Weighted median	1.22	1.04	1.44	0.018					
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	MR-Egger	1.36	0.95	1.94	0.096	0.00	0.775	827.13	3.E-06	0.96
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	Penalised weighted median	1.16	0.98	1.36	0.085					
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	Inverse-variance weighted	1.30	1.10	1.55	0.002			755.85	5.E-04	
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	Weighted median	1.22	0.94	1.59	0.133					
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	MR-Egger	0.93	0.54	1.61	0.797	0.00	0.203	753.92	5.E-04	0.75
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	Penalised weighted median	1.22	0.94	1.58	0.137					
Cardiovascular and metabolic	Large artery stroke	Published GWAS	Inverse-variance weighted	1.37	1.11	1.69	0.004			848.02	1.E-07	

Cardiovascular and metabolic	Large artery stroke	Published GWAS	Weighted median	1.62	1.19	2.20	0.002					
Cardiovascular and metabolic	Large artery stroke	Published GWAS	MR-Egger	1.28	0.64	2.54	0.485	0.00	0.838	847.97	9.E-08	0.75
Cardiovascular and metabolic	Large artery stroke	Published GWAS	Penalised weighted median	1.76	1.29	2.39	4.E-04					
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	Inverse-variance weighted	1.71	1.49	1.96	2.E-14			848.67	3.E-07	
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	Weighted median	1.74	1.42	2.14	1.E-07					
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	MR-Egger	1.97	1.27	3.06	0.002	0.00	0.502	848.08	3.E-07	0.96
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	Penalised weighted median	1.74	1.42	2.14	1.E-07					
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	Inverse-variance weighted	2.63	2.05	3.37	2.E-14			739.75	0.007	
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	Weighted median	2.55	1.77	3.67	5.E-07					
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	MR-Egger	4.93	2.21	11.03	1.E-04	-0.01	0.108	736.80	0.008	0.77
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	Penalised weighted median	2.38	1.65	3.44	3.E-06					
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	Inverse-variance weighted	2.14	1.44	3.17	2.E-04			724.79	0.025	
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	Weighted median	2.07	1.11	3.85	0.021					
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	MR-Egger	3.09	0.87	10.91	0.080	0.00	0.547	724.39	0.024	0.96
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	Penalised weighted median	1.92	1.03	3.57	0.039					
Cardiovascular and metabolic	Pulmonary embolism	FinnGen	Inverse-variance weighted	1.49	1.27	1.76	1.E-06			746.57	0.006	
Cardiovascular and metabolic	Pulmonary embolism	FinnGen	Weighted median	1.63	1.29	2.07	5.E-05					
Cardiovascular and metabolic	Pulmonary embolism	FinnGen	MR-Egger	2.30	1.37	3.86	0.002	-0.01	0.087	743.23	0.007	0.95

Cardiovascular and metabolic	Pulmonary embolism	FinnGen	Penalised weighted median	1.64	1.30	2.08	4.E-05					
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	Inverse-variance weighted	1.26	1.05	1.51	0.015			752.76	0.002	
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	Weighted median	1.45	1.08	1.94	0.013					
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	MR-Egger	0.81	0.45	1.48	0.495	0.01	0.132	750.12	0.002	0.74
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	Penalised weighted median	1.45	1.08	1.94	0.013					
Cardiovascular and metabolic	Stroke	Published GWAS	Inverse-variance weighted	1.22	1.13	1.32	7.E-07			847.87	9.E-08	
Cardiovascular and metabolic	Stroke	Published GWAS	Weighted median	1.19	1.06	1.34	0.004					
Cardiovascular and metabolic	Stroke	Published GWAS	MR-Egger	1.09	0.84	1.40	0.520	0.00	0.351	846.73	9.E-08	0.74
Cardiovascular and metabolic	Stroke	Published GWAS	Penalised weighted median	1.19	1.06	1.34	0.003					
Cardiovascular and metabolic	Stroke	FinnGen	Inverse-variance weighted	1.28	1.16	1.41	4.E-07			864.19	4.E-08	
Cardiovascular and metabolic	Stroke	FinnGen	Weighted median	1.25	1.08	1.43	0.002					
Cardiovascular and metabolic	Stroke	FinnGen	MR-Egger	1.22	0.90	1.66	0.208	0.00	0.737	864.04	4.E-08	0.96
Cardiovascular and metabolic	Stroke	FinnGen	Penalised weighted median	1.24	1.08	1.43	0.002					
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	Inverse-variance weighted	2.52	2.18	2.91	8.E-36			3647.58	0.E+00	
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	Weighted median	3.14	2.82	3.51	2.E-93					
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	MR-Egger	2.44	1.54	3.87	2.E-04	0.00	0.885	3647.46	0.E+00	0.72
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	Penalised weighted median	3.34	2.99	3.73	1.E-101					
Cardiovascular and metabolic	Type 2 diabetes	FinnGen	Inverse-variance weighted	2.37	2.04	2.77	3.E-28			2904.91	1.E-280	



Cardiovascular and metabolic	Type 2 diabetes	FinnGen	Weighted median	2.86	2.51	3.27	4.E-54					
Cardiovascular and metabolic	Type 2 diabetes	FinnGen	MR-Egger	2.91	1.78	4.76	2.E-05	0.00	0.392	2901.65	2.E-280	0.96
Cardiovascular and metabolic	Type 2 diabetes	FinnGen	Penalised weighted median	2.97	2.60	3.39	6.E-57					
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	Inverse-variance weighted	1.66	1.44	1.93	1.E-11			1156.97	2.E-30	
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	Weighted median	1.61	1.34	1.93	2.E-07					
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	MR-Egger	1.70	1.05	2.75	0.032	0.00	0.934	1156.96	1.E-30	0.83
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	Penalised weighted median	1.61	1.34	1.93	3.E-07					
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	Inverse-variance weighted	1.60	1.42	1.80	2.E-14			836.51	1.E-06	
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	Weighted median	1.79	1.51	2.12	2.E-11					
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	MR-Egger	2.44	1.66	3.57	5.E-06	-0.01	0.023	829.89	2.E-06	0.96
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	Penalised weighted median	1.86	1.57	2.21	9.E-13					
Musculoskeletal	Gout	Published GWAS	Inverse-variance weighted	1.73	1.52	1.96	1.E-17			1071.14	4.E-22	
Musculoskeletal	Gout	Published GWAS	Weighted median	1.89	1.60	2.23	7.E-14					
Musculoskeletal	Gout	Published GWAS	MR-Egger	1.49	1.00	2.21	0.048	0.00	0.442	1070.18	3.E-22	0.91

Musculoskeletal	Gout	Published GWAS	Penalised weighted median	1.97	1.66	2.33	5.E-15					
Musculoskeletal	Gout	FinnGen	Inverse-variance weighted	1.67	1.39	2.02	9.E-08			868.23	3.E-08	
Musculoskeletal	Gout	FinnGen	Weighted median	1.61	1.22	2.12	7.E-04					
Musculoskeletal	Gout	FinnGen	MR-Egger	0.98	0.54	1.80	0.958	0.01	0.069	863.85	4.E-08	0.96
Musculoskeletal	Gout	FinnGen	Penalised weighted median	1.61	1.22	2.12	8.E-04					
Musculoskeletal	Osteoarthritis	Published GWAS	Inverse-variance weighted	1.53	1.45	1.60	1.E-64			1411.75	1.E-56	
Musculoskeletal	Osteoarthritis	Published GWAS	Weighted median	1.58	1.49	1.67	5.E-55					
Musculoskeletal	Osteoarthritis	Published GWAS	MR-Egger	1.56	1.33	1.82	2.E-08	0.00	0.790	1411.60	7.E-57	0.80
Musculoskeletal	Osteoarthritis	Published GWAS	Penalised weighted median	1.63	1.54	1.73	1.E-60					
Musculoskeletal	Osteoarthritis	FinnGen	Inverse-variance weighted	1.78	1.63	1.94	2.E-40			1074.19	3.E-23	
Musculoskeletal	Osteoarthritis	FinnGen	Weighted median	1.78	1.59	1.98	5.E-25					
Musculoskeletal	Osteoarthritis	FinnGen	MR-Egger	2.17	1.66	2.85	2.E-08	0.00	0.129	1070.40	6.E-23	0.96
Musculoskeletal	Osteoarthritis	FinnGen	Penalised weighted median	1.70	1.53	1.90	2.E-21					
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	Inverse-variance weighted	2.07	1.77	2.42	7.E-20			753.95	0.006	
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	Weighted median	2.01	1.57	2.57	2.E-08					
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	MR-Egger	1.81	1.10	2.98	0.019	0.00	0.580	753.60	0.006	0.80
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	Penalised weighted median	2.01	1.57	2.57	3.E-08					
Musculoskeletal	Osteoarthritis (finger)	Published GWAS	Inverse-variance weighted	1.24	1.08	1.42	0.002			742.11	0.013	

Musculoskeletal	Osteoarthritis (finger)	Published GWAS	Weighted median	1.17	0.95	1.43	0.137					
Musculoskeletal	Osteoarthritis (finger)	Published GWAS	MR-Egger	1.35	0.88	2.08	0.175	0.00	0.674	741.91	0.013	0.78
Musculoskeletal	Osteoarthritis (finger)	Published GWAS	Penalised weighted median	1.17	0.95	1.43	0.139					
Musculoskeletal	Osteoarthritis (hand)	Published GWAS	Inverse-variance weighted	1.14	1.03	1.27	0.013			910.61	2.E-10	
Musculoskeletal	Osteoarthritis (hand)	Published GWAS	Weighted median	1.11	0.96	1.29	0.155					
Musculoskeletal	Osteoarthritis (hand)	Published GWAS	MR-Egger	1.13	0.81	1.58	0.474	0.00	0.942	910.60	2.E-10	0.81
Musculoskeletal	Osteoarthritis (hand)	Published GWAS	Penalised weighted median	1.11	0.96	1.29	0.155					
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	Inverse-variance weighted	1.88	1.76	2.01	3.E-76			1451.26	2.E-61	
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	Weighted median	1.98	1.83	2.14	6.E-66					
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	MR-Egger	2.11	1.70	2.61	6.E-12	0.00	0.266	1448.53	3.E-61	0.82
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	Penalised weighted median	1.99	1.84	2.15	6.E-66					
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	Inverse-variance weighted	1.44	1.29	1.60	3.E-11			1185.39	1.E-32	
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	Weighted median	1.46	1.27	1.66	3.E-08					
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	MR-Egger	2.14	1.52	3.01	1.E-05	-0.01	0.016	1175.05	1.E-31	0.76
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	Penalised weighted median	1.40	1.23	1.61	6.E-07					
Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	Inverse-variance weighted	1.38	1.19	1.60	1.E-05			908.23	1.E-10	
Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	Weighted median	1.39	1.14	1.70	0.001					
Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	MR-Egger	1.95	1.22	3.11	0.005	0.00	0.126	904.98	1.E-10	0.96

Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	Penalised weighted median	1.34	1.10	1.64	0.004					
Musculoskeletal	Osteoarthritis (hip)	Published GWAS	Inverse-variance weighted	1.52	1.39	1.66	6.E-20			1190.26	5.E-33	
Musculoskeletal	Osteoarthritis (hip)	Published GWAS	Weighted median	1.48	1.32	1.65	7.E-12					
Musculoskeletal	Osteoarthritis (hip)	Published GWAS	MR-Egger	2.01	1.51	2.67	1.E-06	0.00	0.041	1182.79	2.E-32	0.81
Musculoskeletal	Osteoarthritis (hip)	Published GWAS	Penalised weighted median	1.42	1.27	1.59	5.E-10					
Musculoskeletal	Osteoarthritis (hip)	FinnGen	Inverse-variance weighted	1.61	1.42	1.83	2.E-13			973.10	4.E-15	
Musculoskeletal	Osteoarthritis (hip)	FinnGen	Weighted median	1.69	1.43	2.00	8.E-10					
Musculoskeletal	Osteoarthritis (hip)	FinnGen	MR-Egger	2.36	1.57	3.55	4.E-05	0.00	0.053	967.52	9.E-15	0.96
Musculoskeletal	Osteoarthritis (hip)	FinnGen	Penalised weighted median	1.66	1.40	1.96	5.E-09					
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	Inverse-variance weighted	1.89	1.73	2.06	2.E-47			1261.20	3.E-40	
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	Weighted median	2.00	1.80	2.22	2.E-38					
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	MR-Egger	2.31	1.76	3.04	2.E-09	0.00	0.128	1256.78	7.E-40	0.78
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	Penalised weighted median	1.99	1.79	2.20	2.E-37					
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	Inverse-variance weighted	2.80	2.49	3.13	1.E-69			1090.91	7.E-24	
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	Weighted median	2.72	2.34	3.14	1.E-40					
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	MR-Egger	2.87	1.99	4.12	1.E-08	0.00	0.886	1090.87	6.E-24	0.87
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	Penalised weighted median	2.71	2.34	3.14	4.E-40					
Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	Inverse-variance weighted	2.37	2.07	2.72	1.E-35			912.54	6.E-11	

Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	Weighted median	2.46	2.05	2.96	1.E-21					
Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	MR-Egger	2.86	1.85	4.41	2.E-06	0.00	0.377	911.44	6.E-11	0.96
Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	Penalised weighted median	2.36	1.96	2.84	7.E-20					
Musculoskeletal	Osteoarthritis (knee)	Published GWAS	Inverse-variance weighted	2.12	1.97	2.29	4.E-85			1347.09	2.E-49	
Musculoskeletal	Osteoarthritis (knee)	Published GWAS	Weighted median	2.13	1.95	2.34	5.E-60					
Musculoskeletal	Osteoarthritis (knee)	Published GWAS	MR-Egger	2.25	1.77	2.85	3.E-11	0.00	0.622	1346.59	2.E-49	0.83
Musculoskeletal	Osteoarthritis (knee)	Published GWAS	Penalised weighted median	2.08	1.90	2.28	2.E-55					
Musculoskeletal	Osteoarthritis (knee)	FinnGen	Inverse-variance weighted	2.13	1.93	2.35	1.E-51			1049.44	4.E-21	
Musculoskeletal	Osteoarthritis (knee)	FinnGen	Weighted median	2.18	1.92	2.48	3.E-33					
Musculoskeletal	Osteoarthritis (knee)	FinnGen	MR-Egger	3.03	2.22	4.15	4.E-12	0.00	0.020	1040.85	2.E-20	0.96
Musculoskeletal	Osteoarthritis (knee)	FinnGen	Penalised weighted median	2.05	1.81	2.33	2.E-28					
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	Inverse-variance weighted	1.49	1.37	1.62	1.E-19			877.14	3.E-08	
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	Weighted median	1.50	1.32	1.71	5.E-10					
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	MR-Egger	1.34	1.02	1.76	0.037	0.00	0.419	876.27	3.E-08	0.87
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	Penalised weighted median	1.50	1.32	1.71	6.E-10					
Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	Inverse-variance weighted	1.25	1.09	1.44	0.001			849.36	7.E-07	
Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	Weighted median	1.36	1.11	1.67	0.003					
Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	MR-Egger	1.24	0.80	1.93	0.332	0.00	0.964	849.35	6.E-07	0.76

Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	Penalised weighted median	1.37	1.12	1.69	0.002					
Musculoskeletal	Osteoporosis	Published GWAS	Inverse-variance weighted	1.16	1.11	1.21	2.E-11			6533.58	0.E+00	
Musculoskeletal	Osteoporosis	Published GWAS	Weighted median	1.17	1.14	1.20	5.E-30					
Musculoskeletal	Osteoporosis	Published GWAS	MR-Egger	1.25	1.09	1.43	0.001	0.00	0.267	6520.91	0.E+00	0.72
Musculoskeletal	Osteoporosis	Published GWAS	Penalised weighted median	1.17	1.14	1.20	1.E-28					
Musculoskeletal	Osteoporosis	FinnGen	Inverse-variance weighted	0.98	0.83	1.17	0.827			660.86	0.396	
Musculoskeletal	Osteoporosis	FinnGen	Weighted median	0.98	0.75	1.28	0.904					
Musculoskeletal	Osteoporosis	FinnGen	MR-Egger	1.10	0.63	1.91	0.733	0.00	0.667	660.67	0.388	0.96
Musculoskeletal	Osteoporosis	FinnGen	Penalised weighted median	1.00	0.76	1.30	0.982					
Musculoskeletal	Rheumatoid arthritis	Published GWAS	Inverse-variance weighted	1.40	1.15	1.71	9.E-04			1282.48	6.E-48	
Musculoskeletal	Rheumatoid arthritis	Published GWAS	Weighted median	1.00	0.79	1.27	1.000					
Musculoskeletal	Rheumatoid arthritis	Published GWAS	MR-Egger	1.36	0.72	2.58	0.343	0.00	0.932	1282.46	4.E-48	0.84
Musculoskeletal	Rheumatoid arthritis	Published GWAS	Penalised weighted median	1.00	0.78	1.27	1.000					
Musculoskeletal	Rheumatoid arthritis	FinnGen	Inverse-variance weighted	1.46	1.26	1.70	6.E-07			892.07	1.E-09	
Musculoskeletal	Rheumatoid arthritis	FinnGen	Weighted median	1.63	1.32	2.01	5.E-06					
Musculoskeletal	Rheumatoid arthritis	FinnGen	MR-Egger	1.74	1.08	2.81	0.023	0.00	0.453	891.30	1.E-09	0.96
Musculoskeletal	Rheumatoid arthritis	FinnGen	Penalised weighted median	1.69	1.37	2.09	1.E-06					
Gastrointestinal	Gallstones	FinnGen	Inverse-variance weighted	1.85	1.68	2.04	2.E-35			944.80	4.E-13	

Gastrointestinal	Gallstones	FinnGen	Weighted median	1.99	1.75	2.26	1.E-25					
Gastrointestinal	Gallstones	FinnGen	MR-Egger	2.36	1.73	3.21	6.E-08	0.00	0.108	941.05	6.E-13	0.96
Gastrointestinal	Gallstones	FinnGen	Penalised weighted median	1.98	1.74	2.25	5.E-25					
Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	Inverse-variance weighted	1.80	1.69	1.91	6.E-78			1522.46	3.E-64	
Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	Weighted median	1.70	1.58	1.82	4.E-48					
Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	MR-Egger	1.41	1.16	1.72	6.E-04	0.00	0.012	1508.52	8.E-63	0.71
Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	Penalised weighted median	1.71	1.59	1.84	9.E-49					
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	Inverse-variance weighted	1.24	1.12	1.37	5.E-05			858.62	9.E-08	
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	Weighted median	1.23	1.06	1.42	0.007					
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	MR-Egger	1.16	0.83	1.61	0.378	0.00	0.687	858.41	8.E-08	0.96
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	Penalised weighted median	1.21	1.05	1.41	0.011					
Nervous	Alzheimer's disease	Published GWAS	Inverse-variance weighted	1.00	0.99	1.01	0.887			957.52	8.E-14	
Nervous	Alzheimer's disease	Published GWAS	Weighted median	1.01	1.00	1.02	0.047					
Nervous	Alzheimer's disease	Published GWAS	MR-Egger	1.03	1.01	1.05	0.010	0.00	0.006	946.46	4.E-13	0.94

Nervous	Alzheimer's disease	Published GWAS	Penalised weighted median	1.01	1.00	1.02	0.034					
Nervous	Alzheimer's disease	FinnGen	Inverse-variance weighted	0.90	0.70	1.15	0.392			1345.71	2.E-50	
Nervous	Alzheimer's disease	FinnGen	Weighted median	0.94	0.71	1.24	0.670					
Nervous	Alzheimer's disease	FinnGen	MR-Egger	1.11	0.51	2.44	0.791	0.00	0.576	1345.07	2.E-50	0.95
Nervous	Alzheimer's disease	FinnGen	Penalised weighted median	0.95	0.72	1.25	0.721					
Nervous	Depression	Published GWAS	Inverse-variance weighted	1.23	1.13	1.34	9.E-07			1011.76	2.E-18	
Nervous	Depression	Published GWAS	Weighted median	1.33	1.18	1.49	1.E-06					
Nervous	Depression	Published GWAS	MR-Egger	1.22	0.93	1.58	0.147	0.00	0.927	1011.74	1.E-18	0.83
Nervous	Depression	Published GWAS	Penalised weighted median	1.37	1.21	1.54	3.E-07					
Nervous	Depression	FinnGen	Inverse-variance weighted	1.08	0.99	1.18	0.070			936.44	2.E-12	
Nervous	Depression	FinnGen	Weighted median	1.07	0.95	1.20	0.268					
Nervous	Depression	FinnGen	MR-Egger	0.98	0.74	1.30	0.891	0.00	0.460	935.65	1.E-12	0.96
Nervous	Depression	FinnGen	Penalised weighted median	1.06	0.95	1.20	0.300					
Nervous	Multiple sclerosis	Published GWAS	Inverse-variance weighted	1.66	1.24	2.22	8.E-04			190.69	0.044	
Nervous	Multiple sclerosis	Published GWAS	Weighted median	1.63	1.07	2.48	0.023					
Nervous	Multiple sclerosis	Published GWAS	MR-Egger	1.40	0.52	3.77	0.504	0.00	0.728	190.54	0.040	0.76
Nervous	Multiple sclerosis	Published GWAS	Penalised weighted median	1.62	1.07	2.47	0.024					
Nervous	Multiple sclerosis	FinnGen	Inverse-variance weighted	0.97	0.70	1.34	0.868			864.97	4.E-08	



Nervous	Multiple sclerosis	FinnGen	Weighted median	0.87	0.55	1.39	0.565					
Nervous	Multiple sclerosis	FinnGen	MR-Egger	0.62	0.22	1.75	0.368	0.01	0.372	863.92	4.E-08	0.96
Nervous	Multiple sclerosis	FinnGen	Penalised weighted median	0.87	0.54	1.38	0.545					
Nervous	Parkinson's disease	Published GWAS	Inverse-variance weighted	0.76	0.65	0.89	9.E-04			854.49	8.E-08	
Nervous	Parkinson's disease	Published GWAS	Weighted median	0.84	0.66	1.07	0.163					
Nervous	Parkinson's disease	Published GWAS	MR-Egger	0.71	0.44	1.17	0.179	0.00	0.789	854.39	7.E-08	0.81
Nervous	Parkinson's disease	Published GWAS	Penalised weighted median	0.85	0.67	1.09	0.203					
Nervous	Parkinson's disease	FinnGen	Inverse-variance weighted	0.86	0.68	1.08	0.184			715.07	0.043	
Nervous	Parkinson's disease	FinnGen	Weighted median	0.93	0.65	1.34	0.711					
Nervous	Parkinson's disease	FinnGen	MR-Egger	0.92	0.44	1.93	0.833	0.00	0.829	715.02	0.041	0.96
Nervous	Parkinson's disease	FinnGen	Penalised weighted median	0.94	0.65	1.35	0.737					
Integumentary	Psoriasis	Published GWAS	Inverse-variance weighted	1.85	1.50	2.29	9.E-09			1025.76	4.E-32	
Integumentary	Psoriasis	Published GWAS	Weighted median	1.76	1.37	2.27	1.E-05					
Integumentary	Psoriasis	Published GWAS	MR-Egger	2.26	1.18	4.35	0.014	0.00	0.526	1025.00	3.E-32	0.84
Integumentary	Psoriasis	Published GWAS	Penalised weighted median	1.57	1.22	2.02	5.E-04					
Integumentary	Psoriasis	FinnGen	Inverse-variance weighted	1.74	1.48	2.06	7.E-11			834.39	2.E-06	
Integumentary	Psoriasis	FinnGen	Weighted median	1.67	1.31	2.12	3.E-05					
Integumentary	Psoriasis	FinnGen	MR-Egger	1.38	0.81	2.36	0.236	0.00	0.370	833.36	2.E-06	0.95

Integumentary	Psoriasis	FinnGen	Penalised weighted median	1.66	1.30	2.11	4.E-05					
Respiratory	Adult-onset asthma	Published GWAS	Inverse-variance weighted	1.34	1.23	1.45	1.E-12			1212.22	3.E-34	
Respiratory	Adult-onset asthma	Published GWAS	Weighted median	1.30	1.17	1.45	8.E-07					
Respiratory	Adult-onset asthma	Published GWAS	MR-Egger	1.13	0.88	1.47	0.341	0.00	0.185	1209.02	4.E-34	0.71
Respiratory	Adult-onset asthma	Published GWAS	Penalised weighted median	1.30	1.17	1.44	2.E-06					
Respiratory	Asthma	Published GWAS	Inverse-variance weighted	1.35	1.26	1.44	1.E-17			1517.21	3.E-64	
Respiratory	Asthma	Published GWAS	Weighted median	1.30	1.20	1.41	3.E-10					
Respiratory	Asthma	Published GWAS	MR-Egger	1.25	1.00	1.56	0.045	0.00	0.499	1516.20	3.E-64	0.71
Respiratory	Asthma	Published GWAS	Penalised weighted median	1.30	1.20	1.41	3.E-10					
Respiratory	Asthma	FinnGen	Inverse-variance weighted	1.53	1.39	1.69	3.E-18			987.40	4.E-16	
Respiratory	Asthma	FinnGen	Weighted median	1.65	1.45	1.87	2.E-14					
Respiratory	Asthma	FinnGen	MR-Egger	1.45	1.07	1.98	0.017	0.00	0.724	987.21	3.E-16	0.96
Respiratory	Asthma	FinnGen	Penalised weighted median	1.66	1.46	1.89	8.E-15					
Respiratory	Child-onset asthma	Published GWAS	Inverse-variance weighted	0.97	0.86	1.09	0.603			1437.46	1.E-58	
Respiratory	Child-onset asthma	Published GWAS	Weighted median	0.96	0.83	1.12	0.616					
Respiratory	Child-onset asthma	Published GWAS	MR-Egger	1.08	0.73	1.60	0.694	0.00	0.559	1436.73	9.E-59	0.71
Respiratory	Child-onset asthma	Published GWAS	Penalised weighted median	0.96	0.83	1.12	0.643					
Respiratory	Child-onset asthma	FinnGen	Inverse-variance weighted	1.45	1.20	1.76	2.E-04			662.14	0.383	

Respiratory	Child-onset asthma	FinnGen	Weighted median	1.71	1.27	2.32	5.E-04					
Respiratory	Child-onset asthma	FinnGen	MR-Egger	1.23	0.66	2.28	0.519	0.00	0.572	661.81	0.376	0.96
Respiratory	Child-onset asthma	FinnGen	Penalised weighted median	1.73	1.28	2.35	4.E-04					
Cancer	Barrett's oesophagus	Published GWAS	Inverse-variance weighted	4.13	3.50	4.88	2.E-63			939.59	1.E-26	
Cancer	Barrett's oesophagus	Published GWAS	Weighted median	3.64	2.91	4.54	5.E-30					
Cancer	Barrett's oesophagus	Published GWAS	MR-Egger	2.45	1.42	4.21	0.001	0.01	0.047	932.48	4.E-26	0.75
Cancer	Barrett's oesophagus	Published GWAS	Penalised weighted median	3.55	2.84	4.44	9.E-29					
Cancer	Barrett's oesophagus	FinnGen	Inverse-variance weighted	1.71	1.12	2.61	0.013			643.15	0.590	
Cancer	Barrett's oesophagus	FinnGen	Weighted median	1.31	0.66	2.59	0.436					
Cancer	Barrett's oesophagus	FinnGen	MR-Egger	1.11	0.29	4.32	0.878	0.01	0.513	642.72	0.584	0.96
Cancer	Barrett's oesophagus	FinnGen	Penalised weighted median	1.31	0.66	2.59	0.435					
Cancer	Breast cancer	Published GWAS	Inverse-variance weighted	0.91	0.78	1.06	0.217			1015.51	3.E-15	
Cancer	Breast cancer	Published GWAS	Weighted median	0.87	0.71	1.07	0.178					
Cancer	Breast cancer	Published GWAS	MR-Egger	0.52	0.31	0.87	0.012	0.01	0.025	1008.07	9.E-15	0.76
Cancer	Breast cancer	Published GWAS	Penalised weighted median	0.90	0.74	1.11	0.331					
Cancer	Breast cancer	FinnGen	Inverse-variance weighted	0.77	0.67	0.87	7.E-05			926.77	7.E-12	
Cancer	Breast cancer	FinnGen	Weighted median	0.66	0.55	0.78	2.E-06					
Cancer	Breast cancer	FinnGen	MR-Egger	0.58	0.38	0.87	0.010	0.00	0.156	923.91	9.E-12	0.96

Cancer	Breast cancer	FinnGen	Penalised weighted median	0.67	0.56	0.79	7.E-06					
Cancer	Colon cancer	FinnGen	Inverse-variance weighted	0.99	0.80	1.24	0.936			725.66	0.024	
Cancer	Colon cancer	FinnGen	Weighted median	1.09	0.78	1.53	0.619					
Cancer	Colon cancer	FinnGen	MR-Egger	0.56	0.28	1.13	0.107	0.01	0.095	722.57	0.027	0.95
Cancer	Colon cancer	FinnGen	Penalised weighted median	1.10	0.79	1.54	0.577					
Cancer	Colorectal cancer	Published GWAS (1)	Inverse-variance weighted	0.86	0.68	1.08	0.200			149.54	3.E-07	
Cancer	Colorectal cancer	Published GWAS (1)	Weighted median	0.90	0.68	1.19	0.455					
Cancer	Colorectal cancer	Published GWAS (1)	MR-Egger	1.33	0.69	2.57	0.400	-0.01	0.167	145.67	6.E-07	0.93
Cancer	Colorectal cancer	Published GWAS (1)	Penalised weighted median	0.90	0.68	1.19	0.464					
Cancer	Colorectal cancer	FinnGen	Inverse-variance weighted	1.02	0.85	1.21	0.864			726.19	0.023	
Cancer	Colorectal cancer	FinnGen	Weighted median	1.13	0.87	1.48	0.359					
Cancer	Colorectal cancer	FinnGen	MR-Egger	1.02	0.59	1.77	0.941	0.00	0.982	726.19	0.021	0.95
Cancer	Colorectal cancer	FinnGen	Penalised weighted median	1.16	0.88	1.51	0.286					
Cancer	Endometrial cancer	Published GWAS	Inverse-variance weighted	1.68	1.47	1.91	2.E-14			969.90	9.E-13	
Cancer	Endometrial cancer	Published GWAS	Weighted median	1.66	1.39	1.98	3.E-08					
Cancer	Endometrial cancer	Published GWAS	MR-Egger	1.75	1.14	2.70	0.011	0.00	0.828	969.83	7.E-13	0.73
Cancer	Endometrial cancer	Published GWAS	Penalised weighted median	1.63	1.36	1.95	9.E-08					
Cancer	Endometrial cancer	FinnGen	Inverse-variance weighted	0.97	0.74	1.29	0.852			638.60	0.639	

Cancer	Endometrial cancer	FinnGen	Weighted median	1.02	0.66	1.57	0.946					
Cancer	Endometrial cancer	FinnGen	MR-Egger	1.61	0.66	3.93	0.300	-0.01	0.249	637.27	0.642	0.95
Cancer	Endometrial cancer	FinnGen	Penalised weighted median	1.02	0.66	1.57	0.946					
Cancer	Lung cancer	FinnGen	Inverse-variance weighted	1.18	0.97	1.45	0.099			680.99	0.209	
Cancer	Lung cancer	FinnGen	Weighted median	1.05	0.78	1.43	0.749					
Cancer	Lung cancer	FinnGen	MR-Egger	0.93	0.49	1.78	0.836	0.00	0.447	680.39	0.206	0.96
Cancer	Lung cancer	FinnGen	Penalised weighted median	1.00	0.74	1.35	0.983					
Cancer	Meningioma	FinnGen	Inverse-variance weighted	0.83	0.57	1.19	0.308			675.20	0.257	
Cancer	Meningioma	FinnGen	Weighted median	0.75	0.42	1.34	0.328					
Cancer	Meningioma	FinnGen	MR-Egger	0.67	0.21	2.17	0.508	0.00	0.717	675.07	0.249	0.96
Cancer	Meningioma	FinnGen	Penalised weighted median	0.72	0.40	1.30	0.277					
Cancer	Myeloma	FinnGen	Inverse-variance weighted	1.44	0.97	2.13	0.073			602.92	0.916	
Cancer	Myeloma	FinnGen	Weighted median	1.46	0.77	2.74	0.246					
Cancer	Myeloma	FinnGen	MR-Egger	2.89	0.81	10.23	0.101	-0.01	0.255	601.62	0.917	0.96
Cancer	Myeloma	FinnGen	Penalised weighted median	1.50	0.80	2.84	0.208					
Cancer	Ovarian cancer	FinnGen	Inverse-variance weighted	0.79	0.57	1.09	0.154			662.67	0.377	
Cancer	Ovarian cancer	FinnGen	Weighted median	0.92	0.55	1.55	0.757					
Cancer	Ovarian cancer	FinnGen	MR-Egger	0.93	0.33	2.65	0.893	0.00	0.745	662.57	0.368	0.96
Cancer	Ovarian cancer	FinnGen	Penalised weighted median	0.93	0.55	1.56	0.772					

Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	Inverse-variance weighted	0.95	0.71	1.26	0.708			673.06	0.651	
Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	Weighted median	0.95	0.62	1.46	0.810					
Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	MR-Egger	1.83	0.72	4.63	0.203	-0.01	0.145	670.93	0.662	0.79
Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	Penalised weighted median	0.89	0.58	1.38	0.613					
Cancer	Ovarian cancer (endometrioid)	Published GWAS	Inverse-variance weighted	1.21	0.97	1.51	0.086			792.07	0.004	
Cancer	Ovarian cancer (endometrioid)	Published GWAS	Weighted median	1.29	0.91	1.82	0.147					
Cancer	Ovarian cancer (endometrioid)	Published GWAS	MR-Egger	1.60	0.79	3.27	0.195	0.00	0.419	791.32	0.003	0.78
Cancer	Ovarian cancer (endometrioid)	Published GWAS	Penalised weighted median	1.29	0.91	1.82	0.148					
Cancer	Ovarian cancer (epithelial)	Published GWAS	Inverse-variance weighted	1.45	1.18	1.79	4.E-04			727.75	0.142	
Cancer	Ovarian cancer (epithelial)	Published GWAS	Weighted median	1.41	1.02	1.94	0.038					
Cancer	Ovarian cancer (epithelial)	Published GWAS	MR-Egger	1.26	0.64	2.47	0.506	0.00	0.659	727.54	0.138	0.95
Cancer	Ovarian cancer (epithelial)	Published GWAS	Penalised weighted median	1.35	0.98	1.86	0.066					
Cancer	Ovarian cancer (high grade serous)	Published GWAS	Inverse-variance weighted	1.13	0.98	1.32	0.099			736.54	0.097	
Cancer	Ovarian cancer (high grade serous)	Published GWAS	Weighted median	1.23	0.97	1.56	0.080					
Cancer	Ovarian cancer (high grade serous)	Published GWAS	MR-Egger	0.97	0.60	1.58	0.905	0.00	0.509	736.07	0.095	0.81
Cancer	Ovarian cancer (high grade serous)	Published GWAS	Penalised weighted median	1.24	0.98	1.57	0.075					

Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	Inverse-variance weighted	1.20	1.07	1.33	0.001			900.65	8.E-08	
Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	Weighted median	1.24	1.06	1.44	0.006					
Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	MR-Egger	1.44	1.02	2.05	0.040	0.00	0.270	899.06	8.E-08	0.79
Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	Penalised weighted median	1.22	1.05	1.43	0.009					
Cancer	Ovarian cancer (low grade)	Published GWAS	Inverse-variance weighted	1.10	0.77	1.57	0.593			743.90	0.069	
Cancer	Ovarian cancer (low grade)	Published GWAS	Weighted median	0.98	0.56	1.71	0.930					
Cancer	Ovarian cancer (low grade)	Published GWAS	MR-Egger	1.12	0.35	3.58	0.844	0.00	0.972	743.90	0.065	0.90
Cancer	Ovarian cancer (low grade)	Published GWAS	Penalised weighted median	0.97	0.56	1.71	0.929					
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	Inverse-variance weighted	1.50	1.21	1.87	2.E-04			708.77	0.284	
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	Weighted median	1.54	1.09	2.17	0.013					
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	MR-Egger	2.09	1.03	4.25	0.040	0.00	0.335	707.81	0.283	0.81
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	Penalised weighted median	1.54	1.09	2.17	0.013					

Cancer	Ovarian cancer (serous invasive)	Published GWAS	Inverse-variance weighted	1.18	1.04	1.34	0.008			887.36	4.E-07	
Cancer	Ovarian cancer (serous invasive)	Published GWAS	Weighted median	1.14	0.95	1.37	0.163					
Cancer	Ovarian cancer (serous invasive)	Published GWAS	MR-Egger	1.20	0.80	1.79	0.379	0.00	0.942	887.35	3.E-07	0.79
Cancer	Ovarian cancer (serous invasive)	Published GWAS	Penalised weighted median	1.14	0.95	1.36	0.173					
Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	Inverse-variance weighted	1.28	1.03	1.60	0.027			804.71	0.001	
Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	Weighted median	1.45	1.04	2.02	0.027					
Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	MR-Egger	1.41	0.68	2.89	0.355	0.00	0.794	804.63	0.001	0.93
Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	Penalised weighted median	1.50	1.08	2.09	0.016					
Cancer	Pancreatic cancer	FinnGen	Inverse-variance weighted	1.32	0.92	1.88	0.127			662.49	0.379	
Cancer	Pancreatic cancer	FinnGen	Weighted median	1.05	0.60	1.84	0.869					
Cancer	Pancreatic cancer	FinnGen	MR-Egger	3.41	1.09	10.66	0.035	-0.01	0.085	659.48	0.400	0.95
Cancer	Pancreatic cancer	FinnGen	Penalised weighted median	1.02	0.58	1.79	0.940					
Cancer	Prostate cancer	Published GWAS	Inverse-variance weighted	0.90	0.82	0.98	0.013			1497.67	3.E-62	
Cancer	Prostate cancer	Published GWAS	Weighted median	0.88	0.80	0.96	0.007					
Cancer	Prostate cancer	Published GWAS	MR-Egger	0.87	0.66	1.15	0.334	0.00	0.828	1497.56	2.E-62	0.81
Cancer	Prostate cancer	Published GWAS	Penalised weighted median	0.89	0.81	0.98	0.014					



Cancer	Prostate cancer	FinnGen	Inverse-variance weighted	0.88	0.77	1.00	0.056			704.51	0.076	
Cancer	Prostate cancer	FinnGen	Weighted median	0.84	0.68	1.04	0.113					
Cancer	Prostate cancer	FinnGen	MR-Egger	0.99	0.64	1.52	0.957	0.00	0.568	704.16	0.073	0.95
Cancer	Prostate cancer	FinnGen	Penalised weighted median	0.84	0.68	1.04	0.114					
Cancer	Renal cancer	Published GWAS	Inverse-variance weighted	1.31	0.91	1.89	0.147			117.65	2.E-04	
Cancer	Renal cancer	Published GWAS	Weighted median	1.35	0.85	2.14	0.202					
Cancer	Renal cancer	Published GWAS	MR-Egger	2.87	1.02	8.02	0.045	-0.01	0.111	113.42	5.E-04	0.93
Cancer	Renal cancer	Published GWAS	Penalised weighted median	1.35	0.85	2.14	0.204					
Cancer	Renal cancer	FinnGen	Inverse-variance weighted	1.08	0.81	1.44	0.590			667.98	0.324	
Cancer	Renal cancer	FinnGen	Weighted median	1.41	0.89	2.22	0.144					
Cancer	Renal cancer	FinnGen	MR-Egger	0.98	0.39	2.43	0.960	0.00	0.818	667.92	0.314	0.95
Cancer	Renal cancer	FinnGen	Penalised weighted median	1.44	0.91	2.27	0.121					
Cancer	Thyroid cancer	FinnGen	Inverse-variance weighted	0.89	0.66	1.21	0.466			682.47	0.198	
Cancer	Thyroid cancer	FinnGen	Weighted median	1.37	0.85	2.19	0.195					
Cancer	Thyroid cancer	FinnGen	MR-Egger	2.07	0.78	5.49	0.144	-0.01	0.075	679.17	0.215	0.96
Cancer	Thyroid cancer	FinnGen	Penalised weighted median	1.42	0.89	2.28	0.144					

**Supplementary File 1giii\*.** The inverse-variance weighted, weighted median, Egger and penalised weighted median MR analyses for “favourable adiposity” using FinnGen and published GWAS.

										Heterogeneity		
System	Disease	Study	Analysis	OR	LCI	UCI	P	Egger intercept	Intercept P	Q	P	I <sup>2</sup> MR-Egger
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	Inverse-variance weighted	0.98	0.78	1.23	0.844			55.17	0.016	
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	Weighted median	1.13	0.84	1.52	0.435					
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	MR-Egger	1.76	0.94	3.27	0.075	-0.01	0.047	49.45	0.042	0.86
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	Penalised weighted median	1.17	0.87	1.56	0.300					
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	Inverse-variance weighted	0.68	0.27	1.69	0.403			69.51	5.E-04	
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	Weighted median	0.59	0.21	1.62	0.306					
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	MR-Egger	5.65	0.37	86.50	0.213	-0.03	0.107	64.56	0.001	0.84
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	Penalised weighted median	0.59	0.21	1.63	0.306					
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	Inverse-variance weighted	1.10	0.78	1.56	0.572			114.27	2.E-10	
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	Weighted median	1.13	0.82	1.56	0.448					
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	MR-Egger	0.83	0.27	2.55	0.748	0.00	0.602	113.37	2.E-10	0.82
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	Penalised weighted median	1.29	0.94	1.78	0.118					
Cardiovascular and metabolic	Atrial fibrillation	FinnGen	Inverse-variance weighted	0.61	0.39	0.95	0.029			56.07	0.013	
Cardiovascular and metabolic	Atrial fibrillation	FinnGen	Weighted median	0.70	0.41	1.21	0.202					
Cardiovascular and metabolic	Atrial fibrillation	FinnGen	MR-Egger	1.12	0.29	4.31	0.873	-0.01	0.354	54.69	0.014	0.84

Cardiovascular and metabolic	Atrial fibrillation	FinnGen	Penalised weighted median	0.67	0.39	1.15	0.149					
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	Inverse-variance weighted	0.73	0.43	1.24	0.241			35.42	0.449	
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	Weighted median	0.98	0.45	2.13	0.966					
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	MR-Egger	0.54	0.09	3.07	0.485	0.00	0.721	35.28	0.407	0.82
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	Penalised weighted median	1.08	0.50	2.35	0.842					
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	Inverse-variance weighted	1.05	0.28	4.01	0.938			32.85	0.573	
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	Weighted median	2.14	0.29	15.91	0.457					
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	MR-Egger	0.55	0.01	32.72	0.777	0.01	0.744	32.74	0.529	0.84
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	Penalised weighted median	1.36	0.18	10.16	0.762					
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	Inverse-variance weighted	0.67	0.49	0.92	0.012			54.55	0.019	
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	Weighted median	0.71	0.48	1.05	0.085					
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	MR-Egger	0.60	0.22	1.62	0.310	0.00	0.807	54.46	0.014	0.84
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	Penalised weighted median	0.83	0.56	1.22	0.347					
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	Inverse-variance weighted	0.63	0.36	1.09	0.097			31.11	0.657	
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	Weighted median	0.48	0.22	1.06	0.069					
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	MR-Egger	0.29	0.05	1.57	0.152	0.01	0.347	30.22	0.653	0.84
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	Penalised weighted median	0.49	0.22	1.10	0.083					
Cardiovascular and metabolic	Coronary artery disease	Published GWAS	Inverse-variance weighted	0.44	0.30	0.63	2.E-05			231.19	9.E-31	

Cardiovascular and metabolic	Coronary artery disease	Published GWAS	Weighted median	0.46	0.35	0.61	1.E-07					
Cardiovascular and metabolic	Coronary artery disease	Published GWAS	MR-Egger	1.46	0.47	4.55	0.516	-0.02	0.028	202.50	7.E-26	0.84
Cardiovascular and metabolic	Coronary artery disease	Published GWAS	Penalised weighted median	0.42	0.31	0.55	3.E-09					
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	Inverse-variance weighted	3.18	1.77	5.71	1.E-04			43.83	0.145	
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	Weighted median	5.21	2.38	11.39	4.E-05					
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	MR-Egger	1.11	0.19	6.59	0.906	0.02	0.221	41.98	0.163	0.84
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	Penalised weighted median	5.33	2.41	11.76	4.E-05					
Cardiovascular and metabolic	Heart failure	Published GWAS	Inverse-variance weighted	0.91	0.65	1.28	0.598			91.97	5.E-07	
Cardiovascular and metabolic	Heart failure	Published GWAS	Weighted median	0.87	0.61	1.24	0.432					
Cardiovascular and metabolic	Heart failure	Published GWAS	MR-Egger	1.56	0.53	4.58	0.419	-0.01	0.303	89.18	8.E-07	0.85
Cardiovascular and metabolic	Heart failure	Published GWAS	Penalised weighted median	0.86	0.60	1.23	0.396					
Cardiovascular and metabolic	Heart failure	FinnGen	Inverse-variance weighted	0.91	0.62	1.32	0.608			43.18	0.161	
Cardiovascular and metabolic	Heart failure	FinnGen	Weighted median	0.87	0.50	1.48	0.601					
Cardiovascular and metabolic	Heart failure	FinnGen	MR-Egger	1.08	0.33	3.49	0.904	0.00	0.762	43.07	0.137	0.84
Cardiovascular and metabolic	Heart failure	FinnGen	Penalised weighted median	0.86	0.50	1.47	0.570					
Cardiovascular and metabolic	Hypertension	FinnGen	Inverse-variance weighted	0.39	0.24	0.65	3.E-04			136.94	5.E-14	
Cardiovascular and metabolic	Hypertension	FinnGen	Weighted median	0.43	0.28	0.65	8.E-05					
Cardiovascular and metabolic	Hypertension	FinnGen	MR-Egger	0.94	0.20	4.31	0.933	-0.01	0.237	131.53	2.E-13	0.83

Cardiovascular and metabolic	Hypertension	FinnGen	Penalised weighted median	0.43	0.28	0.66	1.E-04					
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	Inverse-variance weighted	0.34	0.21	0.54	5.E-06			112.10	5.E-10	
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	Weighted median	0.36	0.24	0.55	3.E-06					
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	MR-Egger	0.84	0.20	3.42	0.805	-0.01	0.181	106.50	2.E-09	0.83
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	Penalised weighted median	0.34	0.22	0.52	7.E-07					
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	Inverse-variance weighted	0.70	0.50	0.97	0.035			51.54	0.035	
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	Weighted median	0.63	0.42	0.94	0.023					
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	MR-Egger	0.52	0.18	1.52	0.232	0.00	0.569	51.06	0.030	0.82
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	Penalised weighted median	0.62	0.42	0.93	0.022					
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	Inverse-variance weighted	0.63	0.41	0.97	0.037			51.69	0.034	
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	Weighted median	0.65	0.39	1.11	0.114					
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	MR-Egger	0.83	0.22	3.16	0.787	0.00	0.668	51.41	0.028	0.84
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	Penalised weighted median	0.65	0.39	1.11	0.114					
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	Inverse-variance weighted	0.66	0.33	1.29	0.224			50.32	0.035	
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	Weighted median	0.66	0.28	1.52	0.325					
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	MR-Egger	0.10	0.01	0.81	0.031	0.03	0.064	45.59	0.071	0.83
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	Penalised weighted median	0.66	0.28	1.53	0.329					
Cardiovascular and metabolic	Large artery stroke	Published GWAS	Inverse-variance weighted	0.57	0.25	1.27	0.167			48.70	0.062	

Cardiovascular and metabolic	Large artery stroke	Published GWAS	Weighted median	0.74	0.26	2.12	0.574					
Cardiovascular and metabolic	Large artery stroke	Published GWAS	MR-Egger	0.99	0.07	13.27	0.995	-0.01	0.657	48.42	0.052	0.83
Cardiovascular and metabolic	Large artery stroke	Published GWAS	Penalised weighted median	0.75	0.26	2.16	0.593					
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	Inverse-variance weighted	0.25	0.15	0.43	4.E-07			53.89	0.022	
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	Weighted median	0.28	0.15	0.53	9.E-05					
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	MR-Egger	1.07	0.22	5.16	0.929	-0.02	0.055	48.62	0.050	0.83
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	Penalised weighted median	0.28	0.15	0.54	1.E-04					
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	Inverse-variance weighted	0.58	0.21	1.59	0.289			48.08	0.069	
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	Weighted median	0.72	0.19	2.76	0.628					
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	MR-Egger	2.57	0.10	68.81	0.574	-0.02	0.351	46.88	0.070	0.85
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	Penalised weighted median	0.71	0.18	2.78	0.627					
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	Inverse-variance weighted	0.39	0.10	1.47	0.162			33.82	0.525	
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	Weighted median	0.70	0.10	4.92	0.718					
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	MR-Egger	1.50	0.03	89.26	0.845	-0.02	0.489	33.34	0.500	0.83
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	Penalised weighted median	0.72	0.10	5.05	0.737					
Cardiovascular and metabolic	Pulmonary embolism	FinnGen	Inverse-variance weighted	2.22	1.23	4.03	0.008			42.11	0.190	
Cardiovascular and metabolic	Pulmonary embolism	FinnGen	Weighted median	1.71	0.74	3.95	0.212					
Cardiovascular and metabolic	Pulmonary embolism	FinnGen	MR-Egger	2.12	0.34	13.38	0.423	0.00	0.958	42.10	0.160	0.84

Cardiovascular and metabolic	Pulmonary embolism	FinnGen	Penalised weighted median	1.71	0.74	3.96	0.210					
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	Inverse-variance weighted	0.32	0.14	0.75	0.008			61.07	0.004	
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	Weighted median	0.18	0.07	0.49	7.E-04					
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	MR-Egger	0.03	0.00	0.38	0.007	0.04	0.052	54.96	0.013	0.83
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	Penalised weighted median	0.16	0.06	0.42	2.E-04					
Cardiovascular and metabolic	Stroke	Published GWAS	Inverse-variance weighted	0.70	0.53	0.93	0.014			43.07	0.164	
Cardiovascular and metabolic	Stroke	Published GWAS	Weighted median	0.67	0.47	0.96	0.029					
Cardiovascular and metabolic	Stroke	Published GWAS	MR-Egger	0.46	0.19	1.12	0.088	0.01	0.324	41.87	0.166	0.82
Cardiovascular and metabolic	Stroke	Published GWAS	Penalised weighted median	0.64	0.45	0.92	0.016					
Cardiovascular and metabolic	Stroke	FinnGen	Inverse-variance weighted	0.59	0.40	0.87	0.008			61.12	0.004	
Cardiovascular and metabolic	Stroke	FinnGen	Weighted median	0.84	0.54	1.31	0.439					
Cardiovascular and metabolic	Stroke	FinnGen	MR-Egger	1.55	0.48	4.98	0.459	-0.01	0.083	56.15	0.010	0.84
Cardiovascular and metabolic	Stroke	FinnGen	Penalised weighted median	0.91	0.59	1.43	0.690					
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	Inverse-variance weighted	0.11	0.07	0.18	5.E-21			150.24	3.E-16	
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	Weighted median	0.12	0.08	0.19	3.E-21					
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	MR-Egger	0.11	0.03	0.49	0.004	0.00	0.982	150.23	1.E-16	0.81
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	Penalised weighted median	0.11	0.07	0.18	9.E-22					
Cardiovascular and metabolic	Type 2 diabetes	FinnGen	Inverse-variance weighted	0.11	0.06	0.19	7.E-14			174.67	2.E-20	

Cardiovascular and metabolic	Type 2 diabetes	FinnGen	Weighted median	0.15	0.09	0.26	1.E-12					
Cardiovascular and metabolic	Type 2 diabetes	FinnGen	MR-Egger	0.14	0.02	0.87	0.035	0.00	0.739	174.10	1.E-20	0.83
Cardiovascular and metabolic	Type 2 diabetes	FinnGen	Penalised weighted median	0.18	0.11	0.29	6.E-12					
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	Inverse-variance weighted	2.32	1.54	3.50	5.E-05			34.75	0.480	
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	Weighted median	1.82	0.99	3.34	0.056					
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	MR-Egger	2.30	0.60	8.87	0.226	0.00	0.989	34.75	0.432	0.94
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	Penalised weighted median	1.78	0.97	3.26	0.064					
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	Inverse-variance weighted	2.64	1.74	4.01	5.E-06			42.46	0.180	
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	Weighted median	2.47	1.37	4.42	0.002					
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	MR-Egger	3.15	0.87	11.44	0.081	0.00	0.776	42.36	0.154	0.84
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	Penalised weighted median	2.39	1.33	4.30	0.003					
Musculoskeletal	Gout	Published GWAS	Inverse-variance weighted	0.44	0.28	0.71	8.E-04			61.77	0.003	
Musculoskeletal	Gout	Published GWAS	Weighted median	0.53	0.31	0.90	0.018					
Musculoskeletal	Gout	Published GWAS	MR-Egger	0.40	0.09	1.85	0.241	0.00	0.888	61.74	0.003	0.92
Musculoskeletal	Gout	Published GWAS	Penalised weighted median	0.54	0.31	0.91	0.021					
Musculoskeletal	Gout	FinnGen	Inverse-variance weighted	0.56	0.25	1.27	0.163			69.35	5.E-04	
Musculoskeletal	Gout	FinnGen	Weighted median	0.29	0.12	0.72	0.007					
Musculoskeletal	Gout	FinnGen	MR-Egger	0.19	0.02	2.40	0.202	0.02	0.385	67.84	5.E-04	0.84



Musculoskeletal	Gout	FinnGen	Penalised weighted median	0.27	0.11	0.67	0.005					
Musculoskeletal	Osteoarthritis	Published GWAS	Inverse-variance weighted	1.23	1.01	1.50	0.044			94.37	2.E-07	
Musculoskeletal	Osteoarthritis	Published GWAS	Weighted median	0.95	0.76	1.19	0.654					
Musculoskeletal	Osteoarthritis	Published GWAS	MR-Egger	1.04	0.55	1.98	0.907	0.00	0.592	93.58	2.E-07	0.82
Musculoskeletal	Osteoarthritis	Published GWAS	Penalised weighted median	0.90	0.72	1.11	0.330					
Musculoskeletal	Osteoarthritis	FinnGen	Inverse-variance weighted	1.61	1.22	2.14	9.E-04			50.46	0.044	
Musculoskeletal	Osteoarthritis	FinnGen	Weighted median	1.63	1.11	2.38	0.012					
Musculoskeletal	Osteoarthritis	FinnGen	MR-Egger	1.38	0.57	3.31	0.473	0.00	0.709	50.25	0.036	0.84
Musculoskeletal	Osteoarthritis	FinnGen	Penalised weighted median	1.47	1.01	2.15	0.045					
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	Inverse-variance weighted	1.44	0.80	2.57	0.221			41.81	0.199	
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	Weighted median	1.87	0.86	4.09	0.116					
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	MR-Egger	3.52	0.57	21.84	0.176	-0.01	0.310	40.58	0.203	0.86
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	Penalised weighted median	2.01	0.92	4.39	0.081					
Musculoskeletal	Osteoarthritis (finger)	Published GWAS	Inverse-variance weighted	0.71	0.44	1.15	0.167			36.90	0.381	
Musculoskeletal	Osteoarthritis (finger)	Published GWAS	Weighted median	0.66	0.33	1.34	0.250					
Musculoskeletal	Osteoarthritis (finger)	Published GWAS	MR-Egger	0.36	0.08	1.74	0.205	0.01	0.378	36.08	0.372	0.82
Musculoskeletal	Osteoarthritis (finger)	Published GWAS	Penalised weighted median	0.66	0.33	1.34	0.250					
Musculoskeletal	Osteoarthritis (hand)	Published GWAS	Inverse-variance weighted	0.77	0.53	1.12	0.176			46.67	0.090	

Musculoskeletal	Osteoarthritis (hand)	Published GWAS	Weighted median	0.66	0.41	1.07	0.090					
Musculoskeletal	Osteoarthritis (hand)	Published GWAS	MR-Egger	0.49	0.14	1.66	0.251	0.01	0.439	45.87	0.084	0.86
Musculoskeletal	Osteoarthritis (hand)	Published GWAS	Penalised weighted median	0.63	0.39	1.03	0.063					
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	Inverse-variance weighted	1.70	1.26	2.29	5.E-04			114.34	2.E-10	
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	Weighted median	1.45	1.09	1.93	0.012					
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	MR-Egger	1.49	0.57	3.90	0.415	0.00	0.778	114.07	1.E-10	0.84
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	Penalised weighted median	1.33	1.00	1.77	0.050					
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	Inverse-variance weighted	1.57	0.96	2.58	0.072			99.33	4.E-08	
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	Weighted median	1.29	0.79	2.11	0.306					
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	MR-Egger	2.50	0.51	12.21	0.257	-0.01	0.546	98.27	4.E-08	0.82
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	Penalised weighted median	1.07	0.66	1.74	0.776					
Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	Inverse-variance weighted	0.96	0.51	1.82	0.900			72.73	2.E-04	
Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	Weighted median	0.86	0.41	1.77	0.675					
Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	MR-Egger	0.93	0.13	6.68	0.941	0.00	0.972	72.73	1.E-04	0.84
Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	Penalised weighted median	1.06	0.51	2.20	0.880					
Musculoskeletal	Osteoarthritis (hip)	Published GWAS	Inverse-variance weighted	1.56	1.06	2.30	0.024			88.07	2.E-06	
Musculoskeletal	Osteoarthritis (hip)	Published GWAS	Weighted median	1.38	0.92	2.06	0.117					
Musculoskeletal	Osteoarthritis (hip)	Published GWAS	MR-Egger	2.70	0.79	9.23	0.113	-0.01	0.358	85.93	2.E-06	0.83

Musculoskeletal	Osteoarthritis (hip)	Published GWAS	Penalised weighted median	1.36	0.91	2.03	0.137					
Musculoskeletal	Osteoarthritis (hip)	FinnGen	Inverse-variance weighted	1.12	0.66	1.89	0.674			69.43	5.E-04	
Musculoskeletal	Osteoarthritis (hip)	FinnGen	Weighted median	1.25	0.66	2.35	0.491					
Musculoskeletal	Osteoarthritis (hip)	FinnGen	MR-Egger	1.79	0.36	9.03	0.480	-0.01	0.547	68.70	4.E-04	0.84
Musculoskeletal	Osteoarthritis (hip)	FinnGen	Penalised weighted median	1.25	0.66	2.36	0.486					
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	Inverse-variance weighted	1.84	1.19	2.84	0.006			128.50	1.E-12	
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	Weighted median	1.73	1.14	2.64	0.011					
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	MR-Egger	1.45	0.36	5.86	0.602	0.00	0.725	128.04	8.E-13	0.81
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	Penalised weighted median	1.02	0.67	1.55	0.933					
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	Inverse-variance weighted	2.61	1.43	4.78	0.002			121.08	2.E-11	
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	Weighted median	2.21	1.29	3.80	0.004					
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	MR-Egger	0.77	0.12	5.16	0.791	0.02	0.185	115.14	1.E-10	0.82
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	Penalised weighted median	2.09	1.22	3.59	0.008					
Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	Inverse-variance weighted	3.42	2.09	5.61	1.E-06			50.91	0.040	
Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	Weighted median	2.25	1.18	4.28	0.014					
Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	MR-Egger	4.56	0.99	21.01	0.052	0.00	0.697	50.69	0.033	0.84
Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	Penalised weighted median	2.02	1.05	3.86	0.034					
Musculoskeletal	Osteoarthritis (knee)	Published GWAS	Inverse-variance weighted	1.87	1.33	2.62	3.E-04			111.49	7.E-10	

Musculoskeletal	Osteoarthritis (knee)	Published GWAS	Weighted median	1.61	1.19	2.18	0.002					
Musculoskeletal	Osteoarthritis (knee)	Published GWAS	MR-Egger	1.18	0.39	3.52	0.770	0.01	0.386	109.09	8.E-10	0.84
Musculoskeletal	Osteoarthritis (knee)	Published GWAS	Penalised weighted median	1.40	1.04	1.90	0.027					
Musculoskeletal	Osteoarthritis (knee)	FinnGen	Inverse-variance weighted	2.34	1.71	3.21	1.E-07			45.94	0.102	
Musculoskeletal	Osteoarthritis (knee)	FinnGen	Weighted median	2.38	1.55	3.66	8.E-05					
Musculoskeletal	Osteoarthritis (knee)	FinnGen	MR-Egger	2.68	1.00	7.14	0.049	0.00	0.776	45.83	0.085	0.84
Musculoskeletal	Osteoarthritis (knee)	FinnGen	Penalised weighted median	2.34	1.52	3.60	1.E-04					
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	Inverse-variance weighted	1.20	0.82	1.75	0.341			67.55	8.E-04	
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	Weighted median	1.34	0.86	2.11	0.198					
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	MR-Egger	2.51	0.77	8.23	0.128	-0.01	0.199	64.43	0.001	0.83
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	Penalised weighted median	1.34	0.85	2.10	0.206					
Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	Inverse-variance weighted	0.70	0.39	1.28	0.251			62.63	0.003	
Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	Weighted median	0.51	0.25	1.02	0.058					
Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	MR-Egger	0.33	0.05	2.23	0.254	0.01	0.410	61.40	0.003	0.82
Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	Penalised weighted median	0.44	0.22	0.88	0.021					
Musculoskeletal	Osteoporosis	Published GWAS	Inverse-variance weighted	1.03	0.84	1.27	0.762			585.90	9.E-102	
Musculoskeletal	Osteoporosis	Published GWAS	Weighted median	1.13	1.02	1.25	0.015					
Musculoskeletal	Osteoporosis	Published GWAS	MR-Egger	0.64	0.34	1.20	0.165	0.01	0.117	545.33	4.E-94	0.81

Musculoskeletal	Osteoporosis	Published GWAS	Penalised weighted median	1.17	1.05	1.29	0.003					
Musculoskeletal	Osteoporosis	FinnGen	Inverse-variance weighted	2.03	1.10	3.75	0.024			34.17	0.508	
Musculoskeletal	Osteoporosis	FinnGen	Weighted median	2.67	1.10	6.48	0.030					
Musculoskeletal	Osteoporosis	FinnGen	MR-Egger	1.58	0.24	10.33	0.631	0.00	0.783	34.09	0.463	0.83
Musculoskeletal	Osteoporosis	FinnGen	Penalised weighted median	2.69	1.10	6.58	0.030					
Musculoskeletal	Rheumatoid arthritis	Published GWAS	Inverse-variance weighted	2.06	1.08	3.92	0.027			52.50	0.029	
Musculoskeletal	Rheumatoid arthritis	Published GWAS	Weighted median	1.63	0.73	3.63	0.230					
Musculoskeletal	Rheumatoid arthritis	Published GWAS	MR-Egger	0.18	0.03	1.18	0.074	0.04	0.007	43.33	0.131	0.93
Musculoskeletal	Rheumatoid arthritis	Published GWAS	Penalised weighted median	1.67	0.75	3.72	0.214					
Musculoskeletal	Rheumatoid arthritis	FinnGen	Inverse-variance weighted	1.42	0.77	2.61	0.259			62.38	0.003	
Musculoskeletal	Rheumatoid arthritis	FinnGen	Weighted median	1.33	0.65	2.75	0.437					
Musculoskeletal	Rheumatoid arthritis	FinnGen	MR-Egger	1.19	0.18	7.83	0.858	0.00	0.844	62.30	0.002	0.84
Musculoskeletal	Rheumatoid arthritis	FinnGen	Penalised weighted median	1.38	0.67	2.84	0.381					
Gastrointestinal	Gallstones	FinnGen	Inverse-variance weighted	1.26	0.81	1.95	0.311			82.14	1.E-05	
Gastrointestinal	Gallstones	FinnGen	Weighted median	1.11	0.70	1.76	0.669					
Gastrointestinal	Gallstones	FinnGen	MR-Egger	1.86	0.48	7.25	0.371	-0.01	0.549	81.28	1.E-05	0.84
Gastrointestinal	Gallstones	FinnGen	Penalised weighted median	1.10	0.69	1.75	0.697					
Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	Inverse-variance weighted	1.19	0.95	1.47	0.124			68.21	7.E-04	
Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	Weighted median	1.28	1.00	1.63	0.050					
Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	MR-Egger	1.29	0.65	2.57	0.465	0.00	0.795	68.07	5.E-04	0.81

Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	Penalised weighted median	1.25	0.98	1.60	0.072					
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	Inverse-variance weighted	1.07	0.75	1.54	0.700			44.66	0.127	
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	Weighted median	0.92	0.56	1.50	0.724					
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	MR-Egger	3.45	1.22	9.76	0.019	-0.02	0.020	38.50	0.273	0.84
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	Penalised weighted median	0.81	0.50	1.33	0.411					
Nervous	Alzheimer's disease	Published GWAS	Inverse-variance weighted	0.98	0.95	1.01	0.109			40.09	0.255	
Nervous	Alzheimer's disease	Published GWAS	Weighted median	0.98	0.94	1.02	0.262					
Nervous	Alzheimer's disease	Published GWAS	MR-Egger	1.01	0.93	1.09	0.849	0.00	0.415	39.32	0.244	0.94
Nervous	Alzheimer's disease	Published GWAS	Penalised weighted median	0.97	0.93	1.01	0.197					
Nervous	Alzheimer's disease	FinnGen	Inverse-variance weighted	0.82	0.45	1.52	0.533			34.69	0.483	
Nervous	Alzheimer's disease	FinnGen	Weighted median	0.85	0.34	2.13	0.730					
Nervous	Alzheimer's disease	FinnGen	MR-Egger	1.65	0.25	10.73	0.598	-0.01	0.439	34.09	0.463	0.83
Nervous	Alzheimer's disease	FinnGen	Penalised weighted median	1.02	0.41	2.57	0.960					
Nervous	Depression	Published GWAS	Inverse-variance weighted	1.20	0.92	1.56	0.171			40.76	0.232	
Nervous	Depression	Published GWAS	Weighted median	1.41	0.98	2.04	0.065					
Nervous	Depression	Published GWAS	MR-Egger	0.77	0.33	1.79	0.548	0.01	0.279	39.40	0.241	0.82
Nervous	Depression	Published GWAS	Penalised weighted median	1.46	1.01	2.11	0.046					
Nervous	Depression	FinnGen	Inverse-variance weighted	1.07	0.83	1.39	0.602			34.92	0.472	
Nervous	Depression	FinnGen	Weighted median	1.14	0.78	1.65	0.503					

Nervous	Depression	FinnGen	MR-Egger	1.14	0.51	2.56	0.744	0.00	0.867	34.89	0.426	0.83
Nervous	Depression	FinnGen	Penalised weighted median	1.14	0.78	1.66	0.495					
Nervous	Multiple sclerosis	Published GWAS	Inverse-variance weighted	1.86	0.11	31.33	0.667			12.03	0.017	
Nervous	Multiple sclerosis	Published GWAS	Weighted median	2.30	0.20	26.38	0.504					
Nervous	Multiple sclerosis	Published GWAS	MR-Egger	0.00	0.00	48.43	0.110	0.19	0.096	6.25	0.100	0.00
Nervous	Multiple sclerosis	Published GWAS	Penalised weighted median	4.76	0.51	44.37	0.171					
Nervous	Multiple sclerosis	FinnGen	Inverse-variance weighted	2.31	0.85	6.31	0.101			27.93	0.796	
Nervous	Multiple sclerosis	FinnGen	Weighted median	2.30	0.55	9.65	0.254					
Nervous	Multiple sclerosis	FinnGen	MR-Egger	5.98	0.28	128.16	0.253	-0.01	0.520	27.51	0.777	0.84
Nervous	Multiple sclerosis	FinnGen	Penalised weighted median	2.30	0.55	9.65	0.254					
Nervous	Parkinson's disease	Published GWAS	Inverse-variance weighted	1.45	0.89	2.34	0.134			33.71	0.530	
Nervous	Parkinson's disease	Published GWAS	Weighted median	0.94	0.46	1.90	0.858					
Nervous	Parkinson's disease	Published GWAS	MR-Egger	1.12	0.24	5.15	0.882	0.00	0.732	33.59	0.487	0.89
Nervous	Parkinson's disease	Published GWAS	Penalised weighted median	0.90	0.45	1.82	0.767					
Nervous	Parkinson's disease	FinnGen	Inverse-variance weighted	0.92	0.41	2.08	0.844			37.31	0.363	
Nervous	Parkinson's disease	FinnGen	Weighted median	0.49	0.15	1.56	0.227					
Nervous	Parkinson's disease	FinnGen	MR-Egger	3.47	0.29	41.16	0.324	-0.02	0.266	36.00	0.375	0.83
Nervous	Parkinson's disease	FinnGen	Penalised weighted median	0.48	0.15	1.53	0.215					
Integumentary	Psoriasis	Published GWAS	Inverse-variance weighted	1.43	0.71	2.90	0.317			63.63	0.002	

Integumentary	Psoriasis	Published GWAS	Weighted median	1.06	0.47	2.39	0.893					
Integumentary	Psoriasis	Published GWAS	MR-Egger	0.81	0.08	7.94	0.855	0.01	0.605	63.13	0.002	0.92
Integumentary	Psoriasis	Published GWAS	Penalised weighted median	1.02	0.45	2.31	0.958					
Integumentary	Psoriasis	FinnGen	Inverse-variance weighted	0.95	0.48	1.89	0.894			58.47	0.008	
Integumentary	Psoriasis	FinnGen	Weighted median	0.56	0.25	1.27	0.167					
Integumentary	Psoriasis	FinnGen	MR-Egger	0.08	0.01	0.51	0.008	0.04	0.006	47.85	0.058	0.84
Integumentary	Psoriasis	FinnGen	Penalised weighted median	0.57	0.25	1.29	0.175					
Respiratory	Adult-onset asthma	Published GWAS	Inverse-variance weighted	1.07	0.75	1.51	0.710			88.24	2.E-06	
Respiratory	Adult-onset asthma	Published GWAS	Weighted median	1.14	0.79	1.65	0.481					
Respiratory	Adult-onset asthma	Published GWAS	MR-Egger	1.63	0.55	4.86	0.382	-0.01	0.425	86.62	2.E-06	0.81
Respiratory	Adult-onset asthma	Published GWAS	Penalised weighted median	1.12	0.77	1.62	0.551					
Respiratory	Asthma	Published GWAS	Inverse-variance weighted	1.00	0.76	1.31	0.988			89.29	1.E-06	
Respiratory	Asthma	Published GWAS	Weighted median	0.94	0.70	1.25	0.654					
Respiratory	Asthma	Published GWAS	MR-Egger	0.87	0.37	2.07	0.754	0.00	0.744	89.01	8.E-07	0.81
Respiratory	Asthma	Published GWAS	Penalised weighted median	0.93	0.70	1.24	0.626					
Respiratory	Asthma	FinnGen	Inverse-variance weighted	1.19	0.81	1.74	0.373			65.36	0.001	
Respiratory	Asthma	FinnGen	Weighted median	1.13	0.73	1.77	0.577					
Respiratory	Asthma	FinnGen	MR-Egger	0.62	0.20	1.98	0.422	0.01	0.246	62.87	0.002	0.83
Respiratory	Asthma	FinnGen	Penalised weighted median	1.19	0.76	1.86	0.442					



Respiratory	Child-onset asthma	Published GWAS	Inverse-variance weighted	0.66	0.40	1.07	0.091			89.42	1.E-06	
Respiratory	Child-onset asthma	Published GWAS	Weighted median	0.63	0.38	1.04	0.074					
Respiratory	Child-onset asthma	Published GWAS	MR-Egger	1.09	0.23	5.04	0.914	-0.01	0.497	88.22	1.E-06	0.81
Respiratory	Child-onset asthma	Published GWAS	Penalised weighted median	0.64	0.39	1.05	0.077					
Respiratory	Child-onset asthma	FinnGen	Inverse-variance weighted	1.03	0.52	2.04	0.934			30.57	0.682	
Respiratory	Child-onset asthma	FinnGen	Weighted median	0.95	0.34	2.62	0.921					
Respiratory	Child-onset asthma	FinnGen	MR-Egger	0.42	0.05	3.36	0.412	0.01	0.369	29.77	0.675	0.84
Respiratory	Child-onset asthma	FinnGen	Penalised weighted median	0.95	0.34	2.62	0.921					
Cancer	Barrett's oesophagus	Published GWAS	Inverse-variance weighted	2.03	1.20	3.42	0.008			37.53	0.086	
Cancer	Barrett's oesophagus	Published GWAS	Weighted median	1.54	0.79	3.01	0.205					
Cancer	Barrett's oesophagus	Published GWAS	MR-Egger	2.13	0.41	10.97	0.366	0.00	0.950	37.53	0.067	0.84
Cancer	Barrett's oesophagus	Published GWAS	Penalised weighted median	1.48	0.76	2.90	0.246					
Cancer	Barrett's oesophagus	FinnGen	Inverse-variance weighted	4.84	1.06	22.01	0.041			29.77	0.718	
Cancer	Barrett's oesophagus	FinnGen	Weighted median	16.26	1.72	153.3 3	0.015					
Cancer	Barrett's oesophagus	FinnGen	MR-Egger	2.63	0.03	267.4 5	0.682	0.01	0.784	29.70	0.679	0.84
Cancer	Barrett's oesophagus	FinnGen	Penalised weighted median	18.73	1.96	179.1 8	0.011					
Cancer	Breast cancer	Published GWAS	Inverse-variance weighted	0.88	0.45	1.73	0.717			72.31	2.E-04	
Cancer	Breast cancer	Published GWAS	Weighted median	0.47	0.22	0.99	0.048					

Cancer	Breast cancer	Published GWAS	MR-Egger	0.30	0.04	2.51	0.266	0.02	0.294	70.04	3.E-04	0.86
Cancer	Breast cancer	Published GWAS	Penalised weighted median	0.43	0.20	0.90	0.026					
Cancer	Breast cancer	FinnGen	Inverse-variance weighted	1.21	0.62	2.35	0.574			101.87	2.E-08	
Cancer	Breast cancer	FinnGen	Weighted median	0.80	0.43	1.49	0.476					
Cancer	Breast cancer	FinnGen	MR-Egger	0.55	0.07	4.19	0.560	0.01	0.417	99.94	2.E-08	0.84
Cancer	Breast cancer	FinnGen	Penalised weighted median	0.81	0.43	1.51	0.509					
Cancer	Colon cancer	Published GWAS	Inverse-variance weighted	0.79	0.57	1.11	0.179			41.56	0.206	
Cancer	Colon cancer	Published GWAS	Weighted median	0.91	0.57	1.45	0.685					
Cancer	Colon cancer	Published GWAS	MR-Egger	0.94	0.32	2.78	0.911	0.00	0.749	41.44	0.178	0.82
Cancer	Colon cancer	Published GWAS	Penalised weighted median	1.01	0.63	1.61	0.972					
Cancer	Colon cancer	FinnGen	Inverse-variance weighted	0.62	0.28	1.36	0.230			38.96	0.296	
Cancer	Colon cancer	FinnGen	Weighted median	0.77	0.25	2.40	0.653					
Cancer	Colon cancer	FinnGen	MR-Egger	0.93	0.08	10.60	0.955	-0.01	0.725	38.82	0.261	0.84
Cancer	Colon cancer	FinnGen	Penalised weighted median	1.04	0.33	3.25	0.947					
Cancer	Colorectal cancer	Published GWAS (1)	Inverse-variance weighted	0.57	0.39	0.83	0.003			56.34	0.013	
Cancer	Colorectal cancer	Published GWAS (1)	Weighted median	0.49	0.32	0.77	0.002					
Cancer	Colorectal cancer	Published GWAS (1)	MR-Egger	0.46	0.14	1.51	0.200	0.00	0.707	56.11	0.010	0.84
Cancer	Colorectal cancer	Published GWAS (1)	Penalised weighted median	0.49	0.32	0.77	0.002					
Cancer	Colorectal cancer	Published GWAS (2)	Inverse-variance weighted	0.76	0.57	1.02	0.072			46.24	0.097	

Cancer	Colorectal cancer	Published GWAS (2)	Weighted median	0.78	0.53	1.16	0.221					
Cancer	Colorectal cancer	Published GWAS (2)	MR-Egger	0.67	0.26	1.73	0.402	0.00	0.767	46.12	0.080	0.83
Cancer	Colorectal cancer	Published GWAS (2)	Penalised weighted median	0.80	0.54	1.19	0.272					
Cancer	Colorectal cancer	FinnGen	Inverse-variance weighted	0.69	0.36	1.32	0.263			43.56	0.152	
Cancer	Colorectal cancer	FinnGen	Weighted median	0.89	0.38	2.12	0.796					
Cancer	Colorectal cancer	FinnGen	MR-Egger	1.17	0.16	8.69	0.878	-0.01	0.584	43.18	0.135	0.84
Cancer	Colorectal cancer	FinnGen	Penalised weighted median	0.92	0.38	2.20	0.850					
Cancer	Distal colon cancer	Published GWAS	Inverse-variance weighted	0.84	0.55	1.28	0.422			39.10	0.291	
Cancer	Distal colon cancer	Published GWAS	Weighted median	0.86	0.48	1.55	0.623					
Cancer	Distal colon cancer	Published GWAS	MR-Egger	0.59	0.15	2.31	0.451	0.01	0.594	38.77	0.263	0.83
Cancer	Distal colon cancer	Published GWAS	Penalised weighted median	0.86	0.48	1.55	0.625					
Cancer	Endometrial cancer	Published GWAS	Inverse-variance weighted	0.91	0.49	1.67	0.754			79.07	3.E-05	
Cancer	Endometrial cancer	Published GWAS	Weighted median	0.90	0.46	1.76	0.761					
Cancer	Endometrial cancer	Published GWAS	MR-Egger	0.34	0.05	2.30	0.266	0.01	0.286	76.50	4.E-05	0.83
Cancer	Endometrial cancer	Published GWAS	Penalised weighted median	0.92	0.48	1.79	0.814					
Cancer	Endometrial cancer	FinnGen	Inverse-variance weighted	1.18	0.41	3.40	0.752			38.98	0.295	
Cancer	Endometrial cancer	FinnGen	Weighted median	2.08	0.45	9.67	0.349					
Cancer	Endometrial cancer	FinnGen	MR-Egger	2.80	0.11	72.09	0.535	-0.01	0.583	38.64	0.268	0.84
Cancer	Endometrial cancer	FinnGen	Penalised weighted median	2.24	0.48	10.43	0.305					

Cancer	Lung cancer	FinnGen	Inverse-variance weighted	0.74	0.36	1.51	0.409			36.55	0.397	
Cancer	Lung cancer	FinnGen	Weighted median	0.78	0.28	2.17	0.634					
Cancer	Lung cancer	FinnGen	MR-Egger	0.31	0.03	2.79	0.295	0.01	0.411	35.83	0.382	0.84
Cancer	Lung cancer	FinnGen	Penalised weighted median	0.77	0.28	2.15	0.620					
Cancer	Meningioma	FinnGen	Inverse-variance weighted	0.87	0.24	3.12	0.828			31.13	0.656	
Cancer	Meningioma	FinnGen	Weighted median	0.75	0.12	4.85	0.763					
Cancer	Meningioma	FinnGen	MR-Egger	0.38	0.01	19.19	0.632	0.01	0.666	30.94	0.618	0.84
Cancer	Meningioma	FinnGen	Penalised weighted median	0.75	0.12	4.82	0.757					
Cancer	Myeloma	FinnGen	Inverse-variance weighted	4.78	1.12	20.48	0.035			37.13	0.371	
Cancer	Myeloma	FinnGen	Weighted median	4.08	0.50	33.12	0.189					
Cancer	Myeloma	FinnGen	MR-Egger	7.97	0.09	718.88	0.366	-0.01	0.814	37.07	0.329	0.84
Cancer	Myeloma	FinnGen	Penalised weighted median	4.27	0.52	34.85	0.175					
Cancer	Ovarian cancer	FinnGen	Inverse-variance weighted	0.25	0.08	0.81	0.020			33.15	0.558	
Cancer	Ovarian cancer	FinnGen	Weighted median	0.28	0.05	1.52	0.141					
Cancer	Ovarian cancer	FinnGen	MR-Egger	0.06	0.00	2.16	0.125	0.02	0.412	32.48	0.542	0.84
Cancer	Ovarian cancer	FinnGen	Penalised weighted median	0.28	0.05	1.55	0.146					
Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	Inverse-variance weighted	1.25	0.43	3.62	0.682			34.18	0.507	
Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	Weighted median	1.59	0.34	7.38	0.557					
Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	MR-Egger	0.59	0.02	16.94	0.755	0.01	0.642	33.97	0.469	0.83
Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	Penalised weighted median	1.57	0.34	7.32	0.564					

Cancer	Ovarian cancer (endometrioid)	Published GWAS	Inverse-variance weighted	0.42	0.17	1.06	0.065			50.98	0.040	
Cancer	Ovarian cancer (endometrioid)	Published GWAS	Weighted median	0.37	0.11	1.22	0.104					
Cancer	Ovarian cancer (endometrioid)	Published GWAS	MR-Egger	0.02	0.00	0.24	0.003	0.05	0.013	43.15	0.135	0.83
Cancer	Ovarian cancer (endometrioid)	Published GWAS	Penalised weighted median	0.38	0.12	1.25	0.111					
Cancer	Ovarian cancer (epithelial)	Published GWAS	Inverse-variance weighted	0.35	0.17	0.74	0.006			29.32	0.738	
Cancer	Ovarian cancer (epithelial)	Published GWAS	Weighted median	0.29	0.10	0.85	0.024					
Cancer	Ovarian cancer (epithelial)	Published GWAS	MR-Egger	0.05	0.00	0.58	0.016	0.03	0.104	26.68	0.810	0.83
Cancer	Ovarian cancer (epithelial)	Published GWAS	Penalised weighted median	0.29	0.10	0.84	0.023					
Cancer	Ovarian cancer (high grade serous)	Published GWAS	Inverse-variance weighted	1.04	0.51	2.10	0.924			59.68	0.006	
Cancer	Ovarian cancer (high grade serous)	Published GWAS	Weighted median	1.03	0.44	2.37	0.951					
Cancer	Ovarian cancer (high grade serous)	Published GWAS	MR-Egger	6.43	0.74	56.01	0.092	-0.03	0.081	54.78	0.013	0.83
Cancer	Ovarian cancer (high grade serous)	Published GWAS	Penalised weighted median	0.94	0.41	2.18	0.887					
Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	Inverse-variance weighted	1.03	0.71	1.51	0.867			40.51	0.240	
Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	Weighted median	0.80	0.47	1.37	0.420					
Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	MR-Egger	0.54	0.16	1.77	0.310	0.01	0.260	39.05	0.253	0.83
Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	Penalised weighted median	0.81	0.48	1.39	0.450					
Cancer	Ovarian cancer (low grade)	Published GWAS	Inverse-variance weighted	1.31	0.36	4.81	0.683			36.60	0.394	
Cancer	Ovarian cancer (low grade)	Published GWAS	Weighted median	0.83	0.12	5.68	0.847					

Cancer	Ovarian cancer (low grade)	Published GWAS	MR-Egger	0.02	0.00	1.35	0.070	0.06	0.040	32.38	0.547	0.83
Cancer	Ovarian cancer (low grade)	Published GWAS	Penalised weighted median	0.83	0.12	5.68	0.847					
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	Inverse-variance weighted	1.00	0.44	2.24	0.995			35.84	0.429	
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	Weighted median	1.26	0.40	3.92	0.696					
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	MR-Egger	3.19	0.25	41.32	0.374	-0.02	0.347	34.93	0.424	0.83
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	Penalised weighted median	1.28	0.41	4.00	0.672					
Cancer	Ovarian cancer (serous invasive)	Published GWAS	Inverse-variance weighted	1.06	0.71	1.60	0.771			35.43	0.448	
Cancer	Ovarian cancer (serous invasive)	Published GWAS	Weighted median	1.05	0.57	1.94	0.869					
Cancer	Ovarian cancer (serous invasive)	Published GWAS	MR-Egger	0.61	0.17	2.24	0.461	0.01	0.382	34.65	0.437	0.83
Cancer	Ovarian cancer (serous invasive)	Published GWAS	Penalised weighted median	1.06	0.57	1.95	0.859					
Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	Inverse-variance weighted	0.48	0.22	1.07	0.072			37.75	0.345	
Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	Weighted median	0.62	0.20	1.95	0.413					
Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	MR-Egger	0.03	0.00	0.29	0.003	0.04	0.012	31.48	0.592	0.83
Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	Penalised weighted median	0.71	0.22	2.25	0.562					
Cancer	Pancreatic cancer	FinnGen	Inverse-variance weighted	3.38	0.94	12.15	0.062			35.87	0.427	
Cancer	Pancreatic cancer	FinnGen	Weighted median	2.70	0.42	17.21	0.293					

Cancer	Pancreatic cancer	FinnGen	MR-Egger	2.83	0.05	149.26	0.607	0.00	0.926	35.86	0.381	0.83
Cancer	Pancreatic cancer	FinnGen	Penalised weighted median	2.04	0.32	13.04	0.453					
Cancer	Prostate cancer	Published GWAS	Inverse-variance weighted	0.98	0.79	1.21	0.831			35.44	0.447	
Cancer	Prostate cancer	Published GWAS	Weighted median	0.91	0.66	1.25	0.549					
Cancer	Prostate cancer	Published GWAS	MR-Egger	0.72	0.36	1.41	0.335	0.00	0.345	34.53	0.442	0.83
Cancer	Prostate cancer	Published GWAS	Penalised weighted median	0.90	0.65	1.24	0.523					
Cancer	Prostate cancer	FinnGen	Inverse-variance weighted	1.17	0.73	1.86	0.514			25.07	0.892	
Cancer	Prostate cancer	FinnGen	Weighted median	1.45	0.74	2.83	0.281					
Cancer	Prostate cancer	FinnGen	MR-Egger	0.93	0.23	3.86	0.923	0.00	0.742	24.97	0.870	0.84
Cancer	Prostate cancer	FinnGen	Penalised weighted median	1.58	0.81	3.08	0.184					
Cancer	Proximal colon cancer	Published GWAS	Inverse-variance weighted	0.79	0.51	1.22	0.282			43.85	0.145	
Cancer	Proximal colon cancer	Published GWAS	Weighted median	0.66	0.37	1.21	0.178					
Cancer	Proximal colon cancer	Published GWAS	MR-Egger	1.60	0.40	6.41	0.503	-0.01	0.289	42.44	0.152	0.82
Cancer	Proximal colon cancer	Published GWAS	Penalised weighted median	0.63	0.35	1.15	0.134					
Cancer	Rectal cancer	Published GWAS	Inverse-variance weighted	1.01	0.63	1.63	0.953			48.80	0.061	
Cancer	Rectal cancer	Published GWAS	Weighted median	0.72	0.39	1.31	0.276					
Cancer	Rectal cancer	Published GWAS	MR-Egger	0.40	0.09	1.79	0.230	0.01	0.199	46.55	0.074	0.83
Cancer	Rectal cancer	Published GWAS	Penalised weighted median	0.71	0.39	1.29	0.264					

Cancer	Renal cancer	Published GWAS	Inverse-variance weighted	0.63	0.33	1.18	0.149			54.99	0.013	
Cancer	Renal cancer	Published GWAS	Weighted median	0.48	0.22	1.04	0.063					
Cancer	Renal cancer	Published GWAS	MR-Egger	0.57	0.08	4.26	0.585	0.00	0.922	54.98	0.010	0.83
Cancer	Renal cancer	Published GWAS	Penalised weighted median	0.45	0.21	0.96	0.040					
Cancer	Renal cancer	FinnGen	Inverse-variance weighted	2.00	0.73	5.46	0.178			34.04	0.514	
Cancer	Renal cancer	FinnGen	Weighted median	4.44	0.98	20.07	0.053					
Cancer	Renal cancer	FinnGen	MR-Egger	2.43	0.11	52.53	0.570	0.00	0.894	34.02	0.467	0.84
Cancer	Renal cancer	FinnGen	Penalised weighted median	4.44	0.98	20.07	0.053					
Cancer	Thyroid cancer	FinnGen	Inverse-variance weighted	0.87	0.30	2.51	0.791			26.22	0.858	
Cancer	Thyroid cancer	FinnGen	Weighted median	1.10	0.25	4.88	0.896					
Cancer	Thyroid cancer	FinnGen	MR-Egger	2.31	0.09	59.72	0.613	-0.01	0.530	25.82	0.842	0.84
Cancer	Thyroid cancer	FinnGen	Penalised weighted median	1.10	0.25	4.88	0.896					



**Supplementary File 1giv\*.** The inverse-variance weighted, weighted median, Egger and penalised weighted median MR analyses for “unfavourable adiposity” using FinnGen and published GWAS.

										Heterogeneity		
System	Disease	Study	Analysis	OR	LCI	UCI	P	Egger intercept	Intercept P	Q	P	I <sup>2</sup> MR-Egger
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	Inverse-variance weighted	1.03	0.87	1.22	0.730			51.03	0.023	
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	Weighted median	0.96	0.78	1.17	0.676					
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	MR-Egger	0.78	0.43	1.40	0.409	0.01	0.335	49.59	0.024	0.93
Cardiovascular and metabolic	Abdominal aortic aneurysm	Published GWAS	Penalised weighted median	0.85	0.70	1.04	0.117					
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	Inverse-variance weighted	2.04	1.11	3.75	0.022			57.99	0.005	
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	Weighted median	2.98	1.49	5.99	0.002					
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	MR-Egger	1.41	0.17	11.97	0.750	0.01	0.726	57.77	0.003	0.95
Cardiovascular and metabolic	Abdominal aortic aneurysm	FinnGen	Penalised weighted median	3.24	1.61	6.53	0.001					
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	Inverse-variance weighted	1.71	1.41	2.08	8.E-08			72.35	9.E-05	
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	Weighted median	1.77	1.43	2.20	1.E-07					
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	MR-Egger	1.45	0.75	2.78	0.270	0.00	0.598	71.73	7.E-05	0.93
Cardiovascular and metabolic	Atrial fibrillation	Published GWAS	Penalised weighted median	1.78	1.44	2.22	2.E-07					
Cardiovascular and metabolic	Atrial fibrillation	FinnGen	Inverse-variance weighted	2.62	1.81	3.79	3.E-07			73.21	7.E-05	
Cardiovascular and metabolic	Atrial fibrillation	FinnGen	Weighted median	2.54	1.68	3.84	1.E-05					
Cardiovascular and metabolic	Atrial fibrillation	FinnGen	MR-Egger	5.31	1.49	18.90	0.010	-0.02	0.254	70.35	1.E-04	0.95

Cardiovascular and metabolic	Atrial fibrillation	FinnGen	Penalised weighted median	2.31	1.52	3.51	9.E-05					
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	Inverse-variance weighted	1.29	0.84	1.97	0.241			47.03	0.054	
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	Weighted median	1.23	0.69	2.18	0.486					
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	MR-Egger	0.91	0.21	3.84	0.895	0.01	0.617	46.67	0.045	0.93
Cardiovascular and metabolic	Cardioembolic stroke	Published GWAS	Penalised weighted median	1.24	0.69	2.21	0.470					
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	Inverse-variance weighted	1.40	0.43	4.52	0.572			50.51	0.026	
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	Weighted median	2.67	0.63	11.37	0.183					
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	MR-Egger	4.47	0.07	267.26	0.474	-0.03	0.562	49.99	0.022	0.95
Cardiovascular and metabolic	Cardioembolic stroke	FinnGen	Penalised weighted median	2.69	0.63	11.49	0.182					
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	Inverse-variance weighted	1.14	0.92	1.42	0.218			49.96	0.029	
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	Weighted median	1.34	1.03	1.74	0.031					
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	MR-Egger	1.59	0.79	3.21	0.194	-0.01	0.332	48.54	0.031	0.94
Cardiovascular and metabolic	Chronic kidney disease	Published GWAS	Penalised weighted median	1.37	1.05	1.80	0.020					
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	Inverse-variance weighted	1.80	1.16	2.79	0.009			41.89	0.138	
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	Weighted median	2.13	1.18	3.86	0.012					
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	MR-Egger	4.31	0.96	19.44	0.057	-0.02	0.234	40.11	0.154	0.95
Cardiovascular and metabolic	Chronic kidney disease	FinnGen	Penalised weighted median	2.16	1.19	3.90	0.011					
Cardiovascular and metabolic	Coronary artery disease	Published GWAS	Inverse-variance weighted	1.72	1.39	2.13	6.E-07			142.21	2.E-15	

Cardiovascular and metabolic	Coronary artery disease	Published GWAS	Weighted median	1.61	1.35	1.91	1.E-07					
Cardiovascular and metabolic	Coronary artery disease	Published GWAS	MR-Egger	1.01	0.50	2.02	0.976	0.01	0.115	131.98	4.E-14	0.93
Cardiovascular and metabolic	Coronary artery disease	Published GWAS	Penalised weighted median	1.61	1.35	1.92	1.E-07					
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	Inverse-variance weighted	1.98	1.22	3.19	0.005			54.59	0.010	
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	Weighted median	2.84	1.62	4.99	3.E-04					
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	MR-Egger	7.40	1.48	37.02	0.015	-0.03	0.093	50.17	0.021	0.95
Cardiovascular and metabolic	Deep vein thrombosis	FinnGen	Penalised weighted median	2.98	1.70	5.21	1.E-04					
Cardiovascular and metabolic	Heart failure	Published GWAS	Inverse-variance weighted	2.14	1.63	2.80	3.E-08			108.12	6.E-10	
Cardiovascular and metabolic	Heart failure	Published GWAS	Weighted median	2.35	1.82	3.04	9.E-11					
Cardiovascular and metabolic	Heart failure	Published GWAS	MR-Egger	2.17	0.87	5.40	0.096	0.00	0.974	108.11	3.E-10	0.95
Cardiovascular and metabolic	Heart failure	Published GWAS	Penalised weighted median	2.59	2.00	3.35	5.E-13					
Cardiovascular and metabolic	Heart failure	FinnGen	Inverse-variance weighted	2.50	1.90	3.29	5.E-11			41.85	0.139	
Cardiovascular and metabolic	Heart failure	FinnGen	Weighted median	2.39	1.64	3.48	6.E-06					
Cardiovascular and metabolic	Heart failure	FinnGen	MR-Egger	2.02	0.78	5.28	0.150	0.00	0.649	41.58	0.120	0.95
Cardiovascular and metabolic	Heart failure	FinnGen	Penalised weighted median	2.39	1.64	3.47	5.E-06					
Cardiovascular and metabolic	Hypertension	FinnGen	Inverse-variance weighted	3.27	2.38	4.51	4.E-13			104.64	2.E-09	
Cardiovascular and metabolic	Hypertension	FinnGen	Weighted median	3.77	2.74	5.18	4.E-16					
Cardiovascular and metabolic	Hypertension	FinnGen	MR-Egger	4.87	1.59	14.88	0.005	-0.01	0.466	102.94	2.E-09	0.95

Cardiovascular and metabolic	Hypertension	FinnGen	Penalised weighted median	3.76	2.72	5.19	1.E-15					
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	Inverse-variance weighted	1.39	1.09	1.78	0.007			56.97	0.006	
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	Weighted median	1.47	1.10	1.96	0.009					
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	MR-Egger	1.81	0.78	4.23	0.168	-0.01	0.523	56.25	0.005	0.95
Cardiovascular and metabolic	Ischaemic heart disease	FinnGen	Penalised weighted median	1.56	1.16	2.09	0.003					
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	Inverse-variance weighted	1.48	1.21	1.81	1.E-04			38.53	0.233	
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	Weighted median	1.25	0.95	1.65	0.114					
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	MR-Egger	0.77	0.41	1.45	0.416	0.01	0.033	33.73	0.384	0.93
Cardiovascular and metabolic	Ischaemic stroke	Published GWAS	Penalised weighted median	1.25	0.95	1.65	0.116					
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	Inverse-variance weighted	1.39	1.07	1.80	0.013			34.71	0.386	
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	Weighted median	1.31	0.89	1.93	0.176					
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	MR-Egger	0.98	0.40	2.41	0.968	0.01	0.430	34.05	0.369	0.95
Cardiovascular and metabolic	Ischaemic stroke	FinnGen	Penalised weighted median	1.30	0.88	1.91	0.185					
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	Inverse-variance weighted	1.09	0.67	1.79	0.721			55.41	0.009	
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	Weighted median	1.13	0.62	2.06	0.688					
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	MR-Egger	0.62	0.12	3.15	0.563	0.01	0.471	54.52	0.008	0.93
Cardiovascular and metabolic	Lacunar stroke	Published GWAS	Penalised weighted median	1.15	0.63	2.10	0.642					
Cardiovascular and metabolic	Large artery stroke	Published GWAS	Inverse-variance weighted	1.98	1.13	3.47	0.017			48.96	0.036	

Cardiovascular and metabolic	Large artery stroke	Published GWAS	Weighted median	2.28	1.11	4.72	0.026					
Cardiovascular and metabolic	Large artery stroke	Published GWAS	MR-Egger	1.14	0.17	7.77	0.891	0.01	0.557	48.44	0.031	0.93
Cardiovascular and metabolic	Large artery stroke	Published GWAS	Penalised weighted median	2.29	1.11	4.73	0.026					
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	Inverse-variance weighted	2.56	1.84	3.56	3.E-08			39.14	0.213	
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	Weighted median	2.41	1.52	3.81	2.E-04					
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	MR-Egger	1.71	0.54	5.43	0.363	0.01	0.475	38.53	0.198	0.95
Cardiovascular and metabolic	Peripheral artery disease	FinnGen	Penalised weighted median	2.38	1.50	3.78	2.E-04					
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	Inverse-variance weighted	6.17	2.80	13.63	7.E-06			62.13	0.002	
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	Weighted median	5.69	2.30	14.12	2.E-04					
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	MR-Egger	17.79	1.18	268.69	0.038	-0.02	0.424	60.91	0.002	0.93
Cardiovascular and metabolic	Polycystic ovary syndrome	Published GWAS	Penalised weighted median	5.49	2.21	13.65	2.E-04					
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	Inverse-variance weighted	5.85	2.27	15.05	2.E-04			29.61	0.637	
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	Weighted median	3.79	0.91	15.81	0.067					
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	MR-Egger	7.28	0.28	191.65	0.234	0.00	0.891	29.59	0.589	0.95
Cardiovascular and metabolic	Polycystic ovary syndrome	FinnGen	Penalised weighted median	3.79	0.91	15.81	0.067					
Cardiovascular and metabolic	Pulmonary embolism	FinnGen	Inverse-variance weighted	1.74	1.15	2.64	0.009			38.77	0.226	
Cardiovascular and metabolic	Pulmonary embolism	FinnGen	Weighted median	1.89	1.06	3.37	0.032					
Cardiovascular and metabolic	Pulmonary embolism	FinnGen	MR-Egger	5.08	1.24	20.80	0.024	-0.02	0.119	36.04	0.285	0.95

Cardiovascular and metabolic	Pulmonary embolism	FinnGen	Penalised weighted median	2.00	1.13	3.56	0.018					
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	Inverse-variance weighted	1.64	0.92	2.92	0.095			61.01	0.002	
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	Weighted median	1.46	0.71	2.99	0.305					
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	MR-Egger	0.85	0.12	6.11	0.868	0.01	0.493	60.13	0.002	0.93
Cardiovascular and metabolic	Small vessel stroke	Published GWAS	Penalised weighted median	1.46	0.71	3.00	0.307					
Cardiovascular and metabolic	Stroke	Published GWAS	Inverse-variance weighted	1.44	1.20	1.73	1.E-04			37.96	0.254	
Cardiovascular and metabolic	Stroke	Published GWAS	Weighted median	1.22	0.94	1.57	0.138					
Cardiovascular and metabolic	Stroke	Published GWAS	MR-Egger	0.70	0.39	1.25	0.228	0.02	0.011	31.44	0.495	0.93
Cardiovascular and metabolic	Stroke	Published GWAS	Penalised weighted median	1.21	0.94	1.57	0.141					
Cardiovascular and metabolic	Stroke	FinnGen	Inverse-variance weighted	1.26	1.02	1.56	0.030			30.77	0.579	
Cardiovascular and metabolic	Stroke	FinnGen	Weighted median	1.25	0.91	1.73	0.169					
Cardiovascular and metabolic	Stroke	FinnGen	MR-Egger	0.87	0.42	1.81	0.719	0.01	0.302	29.70	0.583	0.95
Cardiovascular and metabolic	Stroke	FinnGen	Penalised weighted median	1.26	0.91	1.73	0.162					
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	Inverse-variance weighted	5.40	3.92	7.43	5.E-25			142.25	2.E-15	
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	Weighted median	5.19	3.91	6.89	6.E-30					
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	MR-Egger	11.69	4.15	32.92	3.E-06	-0.02	0.125	132.49	3.E-14	0.93
Cardiovascular and metabolic	Type 2 diabetes	Published GWAS	Penalised weighted median	5.15	3.87	6.85	2.E-29					
Cardiovascular and metabolic	Type 2 diabetes	FinnGen	Inverse-variance weighted	6.01	4.08	8.86	1.E-19			146.35	3.E-16	

Cardiovascular and metabolic	Type 2 diabetes	FinnGen	Weighted median	5.95	4.19	8.47	3.E-23					
Cardiovascular and metabolic	Type 2 diabetes	FinnGen	MR-Egger	18.70	5.10	68.61	1.E-05	-0.02	0.074	133.07	3.E-14	0.95
Cardiovascular and metabolic	Type 2 diabetes	FinnGen	Penalised weighted median	5.19	3.66	7.34	2.E-20					
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	Inverse-variance weighted	1.60	1.17	2.19	0.003			43.78	0.099	
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	Weighted median	1.92	1.25	2.94	0.003					
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	MR-Egger	3.10	1.05	9.10	0.040	-0.01	0.209	41.73	0.117	0.95
Cardiovascular and metabolic	Venous thromboembolism	Published GWAS	Penalised weighted median	1.97	1.28	3.03	0.002					
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	Inverse-variance weighted	1.58	1.09	2.30	0.016			64.60	8.E-04	
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	Weighted median	2.10	1.38	3.18	5.E-04					
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	MR-Egger	4.53	1.29	15.99	0.019	-0.02	0.087	59.19	0.002	0.95
Cardiovascular and metabolic	Venous thromboembolism	FinnGen	Penalised weighted median	2.52	1.66	3.82	1.E-05					
Musculoskeletal	Gout	Published GWAS	Inverse-variance weighted	2.61	1.89	3.58	4.E-09			54.36	0.011	
Musculoskeletal	Gout	Published GWAS	Weighted median	2.61	1.74	3.92	4.E-06					
Musculoskeletal	Gout	Published GWAS	MR-Egger	2.88	0.97	8.55	0.057	0.00	0.851	54.30	0.008	0.97
Musculoskeletal	Gout	Published GWAS	Penalised weighted median	2.65	1.77	3.98	2.E-06					
Musculoskeletal	Gout	FinnGen	Inverse-variance weighted	2.10	1.37	3.20	6.E-04			34.66	0.389	
Musculoskeletal	Gout	FinnGen	Weighted median	1.79	0.98	3.28	0.060					
Musculoskeletal	Gout	FinnGen	MR-Egger	0.56	0.13	2.34	0.426	0.03	0.058	31.08	0.513	0.95

Musculoskeletal	Gout	FinnGen	Penalised weighted median	1.77	0.97	3.25	0.064					
Musculoskeletal	Osteoarthritis	Published GWAS	Inverse-variance weighted	1.64	1.38	1.94	9.E-09			131.78	9.E-14	
Musculoskeletal	Osteoarthritis	Published GWAS	Weighted median	1.66	1.44	1.91	4.E-12					
Musculoskeletal	Osteoarthritis	Published GWAS	MR-Egger	1.90	1.06	3.41	0.030	0.00	0.596	130.63	7.E-14	0.93
Musculoskeletal	Osteoarthritis	Published GWAS	Penalised weighted median	1.75	1.51	2.03	1.E-13					
Musculoskeletal	Osteoarthritis	FinnGen	Inverse-variance weighted	2.25	1.65	3.06	3.E-07			112.05	2.E-10	
Musculoskeletal	Osteoarthritis	FinnGen	Weighted median	2.16	1.60	2.93	6.E-07					
Musculoskeletal	Osteoarthritis	FinnGen	MR-Egger	5.73	2.05	16.03	9.E-04	-0.02	0.062	101.09	4.E-09	0.95
Musculoskeletal	Osteoarthritis	FinnGen	Penalised weighted median	1.87	1.38	2.54	6.E-05					
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	Inverse-variance weighted	2.11	1.46	3.06	8.E-05			22.38	0.919	
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	Weighted median	1.84	1.07	3.17	0.027					
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	MR-Egger	2.23	0.62	8.02	0.220	0.00	0.933	22.37	0.897	0.95
Musculoskeletal	Osteoarthritis (early-onset)	Published GWAS	Penalised weighted median	1.85	1.07	3.17	0.027					
Musculoskeletal	Osteoarthritis (finger)	Published GWAS	Inverse-variance weighted	1.14	0.80	1.62	0.477			37.66	0.264	
Musculoskeletal	Osteoarthritis (finger)	Published GWAS	Weighted median	1.30	0.79	2.13	0.298					
Musculoskeletal	Osteoarthritis (finger)	Published GWAS	MR-Egger	2.84	0.87	9.26	0.084	-0.02	0.113	34.92	0.331	0.94
Musculoskeletal	Osteoarthritis (finger)	Published GWAS	Penalised weighted median	1.40	0.86	2.30	0.180					
Musculoskeletal	Osteoarthritis (hand)	Published GWAS	Inverse-variance weighted	1.21	0.92	1.59	0.168			46.84	0.056	



Musculoskeletal	Osteoarthritis (hand)	Published GWAS	Weighted median	1.43	1.00	2.05	0.052					
Musculoskeletal	Osteoarthritis (hand)	Published GWAS	MR-Egger	1.82	0.72	4.61	0.208	-0.01	0.372	45.70	0.055	0.94
Musculoskeletal	Osteoarthritis (hand)	Published GWAS	Penalised weighted median	1.58	1.10	2.27	0.013					
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	Inverse-variance weighted	2.17	1.70	2.77	4.E-10			149.92	8.E-17	
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	Weighted median	2.50	2.01	3.10	2.E-16					
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	MR-Egger	4.08	1.82	9.15	6.E-04	-0.01	0.108	138.73	3.E-15	0.94
Musculoskeletal	Osteoarthritis (hip and/or knee)	Published GWAS	Penalised weighted median	2.54	2.03	3.17	2.E-16					
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	Inverse-variance weighted	1.83	1.31	2.57	4.E-04			89.74	4.E-07	
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	Weighted median	1.96	1.35	2.83	4.E-04					
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	MR-Egger	6.10	2.08	17.91	1.E-03	-0.03	0.022	77.08	1.E-05	0.95
Musculoskeletal	Osteoarthritis (hip surgery)	Published GWAS	Penalised weighted median	1.77	1.21	2.58	0.003					
Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	Inverse-variance weighted	1.88	1.21	2.92	0.005			65.33	7.E-04	
Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	Weighted median	2.40	1.44	4.00	8.E-04					
Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	MR-Egger	9.51	2.27	39.74	0.002	-0.03	0.020	55.92	0.006	0.95
Musculoskeletal	Osteoarthritis (hip surgery)	FinnGen	Penalised weighted median	2.50	1.51	4.15	4.E-04					
Musculoskeletal	Osteoarthritis (hip)	Published GWAS	Inverse-variance weighted	1.77	1.32	2.38	1.E-04			100.46	1.E-08	
Musculoskeletal	Osteoarthritis (hip)	Published GWAS	Weighted median	1.76	1.29	2.41	4.E-04					
Musculoskeletal	Osteoarthritis (hip)	Published GWAS	MR-Egger	5.22	2.03	13.43	6.E-04	-0.02	0.019	85.78	8.E-07	0.94

Musculoskeletal	Osteoarthritis (hip)	Published GWAS	Penalised weighted median	1.52	1.11	2.09	0.010					
Musculoskeletal	Osteoarthritis (hip)	FinnGen	Inverse-variance weighted	2.29	1.53	3.42	5.E-05			75.74	3.E-05	
Musculoskeletal	Osteoarthritis (hip)	FinnGen	Weighted median	2.88	1.88	4.43	1.E-06					
Musculoskeletal	Osteoarthritis (hip)	FinnGen	MR-Egger	9.25	2.49	34.36	9.E-04	-0.03	0.030	65.97	4.E-04	0.95
Musculoskeletal	Osteoarthritis (hip)	FinnGen	Penalised weighted median	3.13	2.05	4.79	1.E-07					
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	Inverse-variance weighted	2.28	1.73	2.99	3.E-09			98.55	2.E-08	
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	Weighted median	2.36	1.79	3.10	8.E-10					
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	MR-Egger	4.48	1.80	11.17	0.001	-0.01	0.128	91.90	1.E-07	0.93
Musculoskeletal	Osteoarthritis (joint surgery)	Published GWAS	Penalised weighted median	2.33	1.76	3.08	3.E-09					
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	Inverse-variance weighted	3.09	2.08	4.60	3.E-08			103.32	4.E-09	
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	Weighted median	3.42	2.37	4.91	4.E-11					
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	MR-Egger	3.36	0.85	13.36	0.085	0.00	0.900	103.27	2.E-09	0.93
Musculoskeletal	Osteoarthritis (knee surgery)	Published GWAS	Penalised weighted median	3.50	2.43	5.06	2.E-11					
Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	Inverse-variance weighted	3.15	2.12	4.69	2.E-08			62.32	0.002	
Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	Weighted median	4.59	2.80	7.53	2.E-09					
Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	MR-Egger	10.76	2.85	40.63	5.E-04	-0.03	0.059	56.06	0.005	0.95
Musculoskeletal	Osteoarthritis (knee surgery)	FinnGen	Penalised weighted median	4.92	3.02	8.00	1.E-10					
Musculoskeletal	Osteoarthritis (knee)	Published GWAS	Inverse-variance weighted	2.40	1.77	3.24	1.E-08			171.65	1.E-20	

Musculoskeletal	Osteoarthritis (knee)	Published GWAS	Weighted median	3.03	2.35	3.92	2.E-17					
Musculoskeletal	Osteoarthritis (knee)	Published GWAS	MR-Egger	3.69	1.31	10.40	0.013	-0.01	0.392	167.80	2.E-20	0.94
Musculoskeletal	Osteoarthritis (knee)	Published GWAS	Penalised weighted median	3.62	2.83	4.63	7.E-25					
Musculoskeletal	Osteoarthritis (knee)	FinnGen	Inverse-variance weighted	2.76	1.98	3.86	2.E-09			95.50	5.E-08	
Musculoskeletal	Osteoarthritis (knee)	FinnGen	Weighted median	3.46	2.48	4.81	2.E-13					
Musculoskeletal	Osteoarthritis (knee)	FinnGen	MR-Egger	6.83	2.22	21.02	8.E-04	-0.02	0.100	88.05	4.E-07	0.95
Musculoskeletal	Osteoarthritis (knee)	FinnGen	Penalised weighted median	3.47	2.49	4.83	2.E-13					
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	Inverse-variance weighted	1.45	1.14	1.84	0.003			53.71	0.013	
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	Weighted median	1.50	1.10	2.04	0.010					
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	MR-Egger	1.69	0.74	3.88	0.216	0.00	0.704	53.47	0.010	0.94
Musculoskeletal	Osteoarthritis (spine)	Published GWAS	Penalised weighted median	1.51	1.11	2.05	0.009					
Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	Inverse-variance weighted	1.27	0.93	1.74	0.127			22.57	0.914	
Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	Weighted median	1.52	0.96	2.40	0.077					
Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	MR-Egger	1.12	0.38	3.27	0.839	0.00	0.802	22.50	0.893	0.94
Musculoskeletal	Osteoarthritis (thumb)	Published GWAS	Penalised weighted median	1.52	0.96	2.42	0.076					
Musculoskeletal	Osteoporosis	Published GWAS	Inverse-variance weighted	1.20	1.02	1.40	0.025			691.84	3.E-124	
Musculoskeletal	Osteoporosis	Published GWAS	Weighted median	1.35	1.25	1.46	2.E-13					
Musculoskeletal	Osteoporosis	Published GWAS	MR-Egger	1.70	1.03	2.82	0.039	-0.01	0.149	649.61	3.E-116	0.93

Musculoskeletal	Osteoporosis	Published GWAS	Penalised weighted median	1.37	1.26	1.49	4.E-14					
Musculoskeletal	Osteoporosis	FinnGen	Inverse-variance weighted	0.97	0.63	1.50	0.901			28.72	0.680	
Musculoskeletal	Osteoporosis	FinnGen	Weighted median	1.18	0.61	2.28	0.631					
Musculoskeletal	Osteoporosis	FinnGen	MR-Egger	0.48	0.11	2.17	0.342	0.02	0.339	27.81	0.679	0.95
Musculoskeletal	Osteoporosis	FinnGen	Penalised weighted median	1.52	0.78	2.94	0.216					
Musculoskeletal	Rheumatoid arthritis	Published GWAS	Inverse-variance weighted	1.43	0.89	2.32	0.143			71.76	1.E-04	
Musculoskeletal	Rheumatoid arthritis	Published GWAS	Weighted median	1.00	0.58	1.73	1.000					
Musculoskeletal	Rheumatoid arthritis	Published GWAS	MR-Egger	1.78	0.39	8.05	0.454	0.00	0.766	71.56	7.E-05	0.95
Musculoskeletal	Rheumatoid arthritis	Published GWAS	Penalised weighted median	0.92	0.52	1.63	0.788					
Musculoskeletal	Rheumatoid arthritis	FinnGen	Inverse-variance weighted	1.49	0.94	2.37	0.093			68.09	3.E-04	
Musculoskeletal	Rheumatoid arthritis	FinnGen	Weighted median	2.35	1.41	3.94	0.001					
Musculoskeletal	Rheumatoid arthritis	FinnGen	MR-Egger	4.75	0.98	23.04	0.053	-0.03	0.133	63.61	7.E-04	0.96
Musculoskeletal	Rheumatoid arthritis	FinnGen	Penalised weighted median	2.43	1.46	4.06	6.E-04					
Gastrointestinal	Gallstones	FinnGen	Inverse-variance weighted	2.11	1.61	2.76	6.E-08			58.10	0.004	
Gastrointestinal	Gallstones	FinnGen	Weighted median	2.26	1.65	3.10	4.E-07					
Gastrointestinal	Gallstones	FinnGen	MR-Egger	3.66	1.45	9.27	0.006	-0.01	0.225	55.54	0.006	0.95
Gastrointestinal	Gallstones	FinnGen	Penalised weighted median	2.34	1.71	3.21	1.E-07					
Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	Inverse-variance weighted	1.37	1.12	1.68	0.002			140.92	5.E-14	
Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	Weighted median	1.23	1.03	1.48	0.023					

Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	MR-Egger	0.91	0.46	1.82	0.789	0.01	0.222	135.32	2.E-13	0.92
Gastrointestinal	Gastro-oesophageal reflux disease	Published GWAS	Penalised weighted median	1.22	1.02	1.47	0.034					
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	Inverse-variance weighted	1.17	0.84	1.63	0.356			70.72	1.E-04	
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	Weighted median	1.09	0.75	1.60	0.649					
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	MR-Egger	0.84	0.26	2.68	0.768	0.01	0.559	69.97	1.E-04	0.95
Gastrointestinal	Gastro-oesophageal reflux disease	FinnGen	Penalised weighted median	0.94	0.64	1.38	0.749					
Nervous	Alzheimer's disease	Published GWAS	Inverse-variance weighted	1.00	0.98	1.02	0.944			43.84	0.098	
Nervous	Alzheimer's disease	Published GWAS	Weighted median	1.02	0.99	1.05	0.121					
Nervous	Alzheimer's disease	Published GWAS	MR-Egger	1.02	0.94	1.10	0.687	0.00	0.689	43.62	0.083	0.95
Nervous	Alzheimer's disease	Published GWAS	Penalised weighted median	1.02	1.00	1.05	0.104					
Nervous	Alzheimer's disease	FinnGen	Inverse-variance weighted	1.23	0.79	1.91	0.362			34.18	0.411	
Nervous	Alzheimer's disease	FinnGen	Weighted median	0.95	0.50	1.78	0.863					
Nervous	Alzheimer's disease	FinnGen	MR-Egger	0.77	0.16	3.58	0.737	0.01	0.534	33.77	0.382	0.95
Nervous	Alzheimer's disease	FinnGen	Penalised weighted median	0.96	0.51	1.81	0.898					
Nervous	Depression	Published GWAS	Inverse-variance weighted	1.15	0.88	1.50	0.310			88.17	6.E-07	
Nervous	Depression	Published GWAS	Weighted median	1.37	1.05	1.80	0.022					
Nervous	Depression	Published GWAS	MR-Egger	1.62	0.65	4.05	0.299	-0.01	0.438	86.55	6.E-07	0.93
Nervous	Depression	Published GWAS	Penalised weighted median	1.42	1.07	1.87	0.015					

Nervous	Depression	FinnGen	Inverse-variance weighted	0.95	0.74	1.23	0.709			63.04	0.001	
Nervous	Depression	FinnGen	Weighted median	0.95	0.71	1.27	0.740					
Nervous	Depression	FinnGen	MR-Egger	1.61	0.67	3.86	0.288	-0.01	0.221	60.22	0.002	0.95
Nervous	Depression	FinnGen	Penalised weighted median	0.92	0.69	1.23	0.583					
Nervous	Multiple sclerosis	Published GWAS	Inverse-variance weighted	1.21	0.57	2.55	0.622			24.91	0.024	
Nervous	Multiple sclerosis	Published GWAS	Weighted median	1.41	0.65	3.07	0.388					
Nervous	Multiple sclerosis	Published GWAS	MR-Egger	2.31	0.07	79.05	0.642	-0.01	0.712	24.63	0.017	0.87
Nervous	Multiple sclerosis	Published GWAS	Penalised weighted median	1.38	0.63	3.02	0.422					
Nervous	Multiple sclerosis	FinnGen	Inverse-variance weighted	0.89	0.39	2.00	0.773			43.35	0.107	
Nervous	Multiple sclerosis	FinnGen	Weighted median	0.57	0.19	1.75	0.328					
Nervous	Multiple sclerosis	FinnGen	MR-Egger	0.51	0.03	8.76	0.640	0.01	0.687	43.13	0.090	0.95
Nervous	Multiple sclerosis	FinnGen	Penalised weighted median	0.53	0.17	1.63	0.271					
Nervous	Parkinson's disease	Published GWAS	Inverse-variance weighted	0.65	0.46	0.91	0.012			36.13	0.325	
Nervous	Parkinson's disease	Published GWAS	Weighted median	0.86	0.53	1.42	0.560					
Nervous	Parkinson's disease	Published GWAS	MR-Egger	0.93	0.31	2.83	0.904	-0.01	0.503	35.63	0.302	0.94
Nervous	Parkinson's disease	Published GWAS	Penalised weighted median	0.88	0.53	1.45	0.610					
Nervous	Parkinson's disease	FinnGen	Inverse-variance weighted	0.96	0.55	1.68	0.889			28.75	0.679	
Nervous	Parkinson's disease	FinnGen	Weighted median	1.21	0.52	2.82	0.666					
Nervous	Parkinson's disease	FinnGen	MR-Egger	1.14	0.17	7.82	0.896	0.00	0.858	28.72	0.633	0.95
Nervous	Parkinson's disease	FinnGen	Penalised weighted median	1.22	0.52	2.85	0.654					

Integumentary	Psoriasis	Published GWAS	Inverse-variance weighted	2.31	1.38	3.88	0.001			76.07	3.E-05	
Integumentary	Psoriasis	Published GWAS	Weighted median	2.69	1.57	4.59	3.E-04					
Integumentary	Psoriasis	Published GWAS	MR-Egger	6.78	1.25	36.67	0.026	-0.02	0.190	72.20	6.E-05	0.96
Integumentary	Psoriasis	Published GWAS	Penalised weighted median	2.83	1.64	4.88	2.E-04					
Integumentary	Psoriasis	FinnGen	Inverse-variance weighted	2.00	1.20	3.33	0.007			61.17	0.002	
Integumentary	Psoriasis	FinnGen	Weighted median	2.27	1.26	4.10	0.006					
Integumentary	Psoriasis	FinnGen	MR-Egger	2.72	0.46	16.20	0.272	-0.01	0.727	60.94	0.002	0.95
Integumentary	Psoriasis	FinnGen	Penalised weighted median	2.28	1.26	4.12	0.006					
Respiratory	Adult-onset asthma	Published GWAS	Inverse-variance weighted	1.14	0.89	1.46	0.283			94.43	2.E-07	
Respiratory	Adult-onset asthma	Published GWAS	Weighted median	1.29	1.00	1.67	0.047					
Respiratory	Adult-onset asthma	Published GWAS	MR-Egger	1.22	0.52	2.86	0.650	0.00	0.880	94.36	1.E-07	0.92
Respiratory	Adult-onset asthma	Published GWAS	Penalised weighted median	1.30	1.00	1.69	0.047					
Respiratory	Asthma	Published GWAS	Inverse-variance weighted	1.25	1.00	1.55	0.047			121.51	2.E-11	
Respiratory	Asthma	Published GWAS	Weighted median	1.23	1.02	1.50	0.033					
Respiratory	Asthma	Published GWAS	MR-Egger	1.11	0.52	2.36	0.791	0.00	0.746	121.13	1.E-11	0.92
Respiratory	Asthma	Published GWAS	Penalised weighted median	1.29	1.07	1.57	0.008					
Respiratory	Asthma	FinnGen	Inverse-variance weighted	1.71	1.31	2.22	7.E-05			58.30	0.004	
Respiratory	Asthma	FinnGen	Weighted median	1.83	1.35	2.47	8.E-05					
Respiratory	Asthma	FinnGen	MR-Egger	2.71	1.09	6.71	0.031	-0.01	0.296	56.38	0.005	0.95

Respiratory	Asthma	FinnGen	Penalised weighted median	1.83	1.36	2.48	8.E-05					
Respiratory	Child-onset asthma	Published GWAS	Inverse-variance weighted	0.96	0.70	1.31	0.787			78.76	3.E-05	
Respiratory	Child-onset asthma	Published GWAS	Weighted median	1.03	0.71	1.47	0.887					
Respiratory	Child-onset asthma	Published GWAS	MR-Egger	1.15	0.39	3.38	0.802	0.00	0.731	78.49	2.E-05	0.92
Respiratory	Child-onset asthma	Published GWAS	Penalised weighted median	1.05	0.73	1.51	0.804					
Respiratory	Child-onset asthma	FinnGen	Inverse-variance weighted	1.55	0.95	2.52	0.077			22.30	0.921	
Respiratory	Child-onset asthma	FinnGen	Weighted median	2.67	1.33	5.38	0.006					
Respiratory	Child-onset asthma	FinnGen	MR-Egger	5.50	1.03	29.44	0.046	-0.03	0.122	19.91	0.953	0.95
Respiratory	Child-onset asthma	FinnGen	Penalised weighted median	2.70	1.34	5.45	0.006					
Cancer	Barrett's oesophagus	Published GWAS	Inverse-variance weighted	2.48	1.67	3.70	8.E-06			60.05	0.001	
Cancer	Barrett's oesophagus	Published GWAS	Weighted median	2.94	1.89	4.57	2.E-06					
Cancer	Barrett's oesophagus	Published GWAS	MR-Egger	3.09	0.81	11.84	0.100	0.00	0.739	59.83	1.E-03	0.93
Cancer	Barrett's oesophagus	Published GWAS	Penalised weighted median	3.02	1.94	4.72	1.E-06					
Cancer	Barrett's oesophagus	FinnGen	Inverse-variance weighted	0.52	0.18	1.52	0.232			24.12	0.870	
Cancer	Barrett's oesophagus	FinnGen	Weighted median	0.55	0.12	2.49	0.437					
Cancer	Barrett's oesophagus	FinnGen	MR-Egger	1.63	0.04	66.34	0.797	-0.02	0.529	23.72	0.854	0.95
Cancer	Barrett's oesophagus	FinnGen	Penalised weighted median	0.57	0.13	2.61	0.472					
Cancer	Breast cancer	Published GWAS	Inverse-variance weighted	0.56	0.37	0.87	0.009			69.27	0.001	
Cancer	Breast cancer	Published GWAS	Weighted median	0.39	0.23	0.64	3.E-04					



Cancer	Breast cancer	Published GWAS	MR-Egger	0.29	0.07	1.30	0.106	0.01	0.368	67.75	0.001	0.93
Cancer	Breast cancer	Published GWAS	Penalised weighted median	0.37	0.22	0.63	2.E-04					
Cancer	Breast cancer	FinnGen	Inverse-variance weighted	0.50	0.35	0.72	2.E-04			55.51	0.008	
Cancer	Breast cancer	FinnGen	Weighted median	0.46	0.30	0.71	4.E-04					
Cancer	Breast cancer	FinnGen	MR-Egger	0.08	0.03	0.23	4.E-06	0.04	4.E-04	39.98	0.157	0.95
Cancer	Breast cancer	FinnGen	Penalised weighted median	0.48	0.31	0.74	9.E-04					
Cancer	Colon cancer	Published GWAS	Inverse-variance weighted	1.55	1.23	1.95	2.E-04			39.67	0.197	
Cancer	Colon cancer	Published GWAS	Weighted median	1.49	1.10	2.03	0.010					
Cancer	Colon cancer	Published GWAS	MR-Egger	1.37	0.62	3.01	0.440	0.00	0.746	39.54	0.169	0.93
Cancer	Colon cancer	Published GWAS	Penalised weighted median	1.44	1.06	1.96	0.019					
Cancer	Colon cancer	FinnGen	Inverse-variance weighted	0.75	0.44	1.27	0.281			33.74	0.431	
Cancer	Colon cancer	FinnGen	Weighted median	0.97	0.45	2.07	0.929					
Cancer	Colon cancer	FinnGen	MR-Egger	1.68	0.26	10.70	0.583	-0.02	0.369	32.91	0.422	0.95
Cancer	Colon cancer	FinnGen	Penalised weighted median	0.98	0.45	2.10	0.953					
Cancer	Colorectal cancer	Published GWAS (1)	Inverse-variance weighted	1.08	0.82	1.43	0.572			69.95	6.E-04	
Cancer	Colorectal cancer	Published GWAS (1)	Weighted median	0.97	0.70	1.36	0.881					
Cancer	Colorectal cancer	Published GWAS (1)	MR-Egger	1.40	0.54	3.63	0.487	-0.01	0.579	69.33	5.E-04	0.94
Cancer	Colorectal cancer	Published GWAS (1)	Penalised weighted median	0.97	0.70	1.36	0.878					

Cancer	Colorectal cancer	Published GWAS (2)	Inverse-variance weighted	1.39	1.12	1.73	0.003			50.26	0.028	
Cancer	Colorectal cancer	Published GWAS (2)	Weighted median	1.32	1.02	1.72	0.038					
Cancer	Colorectal cancer	Published GWAS (2)	MR-Egger	1.10	0.52	2.30	0.804	0.01	0.515	49.60	0.024	0.93
Cancer	Colorectal cancer	Published GWAS (2)	Penalised weighted median	1.26	0.97	1.64	0.088					
Cancer	Colorectal cancer	FinnGen	Inverse-variance weighted	1.00	0.66	1.51	0.995			32.38	0.498	
Cancer	Colorectal cancer	FinnGen	Weighted median	1.23	0.66	2.30	0.516					
Cancer	Colorectal cancer	FinnGen	MR-Egger	1.84	0.44	7.69	0.401	-0.01	0.379	31.61	0.486	0.95
Cancer	Colorectal cancer	FinnGen	Penalised weighted median	1.23	0.65	2.29	0.525					
Cancer	Distal colon cancer	Published GWAS	Inverse-variance weighted	1.42	1.08	1.87	0.012			32.04	0.515	
Cancer	Distal colon cancer	Published GWAS	Weighted median	1.31	0.88	1.95	0.185					
Cancer	Distal colon cancer	Published GWAS	MR-Egger	1.85	0.73	4.66	0.192	-0.01	0.556	31.69	0.482	0.93
Cancer	Distal colon cancer	Published GWAS	Penalised weighted median	1.30	0.87	1.93	0.201					
Cancer	Endometrial cancer	Published GWAS	Inverse-variance weighted	2.48	1.67	3.69	7.E-06			72.08	2.E-04	
Cancer	Endometrial cancer	Published GWAS	Weighted median	3.06	1.96	4.79	1.E-06					
Cancer	Endometrial cancer	Published GWAS	MR-Egger	2.92	0.74	11.50	0.125	0.00	0.807	71.95	2.E-04	0.93
Cancer	Endometrial cancer	Published GWAS	Penalised weighted median	3.09	1.96	4.86	1.E-06					
Cancer	Endometrial cancer	FinnGen	Inverse-variance weighted	0.94	0.41	2.14	0.888			44.58	0.086	
Cancer	Endometrial cancer	FinnGen	Weighted median	0.68	0.23	2.02	0.490					
Cancer	Endometrial cancer	FinnGen	MR-Egger	20.86	1.45	299.36	0.025	-0.07	0.017	37.87	0.219	0.95

Cancer	Endometrial cancer	FinnGen	Penalised weighted median	0.62	0.21	1.85	0.394					
Cancer	Lung cancer	FinnGen	Inverse-variance weighted	1.34	0.77	2.31	0.297			39.91	0.190	
Cancer	Lung cancer	FinnGen	Weighted median	0.99	0.45	2.17	0.973					
Cancer	Lung cancer	FinnGen	MR-Egger	0.24	0.04	1.45	0.119	0.04	0.050	35.64	0.301	0.95
Cancer	Lung cancer	FinnGen	Penalised weighted median	0.96	0.44	2.12	0.922					
Cancer	Meningioma	FinnGen	Inverse-variance weighted	0.61	0.24	1.55	0.297			35.37	0.357	
Cancer	Meningioma	FinnGen	Weighted median	0.58	0.15	2.19	0.419					
Cancer	Meningioma	FinnGen	MR-Egger	1.81	0.07	47.85	0.723	-0.02	0.495	34.86	0.333	0.95
Cancer	Meningioma	FinnGen	Penalised weighted median	0.58	0.15	2.18	0.418					
Cancer	Myeloma	FinnGen	Inverse-variance weighted	1.25	0.42	3.72	0.684			39.03	0.217	
Cancer	Myeloma	FinnGen	Weighted median	1.33	0.29	6.07	0.712					
Cancer	Myeloma	FinnGen	MR-Egger	10.04	0.24	426.31	0.228	-0.04	0.256	37.51	0.231	0.95
Cancer	Myeloma	FinnGen	Penalised weighted median	1.34	0.29	6.10	0.708					
Cancer	Ovarian cancer	FinnGen	Inverse-variance weighted	1.25	0.55	2.85	0.599			33.46	0.445	
Cancer	Ovarian cancer	FinnGen	Weighted median	1.19	0.33	4.23	0.789					
Cancer	Ovarian cancer	FinnGen	MR-Egger	3.79	0.21	67.14	0.363	-0.02	0.428	32.81	0.427	0.95
Cancer	Ovarian cancer	FinnGen	Penalised weighted median	1.18	0.33	4.21	0.794					
Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	Inverse-variance weighted	1.21	0.59	2.48	0.602			38.08	0.420	
Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	Weighted median	1.92	0.69	5.39	0.214					
Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	MR-Egger	14.71	1.30	166.02	0.030	-0.05	0.035	33.62	0.582	0.92
Cancer	Ovarian cancer (clear cell cancer)	Published GWAS	Penalised weighted median	1.95	0.70	5.48	0.203					

Cancer	Ovarian cancer (endometrioid)	Published GWAS	Inverse-variance weighted	1.85	0.95	3.58	0.069			63.30	0.005	
Cancer	Ovarian cancer (endometrioid)	Published GWAS	Weighted median	1.75	0.74	4.11	0.202					
Cancer	Ovarian cancer (endometrioid)	Published GWAS	MR-Egger	5.66	0.58	54.83	0.135	-0.02	0.313	61.56	0.005	0.92
Cancer	Ovarian cancer (endometrioid)	Published GWAS	Penalised weighted median	1.75	0.74	4.12	0.200					
Cancer	Ovarian cancer (epithelial)	Published GWAS	Inverse-variance weighted	1.29	0.78	2.13	0.317			37.19	0.460	
Cancer	Ovarian cancer (epithelial)	Published GWAS	Weighted median	1.34	0.65	2.77	0.430					
Cancer	Ovarian cancer (epithelial)	Published GWAS	MR-Egger	3.08	0.56	17.10	0.198	-0.02	0.298	36.10	0.464	0.92
Cancer	Ovarian cancer (epithelial)	Published GWAS	Penalised weighted median	1.32	0.64	2.73	0.455					
Cancer	Ovarian cancer (high grade serous)	Published GWAS	Inverse-variance weighted	0.97	0.68	1.39	0.869			24.57	0.942	
Cancer	Ovarian cancer (high grade serous)	Published GWAS	Weighted median	1.30	0.76	2.20	0.336					
Cancer	Ovarian cancer (high grade serous)	Published GWAS	MR-Egger	2.34	0.69	7.97	0.175	-0.02	0.142	22.41	0.963	0.92
Cancer	Ovarian cancer (high grade serous)	Published GWAS	Penalised weighted median	1.30	0.76	2.21	0.333					
Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	Inverse-variance weighted	1.27	0.96	1.68	0.088			52.26	0.049	
Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	Weighted median	1.36	0.95	1.93	0.091					
Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	MR-Egger	1.97	0.76	5.10	0.165	-0.01	0.351	51.02	0.050	0.92
Cancer	Ovarian cancer (invasive epithelial)	Published GWAS	Penalised weighted median	1.36	0.95	1.94	0.091					
Cancer	Ovarian cancer (low grade)	Published GWAS	Inverse-variance weighted	1.31	0.55	3.14	0.544			39.61	0.354	
Cancer	Ovarian cancer (low grade)	Published GWAS	Weighted median	1.27	0.35	4.61	0.717					

Cancer	Ovarian cancer (low grade)	Published GWAS	MR-Egger	2.40	0.12	49.68	0.571	-0.01	0.682	39.43	0.319	0.92
Cancer	Ovarian cancer (low grade)	Published GWAS	Penalised weighted median	1.26	0.35	4.60	0.723					
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	Inverse-variance weighted	1.69	0.99	2.86	0.053			30.44	0.768	
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	Weighted median	1.74	0.78	3.89	0.176					
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	MR-Egger	1.92	0.31	11.83	0.481	0.00	0.883	30.42	0.731	0.92
Cancer	Ovarian cancer (mucinous ovarian carcinoma)	Published GWAS	Penalised weighted median	1.74	0.78	3.88	0.177					
Cancer	Ovarian cancer (serous invasive)	Published GWAS	Inverse-variance weighted	1.08	0.81	1.43	0.611			40.91	0.303	
Cancer	Ovarian cancer (serous invasive)	Published GWAS	Weighted median	1.18	0.78	1.79	0.431					
Cancer	Ovarian cancer (serous invasive)	Published GWAS	MR-Egger	1.17	0.44	3.14	0.751	0.00	0.858	40.87	0.265	0.92
Cancer	Ovarian cancer (serous invasive)	Published GWAS	Penalised weighted median	1.18	0.78	1.79	0.434					
Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	Inverse-variance weighted	1.39	0.75	2.58	0.298			55.22	0.027	
Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	Weighted median	2.37	1.09	5.13	0.029					
Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	MR-Egger	5.62	0.69	45.72	0.107	-0.03	0.172	52.50	0.037	0.92
Cancer	Ovarian cancer (serous lowgrade borderline)	Published GWAS	Penalised weighted median	2.46	1.12	5.40	0.025					
Cancer	Pancreatic cancer	FinnGen	Inverse-variance weighted	1.31	0.51	3.36	0.571			36.46	0.311	
Cancer	Pancreatic cancer	FinnGen	Weighted median	1.03	0.28	3.84	0.967					
Cancer	Pancreatic cancer	FinnGen	MR-Egger	8.92	0.35	224.92	0.184	-0.04	0.224	34.85	0.334	0.95
Cancer	Pancreatic cancer	FinnGen	Penalised weighted median	0.97	0.26	3.62	0.966					

Cancer	Prostate cancer	Published GWAS	Inverse-variance weighted	0.91	0.73	1.13	0.377			88.77	4.E-06	
Cancer	Prostate cancer	Published GWAS	Weighted median	0.74	0.59	0.94	0.013					
Cancer	Prostate cancer	Published GWAS	MR-Egger	0.49	0.23	1.04	0.062	0.01	0.094	82.36	2.E-05	0.92
Cancer	Prostate cancer	Published GWAS	Penalised weighted median	0.70	0.55	0.89	0.003					
Cancer	Prostate cancer	FinnGen	Inverse-variance weighted	1.00	0.68	1.47	0.998			45.10	0.078	
Cancer	Prostate cancer	FinnGen	Weighted median	0.93	0.58	1.50	0.767					
Cancer	Prostate cancer	FinnGen	MR-Egger	0.45	0.12	1.69	0.237	0.02	0.217	43.06	0.092	0.95
Cancer	Prostate cancer	FinnGen	Penalised weighted median	0.90	0.56	1.45	0.662					
Cancer	Proximal colon cancer	Published GWAS	Inverse-variance weighted	1.64	1.25	2.16	4.E-04			34.92	0.377	
Cancer	Proximal colon cancer	Published GWAS	Weighted median	1.44	0.98	2.11	0.065					
Cancer	Proximal colon cancer	Published GWAS	MR-Egger	1.35	0.53	3.43	0.532	0.00	0.666	34.72	0.340	0.93
Cancer	Proximal colon cancer	Published GWAS	Penalised weighted median	1.41	0.96	2.07	0.083					
Cancer	Rectal cancer	Published GWAS	Inverse-variance weighted	1.25	0.95	1.65	0.111			28.49	0.691	
Cancer	Rectal cancer	Published GWAS	Weighted median	1.21	0.82	1.79	0.344					
Cancer	Rectal cancer	Published GWAS	MR-Egger	1.23	0.49	3.11	0.659	0.00	0.972	28.49	0.645	0.93
Cancer	Rectal cancer	Published GWAS	Penalised weighted median	1.21	0.82	1.80	0.334					
Cancer	Renal cancer	Published GWAS	Inverse-variance weighted	1.78	1.18	2.68	0.006			47.48	0.049	
Cancer	Renal cancer	Published GWAS	Weighted median	1.88	1.09	3.22	0.023					

Cancer	Renal cancer	Published GWAS	MR-Egger	2.84	0.71	11.39	0.141	-0.01	0.489	46.78	0.044	0.93
Cancer	Renal cancer	Published GWAS	Penalised weighted median	1.83	1.07	3.13	0.027					
Cancer	Renal cancer	FinnGen	Inverse-variance weighted	1.01	0.45	2.25	0.988			41.90	0.138	
Cancer	Renal cancer	FinnGen	Weighted median	1.97	0.67	5.83	0.220					
Cancer	Renal cancer	FinnGen	MR-Egger	1.47	0.09	24.58	0.788	-0.01	0.782	41.80	0.115	0.95
Cancer	Renal cancer	FinnGen	Penalised weighted median	2.00	0.67	6.00	0.216					
Cancer	Thyroid cancer	FinnGen	Inverse-variance weighted	1.34	0.63	2.85	0.447			32.94	0.470	
Cancer	Thyroid cancer	FinnGen	Weighted median	2.03	0.66	6.31	0.219					
Cancer	Thyroid cancer	FinnGen	MR-Egger	3.61	0.26	49.79	0.338	-0.02	0.439	32.34	0.450	0.95
Cancer	Thyroid cancer	FinnGen	Penalised weighted median	2.11	0.67	6.61	0.201					