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Appendix 1. Acronyms or abbreviations for studies included in the current report and their key references linked to the Web references

1. General population cohorts

Aichi:	Aichi Workers' Cohort[1]
ARIC:	Atherosclerosis Risk in Communities Study[2]
AusDiab:	Australian Diabetes, Obesity, and Lifestyle Study[3]
Beaver Dam:	Beaver Dam CKD Study[4]
Beijing:	Beijing Cohort Study[5]
CHS:	Cardiovascular Health Study[6]
CIRCS:	Circulatory Risk in Communities Study[7]
COBRA:	COBRA Study[8]
ESTHER:	ESTHER Study[9]
Framingham:	Framingham Heart Study[10]
Gubbio:	Gubbio Study[11]
HUNT:	Nord Trøndelag Health Study[12]
IPHS:	Ibaraki Prefectural Health Study[13]
MESA:	Multi-Ethnic Study of Atherosclerosis[14]
MRC Older People:	MRC Study of assessment of older people[15]
NHANES III:	Third US National Health and Nutrition Examination Survey[16]
Ohasama:	Ohasama Study[17]
Okinawa83:	Okinawa 83 Cohort[18]
Okinawa93:	Okinawa 93 Cohort[19]
PREVEND:	Prevention of Renal and Vascular End-stage Disease Study[20]
Rancho Bernardo:	Rancho Bernardo Study[21]
REGARDS:	Reasons for Geographic And Racial Differences in Stroke Study[22]
Severance:	Severance Cohort Study[23]
Taiwan:	Taiwan MJ Cohort Study[24]
ULSAM:	Uppsala Longitudinal Study of Adult Men[25]

2. High-risk cohorts

ADVANCE:	The Action in Diabetes and Vascular Disease: Preterax and Diamicron Modified Release Controlled Evaluation (ADVANCE) trial[26]
CARE:	The Cholesterol and Recurrent Events (CARE) Trial[27]

KEEP:	Kidney Early Evaluation Program[28]
KPHawaii:	Kaiser Permanente Hawaii Cohort[29]
MRFIT:	Multiple Risk Factor Intervention Trial[30]
Pima:	Pima Indian Study[31]
ZODIAC:	Zwolle Outpatient Diabetes project Integrating Available Care[32]

3. CKD cohorts

AASK:	African American Study of Kidney Disease and Hypertension[33]
BC CKD	British Columbia CKD Study[34]
CRIB:	Chronic Renal Impairment in Birmingham[35]
Geisinger:	Geisinger CKD Study[36]
GLOMMS-1:	GLOMMS-1: Grampian Laboratory Outcomes, Morbidity and Mortality Studies – 1[37]
KPNW:	Kaiser Permanente Northwest[38]
MASTERPLAN:	Multifactorial Approach and Superior Treatment Efficacy in Renal Patients with the Aid of a Nurse Practitioner[39]
MDRD:	Modification of Diet in Renal Disease Study[40]
MMKD:	Mild to Moderate Kidney Disease Study[41]
Nephro Test:	NephroTest Study[42]
RENAAL:	Reduction of Endpoints in Non-insulin Dependent Diabetes Mellitus with the Angiotensin II Antagonist Losartan[43]
Steno:	Steno Type 1 Diabetes Study[44]
Sunnybrook:	Sunnybrook Cohort[45]

Appendix 2. Data analysis overview and analytic notes for some of individual studies

Overview:

The participating studies were asked to prepare a dataset with approximately 30 variables (follow-up time, event variable, and several predictors including age, gender, race and serum creatinine to estimate GFR and albuminuria). To minimize heterogeneity, we circulated guidelines for definitions of variables (e.g. hypertension, diabetes, smoking) and dataset preparation. Analyses were restricted to subjects aged 18 years or older. We instructed studies not to impute the two key kidney measures, eGFR (i.e., age, gender, race, and serum creatinine) and albuminuria. For other variables in the models with missing values we imputed with the mean value of the covariate. Individuals with practically impossible values of covariates, i.e., systolic blood pressure <50 or >300 mmHg or BMI <10 or >100 kg/m^2 were excluded from the analysis (<0.01 %).

For 35 of the 45 studies analysis was done at the Data Coordination Center at Johns Hopkins University; for the remainder the standard code was run in-house at individual study centers, with the output returned to the Data Coordinating Center. The code was written in STATA by the Data Coordinating Center. The standard code was designed to automatically save all output needed for the meta-analysis. The Data Coordinating Center then pooled the estimates across studies using STATA.

Studies were instructed to standardize and calibrate their serum creatinine to their best ability and report the method of standardization. The reported creatinine calibration allows grouping studies into studies that reported using an IDMS traceable method or conducted some serum creatinine calibration to IDMS traceable methods (AusDiab, Beaver Dam, Geisinger, GLOMMS-1, Gubbio, HUNT, KEEP, KPNW, MMKD, NephroTest, NHANES III, Okinawa 83 and 93, Rancho Bernardo, REGARDS) and studies where the creatinine standardization was not done (AASK, ADVANCE, Aichi, ARIC, British Columbia CKD, Beijing, CARE, CHS, CIRCS, COBRA, CRIB, ESTHER, Framingham, IPHS, KP Hawaii, MASTERPLAN, MDRD, MESA, MRC Older People, MRFIT, Ohasama, Pima, PREVEND, RENAAL, Severance, STENO, Sunnybrook, Taiwan, ULSAM, ZODIAC). Retrospective assessment of creatinine calibration without direct collection of laboratory data is limited since substantial creatinine calibration differences have been documented even within a single laboratory using the same method over time.

The reference range of eGFR (90-104 ml/min/1.73 m^2) was chosen based on the optimal level of GFR (≥90 ml/min/1.73 m^2) reported in current clinical guidelines[46, 47] and the fact that some studies have reported higher mortality risk at high eGFR.[48-50] The reference point of eGFR (95 ml/min/1.73 m^2) was then arbitrarily chosen within the reference range but not in the knots (90 and 105) used to create splines.

Following the published results from individual studies, we assumed the proportional hazards model provided the best summary of the data in each study and did not summarize statistics on deviations from proportionality across the covariates.

Notes for individual studies:

1. General population cohorts

CHS: This study consists of participants only aged 65 or older and thus did not contribute to the subgroup analysis of younger population.

COBRA: Current smokers in this study include chewable tobacco users.

ESTHER: This study only measured urine albumin excretion with the minimum detection value of 11.3 mg/L (equivalent to ACR 17 mg/g) and thus its reference proteinuria group (≤11.3 mg/L) was likely to contain individuals with ACR ≥10 mg/g. Therefore, this study was meta-analyzed with the dipstick studies, translating urine albumin excretion (≤11.3, 11.4-19.9, 20-199 and ≥200 mg/L to -, ±, +, and ≥++).

Gubbio: This study consists of participants aged between 45 and 64 and thus did not contribute to the subgroup analysis of older population.

HUNT: This study is a general-population study overall but measured urine albumin mainly in participants with treated hypertension or diabetes. However, this study was categorized as a general population cohort, since they measured albuminuria in a 5% random sample out of ≈65,000 participants and, thus, the relationship between kidney measures and risk was maintained. This study has not collected use of anti-diabetic medication and use of statins (and thus hypercholesterolemia). Most of the glucose measurements were non-fasting.

IPHS: This study categorized their dipstick data - and ± into the same group. Therefore, dipstick data - and ± were treated as a reference group, and this study did not contribute to estimates of dipstick ±.

MRC Older People: This study categorized their dipstick data - and ± into the same group. Therefore, dipstick data - and ± were treated as a reference group, and this study did not contribute to estimates of dipstick ±. This study has not collected total cholesterol. This study consists of participants aged ≥75 years old and thus did not contribute to the subgroup analysis of younger population.

NHANESIII: This study did not collect data on total cholesterol, hypercholesterolemia, or use of anti-diabetic medications.

Ohasama: This study has not collected data on use of anti-diabetic medications.

Okinawa 83: This study has not collected data on fasting glucose, smoking, history of cardiovascular disease, anti-diabetic or anti-hypertensive medications.

Okinawa 93: This study has not collected data on fasting glucose, smoking, history of cardiovascular disease, anti-diabetic or anti-hypertensive medications.

ULSAM: This study measured urinary albumin excretion rate (μg/min), which was converted to mg/day by multiplying 1.44. All participants aged 65 or older and thus this study did not

contribute to the subgroup analysis of younger population. This study consists of only men, thus did not contribute to the subgroup analysis of women.

2. High-risk cohorts

ADVANCE: This study is an intervention study which includes participants with diabetes only.

CARE: This study is an intervention study in which all patients had a previous myocardial infarction. This study did not include dipstick category "+++". Due to many missing values, data for fasting glucose and BMI were not included.

KP Hawaii: In this study for participants with only ACR, PCR was imputed by ACR * 1.5.

MRFIT: This study is an intervention study which includes men only and thus did not contribute to the subgroup analysis of women.

Pima: This study consists entirely of Pima and the closely-related Tohono O'odham Indians. ACR was measured in a spot urine specimen. History of cardiovascular disease was not recorded in this study.

ZODIAC: This study includes only individuals with type 2 diabetes. This study has not collected data on fasting glucose or hypercholesterolemia.

3. CKD cohorts

AASK: This study is an intervention study which includes African American participants only. All participants were free of diabetes.

Geisinger: This study includes all Geisinger primary care recipients, 18 years or older as of index date, and who have CKD, defined as two or more outpatient eGFR values < 60 by CKD-EPI equation. Covariates obtained most closely to index date within a past year were included in models.

GLOMMS-1: This study did not collect data on use of anti-diabetic or anti-hypertensive medication, total cholesterol, systolic or diastolic blood pressure, or BMI. Diabetes and hypertension status were coded based on hospital physician or general practitioner diagnosis recorded in case notes. The ethnicity of the Grampian population is relatively homogenous with overall 98.3% of males and 98.4% of females being white. Indians account for 0.2% of the population, Pakistani and other South Asian individuals account for 0.3%, Chinese 0.3% and 0.8% are recorded as other.[51]

KPNW: This study defined diabetes using their own clinical tool that includes diagnosis codes, treatment codes, and laboratory values. This study has not collected use of anti-diabetic medications.

MASTERPLAN: This study measured ACR in patients with albuminuria in the low range, PCR in patients with overt proteinuria. Thus, for those participants with only ACR, PCR was imputed by ACR * 1.5.

MDRD: This study has not collected use of anti-diabetic or anti-hypertensive medications, use of statins, or hypercholesterolemia.

MMKD: This study measured 24h proteinuria.

RENAAL: This was a randomized controlled trial to determine whether the angiotensin receptor blocker losartan confers renoprotection in patients with type 2 diabetes and nephropathy.

Steno: Although this study has recruited type 1 diabetes mellitus patients with and without diabetic nephropathy, only participants with ACR $\geq$ 30 mg/g at baseline were included in this study as a CKD cohort. All participants had hypercholesterolemia.

Appendix 3. Acknowledgements and funding for collaborating cohorts

Study	List of sponsors
AASK	NIDDK
ADVANCE	National Health and Medical Research Council of Australia program grant 571281; Servier
Aichi	KAKENHI (09470112, 13470087, 17390185, 18590594, 20590641, 20790438, 22390133)
ARIC	The Atherosclerosis Risk in Communities Study is carried out as a collaborative study supported by National Heart, Lung, and Blood Institute contracts (HHSN268201100005C, HHSN268201100006C, HHSN268201100007C, HHSN268201100008C, HHSN268201100009C, HHSN268201100010C, HHSN268201100011C, and HHSN268201100012C). The authors thank the staff and participants of the ARIC study for their important contributions.
AusDiab	The Baker IDI Heart and Diabetes Institute, Melbourne, Australia, their sponsors, and the National Health and Medical Research Council of Australia (NHMRC grant 233200), Amgen Australia, Kidney Health Australia and The Royal Prince Alfred Hospital, Sydney, Australia.
BC Cohort	BC Provincial Renal Agency, an Agency of the Provincial Health Services Authority in collaboration with University of British Columbia.
Beaver Dam	NIH/NIDDK DK73217 NIH/NEI EY 006594
Beijing	The research for this study was supported by the Program for New Century Excellent Talents in University (BMU2009131) from the Ministry of Education of the People's Republic of China, and the grants for the Early Detection and Prevention of Non-communicable Chronic Diseases from the International Society of Nephrology Research Committee.
CARE	Alberta Heritage Foundation for Medical Research/Alberta Innovates Health Solutions Interdisciplinary Team Grants Program
CHS	The research reported in this article was supported by contracts HHSN268201200036C, N01-HC-85239, N01-HC-85079 through N01-HC-85086, N01-HC-35129, N01 HC-15103, N01 HC-55222, N01-HC-75150, N01-HC-45133, and grant HL080295 from the National Heart, Lung, and Blood Institute (NHLBI), with additional contribution from the National Institute of Neurological Disorders and Stroke (NINDS). Additional support was provided through AG-023629, AG-15928, AG-20098, and AG-027058 from the National Institute on Aging (NIA). A full list of principal CHS investigators and institutions can be found at http://www.chs-nhlbi.org/pi.htm.
CIRCS	N/A
COBRA	Wellcome Trust, UK
CRIB	British Renal Society Project Grant Award British Heart Foundation Project Grant Award.

ESTHER	Ministry of Research, Science and the Arts Baden-Württemberg (Stuttgart, Germany), Federal Ministry of Education and Research (Berlin, Germany), Federal Ministry of Family Affairs, Senior Citizens, Women and Youth (Berlin, Germany), European Commission FP7 framework programme of DG-Research (CHANCES Project). Measurement of urinary albumin was funded by Dade-Behring, Marburg, Germany.
Framingham	NHLBI Framingham Heart Study (N01-HC-25195).
Geisinger	Geisinger Clinic
GLOMMS-1	Chief Scientist Office CZH/4/656
Gubbio	Merck Sharp & Dohme – Italy; Municipal and Health Authorities of Gubbio, Italy; Center of Preventive Medicine, Gubbio, Italy; Istituto Superiore di Sanità, Rome, Italy; Federico II University, Naples, Italy; University of Milan, Milan, Italy; Northwestern University, Chicago, USA; University of Salerno, Italy.
HUNT	N/A
IPHS	N/A
KEEP	US National Kidney Foundation
KP Hawaii	N/A
KPNW	Amgen
MASTERPLAN	The MASTERPLAN study is a clinical trial with trial registration ISRCTN registry: 73187232. Sources of funding: The MASTERPLAN Study was supported by grants from the Dutch Kidney Foundation (Nierstichting Nederland, number PV 01), and the Netherlands Heart Foundation (Nederlandse Hartstichting, number 2003 B261). Unrestricted grants were provided by Amgen, Genzyme, Pfizer and Sanofi-Aventis.
MDRD	NIDDK UO1 DK35073 and K23 DK67303, K23 DK02904
MESA	This research was supported by contracts N01-HC-95159 through N01-HC-95169 from the National Heart, Lung, and Blood Institute. The authors thank the other investigators, the staff, and the participants of the MESA study for their valuable contributions. A full list of participating MESA investigators and institutions can be found at http://www.mesa-nhlbi.org.
MMKD	The MMKD study was funded by the Austrian Heart Fund and by the Innsbruck Medical University.
MRC Older People	UK Medical Research Council, Department of Health for England, Wales and the Scottish Office and Kidney Research UK
MRFIT	The Multiple Risk Factor Intervention Trial was contracted by the National Heart, Lung, and Blood Institute (NHLBI), National Institutes of Health (NIH), Bethesda, Md. Follow-up after the end of the trial was supported with NIH/NHLBI grants R01-HL-43232 and R01-HL-68140. The principal investigators and senior staff of the clinical centers, coordinating center, other support centers and key committees are listed in a previous report (JAMA 1982; 248: 1465-1477).

NHANES III	United States Center for Disease Control
NephroTest	The NephroTest CKD cohort study is supported by grants from: Inserm GIS-IReSP AO 8113LS TGIR; French Ministry of Health AOM 09114 and AOM 10245; Inserm AO 8022LS; Agence de la Biomédecine R0 8156LL, AURA, and Roche 2009-152-447G. The Nephrotest initiative was also sponsored by unrestricted grants from F.Hoffman-La Roche Ltd. The authors thank the collaborators and the staff of the NephroTest Study: Gauci C, Karras A, Maruani G, Daugas E, d'Auzac C, Jacquot C, Thervet E, Roland M, Letavernier E, Boffa JJ, Ronco P, Fessi H, du Halgouet C, Vrtovsnik F, Urena P.
Ohasama	Grant-in-Aid(H20-22Junkankitou[Seishuu]-Ippan-009, 013 and H23-Junkankitou [Senshuu]-Ippan-005) from the Ministry of Health, Labor and Welfare, Health and Labor Sciences Research Grants, Japan; Japan Atherosclerosis Prevention Fund.
OKINAWA 83	N/A
OKINAWA 93	N/A
Pima	This work was supported by the Intramural Research Program of the National Institute of Diabetes and Digestive and Kidney Diseases
PREVEND	The PREVEND study is supported by several grants from the Dutch Kidney Foundation, and grants from the Dutch Heart Foundation, the Dutch Government (NWO), the US National Institutes of Health (NIH) and the University Medical Center Groningen, The Netherlands (UMCG). Dade Behring, Marburg, Germany supplied equipment and reagents for nephelometric measurement of urinary albumin.
Rancho Bernardo	NIA AG07181 and AG028507 NIDDK DK31801
REGARDS	This research project is supported by a cooperative agreement U01 NS041588 from the National Institute of Neurological Disorders and Stroke, National Institutes of Health, Department of Health and Human Service. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Neurological Disorders and Stroke or the National Institutes of Health. Representatives of the funding agency have been involved in the review of the manuscript but not directly involved in the collection, management, analysis or interpretation of the data. The authors thank the other investigators, the staff, and the participants of the REGARDS study for their valuable contributions. A full list of participating REGARDS investigators and institutions can be found at http://www.regardsstudy.org Additional funding was provided by an investigator-initiated grant-in-aid from Amgen. Representatives from Amgen did not have any role in the design and conduct of the study, the collection, management, analysis, and interpretation of the data, or the preparation or approval of the manuscript.
RENAAL	The RENAAL trial was supported by Merck and Company.

Severance	Seoul city R&BD program (10526), Korea, The National R&D Program for Cancer Control, Ministry for Health, Welfare and Family affairs, Republic of Korea (1220180), and The National Research Foundation of Korea(NRF) grant funded by the Korea government(MEST) (2011-0029348).
STENO	N/A
Taiwan	This study was supported by Taiwan Department of Health Clinical Trial and Research Centre of Excellence (DOH 101-TD-B-111-004)
ULSAM	The Swedish Research Council (2006-6555), the Swedish Heart-Lung Foundation, Dalarna University, and Uppsala University.
ZODIAC	N/A

Table S1. Number of events per study for Asians, whites, and blacks.

	Asian							White							Black						
		ACM		CVM		ESRD			ACM		CVM		ESRD			ACM		CVM		ESRD	
Study	N	# of case	mean fu	# of case	mean fu	# of case	mean fu	N	# of case	mean fu	# of case	mean fu	# of case	mean fu	N	# of case	mean fu	# of case	mean fu	# of case	mean fu
General Population																					
Aichi	4731	50	7.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARIC*	23	1	10.3	0	10.3	0	10.3	8874	1423	10.6	262	10.6	101	10.6	2537	497	10.5	132	10.5	88	10.4
AusDiab*	-	-	-	-	-	-	-	11063	922	9.9	204	7.5	-	-	-	-	-	-	-	-	-
Beaver Dam	12	0	13.5	0	13.5	-	-	4827	1536	11.6	688	11.6	-	-	1	0	14.3	0	14.3	-	-
Beijing*	1559	57	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHS*	3	2	8.1	0	8.1	-	-	2476	1459	8.4	552	8.4	-	-	495	261	8.6	102	8.6	-	-
CIRCS	11871	1597	17.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBRA*	2872	212	4.1	95	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESTHER	-	-	-	-	-	-	-	9641	489	5.0	160	5.0	-	-	-	-	-	-	-	-	-
Framingham*	-	-	-	-	-	-	-	2956	301	10.5	144	10.5	-	-	-	-	-	-	-	-	-
Gubbio*	-	-	-	-	-	-	-	1681	117	10.7	-	-	-	-	-	-	-	-	-	-	-
HUNT*	-	-	-	-	-	-	-	9659	2287	12.0	1144	12.0	91	12.0	-	-	-	-	-	-	-
IPHS	95451	15490	14.0	4733	14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MESA*	799	31	6.2	3	6.2	-	-	2598	121	6.4	29	6.4	-	-	1859	107	6.1	23	6.1	-	-
MRC	-	-	-	-	-	-	-	12371	7068	6.4	2996	6.4	-	-	-	-	-	-	-	-	-
NHANES III*	-	-	-	-	-	-	-	6381	1225	8.3	572	8.3	-	-	4275	476	8.5	176	8.5	-	-
Ohasama	1956	279	10.4	88	10.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Okinawa83	9599	-	-	-	-	97	16.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Okinawa93	93216	-	-	-	-	165	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PREVEND*	181	14	9.5	2	9.3	-	-	8012	617	9.7	178	9.3	-	-	84	5	9.3	2	9.1	-	-
RanchoBernardo*	8	0	13.7	0	13.7	-	-	1465	547	10.5	186	10.5	-	-	1	1	13.2	1	13.2	-	-
REGARDS*	-	-	-	-	-	-	-	16352	1505	5.2	-	-	52	5.2	10954	1138	4.9	-	-	136	4.9
Severance	76201	2530	10.0	424	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Taiwan	515573	18433	8.1	3720	8.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ULSAM*	-	-	-	-	-	-	-	1103	462	11.6	210	11.6	-	-	-	-	-	-	-	-	-
Overall GP	814055	38696	9.2	9065	9.1	262	7.9	99459	20079	8.4	7325	8.6	244	8.4	20206	2485	6.6	436	8.6	224	5.9
High Risk																					
ADVANCE*	4132	302	4.8	164	4.8	-	-	6264	636	4.8	327	4.8	-	-	35	2	5.0	1	5.0	-	-
CARE	-	-	-	-	-	-	-	3798	333	4.8	185	4.8	-	-	132	17	4.8	12	4.8	-	-
KEEP	4330	84	4.0	-	-	-	-	35715	1406	4.1	-	-	-	-	24571	647	4.3	-	-	-	-
KPHawaii†	-	-	-	-	-	-	-	39884	1590	2.4	-	-	330	2.4	-	-	-	-	-	-	-
MRFIT	132	62	25.3	36	25.3	3	23.5	11548	6128	25.0	2865	25.0	243	23.4	930	522	24.6	230	24.6	46	23.0
Pima*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZODIAC*	-	-	-	-	-	-	-	1095	455	7.9	194	7.9	-	-	-	-	-	-	-	-	-
Overall HR	8594	448	4.7	200	5.4	3	23.5	98304	10548	6.0	3571	15.2	573	7.1	25668	1188	5.0	243	21.6	46	23.0
CKD																					
AASK†	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1094	254	8.8	-	-	318	7.5
BC CKD*	4110	1157	3.4	-	-	841	3.2	11414	3043	3.4	-	-	1968	3.2	63	11	3.1	-	-	24	2.8
CRIB*	20	7	6.5	3	6.5	14	3.4	270	104	6.0	54	6.0	128	4.2	18	4	6.8	1	6.8	7	4.7
GeisingerACR*	6	0	1.4	-	-	-	-	3297	449	3.6	-	-	-	-	52	3	3.5	-	-	-	-
GeisingerDip	3	1	5.7	-	-	1	3.4	4450	1023	3.9	-	-	56	3.9	45	2	3.6	-	-	1	3.5
GLOMMS-1ACR*	-	-	-	-	-	-	-	537	314	4.2	117	4.2	-	-	-	-	-	-	-	-	-
GLOMMS-1PCR†	-	-	-	-	-	-	-	470	261	4.2	86	4.2	85	3.7	-	-	-	-	-	-	-
KPNW	25	6	5.2	-	-	5	4.5	1522	663	4.5	-	-	94	4.4	52	14	4.9	-	-	5	4.7
MASTERPLAN*	26	1	4.1	-	-	5	4.1	586	66	4.1	-	-	76	4.1	18	3	3.9	-	-	3	3.8
MDRD†	-	-	-	-	-	-	-	1385	605	14.0	277	14.0	883	10.1	214	92	14.0	56	14.0	130	10.5
MMKD†	-	-	-	-	-	-	-	202	-	-	-	-	71	4.0	-	-	-	-	-	-	-
NephroTest*	-	-	-	-	-	-	-	839	-	-	-	-	125	2.6	89	-	-	-	-	9	2.5
RENAAL*	252	38	3.0	19	3.0	59	2.7	735	161	3.1	99	3.1	148	2.9	230	37	3.1	21	3.1	44	2.9
STENO	-	-	-	-	-	-	-	886	175	8.8	108	8.8	75	7.8	-	-	-	-	-	-	-
Sunnybrook*	-	-	-	-	-	-	-	3385	-	-	-	-	380	2.3	-	-	-	-	-	-	-
Overall CKD	4442	1210	3.4	22	3.2	925	3.2	29978	6864	4.4	741	8.3	4089	3.8	1875	420	7.6	78	8.3	541	6.6

Abbreviations: ACM, all-cause mortality; CVM, cardiovascular mortality; ESRD, end-stage renal disease; CKD, chronic kidney disease; ACR, urine albumin-to-creatinine ratio; PCR, urine protein-to-creatinine ratio. *Studies with ACR, †Studies with PCR. Within each study any racial groups with <10 events of interest were excluded.

Table S2. Characteristics of individual studies by ethnicity for Hispanics and others.

		Hispanic											Other										
Study	Total N	% N	Age	% Female	%DM	% HTN	% Hx of CVD	% HC	% Smoking	eGFR mean	% Alb	% eGFR <60	% N	Age	% Female	%DM	% HTN	% Hx of CVD	% HC	% Smoking	eGFR mean	% Alb	% eGFR <60
General Population																							
Aichi	4731	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARIC*	11441	0.06%‡	63	57%	0%	29%	0%	43%	14%	89	0%	0%	-	-	-	-	-	-	-	-	-	-	-
AusDiab*	11179	-	-	-	-	-	-	-	-	-	-	-	1%‡	45	72%	17%	24%	6%	37%	27%	90	9%	3%
Beaver Dam	4857	0.2%‡	55	40%	30%	50%	11%	50%	10%	95	10%	0%	0.1%‡	51	14%	0%	29%	14%	29%	29%	61	0%	0%
Beijing*	1559	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHS*	2988	-	-	-	-	-	-	-	-	-	-	-	1%	76	43%	36%	64%	36%	43%	0%	65	29%	36%
CIRCS	11871	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBRA*	2872	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ESTHER	9641	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Framingham*	2956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gubbio*	1681	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HUNT*	9659	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IPHS	95451	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MESA*	6733	22%	61	52%	18%	42%	0%	27%	14%	84	12%	6%	-	-	-	-	-	-	-	-	-	-	-
MRC	12371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NHANES III*	15563	27%	41	50%	13%	21%	7%	N/A	22%	107	11%	2%	4%	44	57%	10%	21%	8%	N/A	21%	101	11%	4%
Ohasama	1956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Okinawa83	9599	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Okinawa93	93216	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PREVEND*	8385	-	-	-	-	-	-	-	-	-	-	-	1%‡	43	43%	9%	24%	5%	27%	37%	93	9%	1%
Rancho Bernardo*	1474	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
REGARDS*	27306	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Severance	76201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Taiwan	515573	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ULSAM*	1103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Overall GP	940366	1%	47	51%	14%	26%	5%	27%	20%	101	12%	3%	0.1%	45	57%	11%	23%	8%	33%	272%	98	11%	4%
Percent using ACR		100%											99%										
High Risk																							
ADVANCE*	10595	-	-	-	-	-	-	-	-	-	-	-	2%	64	38%	100%	80%	23%	60%	17%	74	41%	24%
CARE	4098	4%	58	12%	28%	90%	100%	75%	12%	78	18%	15%	-	-	-	-	-	-	-	-	-	-	-
KEEP	77902	12%	47	67%	28%	53%	9%	N/A	11%	94	12%	7%	5%	51	71%	35%	60%	11%	N/A	19%	88	17%	13%
KP Hawaii†	39884	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MRFIT	12854	1%	46	0%	5%	62%	0%	52%	53%	90	7%	2%	0.5%	44	0%	10%	63%	0%	52%	57%	88	2%	2%
Pima*	5066	-	-	-	-	-	-	-	-	-	-	-	100%	33	56%	27%	18%	0%	6%	28%	120	20%	2%
ZODIAC*	1095	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Overall HR	151494	6%	48	64%	28%	54%	11%	63%	12%	94	12%	7%	6%	41	62%	31%	38%	5%	8%	24%	105	19%	7%
Percent using ACR		0%											55%										
CKD																							
AASK†	1094	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BC CKD*	17426	008%‡	54	33%	50%	N/A	0%	N/A	17%	27	100%	93%	10%	71	44%	21%	N/A	14%	N/A	4%	36	80%	87%
CRIB*	308	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geisinger ACR*	3361	0.09%‡	83	67%	100%	100%	33%	33%	33%	58	0%	100%	0.09%‡	56	33%	67%	100%	0%	67%	0%	52	67%	100%
Geisinger dipstick	4509	0.09%‡	60	75%	75%	75%	50%	50%	0%	31	25%	100%	0.2%‡	68	71%	29%	71%	29%	43%	29%	48	57%	100%
GLOMMS-1 ACR*	537	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GLOMMS-1 PCR†	470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KPNW	1627	-	-	-	-	-	-	-	-	-	-	-	2%‡	68	61%	43%	21%	54%	14%	0%	50	21%	82%
MASTERPLAN*	636	-	-	-	-	-	-	-	-	-	-	-	0.9%‡	55	33%	50%	83%	54%	100%	17%	39	83%	83%
MDRD†	1730	-	-	-	-	-	-	-	-	-	-	-	8%	47	47%	10%	N/A	5%	N/A	10%	40	92%	79%
MMKD†	202	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NephroTest*	928	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RENAAL*	1513	18%	59	46%	100%	95%	21%	61%	16%	40	100%	94%	1%‡	56	58%	100%	89%	21%	74%	11%	37	100%	95%
STENO*	886	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunnybrook*	3385	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Overall CKD	38612	1%	59	46%	97%	95%	21%	61%	16%	39	98%	86%	5%	69	45%	22%	57%	14%	46%	5%	36	80%	86%
Percent using ACR		99%											92%										

Abbreviations: eGFR, estimated glomerular filtration rate; CKD, chronic kidney disease; ACR, urine albumin-to-creatinine ratio; PCR, urine protein-to-creatinine ratio.

*Studies with ACR, †Studies with PCR.

‡Not included in meta-analysis due to small number of events (<10) in this racial group.

Proportion of participants with ACR ≥30 mg/g or PCR ≥50 mg/g or dipstick protein ≥1+.

Figure S1. Crude and age-standardized distribution of eGFR and albuminuria across races in general population cohorts. Panels A (eGFR) and B (albuminuria) show crude distribution, while panels C (eGFR) and D (albuminuria) are adjusted for age by direct standardization using US NHANES III as a reference population. Green, black, and red bars denote the proportions of Asian, white, and black populations, respectively.

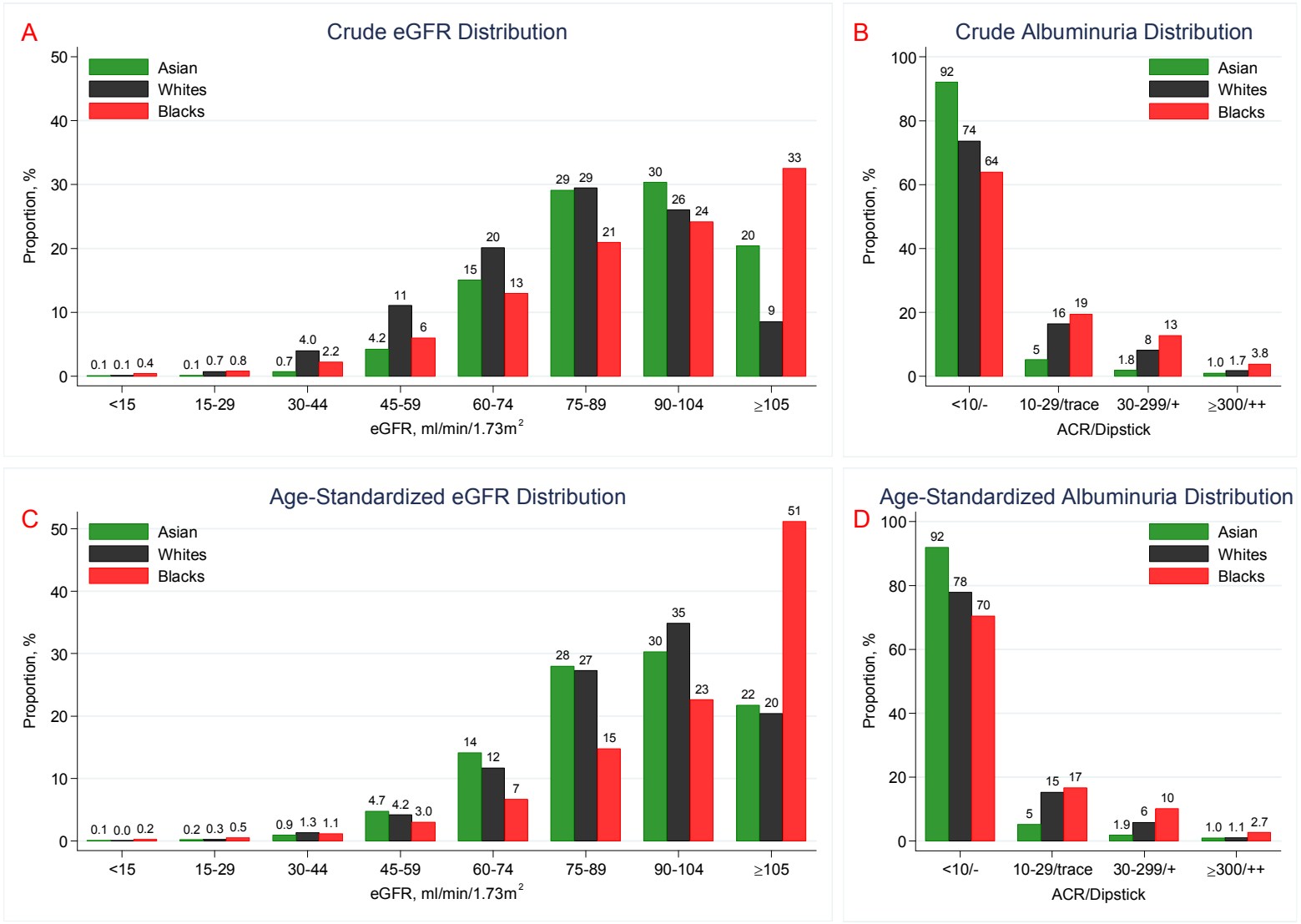
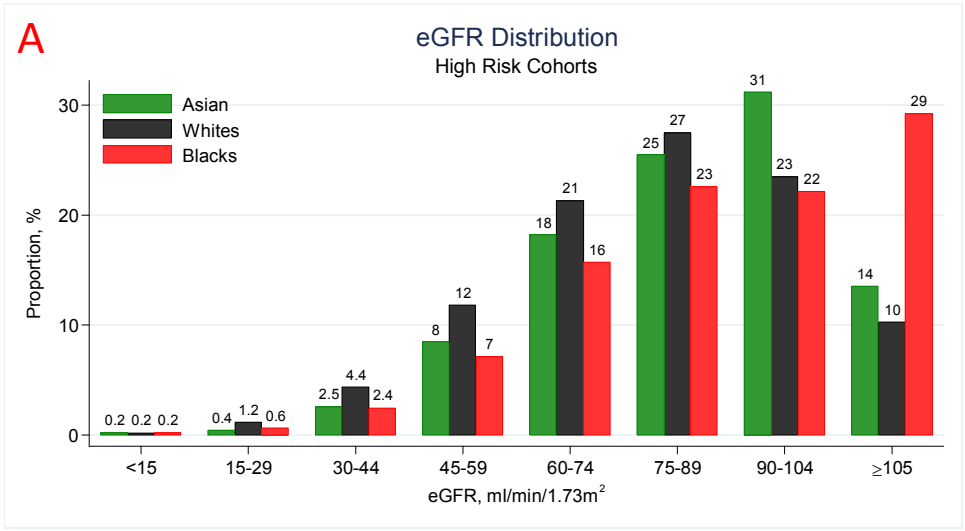
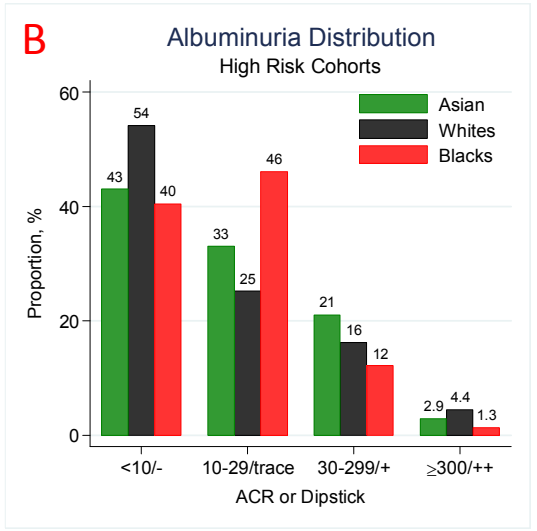
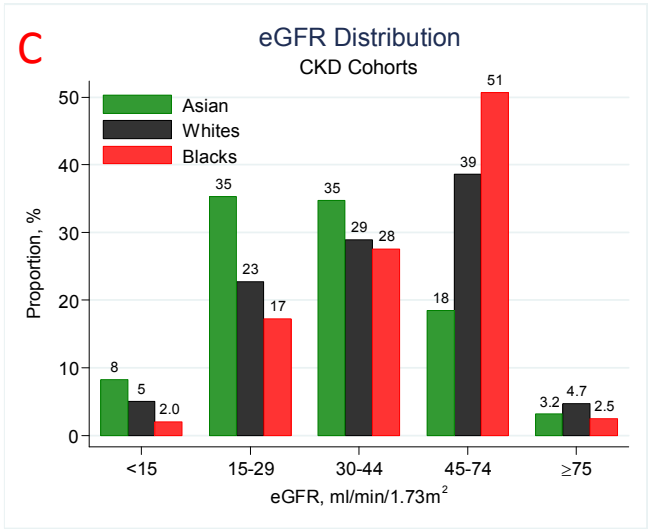


Figure S2. Distribution of eGFR (A and C) and albuminuria (B and D) across races in high risk (A and B) and CKD (C and D) cohorts Panels A (eGFR) and B (albuminuria) show in high risk cohorts, while panels C (eGFR) and D (albuminuria) for CKD cohorts. Green, black, and red bars denote the proportions of Asian, white, and black populations, respectively.







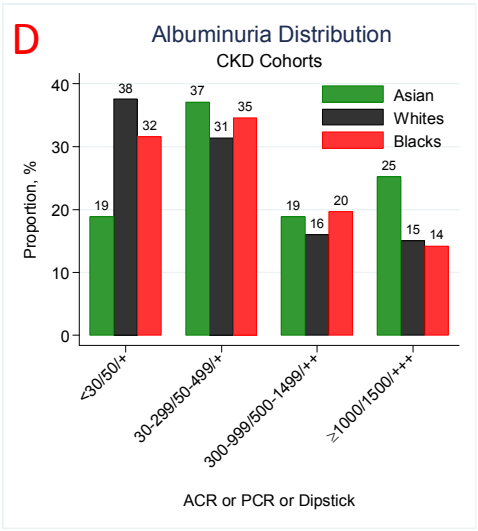
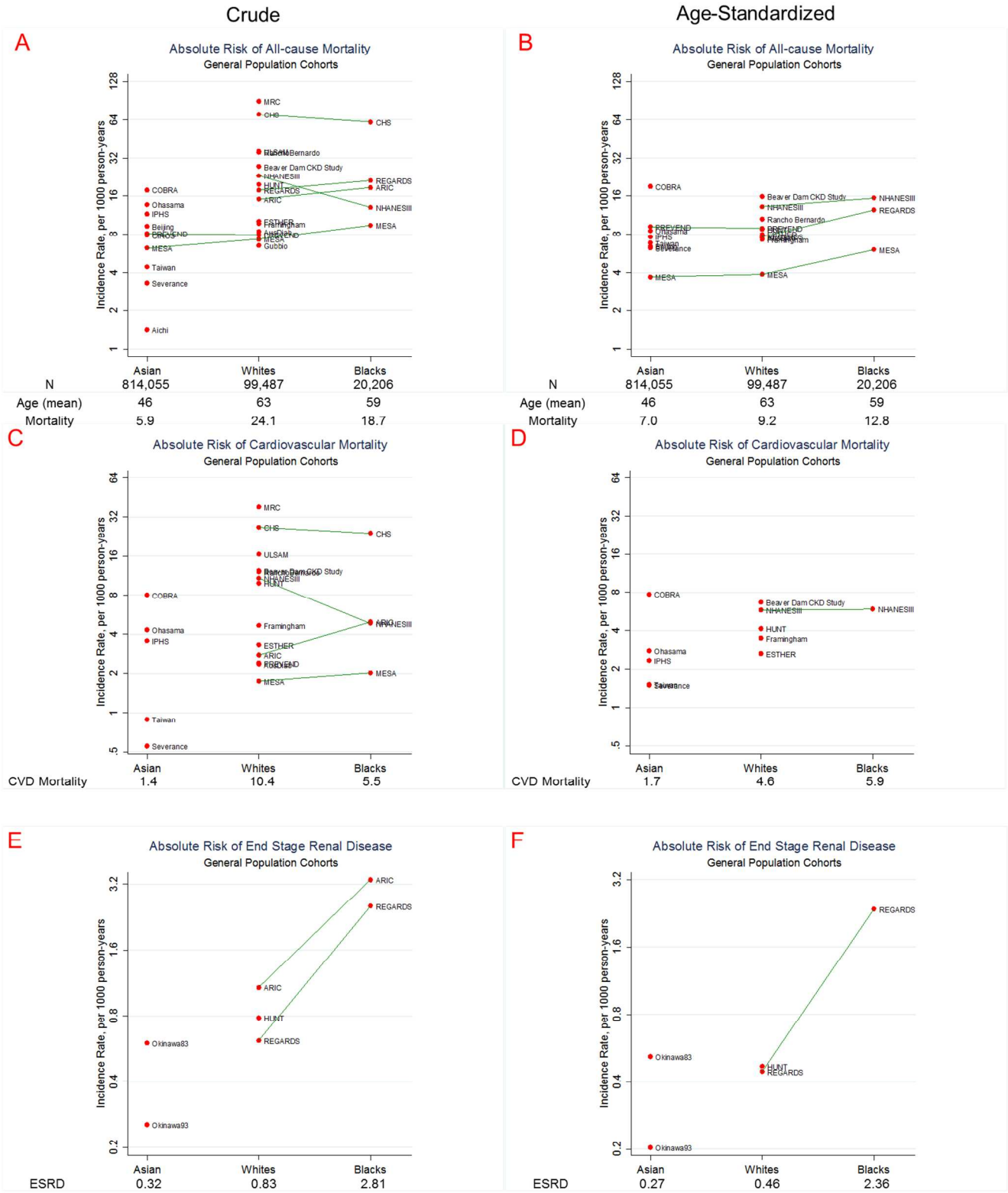
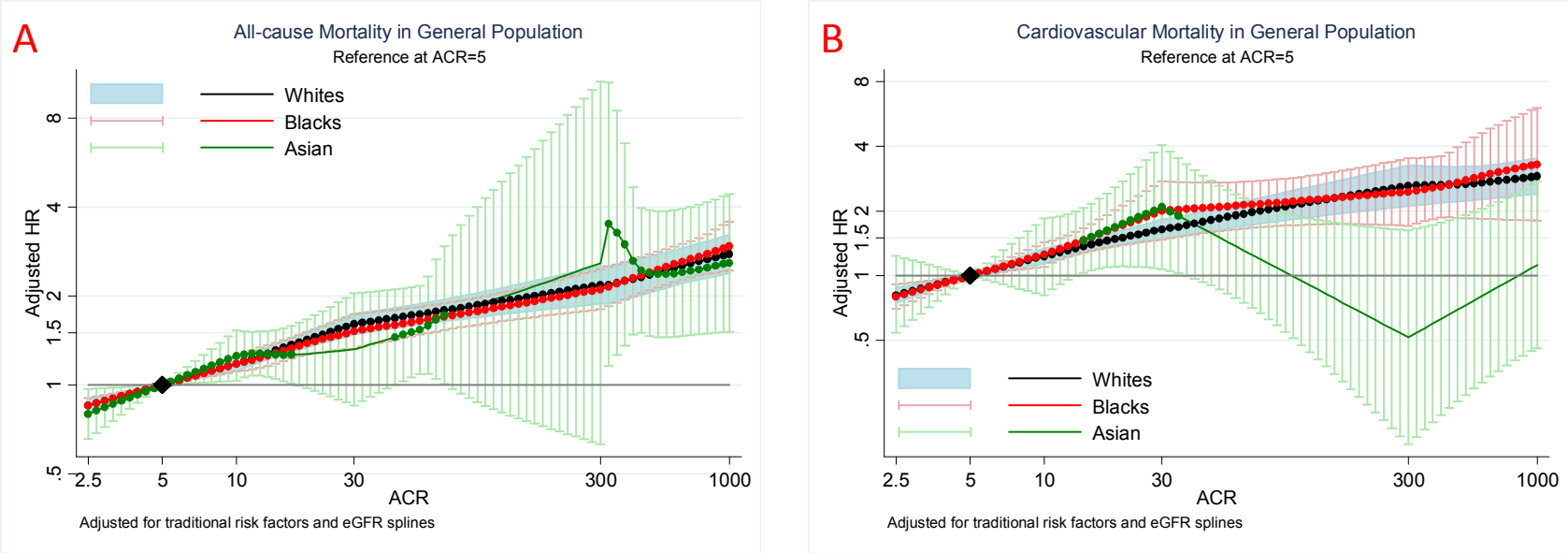


Figure S3. Absolute risk overall of all-cause mortality (A and B), cardiovascular mortality (C and D), and ESRD (E and F) in general population cohorts.



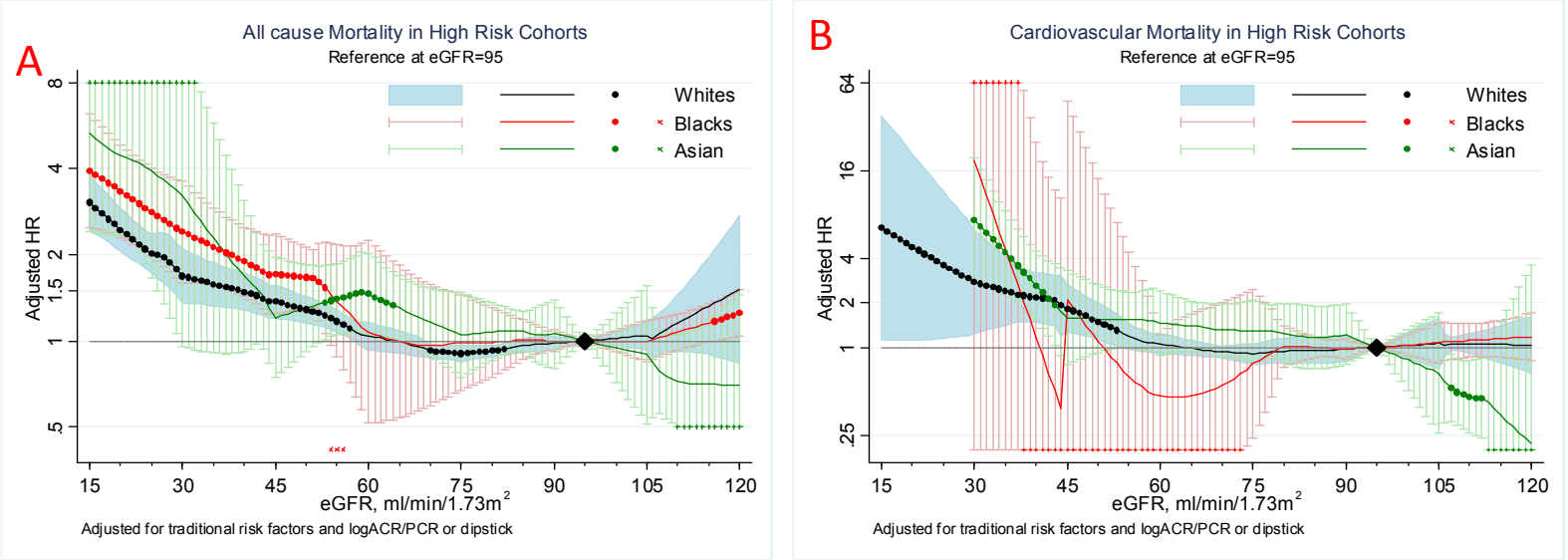
Panels A, C, and E show the unadjusted for age meta-regression analyses and panels B, D, and F show the results adjusted for age.

Figure S4. Association of ACR by ethnicity with all-cause mortality (A) and cardiovascular mortality (B) in general population cohorts



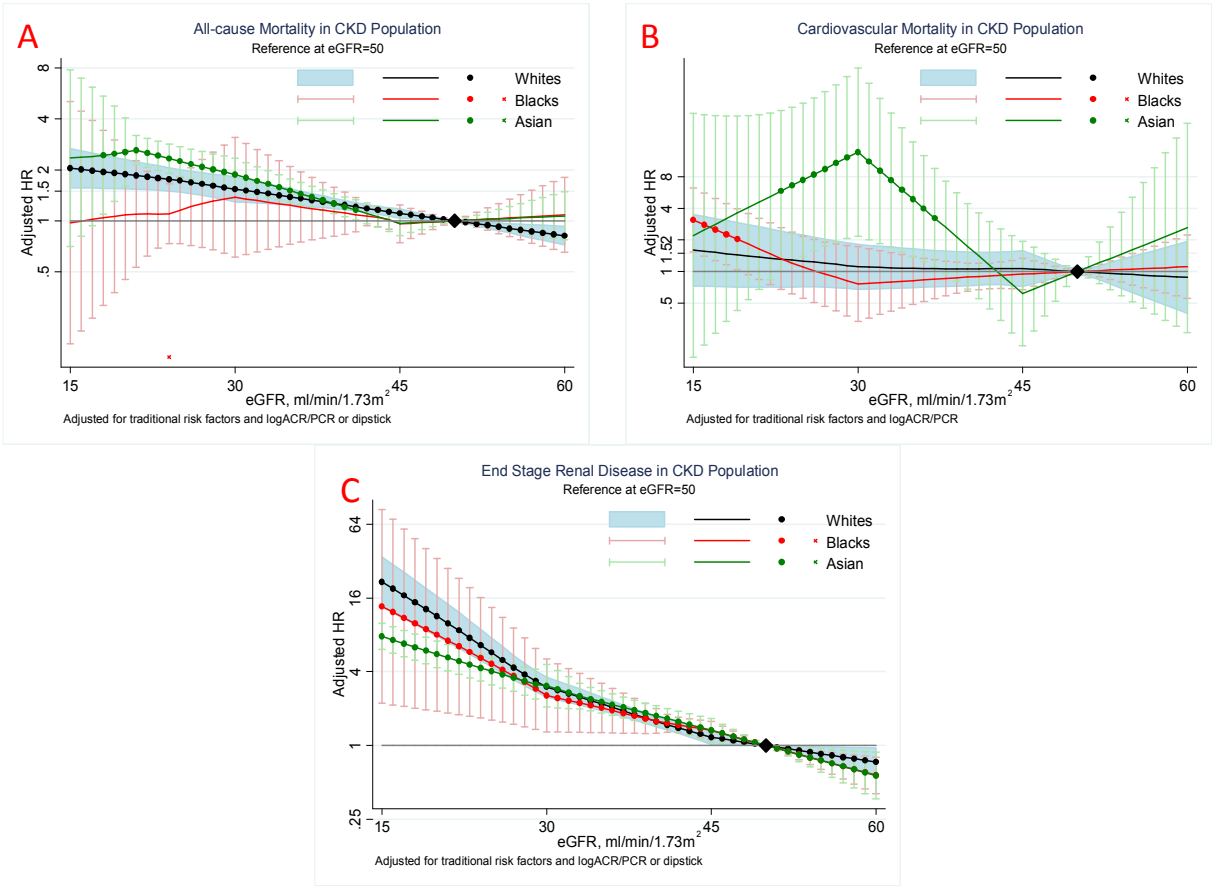
The shaded area or whiskers represent 95% CIs. The reference (diamond) is ACR 5 mg/g. Dots represent statistically significant points. HRs were adjusted for age, sex, smoking, systolic blood pressure, history of cardiovascular disease, diabetes, serum total cholesterol concentration, body mass index, and eGFR splines. Model does not converge for ESRD in general population with ACR (only 2 studies with multiple ethnicities and ESRD as an outcome)

Figure S5. Association of eGFR by ethnicity with all-cause mortality (A) and cardiovascular mortality (B) in high risk cohorts



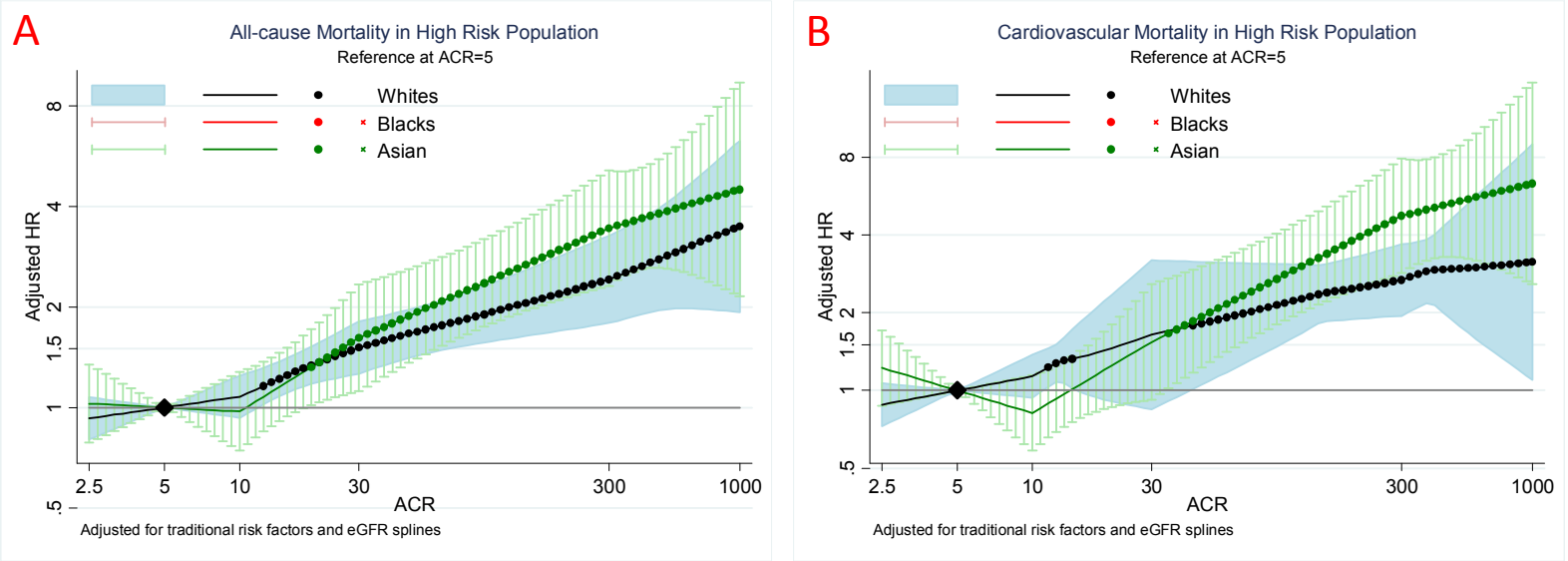
The shaded area or whiskers represent 95% CIs. The reference (diamond) is eGFR 95 mL/min/1.73m^2. Dots represent statistically significant points. HRs were adjusted for age, sex, smoking, systolic blood pressure, history of cardiovascular disease, diabetes, serum total cholesterol concentration, body mass index, and albuminuria. Model does not converge for ESRD in High Risk Population (only 2 studies with multiple ethnicities and ESRD as an outcome).

Figure S6. Association of eGFR by ethnicity with all-cause mortality (A), cardiovascular mortality (B), and ESRD (C) in CKD cohorts



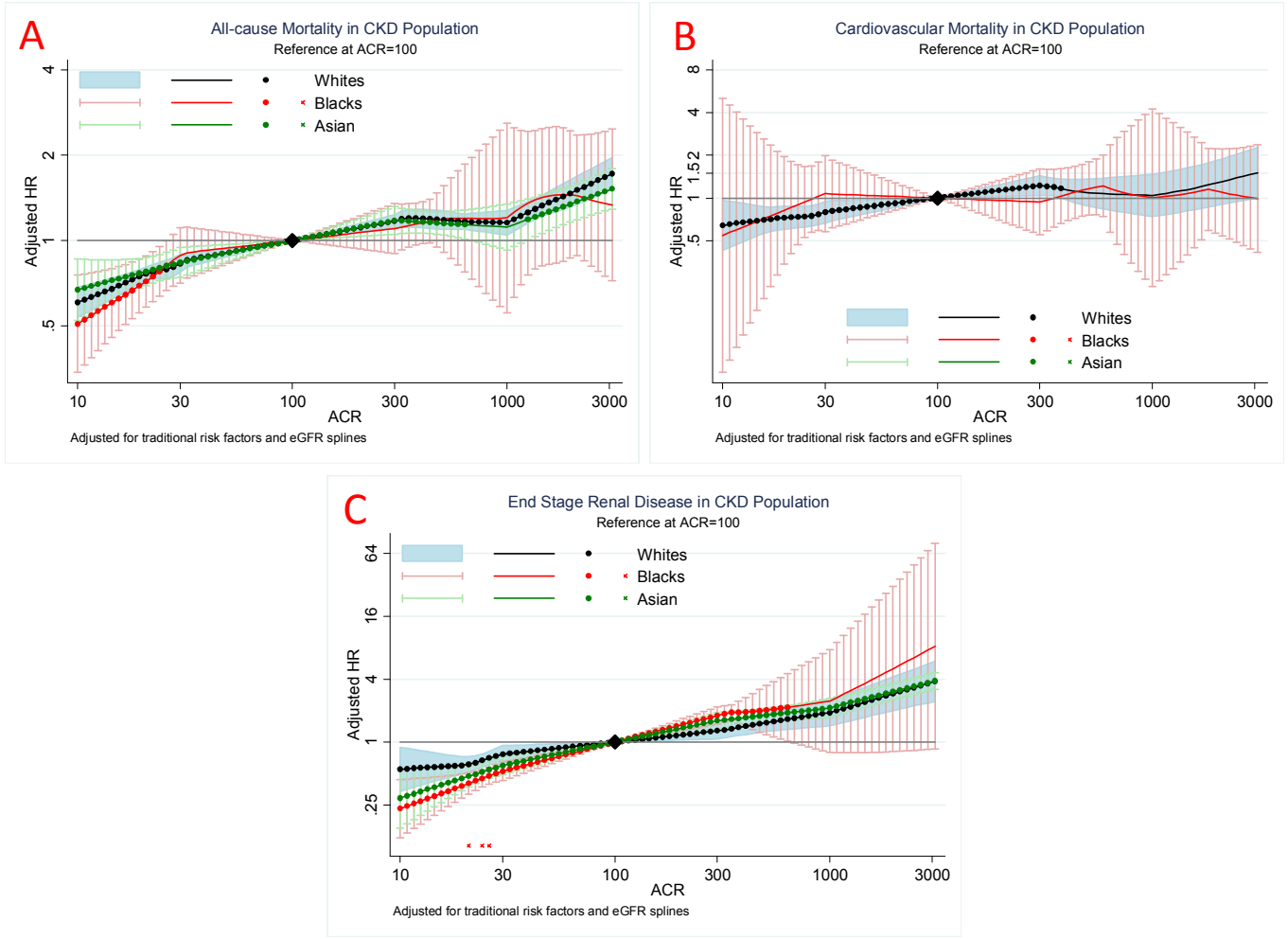
The shaded area or whiskers represent 95% CIs. The reference (diamond) is eGFR 50 mL/min/1.73m^2. Dots represent statistically significant points. HRs were adjusted for age, sex, smoking, systolic blood pressure, history of cardiovascular disease, diabetes, serum total cholesterol concentration, body mass index, and albuminuria.

Figure S7. Association of ACR by ethnicity with all-cause mortality (A) and cardiovascular mortality (B) in high risk cohorts



The shaded area or whiskers represent 95% CIs. The reference (diamond) is ACR 5 mg/g. Dots represent statistically significant points. HRs were adjusted for age, sex, smoking, systolic blood pressure, history of cardiovascular disease, diabetes, serum total cholesterol concentration, body mass index, and eGFR splines.

Figure S8. Association of ACR/PCR by ethnicity with all-cause mortality (A), cardiovascular mortality (B), and ESRD (C) in chronic kidney disease cohorts



The shaded area or whiskers represent 95% CIs. The reference (diamond) is ACR 100 mg/g. Dots represent statistically significant points. HRs were adjusted for age, sex, smoking, systolic blood pressure, history of cardiovascular disease, diabetes, serum total cholesterol concentration, body mass index, and eGFR splines.

Figure S9. Forest plot across general population studies by grouping of Asian, white, black at eGFR 45-59 category and albuminuria 30-299 category for all-cause mortality

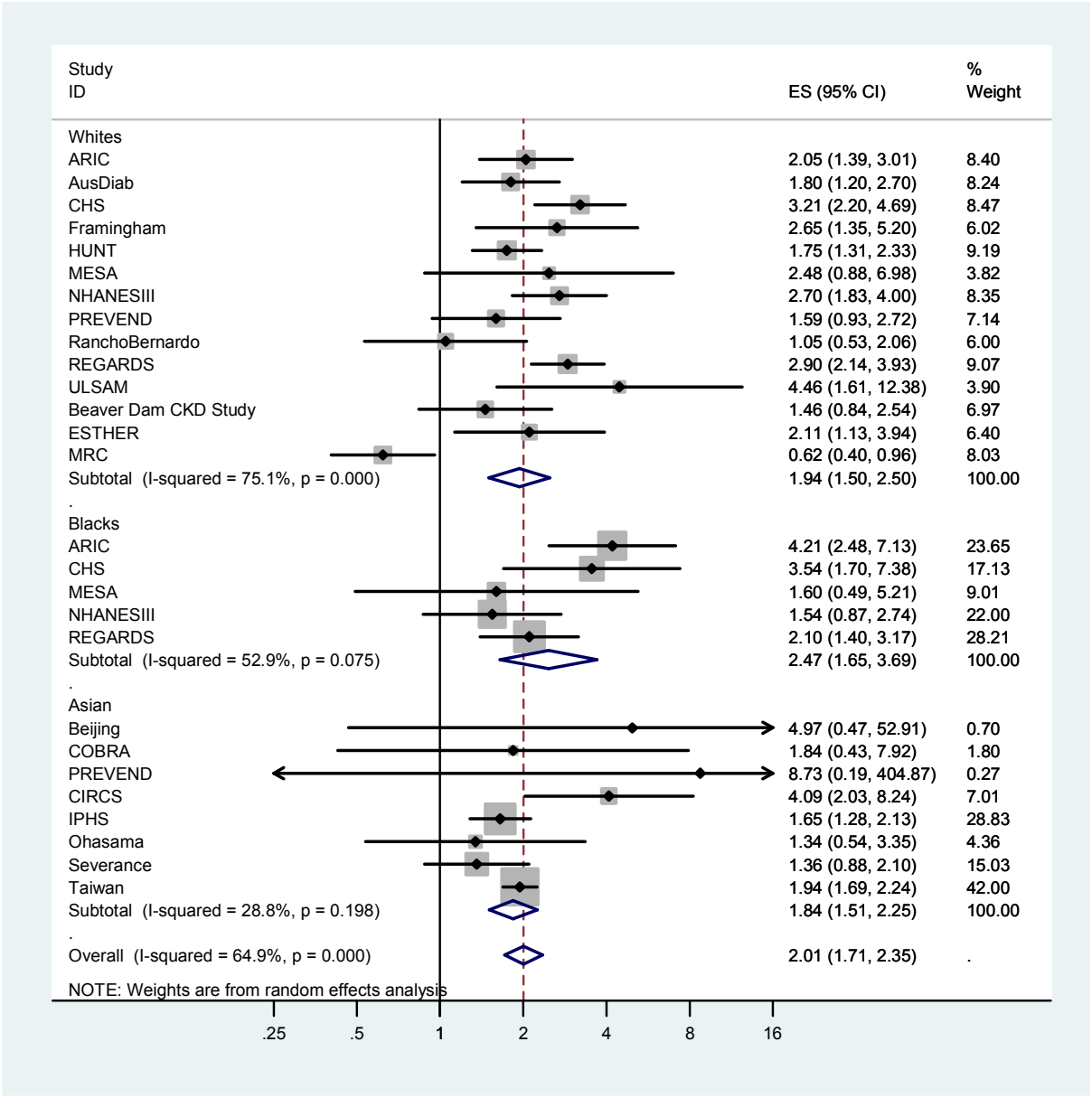


Figure S10. Forest plot across general population studies by grouping of Asian, white, black at eGFR 45-59 category and albuminuria 30-299 category for cardiovascular mortality

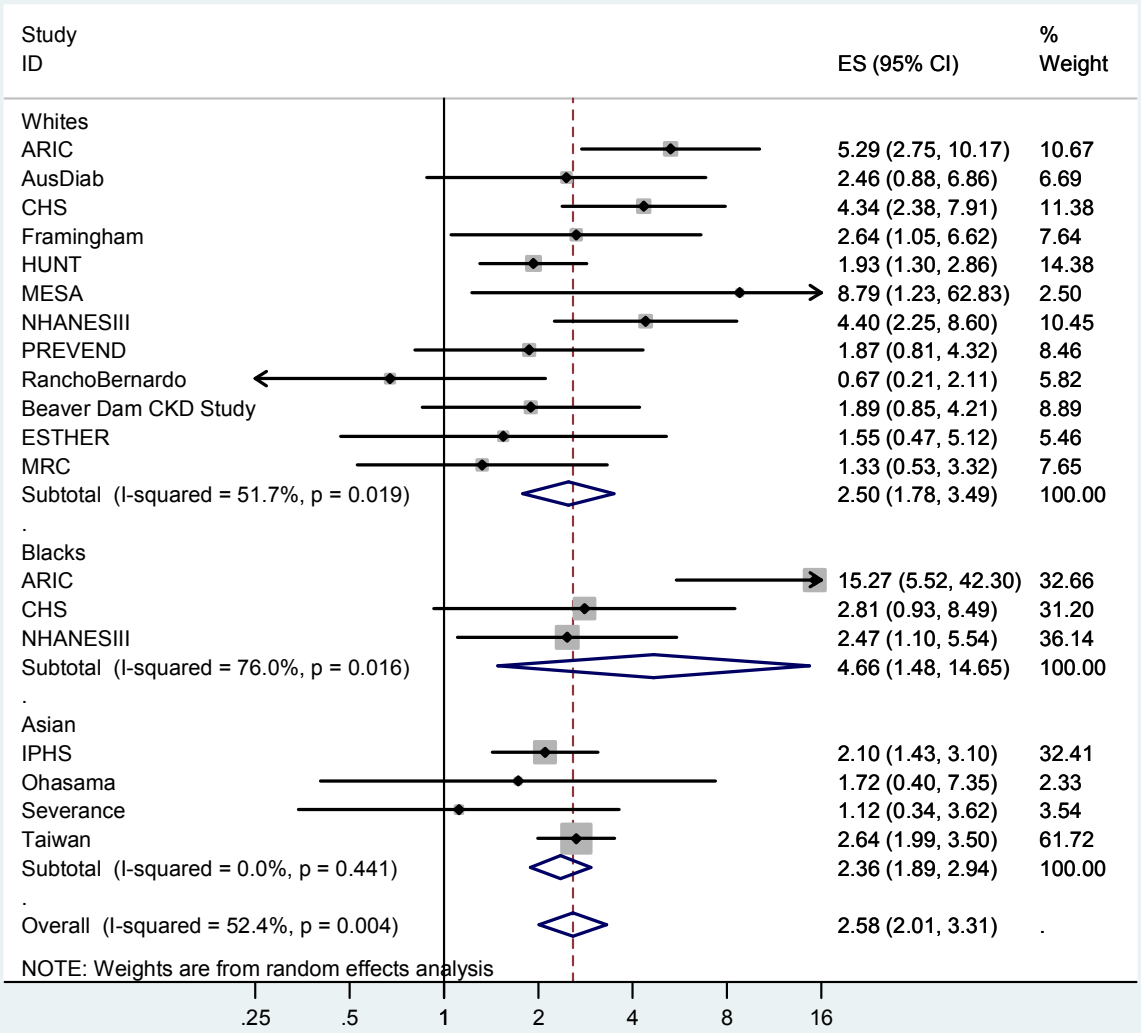


Figure S11. Forest plot across general population studies by grouping of Asian, white, black at eGFR 45-59 category and albuminuria 30-299 category for end-stage renal disease

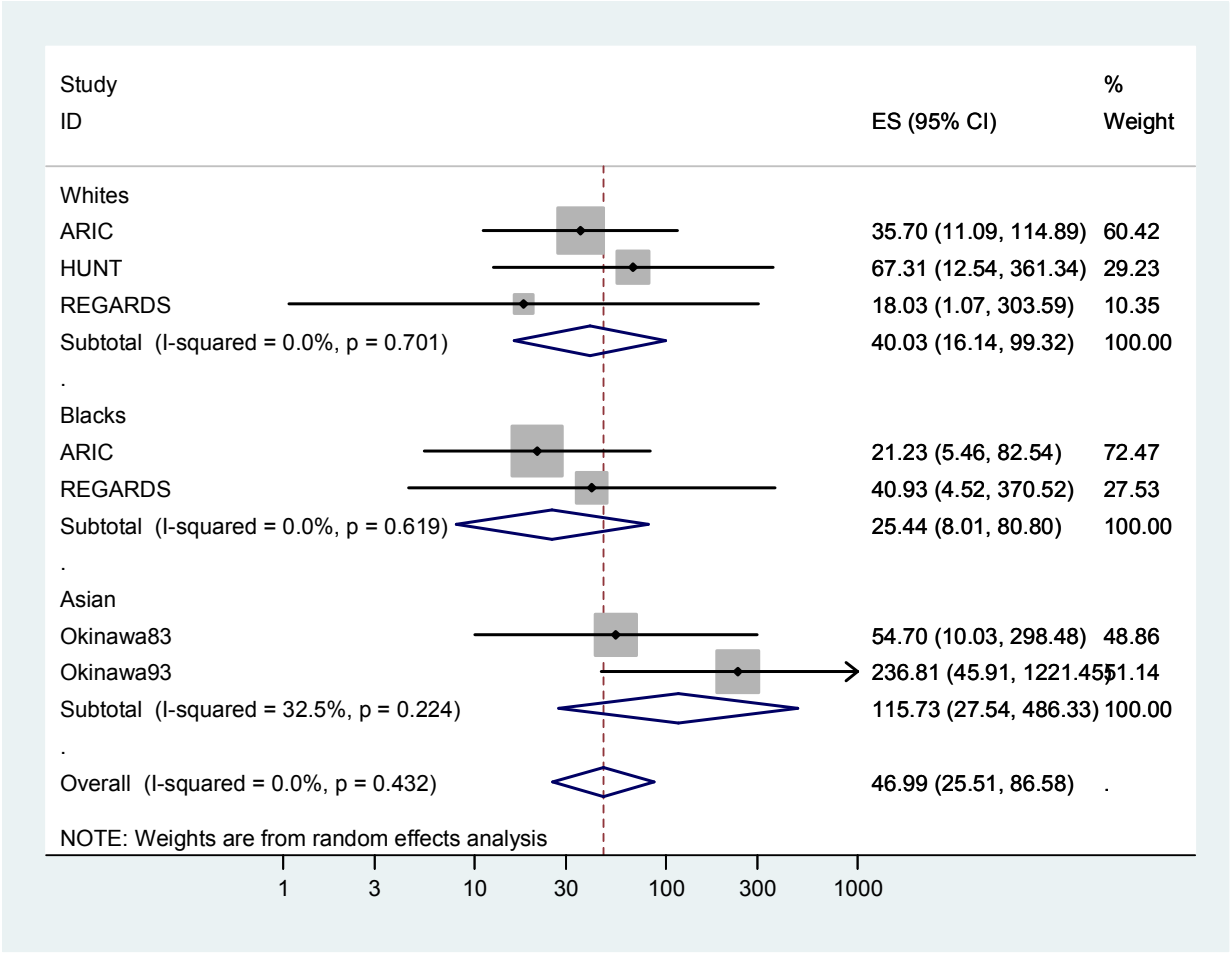
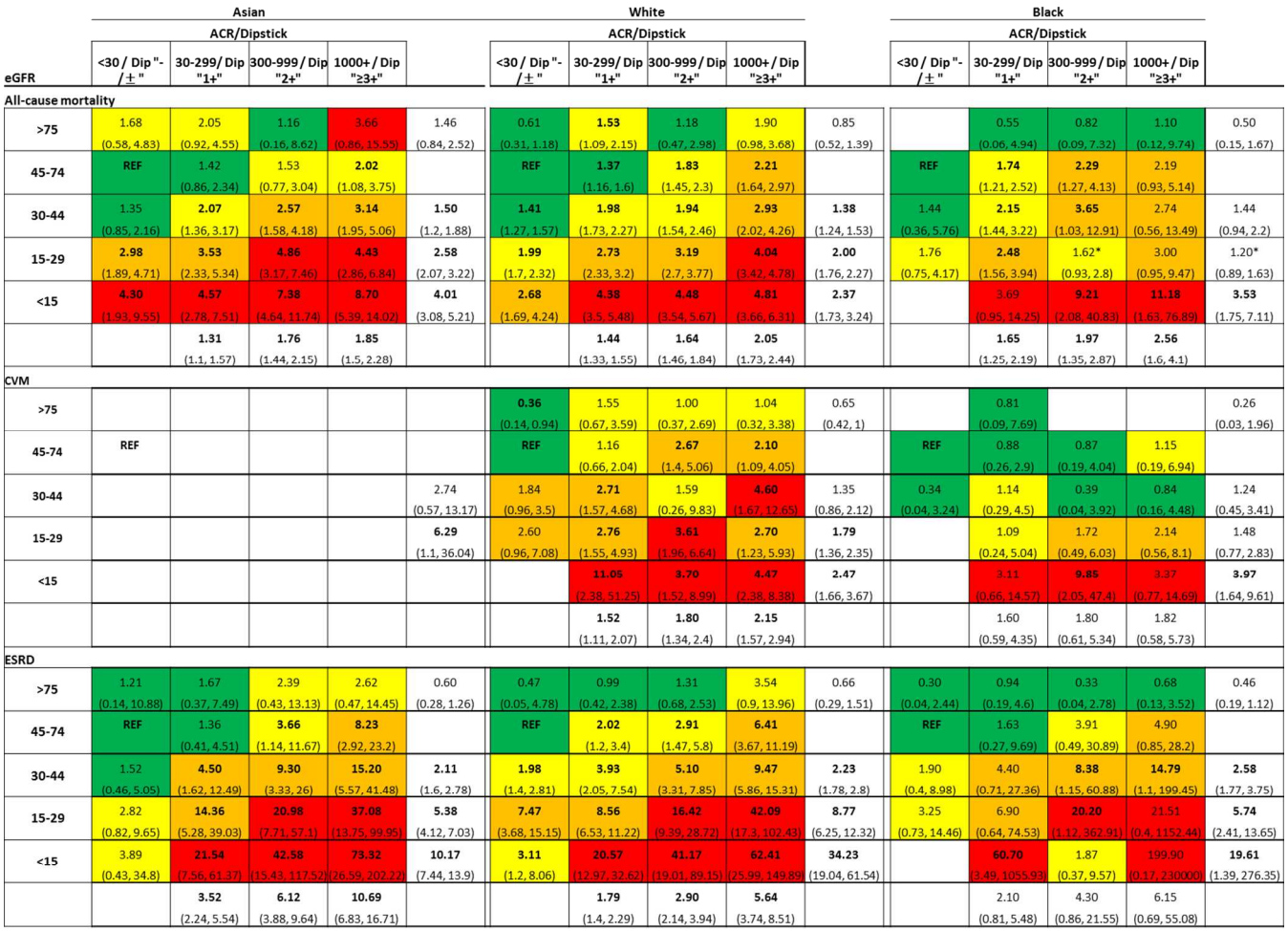


Figure S12. Relative risk of all-cause and cardiovascular mortality according to eGFR and ACR/dipstick categories in whites, Asian, and blacks in high risk cohorts

	Asian					White					Black				
	ACR/Dipstick					ACR/Dipstick					ACR/Dipstick				
			30-299 / Dip					30-299 / Dip					30-299 / Dip		
eGFR	<10 / Dip "-"	10-29 / Dip "±"	"1+"	300+ / Dip "≥2+"		<10 / Dip "-"	10-29 / Dip "±"	"1+"	300+ / Dip "≥2+"		<10 / Dip "-"	10-29 / Dip "±"	"1+"	300+ / Dip "≥2+"	
All-cause mortality															
>105	0.96 (0.31, 2.96)	2.40 (0.85, 6.77)	3.31 (0.98, 11.15)	**4.10** (1.14, 14.72)	1.01 (0.58, 9.91)	**1.26** (1.12, 1.42)	1.68 (0.78, 3.62)	**2.58** (1.25, 5.32)	2.87 (0.75, 10.93)	1.23 (0.94, 1.62)	1.15 (0.77, 1.71)	1.18 (0.83, 1.68)	**2.94** (1.92, 4.51)	2.72 (1, 7.43)	1.08 (0.9, 1.3)
90-104	**REF**	1.61 (0.77, 3.38)	1.54 (0.82, 2.89)	**10.56** (0.9, 123.47)		**REF**	**1.22** (1, 1.48)	**1.85** (1.55, 2.21)	**2.48** (1.52, 4.06)		**REF**	1.30 (0.94, 1.79)	1.82 (0.79, 4.21)	2.51 (0.49, 12.96)	
75-89	1.10 (0.53, 2.27)	1.08 (0.61, 1.9)	**2.14** (1.16, 3.96)	**8.06** (3.69, 17.6)	1.03 (0.74, 1.42)	**0.92** (0.87, 0.98)	1.09 (0.99, 1.21)	**1.58** (1.13, 2.22)	**2.75** (1.52, 5)	**0.93** (0.88, 0.98)	0.98 (0.65, 1.49)	0.99 (0.56, 1.77)	1.49 (0.51, 4.38)	**4.87** (2.36, 10.08)	0.95 (0.77, 1.18)
60-74	1.41 (0.84, 2.38)	1.77 (0.89, 3.5)	**2.33** (1.31, 4.13)	**7.20** (3.1, 16.73)	**1.36** (1.01, 1.82)	**0.91** (0.84, 0.98)	1.14 (0.87, 1.49)	**1.86** (1.41, 2.45)	**3.26** (2.08, 5.11)	0.99 (0.87, 1.13)	0.96 (0.52, 1.78)	1.44 (0.98, 2.12)	**3.53** (2.11, 5.93)	2.92 (0.56, 15.15)	0.96 (0.6, 1.54)
45-59	0.95 (0.38, 2.42)	1.72 (0.52, 5.71)	**4.37** (2.37, 8.03)	**5.47** (2.31, 12.96)	**1.52** (1.06, 2.18)	**1.24** (1.07, 1.43)	**1.87** (1.03, 1.82)	**2.59** (2.12, 3.15)	**3.25** (1.96, 5.4)	**1.20** (1.08, 1.33)	1.55 (0.96, 2.49)	3.49 (0.87, 13.97)	**4.16** (2.49, 6.96)	**5.24** (2.45, 11.22)	**1.62** (1.24, 2.12)
30-44	1.21 (0.16, 9.32)	**3.84** (1.65, 8.95)	**6.84** (3.42, 13.67)	**9.83** (4, 24.16)	2.03 (0.65, 6.34)	**1.68** (1.28, 2.22)	**2.31** (1.8, 2.95)	**3.26** (2.59, 4.1)	**7.03** (4.24, 11.68)	**1.58** (1.37, 1.83)	**2.65** (1.32, 5.32)	**3.31** (1.91, 5.72)	**3.69** (2.01, 6.77)	**8.08** (3.84, 17.01)	**1.97** (1.41, 2.76)
15-29			**15.31** (5.08, 46.09)	3.94 (0.35, 44.91)	**3.50** (1.49, 8.2)	**4.44** (1.8, 10.99)	**3.36** (2.22, 5.08)	**4.35** (3.25, 5.83)	**8.25** (5.23, 13.02)	**2.24** (1.87, 2.69)	**5.14** (1.53, 17.2)	**7.44** (3.19, 17.34)	**5.80** (2.89, 11.64)	**5.22** (2.12, 12.88)	**2.34** (1.47, 3.73)
<15		**24.78** (3.18, 192.87)	**55.50** (8.27, 372.52)	**35.05** (5.46, 224.96)	**6.25** (2.07, 18.86)			**8.51** (3.12, 23.23)	**16.66** (4.6, 60.37)	**3.97** (1.56, 10.07)			**9.10** (2.73, 30.34)	**25.63** (12.49, 52.6)	**5.33** (2.87, 9.91)
		1.28 (0.98, 1.68)	**2.06** (1.56, 2.71)	**4.07** (2.8, 5.91)			**1.23** (1.1, 1.37)	**1.84** (1.58, 2.13)	**2.82** (1.93, 4.11)			1.15 (0.99, 1.34)	1.64 (0.96, 2.8)	**2.81** (1.94, 4.07)	
CV mortality															
>105	0.47 (0.05, 4.17)	1.14 (0.14, 9.48)	3.29 (0.92, 11.77)	3.27 (0.56, 19.2)	0.44 (0.06, 3.2)	1.16 (0.97, 1.4)	3.31 (0.67, 16.36)	**2.92** (1.08, 7.86)	1.47 (0.37, 5.88)	1.16 (0.98, 1.37)	1.06 (0.72, 1.56)	1.10 (0.54, 2.27)	**2.94** (1.25, 6.92)	**5.57** (1.71, 18.2)	1.16 (0.83, 1.62)
90-104	**REF**	1.36 (0.6, 3.08)	1.52 (0.6, 3.8)	**4.12** (1.02, 16.61)		**REF**	1.12 (0.94, 1.34)	1.64 (0.99, 2.72)	2.51 (0.98, 6.41)		**REF**	1.31 (0.69, 2.47)	1.16 (0.41, 3.24)	1.71 (0.45, 6.54)	
75-89	0.95 (0.21, 4.27)	0.88 (0.27, 2.91)	**2.71** (1.05, 6.98)	**15.75** (5.92, 41.91)	0.92 (0.27, 3.07)	1.02 (0.71, 1.46)	1.16 (0.97, 1.39)	**1.65** (1.09, 2.48)	2.82 (0.86, 9.21)	0.97 (0.85, 1.1)	0.93 (0.63, 1.38)	0.76 (0.36, 1.63)	1.27 (0.14, 11.61)	**7.30** (2.23, 23.91)	0.98 (0.69, 1.38)
60-74	1.00 (0.28, 3.62)	1.73 (0.74, 4.03)	**3.57** (1.6, 7.93)	**9.62** (2.01, 46.01)	1.39 (0.69, 2.78)	0.93 (0.83, 1.05)	1.19 (0.76, 1.88)	**2.10** (1.54, 2.86)	**3.30** (1.79, 6.1)	0.97 (0.84, 1.12)	0.75 (0.41, 1.38)	1.78 (0.7, 4.55)		**3.69** (1.13, 12.01)	0.64 (0.18, 2.36)
45-59	0.41 (0.05, 3.48)	1.28 (0.32, 5.16)	**4.96** (1.9, 12.9)	**8.59** (2.58, 28.61)	1.71 (0.98, 3.01)	1.35 (0.83, 2.2)	1.51 (0.99, 2.28)	**4.09** (2.58, 6.5)	**3.35** (1.92, 5.83)	**1.40** (1.04, 1.88)	2.45 (0.58, 10.39)	4.14 (0.09, 181.98)		4.83 (0.65, 35.85)	1.22 (0.25, 6.06)
30-44	2.90 (0.35, 24.26)	3.47 (0.68, 17.75)	**10.68** (3.77, 30.26)	**16.64** (4.66, 59.47)	**4.13** (2.19, 7.79)	1.85 (0.57, 6.05)	**5.14** (2.56, 10.34)	**4.43** (2.25, 8.73)	**12.85** (2.35, 70.24)	**2.20** (1.46, 3.3)				5.95 (0.16, 225.9)	2.96 (0.06, 138.16)
15-29			6.37 (0.75, 54.19)		2.36 (0.32, 17.65)	**201.51** (13.23, 3070.34)	**9.35** (2.14, 40.84)	**8.33** (3.17, 21.85)	**8.06** (1.17, 55.35)	**3.83** (1.15, 12.78)					
<15															
		1.11 (0.71, 1.72)	**2.27** (1.5, 3.43)	**11.01** (1.72, 70.31)			**1.27** (1.02, 1.57)	**1.88** (1.46, 2.42)	**2.45** (1.84, 3.25)			1.15 (0.8, 1.65)	0.90 (0.13, 6.41)	**3.34** (1.84, 6.08)	

Each number represents a pooled hazard ratio from meta-analysis adjusted for covariates and compared with the reference cell (REF) within each race. Bold numbers indicate statistical significance at P<0.05. Color shading indicates the strength of association (approximately one quarter of all cells are shaded in each color; Green: low; yellow: mild; orange: moderate; red: high). All hazard ratios for blacks and Asians are compared with those for whites for interaction using meta-regression, and stars (*) indicate a significant interaction at P<0.05.

Figure S13. Relative risk of all-cause and cardiovascular mortality according to eGFR and ACR/dipstick categories in whites, Asian, and blacks in chronic kidney disease cohorts



	Asian					White					Black				
	ACR/Dipstick					ACR/Dipstick					ACR/Dipstick				
eGFR	<30 / Dip "-/±"	30-299/ Dip "1+"	300-999 / Dip "2+"	1000+ / Dip "≥3+"		<30 / Dip "-/±"	30-299/ Dip "1+"	300-999 / Dip "2+"	1000+ / Dip "≥3+"		<30 / Dip "-/±"	30-299/ Dip "1+"	300-999 / Dip "2+"	1000+ / Dip "≥3+"	
All-cause mortality															
>75	1.68 (0.58, 4.83)	2.05 (0.92, 4.55)	1.16 (0.16, 8.62)	3.66 (0.86, 15.55)	1.46 (0.84, 2.52)	0.61 (0.31, 1.18)	**1.53** (1.09, 2.15)	1.18 (0.47, 2.98)	1.90 (0.98, 3.68)	0.85 (0.52, 1.39)		0.55 (0.06, 4.94)	0.82 (0.09, 7.32)	1.10 (0.12, 9.74)	0.50 (0.15, 1.67)
45-74	REF	1.42 (0.86, 2.34)	1.53 (0.77, 3.04)	**2.02** (1.08, 3.75)		REF	**1.37** (1.16, 1.6)	**1.83** (1.45, 2.3)	**2.21** (1.64, 2.97)		REF	**1.74** (1.21, 2.52)	**2.29** (1.27, 4.13)	2.19 (0.93, 5.14)	
30-44	1.35 (0.85, 2.16)	**2.07** (1.36, 3.17)	**2.57** (1.58, 4.18)	**3.14** (1.95, 5.06)	**1.50** (1.2, 1.88)	**1.41** (1.27, 1.57)	**1.98** (1.73, 2.27)	**1.94** (1.54, 2.46)	**2.93** (2.02, 4.26)	**1.38** (1.24, 1.53)	1.44 (0.36, 5.76)	**2.15** (1.44, 3.22)	**3.65** (1.03, 12.91)	2.74 (0.56, 13.49)	1.44 (0.94, 2.2)
15-29	**2.98** (1.89, 4.71)	**3.53** (2.33, 5.34)	**4.86** (3.17, 7.46)	**4.43** (2.86, 6.84)	**2.58** (2.07, 3.22)	**1.99** (1.7, 2.32)	**2.73** (2.33, 3.2)	**3.19** (2.7, 3.77)	**4.04** (3.42, 4.78)	**2.00** (1.76, 2.27)	1.76 (0.75, 4.17)	**2.48** (1.56, 3.94)	1.62* (0.93, 2.8)	3.00 (0.95, 9.47)	1.20* (0.89, 1.63)
<15	**4.30** (1.93, 9.55)	**4.57** (2.78, 7.51)	**7.38** (4.64, 11.74)	**8.70** (5.39, 14.02)	**4.01** (3.08, 5.21)	**2.68** (1.69, 4.24)	**4.38** (3.5, 5.48)	**4.48** (3.54, 5.67)	**4.81** (3.66, 6.31)	**2.37** (1.73, 3.24)		3.69 (0.95, 14.25)	**9.21** (2.08, 40.83)	**11.18** (1.63, 76.89)	**3.53** (1.75, 7.11)
		1.31 (1.1, 1.57)	**1.76** (1.44, 2.15)	**1.85** (1.5, 2.28)			**1.44** (1.33, 1.55)	**1.64** (1.46, 1.84)	**2.05** (1.73, 2.44)			**1.65** (1.25, 2.19)	**1.97** (1.35, 2.87)	**2.56** (1.6, 4.1)	
CVM															
>75						**0.36** (0.14, 0.94)	1.55 (0.67, 3.59)	1.00 (0.37, 2.69)	1.04 (0.32, 3.38)	0.65 (0.42, 1)		0.81 (0.09, 7.69)			0.26 (0.03, 1.96)
45-74	REF					REF	1.16 (0.66, 2.04)	**2.67** (1.4, 5.06)	**2.10** (1.09, 4.05)		REF	0.88 (0.26, 2.9)	0.87 (0.19, 4.04)	1.15 (0.19, 6.94)	
30-44					2.74 (0.57, 13.17)	1.84 (0.96, 3.5)	**2.71** (1.57, 4.68)	1.59 (0.26, 9.83)	**4.60** (1.67, 12.65)	1.35 (0.86, 2.12)	0.34 (0.04, 3.24)	1.14 (0.29, 4.5)	0.39 (0.04, 3.92)	0.84 (0.16, 4.48)	1.24 (0.45, 3.41)
15-29					**6.29** (1.1, 36.04)	2.60 (0.96, 7.08)	**2.76** (1.55, 4.93)	**3.61** (1.96, 6.64)	**2.70** (1.23, 5.93)	**1.79** (1.36, 2.35)		1.09 (0.24, 5.04)	1.72 (0.49, 6.03)	2.14 (0.56, 8.1)	1.48 (0.77, 2.83)
<15							**11.05** (2.38, 51.25)	**3.70** (1.52, 8.99)	**4.47** (2.38, 8.38)	**2.47** (1.66, 3.67)		3.11 (0.66, 14.57)	**9.85** (2.05, 47.4)	3.37 (0.77, 14.69)	**3.97** (1.64, 9.61)
							1.52 (1.11, 2.07)	**1.80** (1.34, 2.4)	**2.15** (1.57, 2.94)			1.60 (0.59, 4.35)	1.80 (0.61, 5.34)	1.82 (0.58, 5.73)	
ESRD															
>75	1.21 (0.14, 10.88)	1.67 (0.37, 7.49)	2.39 (0.43, 13.13)	2.62 (0.47, 14.45)	0.60 (0.28, 1.26)	0.47 (0.05, 4.78)	0.99 (0.42, 2.38)	1.31 (0.68, 2.53)	3.54 (0.9, 13.96)	0.66 (0.29, 1.51)	0.30 (0.04, 2.44)	0.94 (0.19, 4.6)	0.33 (0.04, 2.78)	0.68 (0.13, 3.52)	0.46 (0.19, 1.12)
45-74	REF	1.36 (0.41, 4.51)	**3.66** (1.14, 11.67)	**8.23** (2.92, 23.2)		REF	**2.02** (1.2, 3.4)	**2.91** (1.47, 5.8)	**6.41** (3.67, 11.19)		REF	1.63 (0.27, 9.69)	3.91 (0.49, 30.89)	4.90 (0.85, 28.2)	
30-44	1.52 (0.46, 5.05)	**4.50** (1.62, 12.49)	**9.30** (3.33, 26)	**15.20** (5.57, 41.48)	**2.11** (1.6, 2.78)	**1.98** (1.4, 2.81)	**3.93** (2.05, 7.54)	**5.10** (3.31, 7.85)	**9.47** (5.86, 15.31)	**2.23** (1.78, 2.8)	1.90 (0.4, 8.98)	4.40 (0.71, 27.36)	**8.38** (1.15, 60.88)	**14.79** (1.1, 199.45)	**2.58** (1.77, 3.75)
15-29	2.82 (0.82, 9.65)	**14.36** (5.28, 39.03)	**20.98** (7.71, 57.1)	**37.08** (13.75, 99.95)	**5.38** (4.12, 7.03)	**7.47** (3.68, 15.15)	**8.56** (6.53, 11.22)	**16.42** (9.39, 28.72)	**42.09** (17.3, 102.43)	**8.77** (6.25, 12.32)	3.25 (0.73, 14.46)	6.90 (0.64, 74.53)	**20.20** (1.12, 362.91)	21.51 (0.4, 1152.44)	**5.74** (2.41, 13.65)
<15	3.89 (0.43, 34.8)	**21.54** (7.56, 61.37)	**42.58** (15.43, 117.52)	**73.32** (26.59, 202.22)	**10.17** (7.44, 13.9)	**3.11** (1.2, 8.06)	**20.57** (12.97, 32.62)	**41.17** (19.01, 89.15)	**62.41** (25.99, 149.89)	**34.23** (19.04, 61.54)		**60.70** (3.49, 1055.93)	1.87 (0.37, 9.57)	199.90 (0.17, 230000)	**19.61** (1.39, 276.35)
		3.52 (2.24, 5.54)	**6.12** (3.88, 9.64)	**10.69** (6.83, 16.71)			**1.79** (1.4, 2.29)	**2.90** (2.14, 3.94)	**5.64** (3.74, 8.51)			2.10 (0.81, 5.48)	4.30 (0.86, 21.55)	6.15 (0.69, 55.08)	

Each number represents a pooled hazard ratio from meta-analysis adjusted for covariates and compared with the reference cell (REF) within each race. Bold numbers indicate statistical significance at P<0.05. Color shading indicates the strength of association (approximately one quarter of all cells are shaded in each color; Green: low; yellow: mild; orange: moderate; red: high). All hazard ratios for blacks and Asians are compared with those for whites for interaction using meta-regression, and stars (*) indicate a significant interaction at P<0.05.

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