APPENDIX

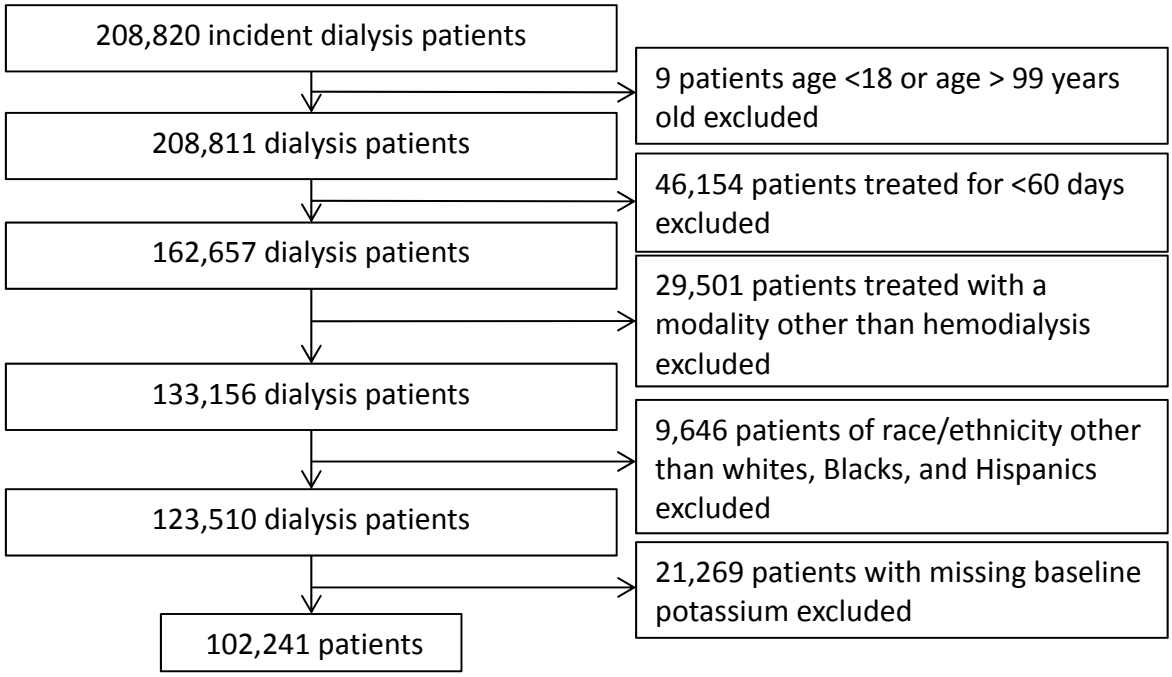
Appendix-Table S1. Association of clinical characteristics with hypokalemia (serum potassium ≤3.6 *vs* >3.6 to ≤5.0 mEq/L) among whites, African-Americans, and Hispanics in case-mix + MICS adjusted logistic regression models.

Factors	Race		
	Whites, OR(95% CI)	African-Americans, OR(95% CI)	Hispanics, OR(95% CI)
Socio-demographic factors			
Age, Δ 10-y	0.88 (0.85 – 0.92)	1.00 (0.96 – 1.04)	0.97 (0.88 – 1.06)
Female, vs Male	1.09 (0.98 – 1.21)	1.18 (1.06 – 1.31)	1.06 (0.84 – 1.34)
Comorbidity factors			
DM	0.87 (0.79 – 0.97)	1.05 (0.95 – 1.16)	0.89 (0.71 – 1.13)
Hypertension	1.22 (1.10 – 1.34)	1.17 (1.06 – 1.28)	1.19 (0.97 – 1.47)
Congestive heart failure	0.93 (0.84 – 1.04)	1.07 (0.97 – 1.18)	0.99 (0.80 – 1.23)
BMI, Δ 1 kg/m^2	1.01 (1.00 – 1.02)	1.00 (0.99 – 1.00)	1.02 (1.00 – 1.03)
Socioeconomic factors			
Medicaid, vs Medicare	1.02 (0.80 – 1.31)	1.08 (0.90 – 1.29)	0.81 (0.57 – 1.14)
Other, vs Medicare	0.96 (0.87 – 1.07)	0.98 (0.89 – 1.08)	0.93 (0.75 – 1.15)
Dialysis related factors			
Access type : AVF, vs CVC	1.14 (0.99 – 1.32)	1.17 (1.01 – 1.37)	0.84 (0.58 – 1.23)
Access type: AVG, vs CVC	1.46 (1.16 – 1.85)	1.20 (0.99 – 1.45)	0.78 (0.39 – 1.55)
Access type: Others, vs CVC	2.12 (0.49 – 9.20)	0.76 (0.18 – 3.20)	n/a
Access type: Unknown, vs CVC	1.51 (1.27 – 1.80)	1.33 (1.12 – 1.58)	1.34 (0.90 – 2.01)
spKt/V, Δ 0.1 unit	1.03 (1.01 – 1.05)	1.02 (1.00 – 1.04)	1.00 (0.96 – 1.04)
HD time, Δ 10 min/session	0.98 (0.96 – 1.01)	1.01 (0.99 – 1.04)	1.04 (0.99 – 1.09)
Ultrafiltration, Δ 1 kg	0.85 (0.80 – 0.91)	0.78 (0.73 – 0.84)	0.69 (0.59 – 0.80)
pre-HD SBP, Δ 10 mmHg	0.94 (0.91 – 0.97)	0.93 (0.90 – 0.96)	0.85 (0.79 – 0.93)
Nutritional factors			
Albumin, Δ 0.1 g/dl	0.94 (0.92 – 0.95)	0.94 (0.93 – 0.95)	0.92 (0.90 – 0.95)
Phosphorus, Δ 0.1 mg/dl	0.97 (0.96 – 0.98)	0.97 (0.96 – 0.97)	0.96 (0.95 – 0.97)
BUN, Δ 1 mg/dl	0.96 (0.96 – 0.97)	0.96 (0.96 – 0.97)	0.96 (0.95 – 0.98)
nPCR, Δ 0.1 g/kg/day	0.98 (0.93 – 1.02)	1.00 (0.95 – 1.05)	1.05 (0.95 – 1.16)

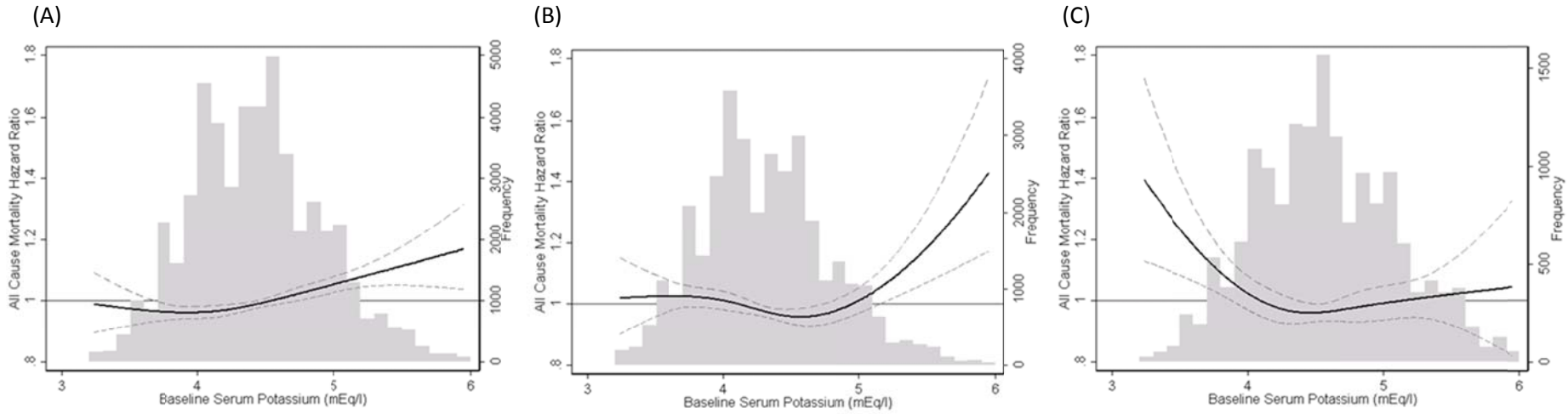
Case-mix + MICS models adjusted for age, sex, diabetes mellitus, primary insurance, vascular access type, spKt/V, HD treatment time, UF, and cardiovascular risk factors including pre-HD systolic BP, pre-HD diastolic BP, BMI, comorbidities, 13 surrogates of nutritional and/or inflammatory status (albumin, hemoglobin, peripheral WBC, lymphocyte percentage, ferritin, TIBC, calcium, phosphorus, bicarbonate, BUN, iPTH, nPCR, and ESA dose).

Abbreviations: OR, odds ratio; CI, confidence interval; BMI, body mass index; AVF, arteriovenous fistula; CVC, central venous catheter; spKt/V, single pool Kt/V; HD, hemodialysis; SBP, systolic blood pressure; BUN, blood urea nitrogen**;** nPCR, normalized protein catabolic rate

Appendix-Figure S1. Algorithm (flow chart) of patient selection for the cohort.

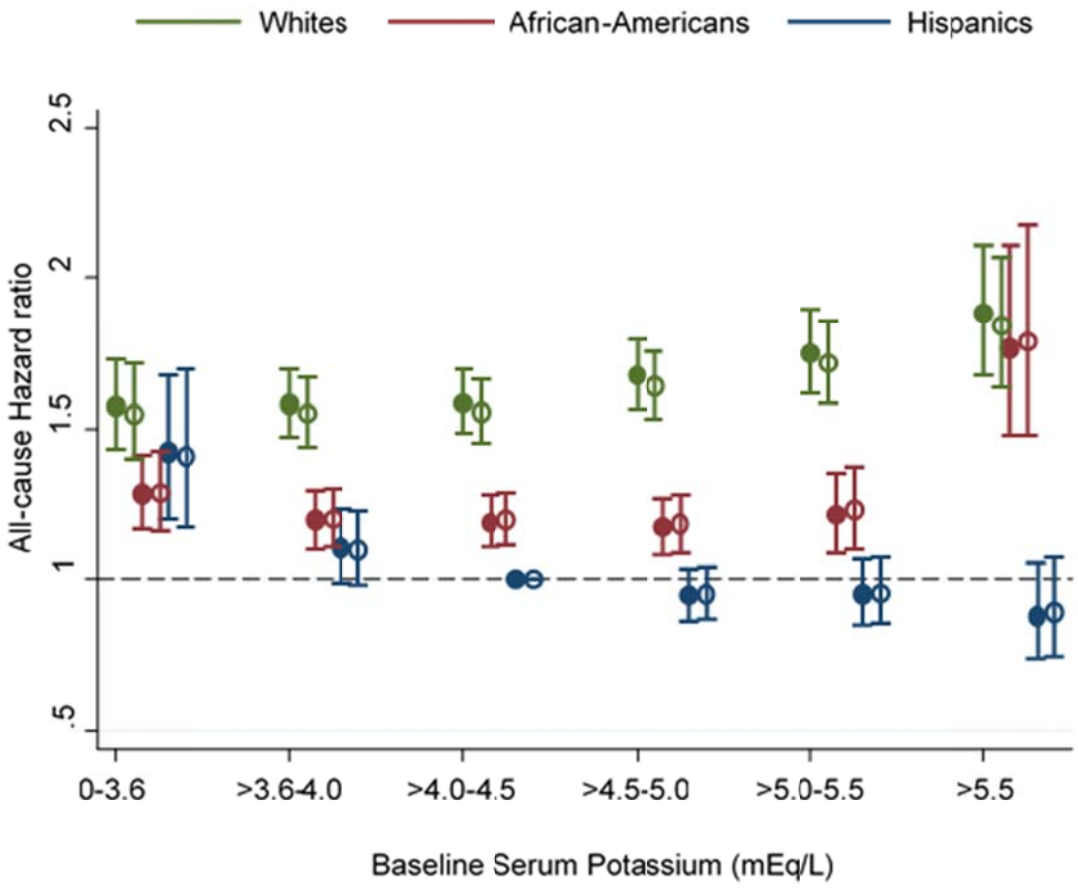


Appendix-Figure S2. Association between serum potassium and all-cause mortality across race/ethnicity in restricted cubic spline analyses with knots defined at the 33rd and 66th percentiles of observed values for each racial/ethnic group in case-mix + MICS models: (A) whites (knots at 4.2 and 4.6 mEq/L), (B) African-Americans (knots at 4.2 and 4.6 mEq/L), and (C) Hispanics (knots at 4.3 and 4.8 mEq/L).



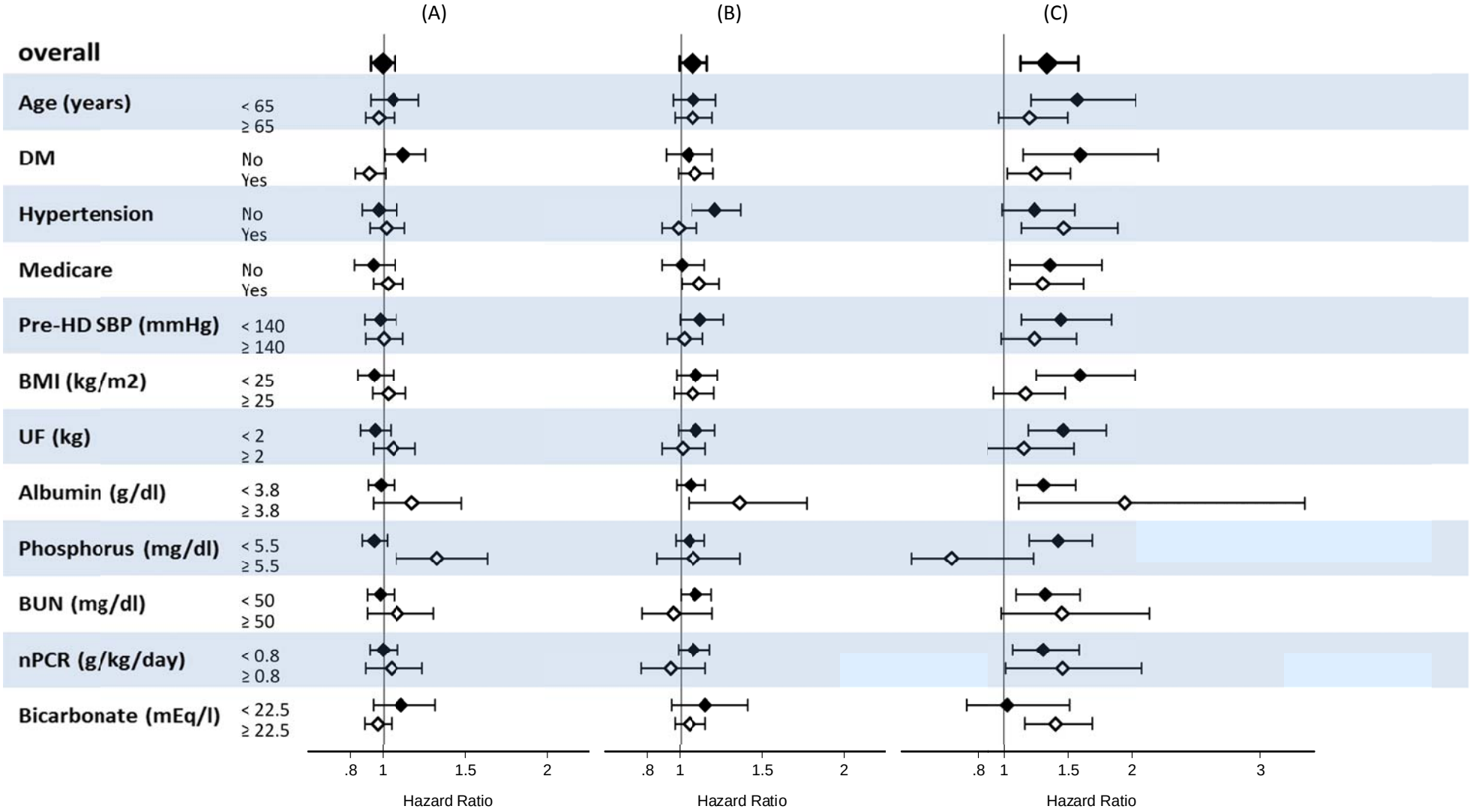
Case-mix + MICS models adjusted for age, sex, diabetes mellitus, primary insurance, vascular access type, spKt/V, HD treatment time, UF, and cardiovascular risk factors including pre-HD systolic BP, pre-HD diastolic BP, BMI, comorbidities, 13 surrogates of nutritional and/or inflammatory status (albumin, hemoglobin, peripheral WBC, lymphocyte percentage, ferritin, TIBC, calcium, phosphorus, bicarbonate, BUN, iPTH, nPCR, and ESA dose).

Appendix-Figure S3. Competing risks analyses of the association between 18 groups stratified by race and baseline serum potassium with all-cause mortality (reference: Hispanics with serum potassium >4.0 to 4.5 mEq/l) in case-mix + MICS adjusted Cox models, accounting for the competing risk of transplantation. (solid circle: standard Cox regression analyses, open circle: competing risks regression analyses)



Case-mix + MICS models adjusted for age, sex, diabetes mellitus, primary insurance, vascular access type, spKt/V, HD treatment time, UF, and cardiovascular risk factors including pre-HD systolic BP, pre-HD diastolic BP, BMI, comorbidities, 13 surrogates of nutritional and/or inflammatory status (albumin, hemoglobin, peripheral WBC, lymphocyte percentage, ferritin, TIBC, calcium, phosphorus, bicarbonate, BUN, iPTH, nPCR, and ESA dose).

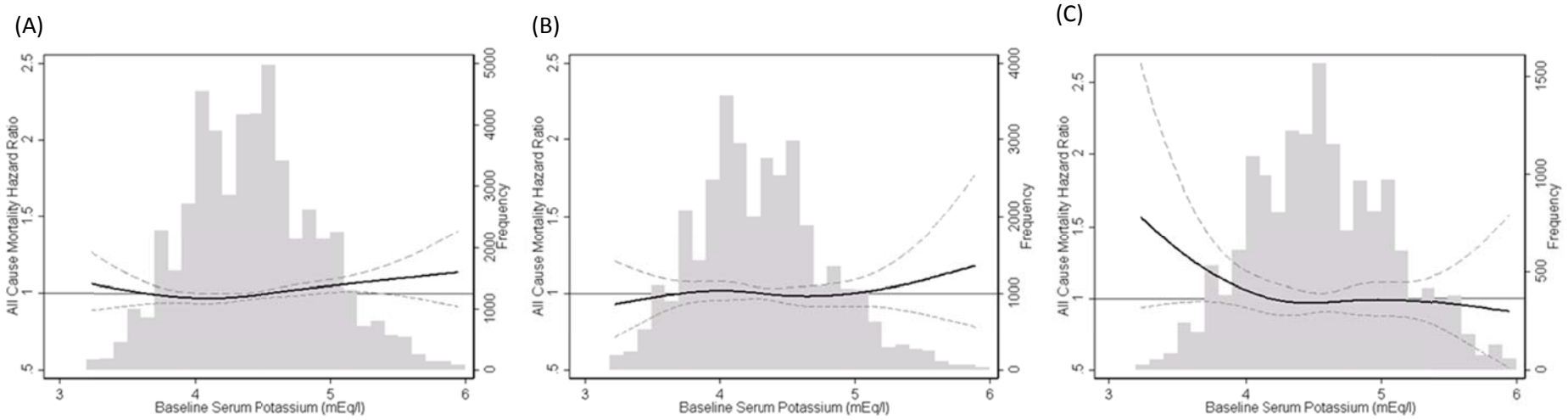
Appendix-Figure S4. Association between hypokalemia (serum potassium ≤3.60 mEq/L) with all-cause mortality (reference: normal serum potassium >3.6 to ≤5.0 mEq/L) across clinically relevant subgroups stratified by race/ethnicity in case-mix + MICS adjusted Cox models. (A) whites, (B) African-Americans, (C) Hispanics.



Case-mix + MICS models adjusted for age, sex, diabetes mellitus, primary insurance, vascular access type, spKt/V, HD treatment time, UF, and cardiovascular risk factors including pre-HD systolic BP, pre-HD diastolic BP, body mass index (BMI), comorbidities, 12 surrogates of nutritional and/or inflammatory status (albumin, hemoglobin, peripheral WBC, lymphocyte percentage, ferritin, TIBC, calcium, phosphorus, bicarbonate, BUN, iPTH, nPCR, and ESA dose).

Abbreviations: DM, diabetes mellitus; HD, hemodialysis; SBP, systolic blood pressure; BMI, body mass index; UF, ultrafiltration; BUN, blood urea nitrogen; nPCR, normalized protein catabolic rate.

Appendix-Figure S5. Association between serum potassium level and all-cause mortality across race/ethnicity in analyses adjusted for case-mix + MICS covariates as well as residual renal function in (A) 20,988 whites (B) 10,684 African-Americans (C) 4,238 Hispanics in 35,910 patients with available data on residual renal function.



Case-mix + MICS models adjusted for age, sex, diabetes mellitus, primary insurance, vascular access type, spKt/V, HD treatment time, UF, and cardiovascular risk factors including pre-HD systolic BP, pre-HD diastolic BP, body mass index (BMI), comorbidities, 12 surrogates of nutritional and/or inflammatory status (albumin, hemoglobin, peripheral WBC, lymphocyte percentage, ferritin, TIBC, calcium, phosphorus, bicarbonate, BUN, iPTH, nPCR, and ESA dose) and residual renal function

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