<u>**SUPPLEMENTARY MATERIALS: TABLE OF CONTENTS**</u>

Appendix Figure S2. Incident chronic kidney disease stage 3 cohort derivation accounting for racial distribution by inclusion and exclusion criteria

Supplementary Appendix 1.

ICD-9 codes used to define prevalent comorbid conditions prior to the index

date Comorbid condition	ICD9 code
Hypertension	401-405
Diabetes mellitus	250.x
Coronary artery disease	414.x
Congestive heart failure	428.x
Cerebrovascular disease	430-438
Dementia	290.0-290.42, 291.2, 294.1, 331.19, 331.82
Liver disease	571.x, 572.x, 456.0-456.21
Chronic lung disease	490-496, 500-505, 506.4
Malignancy	140-172.9, 174-195.8, 200-208.9, 196-199.1
Hemiplegia or paraplegia	344.1, 342-342.9
HIV/AIDS	042-044
Depression	296.2, 296.82, 301.12, 311
Systemic lupus erythematosus	695.4, 710.0
Glomerulonephritis	580-583
Alcohol abuse/disorder	303, 305.0
Drug abuse/Drug dependence	304, 305(exclude 305.0-305.1)
Hepatitis C	V02.62, V12.09, 070.44, 070.54, 070.70-070.71
Tobacco use	305.1

Supplementary Appendix 2. Supplementary Methods related to geocoding

We used data from the US Census to identify the latitude and longitude of the centroid of every zip code in the United States.[1] In instances where zip code centroid data was not available through the US Census, we supplemented the data by using additional sources on zip code latitude and longitude as described below. We then merged these data with patient and VA hospital zip code and used STATA VINCENTY package to calculate the distance between the given latitudes and longitudes (i.e. between patient zip code to the VA center). In addition, we used patient zip codes to determine neighborhood socioeconomic status (SES) using the Agency for Health Care Related Quality's SES index.[2] To identify if a zip code is located in a rural area, we used data from the Center for Medicare & Medicaid Services (CMS).[3]

Missing zip code latitude and longitude: Using data from the United States 2010 Census, we were able to estimate the patient home zip code and VA zip code latitude and longitude in about 85% of instances (86.4% for CKD 3 & 84.2% for CKD 4). Certain VA zip codes and patient reported zip codes (including PO Boxes) were not captured through US Census data, and in such instances we used additional comprehensive (including PO Box and military zip codes) zip code latitude and longitude data available on-line (http://www.sqldbpros.com/2011/11/free-zip-code-city-county-state-csv/). To validate the accuracy of the additional comprehensive database as compared to the US Census, we estimated the difference between both datasets and found that the in 50% of instances the difference was less than 2 miles and the maximum difference in distance was about 12.3 miles.

Appendix Table 1A. Baseline characteristics by race among patients with stage 4 chronic kidney disease: Laboratory values

	Non-Hispanic white N=39,767	Non-Hispanic black N=12,747	Hispanic white N=4,017	Hispanic black N=236
Proteinuria (≥300 mg/g), n (%)[a]	13,861 (35%)	6,289 (49%)	2,586 (64%)	170 (72%)
Median serum phosphate, mg/dl (IQR)[b]	3.7 (3.3-4.1)	3.7 (3.2-4.1)	3.9 (3.4-4.4)	3.7 (3.3-4.1)
Median intact parathyroid hormone level, pg/ml (IQR)[c]	85 (54-129)	118 (78-179)	94 (62-143)	104 (68-164)
Median hemoglobin, g/dl (IQR)[d]	11.8 (10.7-13.0)	11.4 (10.3-12.6)	11.7 (10.7-12.9)	11.2 (10.4-12.6)

[a] Proteinuria data were calculated using the maximum value in the one year prior to the index date, and were missing in 52% of patients

[b] For each individual patient, the phosphate data were calculated using the mean value available in the one year prior to the index date, and were missing in 61% of patients. The table shows the median value taken from the population of patients.

[c] For each individual patient, PTH data were calculated using the mean value available for that patient in the one year prior to the index date, and were missing in 77% of patients. The table shows the median value taken from the population of patients

[d] For each individual patient, hemoglobin data were calculated using the mean value available for that patient in the one year prior to the index date, and were missing in 19% of patients. The table shows the median value taken from the population of patients.

Appendix Table 1B. Baseline characteristics by race among patients with stage 3 chronic kidney disease[a]

	Overall cohort N=640,704	Non-Hispanic white N=524,357	Non-Hispanic black N=84,476	Hispanic white N=30,272	Hispanic black N=1,599
Median age, years (IQR)	73 (65-80)	74 (66-81)	67 (60-76)	73 (65-81)	75 (66-82)
Male gender, n (%)	619,186	507,242 (97%)	80,667 (95%)	29,710 (98%)	1,567 (98%)
Median duration of follow up, days (IQR)	2089 (1085-3219)	2130 (1113-3248)	1885 (980-3008)	1997 (1014-3233)	1732 (867-2960)
Median eGFR at incident stage 3 CKD, ml/min/1.73m² (IQR)	54 (49-57)	54 (49-57)	53 (48-57)	54 (48-57)	53 (48-57)
Proteinuria (≥300 mg/g), n (%)[b]	70,661 (55%)	47,109 (9%)	14,971 (18%)	6,686 (22%)	450 (28%)
Median serum phosphate, mg/dl (IQR)[c]	3.3 (2.9-3.7)	3.3 (2.9-3.7)	3.3 (3.0-3.8)	3.4 (2.9-3.8)	3.2 (2.9-3.8)
Median intact parathyroid hormone level, pg/ml (IQR)[d]	52 (33-80)	49 (31-75)	62 (40-93)	53 (31-80)	50 (31-81)
Median hemoglobin, g/dl (IQR)[e]	13.9 (12.7-14.9)	14.0 (13.0-15.0)	13.1 (12.0-14.2)	13.7 (12.5-14.8)	13.0 (11.9-14.2)
Medical comorbidities, n (%)					
Diabetes	315,894	247,738 (47%)	48,438 (57%)	18,760 (62%)	958 (60%)
Hypertension	583,151	472,540 (90%)	80,853 (96%)	28,219 (93%)	1,539 (96%)
Congestive heart failure	143,245 (22%)	114,887 (22%)	21,535 (26%)	6,400 (22%)	423 (26%)
Cerebrovascular disease	163,052 (25%)	132,826 (25%)	21,495 (25%)	8,251 (27%)	480 (30%)
Coronary artery disease	301,499 (47%)	256,858 (49%)	31,051 (37%)	12,987 (43%)	603 (38%)
SLE	1,838 (<1%)	1,251 (<1%)	518 (<1%)	63 (<1%)	6 (<1%)
Liver disease	29,184 (5%)	21,981 (4%)	4,534 (5%)	2,557 (8%)	112 (7%)
Hepatitis C	17,709 (3%)	10,259 (2%)	6,028 (7%)	1,342 (4%)	80 (5%)
Chronic lung disease	258,527 (40%)	214,591 (41%)	32,790 (39%)	10,579 (35%)	567 (35%)
Malignancy	18,497 (3%)	14,421 (3%)	3,086 (4%)	911 (3%)	79 (5%)
HIV	3,161 (<1%)	1,490 (<1%)	1,444 (2%)	206 (<1%)	21 (1%)

Hemiplegia	15,717 (2%)	10,897 (2%)	3,613 (4%)	1,131 (4%)	76 (5%)
Depression	204,604	162,740 (31%)	29,449 (35%)	11,839 (39%)	576 (36%)
Dementia	25,759 (4%)	19,700 (4%)	3,403 (4%)	2,495 (8%)	161 (10%)
Social and behavioral characteristics, n (%)					
Alcohol abuse/disorder	72,461 (11%)	51,167 (10%)	16,953 (20%)	4,087 (14%)	254 (16%)
Drug abuse/Drug dependence	27,058 (4%)	14,689 (3%)	10,854 (13%)	1,410 (5%)	105 (7%)
Tobacco use	196,611	157,472 (30%)	31,149 (37%)	7,538 (25%)	453 (28%)
Married	377,421	320,227 (61%)	37,803 (45%)	18,510 (61%)	881 (55%)
Median systolic BP, mmHg (IQR)	136 (128-144)	136 (128-144)	139 (130-147)	137 (128-145)	138 (130-146)
Median diastolic BP, mmHg (IQR)	75 (70-81)	75 (70-80)	79 (73-85)	75 (70-80)	76 (71-82)
Median BMI, kg/m^2 (IQR)	29 (26-33)	29 (26-33)	29 (26-33)	28 (26-32)	28 (25-31)
Percent Service Connection[e], n (%)					
<10%	491,123	406,874 (77%)	60,150 (71%)	22,876 (76%)	1,223 (76%)
10-49%	92,340	72,773 (13%)	15,302 (18%)	4,030 (13%)	235 (15%)
50-99%	41,661	32,921 (6%)	6,494 (7%)	2,167 (7%)	79 (5%)
100%	15,578	11,787 (2%)	2,530 (3%)	1,199 (4%)	62 (4%)
Median distance to VA center, miles (IQR)	23 (10-53)	25 (11-55)	15 (8-44)	17 (8-42)	12 (6-27)
Live in urban setting, n (%)	477,318 (75%)	374,976 (72%)	72,756 (86%)	28,048 (93%)	1,538 (96%)
Lowest socioeconomic quartile, n (%)	139,306 (22%)	85,153 (17%)	35,475 (43%)	17,563 (60%)	1,115 (72%)

Abbreviations: eGFR = estimated glomerular filtration rate. IQR = interquartile range. SLE = systemic lupus erythematous. HIV = Human immunodeficiency virus. BP = blood pressure. BMI = body mass index

[a] Note that this table is limited to veterans with stage 3 chronic kidney disease who are either white, black, Hispanic white or Hispanic black.

[b] Proteinuria data were calculated using the maximum value in the one year prior to the index date, and were missing in 80% of patients

[c] For each individual patient, phosphate data were calculated using the mean value in the one year prior to the index date, and were missing in 94% of patients. The table shows the median value taken from the population of patients. [c] For each individual patient, iPTH data were calculated using the mean value in the one year prior to the index date, and were missing in 98% of patients. The table shows the median value taken from the population of patients.

[d] For each individual patient, hemoglobin data were calculated using the mean value in the one year prior to the index date, and were missing in 27% of patients. The table shows the median value taken from the population of patients.

[e] Percent service connection denotes the amount to which disability and/or medical illness burden are associated with active military service time, and indicates additional compensation and medical services available from the VA.

Appendix Table 2. Unadjusted event rates overall and by race and ethnicity

	CKD4 Cohort: Number within cohort achieving outcome (%)	CKD4 Cohort: Events per 1,000 person-years	CKD3 Cohort: Number within cohort achieving outcome (%)	CKD3 Cohort: Events per 1,000 person-years
Nephrology Referral				
Overall cohort	34873 (60%)	449	97058 (15%)	28
Non-Hispanic white	21740 (55%)	359	63444 (12%)	22
Non-Hispanic black	9523 (74%)	858	25581 (30%)	71
Hispanic white	2538 (63%)	569	5338 (18%)	34
Hispanic black	156 (66%)	706	375 (23%)	53
Nephrology Visit				
Overall cohort	32589 (56%)	370	84332 (13%)	24
Non-Hispanic white	19773 (50%)	287	53700 (10%)	18
Non-Hispanic black	9179 (72%)	719	23065 (27%)	62
Hispanic white	2584 (64%)	562	5131 (17%)	33
Hispanic black	172 (73%)	897	396 (25%)	56
Progression to CKD stage 5				
Overall cohort	11526 (20%)	67	10234 (2%)	3
Non-Hispanic white	5673 (14%)	45	5178 (1%)	2
Non-Hispanic black	4337 (34%)	127	3738 (4%)	8
Hispanic white	1065 (27%)	97	930 (3%)	5
Hispanic black	68 (29%)	117	56 (4%)	7
Progression to doubling of creatinine, CKD stage 5, dialysis, or renal transplantation composite outcome				
Overall Cohort	18509 (32%)	123	56882 (9%)	15
Non-Hispanic white	10217 (26%)	94	38130 (7%)	12
Non-Hispanic black	6011 (47%)	208	13165 (16%)	31
Hispanic white	1631 (41%)	173	4105 (14%)	25
Hispanic black	100 (42%)	208	259 (16%)	33

	Mortality			
	CKD4 Cohort: Number within cohort achieving outcome (%)	CKD4 Cohort: Events per 1,000 person-years	CKD3 Cohort: Number within cohort achieving outcome (%)	CKD3 Cohort: Events per 1,000 person-years
Overall cohort	32895 (57%)	161	188710 (29%)	48
Non-Hispanic white	23476 (59%)	172	153571 (29%)	48
Non-Hispanic black	6337 (50%)	131	22811 (27%)	48
Hispanic white	2300 (57%)	163	8776 (29%)	49
Hispanic black	133 (56%)	165	499 (31%)	58

Appendix Table 3. Cox proportional hazards models for time to nephrology referral and visit

	Nephrology Referral		Nephrology Visit	
	Unadjusted CKD3[a]	Adjusted CKD3[b]	Unadjusted CKD3[a]	Adjusted CKD3[b]
Non-Hispanic white	-	-	-	-
Non-Hispanic black	2.97 (2.93-3.02)	1.99 (1.96-2.03)	3.13 (3.09-3.18)	2.13 (2.09-2.17)
Hispanic white	1.54 (1.49-1.58)	1.38 (1.33-1.42)	1.75 (1.70-1.80)	1.57 (1.52-1.62)
Hispanic black	2.24 (2.03-2.48)	2.04 (1.83-2.27)	2.86 (2.59-3.15)	2.59 (2.33-2.87)
Native Hawaiian/ Pacific Islander	1.39 (1.31-1.48)	1.99 (1.96-2.03)	1.42 (1.33-1.52)	1.29 (1.20-1.39)
American Indian/ Alaskan Native	1.54 (1.43-1.66)	1.37 (1.33-1.42)	1.57 (1.45-1.70)	1.20 (1.09-1.31)
Asian	1.87 (1.73-2.02)	2.04 (1.83-2.27)	2.03 (1.87-2.20)	1.39 (1.23-1.58)
	Unadjusted CKD4[a]	Adjusted CKD4[b]	Unadjusted CKD4[a]	Adjusted CKD4[b]
Non-Hispanic white	-	-	-	-
Non-Hispanic black	1.55 (1.51-1.59)	1.32 (1.28-1.36)	1.68 (1.64-1.72)	1.45 (1.41-1.50)
Hispanic white	1.24 (1.19-1.29)	1.18 (1.13-1.24)	1.44 (1.38-1.50)	1.37 (1.31-1.43)
Hispanic black	1.35 (1.15-1.58)	1.30 (1.10-1.53)	1.77 (1.53-2.06)	1.74 (1.49-2.04)
Native Hawaiian/ Pacific Islander	1.39 (1.26-1.53)	1.27 (1.14-1.42)	1.44 (1.30-1.59)	1.37 (1.22-1.54)
American Indian/ Alaskan Native	1.35 (1.20-1.52)	1.17 (1.02-1.33)	1.40 (1.24-1.58)	1.19 (1.04-1.36)
Asian	1.37 (1.21-1.56)	1.26 (1.07-1.48)	1.67 (1.47-1.89)	1.45 (1.23-1.72)

All results are reported as hazard ratio (95% confidence interval)
[a]Unadjusted; death-censored
[b]Adjusted for Model 1: age, sex, entry eGFR, Median blood pressure, median body mass index, hypertension diabetes, coronary artery disease, cerebrovascular disease, congestive heart failure, depression, hemiplegia, dementia, liver disease, chronic lung disease, malignancy, alcohol abuse, drug abuse, hepatitis C, smoking status, marital status, service connection, socioeconomic status, distance to VA medical center; clustered by medical center; death-censored

Appendix Table 4. Cox proportional hazards models for time to nephrology referral and visit, excluding patients who achieved the outcome prior to meeting inclusion criteria

	Nephrology Referral		Nephrology Visit	
	Unadjusted CKD3[a]	Adjusted CKD3[b]	Unadjusted CKD3[a]	Adjusted CKD3[b]
	N = 627,017		N = 633,918	
Non-Hispanic white	-	-	-	-
Non-Hispanic black	2.83 (2.78-2.88)	1.96 (1.92-2.00)	3.10 (3.05-3.16)	2.15 (2.10-2.19)
Hispanic white	1.58 (1.53-1.63)	1.42 (1.38-1.47)	1.79 (1.74-1.85)	1.62 (1.56-1.67)
Hispanic black	2.20 (2.95-2.48)	2.02 (1.78-2.30)	2.83 (2.51-3.17)	2.61 (2.32-2.95)
Native Hawaiian/ Pacific Islander	1.39 (1.29-1.49)	1.25 (1.15-1.35)	1.39 (1.28-1.50)	1.27 (1.16-1.38)
American Indian/ Alaskan Native	1.51 (1.39-1.65)	1.19 (1.07-1.31)	1.56 (1.42-1.71)	1.21 (1.09-1.34)
Asian	1.65 (1.50-1.82)	1.36 (1.19-1.55)	1.68 (1.51-1.86)	1.42 (1.24-1.64)
	Unadjusted CKD4[a]	Adjusted CKD4[b]	Unadjusted CKD4[a]	Adjusted CKD4[b]
	N = 31,900		N = 35,482	
Non-Hispanic white	-	-	-	-
Non-Hispanic black	1.61 (1.53-1.70)	1.38 (1.30-1.46)	1.81 (1.73-1.90)	1.59 (1.50-1.67)
Hispanic white	1.59 (1.48-1.72)	1.57 (1.45-1.71)	1.71 (1.59-1.84)	1.65 (1.53-1.79)
Hispanic black	1.51 (1.09-2.10)	1.50 (1.05-2.14)	2.33 (1.75-3.09)	2.61 (1.94-3.51)
Native Hawaiian/ Pacific Islander	1.31 (1.05-1.63)	1.14 (0.88-1.47)	1.42 (1.16-1.72)	1.40 (1.12-1.75)
American Indian/ Alaskan Native	1.47 (1.15-1.87)	1.33 (1.02-1.73)	1.40 (1.12-1.76)	1.26 (0.98-1.61)
Asian	1.28 (0.97-1.68)	1.43 (1.03-1.99)	1.83 (1.44-2.33)	1.69 (1.24-2.30)

All results are reported as hazard ratio (95% confidence interval)
[a]Unadjusted; death-censored
[b]Adjusted for Model 1: age, sex, entry eGFR, Median blood pressure, median body mass index, hypertension diabetes, coronary artery disease, cerebrovascular disease, congestive heart failure, depression, hemiplegia, dementia, liver disease, chronic lung disease, malignancy, alcohol abuse, drug abuse, hepatitis C, smoking status, marital status, service connection, socioeconomic status, distance to VA medical center; clustered by medical center; death-censored

Appendix Table 5. Cox proportional hazards models for time to nephrology referral and visit, adjusted for proteinuria, phosphate, intact parathyroid hormone level, and hemoglobin

	Nephrology Referral		
	Unadjusted CKD3[a]	Adjusted CKD3[b]	Adjusted CKD3[c]
Non-Hispanic white	-	-	-
Non-Hispanic black	2.97 (2.93-3.02)	1.59 (1.54-1.63)	1.34 (1.26-1.42)
Hispanic white	1.54 (1.49-1.58)	1.19 (1.13-1.24)	1.25 (1.06-1.47)
Hispanic black	2.24 (2.03-2.48)	1.29 (1.10-1.52)	2.54 (1.58-4.07)
	Unadjusted CKD4[a]	Adjusted CKD4[b]	Adjusted CKD4[c]
Non-Hispanic white	-	-	-
Non-Hispanic black	1.55 (1.51-1.59)	1.20 (1.17-1.23)	1.05 (1.00-1.10)[d]
Hispanic white	1.24 (1.19-1.29)	1.05 (1.01-1.09)	1.16 (1.02-1.31)[d]
Hispanic black	1.35 (1.15-1.58)	1.06 (0.93-1.21)[e]	1.32 (0.85-2.03)[e]
	Nephrology Visit		
	Unadjusted CKD3[a]	Adjusted CKD3[b]	Adjusted CKD3[c]
Non-Hispanic white	-	-	-
Non-Hispanic black	3.13 (3.09-3.18)	1.64 (1.60-1.70)	1.40 (1.32-1.49)
Hispanic white	1.75 (1.70-1.80)	1.39 (1.33-1.45)	1.17 (0.99-1.39)[e]
Hispanic black	2.86 (2.59-3.15)	1.65 (1.40-1.93)	2.74 (1.78-4.23)
	Unadjusted CKD4[a]	Adjusted, CKD4[b]	Adjusted CKD4[c]
Non-Hispanic white	-	-	-
Non-Hispanic black	1.68 (1.64-1.72)	1.26 (1.23-1.30)	1.16 (1.12-1.21)
Hispanic white	1.44 (1.38-1.50)	1.22 (1.18-1.27)	0.93 (0.79-1.08)[e]
Hispanic black	1.77 (1.53-2.06)	1.34 (1.19-1.52)	1.25 (0.79-1.98)[e]

Abbreviations: CKD = chronic kidney disease. All results are reported as hazard ratio (95% confidence interval). All p-values were <0.001.

[a]Unadjusted; death-censored

[b]Adjusted for Model 1: age, sex, entry eGFR, Median blood pressure, median body mass index, hypertension diabetes, coronary artery disease, cerebrovascular disease, congestive heart failure, depression, hemiplegia, dementia, liver disease, chronic lung disease, malignancy, alcohol abuse, drug abuse, hepatitis C, smoking status, marital status, service connection, socioeconomic status, distance to VA medical center, clustered by medical center, using multiple imputation for missing data; death-censored. Also adjusted for proteinuria, restricted to the subgroup of patients with proteinuria values.

[c]Adjusted for Model 1. Also adjusted for phosphate and hemoglobin levels, restricted to the subgroup of patients with these laboratory values

[d]p<0.05

[e]p>0.05

Appendix Table 6. Cox proportional hazards models for time to CKD 5			
	Unadjusted CKD3[a]	**Adjusted CKD3[b]**	**Adjusted CKD3[c]**	**Adjusted CKD3[d]**
Non-Hispanic white	-	-	-	-
Non-Hispanic black	5.09 (4.88-5.31)	2.64 (2.51-2.77)	1.77 (1.68-1.86)	1.12 (1.10-1.13)
Hispanic white	3.26 (3.04-3.50)	2.51 (2.33-2.71)	1.96 (1.82-2.12)	1.01 (0.98-1.03)
Hispanic black	4.22 (3.24-5.49)	3.01 (2.27-3.99)	1.90 (1.44-2.52)	1.19 (1.08-1.30)
Native Hawaiian/ Pacific Islander	2.22 (1.97-2.64)	1.80 (1.48-2.20)	1.57 (1.29-1.92)	0.91 (0.86-0.96)
American Indian/ Alaskan Native	3.18 (2.63-3.83)	2.36 (1.93-2.89)	2.01 (1.64-2.46)	1.03 (0.96-1.10)
Asian	2.97 (2.40-3.67)	2.25 (1.67-3.04)	1.84 (1.37-2.50)	0.73 (0.66-0.81)
	Unadjusted CKD4[a]	**Adjusted CKD4[b]**	**Adjusted CKD4[c]**	**Adjusted CKD4[d]**
Non-Hispanic white	-	-	-	-
Non-Hispanic black	2.70 (2.60-2.81)	1.86 (1.77-1.95)	1.62 (1.55-1.70)	1.17 (1.13-1.20)
Hispanic white	2.07 (1.93-2.21)	1.77 (1.65-1.90)	1.57 (1.46-1.69)	1.12 (1.07-1.17)
Hispanic black	2.52 (1.99-3.21)	1.87 (1.45-2.41)	1.51 (1.17-1.95)	1.31 (1.11-1.53)
Native Hawaiian/ Pacific Islander	1.93 (1.63-2.27)	1.72 (1.43-2.07)	1.55 (1.29-1.86)	1.08 (0.96-1.21)
American Indian/ Alaskan Native	2.33 (1.94-2.79)	1.77 (1.45-2.18)	1.65 (1.34-2.02)	1.13 (0.99-1.30)
Asian	2.62 (2.19-3.15)	1.97 (1.53-2.53)	1.62 (1.25-2.08)	1.06 (0.89-1.25)

All results are reported as hazard ratio (95% confidence interval) unless otherwise indicated
[a]Unadjusted; death-censored
[b]Adjusted for Model 1: age, sex, entry eGFR, Median blood pressure, median body mass index, hypertension diabetes, coronary artery disease, cerebrovascular disease, congestive heart failure, depression, hemiplegia, dementia, liver disease, chronic lung disease, malignancy, alcohol abuse, drug abuse, hepatitis C, smoking status, marital status, service connection, socioeconomic status, distance to VA medical center; clustered by medical center; death-censored
[c]Adjusted for Model 1, in addition to adjustment for nephrology appointment; death-censored
[d]Adjusted for Model 1, composite outcome with death

Appendix Table 7. Cox proportional hazards models for time to doubling of creatinine, CKD 5, dialysis, or renal transplantation

	Unadjusted CKD3[a]	Adjusted CKD3[b]	Adjusted CKD3[c]	Adjusted CKD3[d]
Non-Hispanic white	-	-	-	-
Non-Hispanic black	2.43 (2.38-2.48)	1.74 (1.70-1.79)	1.31 (1.28-1.35)	1.18 (1.16-1.20)
Hispanic white	1.99 (1.92-2.06)	1.76 (1.70-1.83)	1.52 (1.47-1.58)	1.06 (1.03-1.08)
Hispanic black	2.59 (2.27-2.95)	2.19 (1.91-2.52)	1.56 (1.36-1.79)	1.27 (1.16-1.38)
Native Hawaiian/ Pacific Islander	1.24 (1.13-1.35)	1.10 (0.99-1.22)	1.03 (0.93-1.15)	0.92 (0.87-0.96)
American Indian/ Alaskan Native	1.58 (1.43-1.76)	1.41 (1.26-1.57)	1.31 (1.17-1.47)	1.05 (0.99-1.12)
Asian	1.28 (1.13-1.45)	1.26 (1.06-1.49)	1.15 (0.97-1.36)	0.76 (0.69-0.84)
	Unadjusted CKD4[a]	Adjusted CKD4[b]	Adjusted CKD4[c]	Adjusted CKD4[d]
Non-Hispanic white	-	-	-	-
Non-Hispanic black	2.31 (2.23-2.40)	1.70 (1.63-1.77)	1.50 (1.44-1.56)	1.18 (1.15-1.21)
Hispanic white	1.91 (1.81-2.03)	1.69 (1.58-1.80)	1.52 (1.42-1.62)	1.14 (1.09-1.19)
Hispanic black	2.36 (1.91-2.92)	1.86 (1.48-2.33)	1.54 (1.23-1.94)	1.35 (1.15-1.59)
Native Hawaiian/ Pacific Islander	1.74 (1.51-2.02)	1.51 (1.28-1.78)	1.37 (1.16-1.62)	1.08 (0.96-1.21)
American Indian/ Alaskan Native	2.01 (1.70-2.39)	1.58 (1.31-1.91)	1.48 (1.23-1.79)	1.16 (1.01-1.33)
Asian	2.13 (1.79-2.53)	1.72 (1.35-2.17)	1.45 (1.14-1.83)	1.07 (0.90-1.27)

All results are reported as hazard ratio (95% confidence interval) unless otherwise indicated
[a]Unadjusted; death-censored
[b]Adjusted for Model 1: age, sex, entry eGFR, Median blood pressure, median body mass index, hypertension diabetes, coronary artery disease, cerebrovascular disease, congestive heart failure, depression, hemiplegia, dementia, liver disease, chronic lung disease, malignancy, alcohol abuse, drug abuse, hepatitis C, smoking status, marital status, service connection, socioeconomic status, distance to VA medical center; clustered by medical center; death-censored
[c]Adjusted for Model 1, in addition to adjustment for nephrology appointment; death-censored
[d]Adjusted for Model 1, composite outcome with death

Appendix Table 8. Cox proportional hazards models for time to CKD5, dialysis, or renal transplantation

	Unadjusted CKD3[a]	Adjusted CKD3[b]	Adjusted CKD3[c]	Adjusted CKD3[d]
Non-Hispanic white	-	-	-	-
Non-Hispanic black	4.17 (4.02-4.32)	2.33 (2.24-2.43)	1.59 (1.53-1.66)	1.12 (1.11-1.14)
Hispanic white	2.84 (2.67-3.01)	2.29 (2.15-2.44)	1.84 (1.72-1.97)	1.01 (0.99-1.04)
Hispanic black	3.54 (2.81-4.47)	2.67 (2.12-3.37)	1.79 (1.40-2.29)	1.19 (1.08-1.30)
Native Hawaiian/ Pacific Islander	1.91 (1.64-2.22)	1.69 (1.45-1.97)	1.36 (1.14-1.62)	0.91 (0.86-0.96)
American Indian/ Alaskan Native	2.49 (2.10-2.96)	1.88 (1.58-2.23)	1.62 (1.34-1.96)	1.02 (0.96-1.10)
Asian	2.29 (1.88-2.79)	2.25 (1.84-2.74)	1.49 (1.22-1.98)	0.73 (0.66-0.80)
	Unadjusted CKD4[a]	**Adjusted CKD4[b]**	**Adjusted CKD4[c]**	**Adjusted CKD4[d]**
Non-Hispanic white	-	-	-	-
Non-Hispanic black	2.55 (2.45-2.65)	1.76 (1.69-1.84)	1.54 (1.47-1.61)	1.17 (1.14-1.21)
Hispanic white	2.00 (1.88-2.13)	1.74 (1.63-1.85)	1.52 (1.42-1.63)	1.13 (1.08-1.18)
Hispanic black	2.61 (2.09-3.25)	1.83 (1.46-1.95)	1.61 (1.27-2.03)	1.32 (1.13-1.55)
Native Hawaiian/ Pacific Islander	1.90 (1.63-2.22)	1.67 (1.38-1.99)	1.43 (1.20-1.71)	1.08 (0.96-1.21)
American Indian/ Alaskan Native	2.11 (1.76-2.53)	1.66 (1.38-1.99)	1.48 (1.21-1.81)	1.11 (0.97-1.28)
Asian	2.49 (2.08-2.98)	2.22 (1.86-2.66)	1.47 (1.14-1.89)	1.05 (0.89-1.25)

All results are reported as hazard ratio (95% confidence interval) unless otherwise indicated
[a]Unadjusted; death-censored
[b]Adjusted for Model 1: age, sex, entry eGFR, Median blood pressure, median body mass index, hypertension diabetes, coronary artery disease, cerebrovascular disease, congestive heart failure, depression, hemiplegia, dementia, liver disease, chronic lung disease, malignancy, alcohol abuse, drug abuse, hepatitis C, smoking status, marital status, service connection, socioeconomic status, distance to VA medical center, using multiple imputation for missing data; clustered by medical center; death-censored
[c]Adjusted for Model 1, in addition to adjustment for nephrology appointment; death-censored
[d]Adjusted for Model 1, composite outcome with death

Appendix Table 9. Cox proportional hazards models for time to CKD progression and mortality, adjusted for proteinuria, phosphate, and hemoglobin

Progression to doubling of creatinine, CKD stage 5, dialysis, or renal transplantation composite outcome		
Unadjusted CKD3[a]	**Adjusted CKD3**[b]	**Adjusted CKD3**[c]
Non-Hispanic white	-	-	-
Non-Hispanic black	2.43 (2.38-2.48)	1.44 (1.38-1.50)	1.27 (1.17-1.39)
Hispanic white	1.99 (1.92-2.06)	1.47 (1.39-1.56)	1.25 (0.96-1.63)[e]
Hispanic black	2.59 (2.27-2.95)	1.50 (1.23-1.83)	1.29 (0.58-2.88)[e]
Unadjusted CKD4[a]	**Adjusted CKD4**[b]	**Adjusted CKD4**[c]
Non-Hispanic white	-	-	-
Non-Hispanic black	2.31 (2.23-2.40)	1.48 (1.41-1.56)	1.39 (1.26-1.53)
Hispanic white	1.91 (1.81-2.03)	1.44 (1.34-1.55)	1.59 (1.24-2.05)
Hispanic black	2.36 (1.91-2.92)	1.35 (1.00-1.81)[d]	3.54 (0.96-13.07)[e]

Mortality		
Unadjusted CKD3[a]	**Adjusted CKD3**[b]	**Adjusted CKD3**[c]
Non-Hispanic white	-	-	-
Non-Hispanic black	1.01 (0.99-1.02)[e]	0.94 (0.91-0.97)	0.81 (0.76-0.86)
Hispanic white	1.02 (0.99-1.04)[e]	0.95 (0.90-0.99)[d]	0.82 (0.69-0.97)[d]
Hispanic black	1.22 (1.11-1.33)	0.95 (0.82-1.12)[e]	0.78 (0.44-1.38)[e]
Unadjusted CKD4[a]	**Adjusted CKD4**[b]	**Adjusted CKD4**[c]
Non-Hispanic white	-	-	-
Non-Hispanic black	0.78 (0.75-0.80)	0.86 (0.83-0.90)	0.83 (0.77-0.89)
Hispanic white	0.95 (0.91-0.99)[e]	1.00 (0.94-1.05)[e]	0.84 (0.67-1.07)[e]
Hispanic black	0.97 (0.82-1.15)[e]	1.08 (0.87-1.33)[e]	1.23 (0.55-2.75)[e]

Abbreviations: CKD = chronic kidney disease.
All results are reported as hazard ratio (95% confidence interval) unless otherwise indicated. All p-values were <0.001 unless otherwise indicated.
[a]Unadjusted; death-censored
[b]Adjusted for Model 1: age, sex, entry eGFR, Median blood pressure, median body mass index, hypertension diabetes, coronary artery disease, cerebrovascular disease, congestive heart failure, depression, hemiplegia, dementia, liver disease, chronic lung disease, malignancy, alcohol abuse, drug abuse, hepatitis C, smoking status, marital status, service connection, socioeconomic status, distance to VA medical center, clustered by medical center, using multiple imputation for missing data; death-censored. Also adjusted for proteinuria, restricted to the subgroup of patients with proteinuria values.
[c]Adjusted for Model 1. Also adjusted for phosphate and hemoglobin levels, restricted to the subgroup of patients with these laboratory values
[d]p<0.05
[e]p>0.05

Appendix Table 10. Cox proportional hazards models for time to death

	Unadjusted CKD3[a]	Adjusted CKD3[b]	Unadjusted CKD4[a]	Adjusted CKD4[b]
Non-Hispanic white	-	-	-	-
Non-Hispanic black	1.01 (0.99-1.02)	1.03 (1.02-1.05)	0.78 (0.75-0.80)	0.89 (0.86-0.92)
Hispanic white	1.02 (0.99-1.04)	0.96 (0.94-0.98)	0.95 (0.91-0.99)	0.95 (0.90-0.99)
Hispanic black	1.22 (1.11-1.33)	1.10 (1.01-1.22)	0.97 (0.82-1.15)	1.02 (0.86-1.23)
Native Hawaiian/ Pacific Islander	0.85 (0.81-0.89)	0.88 (0.83-0.93)	0.82 (0.73-0.92)	0.90 (0.79-1.03)
American Indian/ Alaskan Native	0.91 (0.86-0.97)	0.99 (0.92-1.06)	0.87 (0.76-0.99)	0.95 (0.82-1.11)
Asian	0.64 (0.59-0.69)	0.67 (0.60-0.75)	0.67 (0.57-0.78)	0.74 (0.61-0.91)

All results are reported as hazard ratio (95% confidence interval)
[a]Unadjusted
[b]Adjusted for Model 1: age, sex, entry eGFR, Median blood pressure, median body mass index, hypertension diabetes, coronary artery disease, cerebrovascular disease, congestive heart failure, depression, hemiplegia, dementia, liver disease, chronic lung disease, malignancy, alcohol abuse, drug abuse, hepatitis C, smoking status, marital status, service connection, socioeconomic status, distance to VA medical center; clustered by medical center

Appendix Table 11. Cox proportional hazards models for time to mortality comparing patients who attended at least one nephrology visit vs. those who did not

	Unadjusted CKD3[a]	Adjusted CKD3[b]	Unadjusted CKD4[a]	Adjusted CKD4[b]
No nephrology visit	-	-	-	-
Nephrology visit	0.88 (0.86-0.89)	0.78 (0.77-0.79)	0.60 (0.59-0.62)	0.68 (0.65-0.69)

All results are reported as hazard ratio (95% confidence interval) unless otherwise indicated
[a]Unadjusted; death-censored
[b]Adjusted for Model 1: race, age, sex, entry eGFR, median blood pressure, median body mass index, hypertension diabetes, coronary artery disease, cerebrovascular disease, congestive heart failure, depression, hemiplegia, dementia, liver disease, chronic lung disease, malignancy, alcohol abuse, drug abuse, hepatitis C, smoking status, marital status, service connection, socioeconomic status, distance to VA medical center; clustered by medical center

Appendix Table 12a. Cox proportional hazards models stratified by age category (<50 years, 50-64 years, 65-79 years, ≥80 years)*

	Adjusted CKD4, Age <50 years	Adjusted CKD4, Age 50-64 years	Adjusted CKD4, Age 65-79 years	Adjusted CKD4, Age ≥80 years
Nephrology Referral				
Non-Hispanic white	-	-	-	-
Non-Hispanic black	1.18 (1.04-1.35)	1.22 (1.17-1.26)	1.32 (1.28-1.36)	1.63 (1.55-1.72)
Hispanic white	1.25 (1.04-1.50)	1.14 (1.07-1.21)	1.14 (1.08-1.20)	1.28 (1.19-1.38)
Hispanic black	1.84 (1.27-2.68)	1.18 (0.96-1.44)[b]	1.19 (0.99-1.42)[b]	1.49 (1.18-1.89)
Nephrology Visit				
Non-Hispanic white	-	-	-	-
Non-Hispanic black	1.25 (1.08-1.44)	1.31 (1.26-1.37)	1.48 (1.43-1.53)	1.79 (1.69-1.89)
Hispanic white	1.26 (0.99-1.60)[b]	1.25 (1.17-1.40)	1.36 (1.29-1.43)	1.53 (1.42-1.65)
Hispanic black	2.12 (1.50-3.00)	1.58 (1.31-1.90)	1.57 (1.33-1.85)	2.09 (1.68-2.60)
Progression to CKD stage 5				
Non-Hispanic white	-	-	-	-
Non-Hispanic black	1.35 (1.03-1.76)	1.78 (1.64-1.92)	1.97 (1.83-2.11)	2.02 (1.77-2.30)
Hispanic white	1.94 (1.19-3.15)	1.76 (1.55-2.00)	1.68 (1.50-1.88)	1.91 (1.61-2.27)
Hispanic black	1.42 (0.19-10.4)[b]	1.93 (1.28-2.93)	1.88 (1.18-3.01)	1.65 (0.82-3.35)[b]
Progression to doubling of creatinine, CKD stage 5, dialysis, or renal transplantation composite outcome				
Non-Hispanic white	-	-	-	-
Non-Hispanic black	1.36 (1.07-1.74)	1.62 (1.51-1.73)	1.75 (1.64-1.86)	1.91 (1.73-2.12)
Hispanic white	1.24 (0.79-1.96)[b]	1.68 (1.49-1.88)	1.59 (1.45-1.76)	1.90 (1.66-2.17)
Hispanic black	2.74 (1.08-6.97)	1.61 (1.08-2.41)	1.87 (1.26-2.79)	2.01 (1.24-3.24)
Mortality				
Non-Hispanic white	-	-	-	
Non-Hispanic black	1.00 (0.74-1.36)[b]	0.84 (0.78-0.89)	0.87 (0.83-0.91)	0.94 (0.88-0.99)
Hispanic white	0.85 (0.50-1.42)[b]	0.91 (0.82-1.02)[b]	0.94 (0.87-1.02)[b]	0.96 (0.89-1.04)[b]
Hispanic black	0.72 (0.17-3.08)[b]	0.75 (0.46-1.20)[b]	1.12 (0.82-1.52)[b]	1.13 (0.86-1.48)[b]

Abbreviations: CKD = chronic kidney disease. All results are reported as hazard ratio (95% confidence interval) unless otherwise indicated. All p-values were <0.001 unless otherwise indicated.

[*] Older age modified the effect of black race on the outcomes of nephrology referral, nephrology consultation, and progression to CKD5 (p<0.001 for all interaction terms. Effect modification by age was not evident for the mortality outcome (p=0.145).

[a]Adjusted for Model 1: age, sex, entry eGFR, median blood pressure, median body mass index, hypertension diabetes, coronary artery disease, cerebrovascular disease, congestive heart failure, depression, hemiplegia, dementia, liver disease, chronic lung disease, malignancy, alcohol abuse, drug abuse, hepatitis C, smoking status, marital status, service connection, socioeconomic status, distance to VA medical center, clustered by medical center, using multiple imputation for missing data; death-censored

[b]P-value not significant

Appendix Table 12b. Cox proportional hazards models stratified by socioeconomic status quartile (lowest, lower-middle, upper-middle, and highest socioeconomic status)*

	Adjusted CKD4, Lowest	Adjusted CKD4, Lower-Middle	Adjusted CKD4, Upper-Middle	Adjusted CKD4, Highest
Nephrology Referral				
Non-Hispanic white	-	-	-	-
Non-Hispanic black	1.32 (1.25-1.38)	1.33 (1.25-1.41)	1.35 (1.26-1.44)	1.30 (1.21-1.39)
Hispanic white	1.14 (1.07-1.21)	1.25 (1.10-1.41)	1.25 (1.10-1.42)	1.20 (1.06-1.36)
Hispanic black	1.31 (1.08-1.59)	1.38 (0.80-2.38)[b]	1.56 (0.88-2.76)[b]	0.73 (0.27-1.95)[b]
Nephrology Visit				
Non-Hispanic white	-	-	-	-
Non-Hispanic black	1.47 (1.40-1.55)	1.51 (1.42-1.60)	1.48 (1.38-1.59)	1.38 (1.29-1.47)
Hispanic white	1.41 (1.32-1.51)	1.36 (1.20-1.54)	1.37 (1.20-1.56)	1.22 (1.07-1.38)
Hispanic black	1.82 (1.51-2.18)	2.01 (1.21-3.35)	1.88 (1.06-3.32)	1.04 (0.43-2.50)[b]
Progression to CKD stage 5				
Non-Hispanic white	-	-	-	-
Non-Hispanic black	1.86 (1.71-2.04)	1.81 (1.63-2.01)	2.01 (1.79-2.25)	1.75 (1.56-1.96)
Hispanic white	1.81 (1.62-2.02)	1.74 (1.41-2.15)	1.82 (1.46-2.26)	1.68 (1.38-2.04)
Hispanic black	2.01 (1.45-2.79)	1.81 (0.61-5.39)[b]	1.53 (0.42-5.56)[b]	1.94 (0.86-4.38)[b]
Progression to doubling of creatinine, CKD stage 5, dialysis, or renal transplantation composite outcome				
Non-Hispanic white	-	-	-	-
Non-Hispanic black	1.73 (1.61-1.87)	1.66 (1.52-1.82)	1.78 (1.62-1.97)	1.59 (1.44-1.75)
Hispanic white	1.70 (1.54-1.87)	1.78 (1.49-2.13)	1.79 (1.48-2.15)	1.54 (1.30-1.83)
Hispanic black	1.87 (1.43-2.44)	2.47 (1.06-5.74)	2.02 (0.66-6.14)[b]	1.39 (0.65-2.96)[b]
Mortality				
Non-Hispanic white	-	-	-	-
Non-Hispanic black	0.88 (0.84-0.98)	0.86 (0.80-0.92)	0.83 (0.76-0.89)	0.89 (0.82-0.97)
Hispanic white	0.93 (0.87-0.99)	0.81 (0.70-0.94)	0.96 (0.83-1.12)[b]	0.84 (0.73-0.98)
Hispanic black	1.01 (0.81-1.25)[b]	0.72 (0.38-1.35)[b]	0.86 (0.41-1.84)[b]	1.05 (0.44-2.51)[b]

Abbreviations: CKD = chronic kidney disease. All results are reported as hazard ratio (95% confidence interval) unless otherwise indicated. All p-values were <0.001 unless otherwise indicated.
* We did not find effect modification between socio-economic status quartiles and race (nephrology referral p=0.898; nephrology consultation p=0.694; progression to CKD 5 p=0.185; mortality p=0.825).
[a]Adjusted for Model 1: age, sex, entry eGFR, median blood pressure, median body mass index, hypertension diabetes, coronary artery disease, cerebrovascular disease, congestive heart failure, depression, hemiplegia, dementia, liver disease, chronic lung disease, malignancy, alcohol abuse, drug abuse, hepatitis C, smoking status, marital status, service connection, socioeconomic status, distance to VA medical center, clustered by medical center, using multiple imputation for missing data; death-censored
[b]P-value not significant

Figure S1. Incident chronic kidney disease stage 4 cohort derivation accounting for racial distribution by inclusion and exclusion criteria
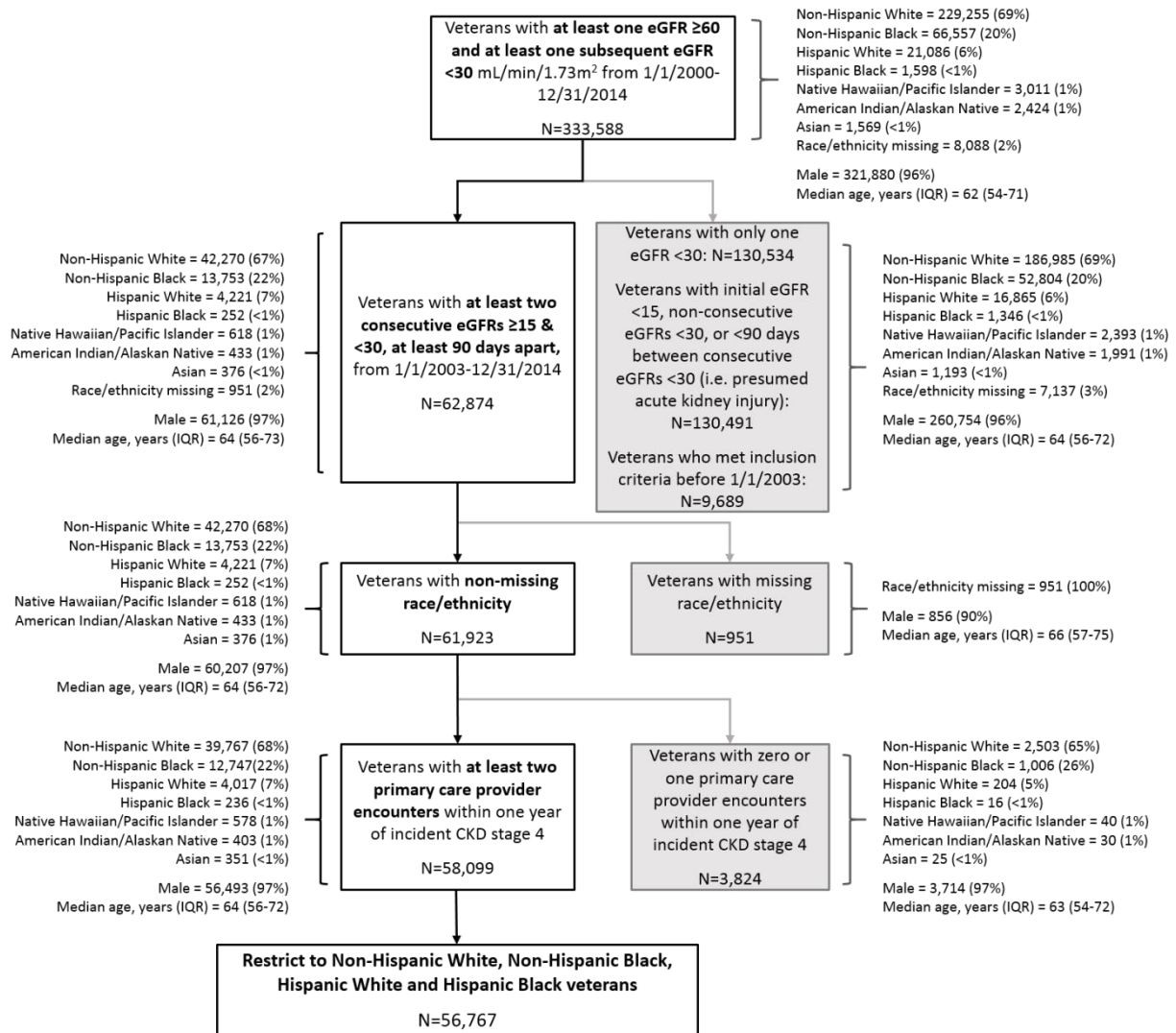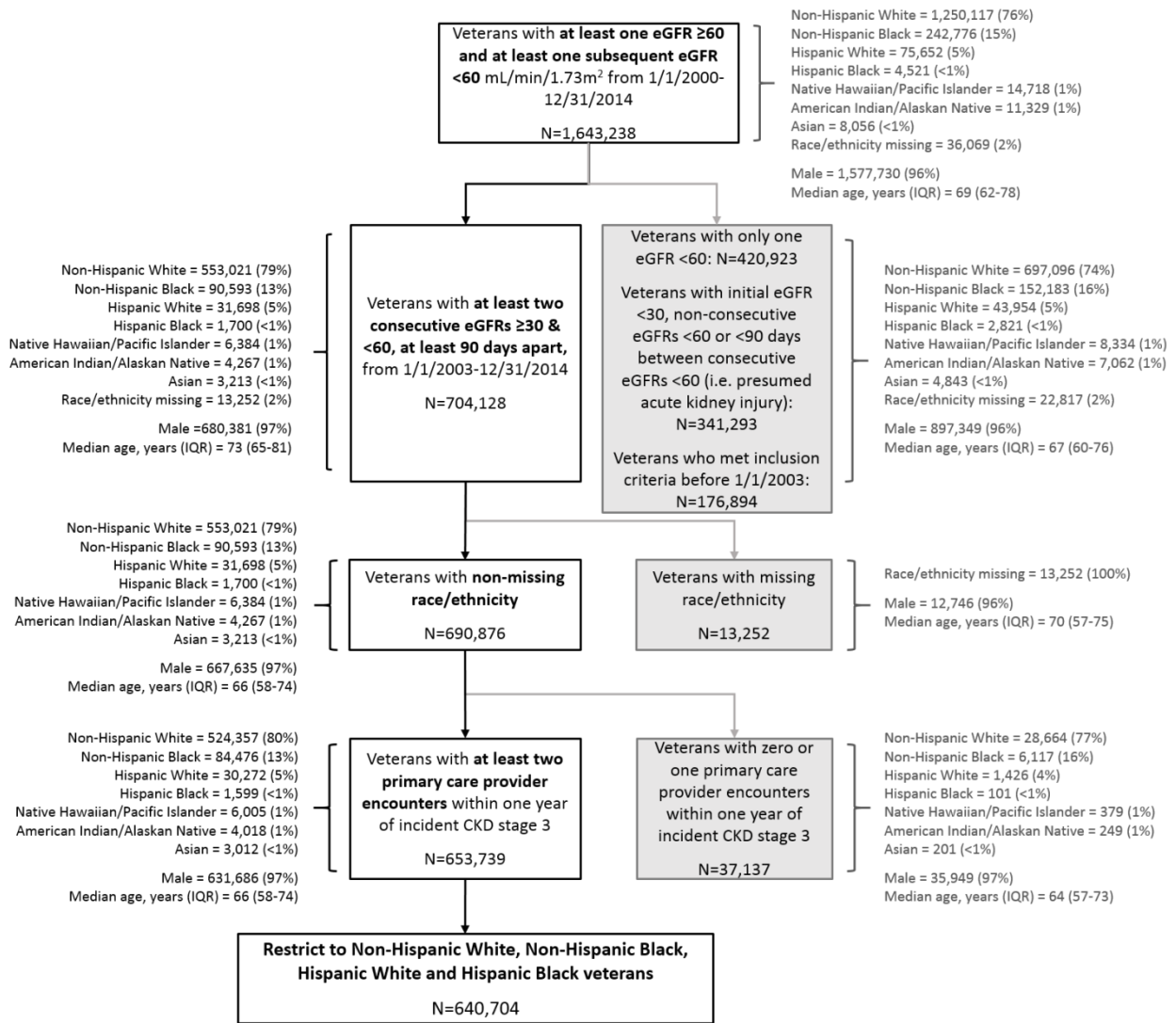

Veterans with **at least one eGFR ≥60 and at least one subsequent eGFR <30** mL/min/1.73m^2 from 1/1/2000-12/31/2014

N=333,588

Non-Hispanic White = 229,255 (69%)
Non-Hispanic Black = 66,557 (20%)
Hispanic White = 21,086 (6%)
Hispanic Black = 1,598 (<1%)
Native Hawaiian/Pacific Islander = 3,011 (1%)
American Indian/Alaskan Native = 2,424 (1%)
Asian = 1,569 (<1%)
Race/ethnicity missing = 8,088 (2%)

Male = 321,880 (96%)
Median age, years (IQR) = 62 (54-71)

Non-Hispanic White = 42,270 (67%)
Non-Hispanic Black = 13,753 (22%)
Hispanic White = 4,221 (7%)
Hispanic Black = 252 (<1%)
Native Hawaiian/Pacific Islander = 618 (1%)
American Indian/Alaskan Native = 433 (1%)
Asian = 376 (<1%)
Race/ethnicity missing = 951 (2%)

Male = 61,126 (97%)
Median age, years (IQR) = 64 (56-73)

Veterans with **at least two consecutive eGFRs ≥15 & <30, at least 90 days apart,** from 1/1/2003-12/31/2014

N=62,874

Veterans with only one eGFR <30: N=130,534

Veterans with initial eGFR <15, non-consecutive eGFRs <30, or <90 days between consecutive eGFRs <30 (i.e. presumed acute kidney injury): N=130,491

Veterans who met inclusion criteria before 1/1/2003: N=9,689

Non-Hispanic White = 186,985 (69%)
Non-Hispanic Black = 52,804 (20%)
Hispanic White = 16,865 (6%)
Hispanic Black = 1,346 (<1%)
Native Hawaiian/Pacific Islander = 2,393 (1%)
American Indian/Alaskan Native = 1,991 (1%)
Asian = 1,193 (<1%)
Race/ethnicity missing = 7,137 (3%)

Male = 260,754 (96%)
Median age, years (IQR) = 64 (56-72)

Non-Hispanic White = 42,270 (68%)
Non-Hispanic Black = 13,753 (22%)
Hispanic White = 4,221 (7%)
Hispanic Black = 252 (<1%)
Native Hawaiian/Pacific Islander = 618 (1%)
American Indian/Alaskan Native = 433 (1%)
Asian = 376 (1%)

Male = 60,207 (97%)
Median age, years (IQR) = 64 (56-72)

Veterans with **non-missing race/ethnicity**

N=61,923

Veterans with missing race/ethnicity

N=951

Race/ethnicity missing = 951 (100%)

Male = 856 (90%)
Median age, years (IQR) = 66 (57-75)

Non-Hispanic White = 39,767 (68%)
Non-Hispanic Black = 12,747 (22%)
Hispanic White = 4,017 (7%)
Hispanic Black = 236 (<1%)
Native Hawaiian/Pacific Islander = 578 (1%)
American Indian/Alaskan Native = 403 (1%)
Asian = 351 (<1%)

Male = 56,493 (97%)
Median age, years (IQR) = 64 (56-72)

Veterans with **at least two primary care provider encounters** within one year of incident CKD stage 4

N=58,099

Veterans with zero or one primary care provider encounters within one year of incident CKD stage 4

N=3,824

Non-Hispanic White = 2,503 (65%)
Non-Hispanic Black = 1,006 (26%)
Hispanic White = 204 (5%)
Hispanic Black = 16 (<1%)
Native Hawaiian/Pacific Islander = 40 (1%)
American Indian/Alaskan Native = 30 (1%)
Asian = 25 (<1%)

Male = 3,714 (97%)
Median age, years (IQR) = 63 (54-72)

Restrict to Non-Hispanic White, Non-Hispanic Black, Hispanic White and Hispanic Black veterans

N=56,767

Figure S2. Incident chronic kidney disease stage 3 cohort derivation accounting for racial distribution by inclusion and exclusion criteria

REFERENCES

1. US Census Bureau. 2010 Census Gazetteer Files. https://www.census.gov/geo/maps-data/data/gazetteer2010.html. Accessed on: December 20, 2017.
2. Agency for Healthcare Research and Quality. Chapter 3: Creation of New Race-Ethnicity Codes and SES Indicators for Medicare Beneficiaries - Chapter 3. January 2008. Rockville, MD. http://archive.ahrq.gov/research/findings/final-reports/medicareindicators/medicareindicators3.html. Accessed on: June 14, 2017.
3. Centers for Medicare & Medicaid Services. Q4 2015 DMEPOS Rural Zip Codes and Revised CY 2016 Fee Schedule PUF Formats. 2016; https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/DMEPOSFeeSched/DMEPOS-Fee-Schedule-Items/DME-Rural-Zip-and-Formats.html. Accessed on: June 13, 2017.