

Appendix:**Table Supplementary 1 (S1): CKD descriptive codes**

code	description	count	percentage
1Z12.	Chronic kidney disease stage 3	4676	1.634039
1Z13.	Chronic kidney disease stage 4	393	0.137335
1Z14.	Chronic kidney disease stage 5	208	0.072686
1Z15.	Chronic kidney diseas stage 3A	29	0.010134
1Z16.	Chronic kidney diseas stage 3B	15	0.005242
1Z1B.	CKD stage 3 with proteinuria	146	0.05102
1Z1C.	CKD stage 3 without proteinuria	449	0.156904
1Z1D.	CKD stage 3A with proteinuria	56	0.019569
1Z1E.	CKD stge 3A without proteinuria	103	0.035994
1Z1F.	CKD stage 3B with proteinuria	53	0.018521
1Z1G.	CKD stge 3B without proteinuria	37	0.01293
1Z1H.	CKD stage 4 with proteinuria	58	0.020268
1Z1J.	CKD stage 4 without proteinuria	21	0.007339
1Z1K.	CKD stage 5 with proteinuria	25	0.008736
1Z1L.	CKD stage 5 without proteinuria	7	0.002446
K053.	CKD3	2	0.000699
K054.	CKD4	1	0.000349
K055.	CKD5	1	0.000349
ckd3plus	All CKD 3 plus Read Codes above	5819	2.033464
qof_ckd	QOF CKD = Read code above plus over 18 at time of diagnosis	5789	2.02298

Table Supplementary 2 (S2): Achievement of NICE recommended blood pressure target by ethnicity in individuals with CKD and hypertension

Ethnicity	White	Black African	Black Caribbean	South Asian	Chinese	Other	Non-stated	Missing
CKD SBP control¹								
n	681	226	342	75	11	31	41	115
%	60.5	55.7*	58.8	69.4	64.7	70.5	65.1	62.5
CKD DBP control¹								
n	1,058	335	500	102	17	43	58	165
%	94.0	82.5	85.9	94.4	100	97.7	92.1	89.7

*Achievement of SBP target (<140mm Hg) was lower in CKD 3-5 in patients of Black African compared with White ethnicity (55.7% and 60.5% respectively, p=0.02), but not when compared with Black Caribbean ethnic groups, 58.8%, p=0.5.

CKD includes both diagnosed and undiagnosed CKD Stage 3-5

¹For those with at least 2 BP readings

Abbreviations: SBP = systolic blood pressure, DBP = diastolic blood pressure.

SBP control <140 mmHg and DBP control <90 mmHg n= % in each ethnic group with RF control

Patients with diabetes were excluded

Table Supplementary 3 (S3): CKD Stage (both diagnosed and undiagnosed) in patients with HT by ethnic group, age, and sex

	eGFR measured n (col %)	CKD3 n (col %)	CKD4 n (col %)	CKD5 n (col %)
Sex				
Female	12,897 (95.1)	2,189 (16.1)	93 (0.7)	81 (0.6)
Male	10,793 (93.7)	1,490 (12.9)	85 (0.7)	141 (1.2)
p-value	**	**	0.62	**
Age				
< 75	18,157 (93.7)	1,761 (9.1)	87 (0.5)	195 (1.0)
≥ 75	5,533 (97.0)	1,918 (33.6)	91 (1.6)	27 (0.5)
p-value	**	**	**	**
Ethnicity				
White	10,920 (95.4)	1,695 (14.8)	86 (0.8)	67 (0.6)
Black African	4,031 (93.7)	578 (13.4)	19 (0.4)	60 (1.4)
Black Caribbean	4,047 (95.7)	790 (18.7)	39 (0.9)	44 (1.0)
South Asian	1,222 (95.0)	151 (11.7)	10 (0.8)	11 (0.9)
Chinese	225 (94.1)	25 (10.5)	1 (0.4)	2 (0.8)
Other ethnicity	584 (93.4)	48 (7.7)	3 (0.5)	12 (1.9)
Non-stated	483 (92.9)	84 (16.2)	6 (1.2)	2 (0.4)
Missing	2,178 (89.7)	308 (12.7)	14 (0.6)	24 (1.0)

Abbreviations: eGFR = estimated glomerular filtration rate *based on creatinine*; CKD = chronic kidney disease
Patients with diabetes were excluded.

HT defined if on QOF Hypertensive register

* = P<0.05, **=P<0.001

*52 individuals had overlapping CKD codes

Table Supplementary 4 (S4): Multivariable regression associations with Mean SBP control in CKD (non-diabetic) adults adjusted for comorbidities and lifestyle factors

Mean SBP control (<140mmHg)	Odds Ratio ²	[95% Conf. Interval]	Odds Ratio ³	[95% Conf. Interval]
Coded CKD3-5	1.37**	1.14-1.64	1.37**	1.13-1.65
Age (years)				
<50	0.93	0.60-1.44	1.03	0.65-1.62
50-59	0.47**	0.31-0.73	0.48**	0.31-0.76
60-69	0.40**	0.26-0.60	0.41**	0.26-0.62
70-79	0.31**	0.20-0.48	0.29**	0.19-0.45
80-89	0.34**	0.20-0.57	0.34**	0.20-0.58
IMD quintile				
1.00 least deprived (ref)	-	-	-	-
2.00	0.96	0.74-1.25	0.96	0.73-1.27
3.00	0.94	0.71-1.25	0.93	0.69-1.25
4.00	0.97	0.74-1.28	0.97	0.73-1.30
5.00 most deprived	0.96	0.73-1.27	0.93	0.69-1.23
Gender (Male)	0.98	0.81-1.17	0.99	0.82-1.20
Ethnicity (White ref)	-		-	-
African	0.79	0.60-1.04	0.74*	0.55-0.99
Afro Caribbean	0.99	0.79-1.24	1.03	0.81-1.30
Asian	1.46	0.93-2.29	1.29	0.81-2.04
Chinese	0.95	0.34-2.64	0.82	0.29-2.34
Other	1.10	0.55-2.19	1.10	0.54-2.25
Non-stated	1.25	0.71-2.19	1.28	0.70-2.36
History of comorbidities				
Stroke	1.12	0.81-1.54	1.08	0.78-1.51
Heart failure	1.90**	1.37-2.64	1.94**	1.38-2.74
CHD	1.27	0.98-1.64	1.35*	1.03-1.77
SMI	2.24**	1.30-3.87	2.06*	1.18-3.61
Lifestyle and risk factors				
Mean DBP control (<90mmHg)	12.34**	8.38-18.17	12.81**	8.52-19.26
BMI> 25kg/m2	-	-	0.80*	0.65-1.00
Current smoker	-	-	0.77	0.57-1.04
High alcohol			1.64	0.52-5.22

CKD includes both diagnosed and undiagnosed CKD Stage 3-5

² adjusted for all baseline covariates in the table comorbidities

³ adjusted for all baseline covariates in the table comorbidities and lifestyle factors

* = P<0.05, **=P<0.001

Figure Supplementary 1 (Fig. S1). CKD prevalence in those with and without hypertension, by age-group (all adults ≥18 years)

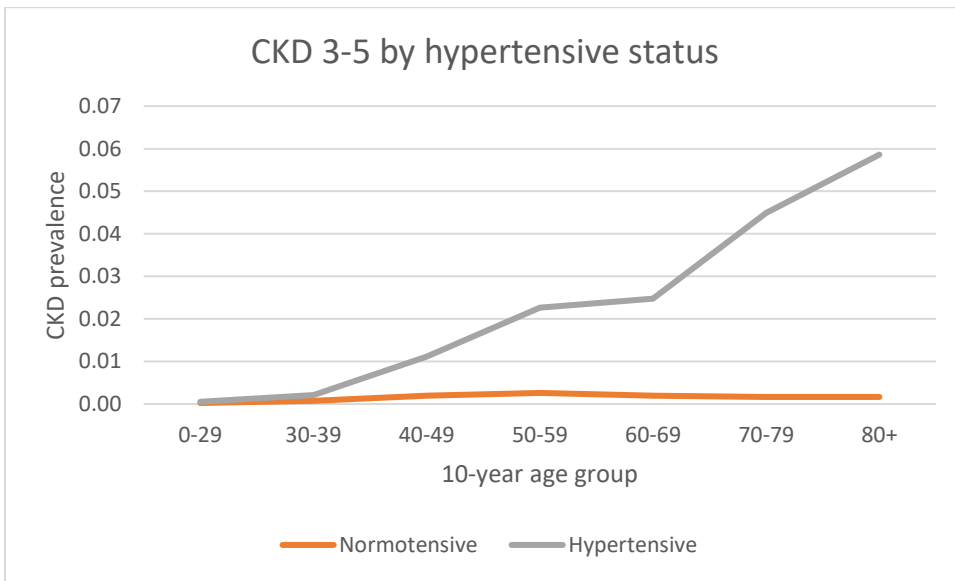
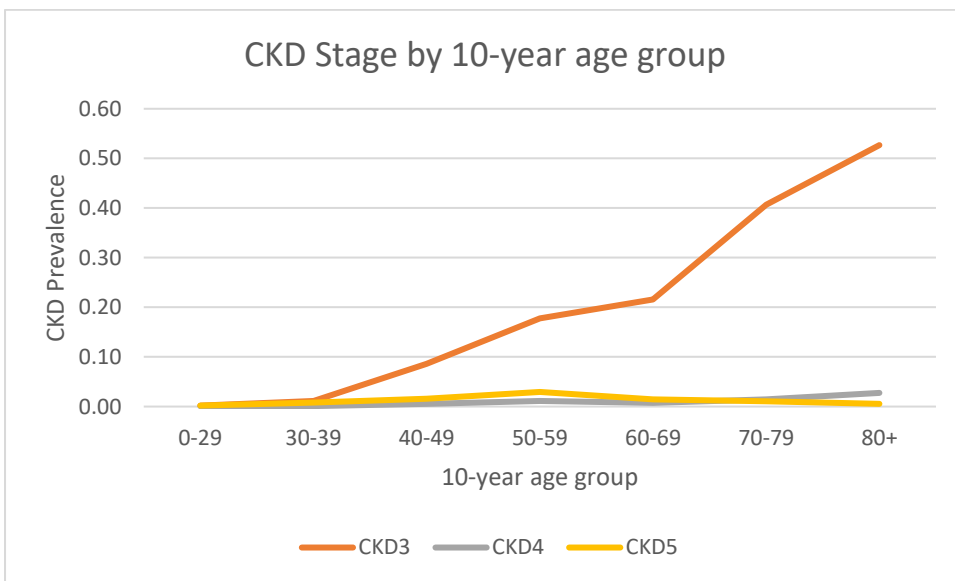


Figure Supplementary 2 (Fig. S2). Prevalence of CKD Stages in patients with hypertensive CKD (all adults ≥18 years)



CKD includes both diagnosed and undiagnosed CKD Stage 3-5*.

*CKD Stage 5 includes all transplant and dialysis patients