

Supplementary file 2: Methodology and testing of the model used in the analysis.

Cox regression models were assessed for their model characteristics, assumptions of the models were checked and models were validated and calibrated accordingly. As discussed in the methods section, multivariable models were produced and resulted in the hazard ratios shown in Table 1 of this supplementary file

The models were produced by the *rms* package and function *cph* based on the following equation (for the primary – similar approach for secondary results as well, results not shown):

Cox Proportional Hazards Model:

***cph*(Surv(time to event, Event) ~ Age + Ethnicity + ACR + Systolic BP + Hba1c, ...)**

Proportionality of hazards assumption was tested by function *cox.zph* of the *survival* package (results shown in table 2 of this supplementary) and *Schoenfeld* plots were produced for all variables with package *survminer* and *ggcoxzph* function.

Multicollinearity was testing by producing Variance inflation factors for all variables, and anova was used to check overall significance of the model. The model was validated by resampling validation using the bootstrap method within the *validation* function of the *rms* package. Bias-corrected indexes such as Somer's Dxy were produced and compared between original, training and test sets. Further to the validation, calibration of the models was performed producing calibration plots for 1, 5 and 10 years of prediction (figures 3, 4 and 5 of this supplementary. For the calibration and the plots, *calibrate* function of the *rms* package was used.

Supplementary 2, Table 1: Cox Regression multivariate and competing risk (of death) models for primary endpoint of ≥50% fall from baseline eGFR with final eGFR <30 ml/min

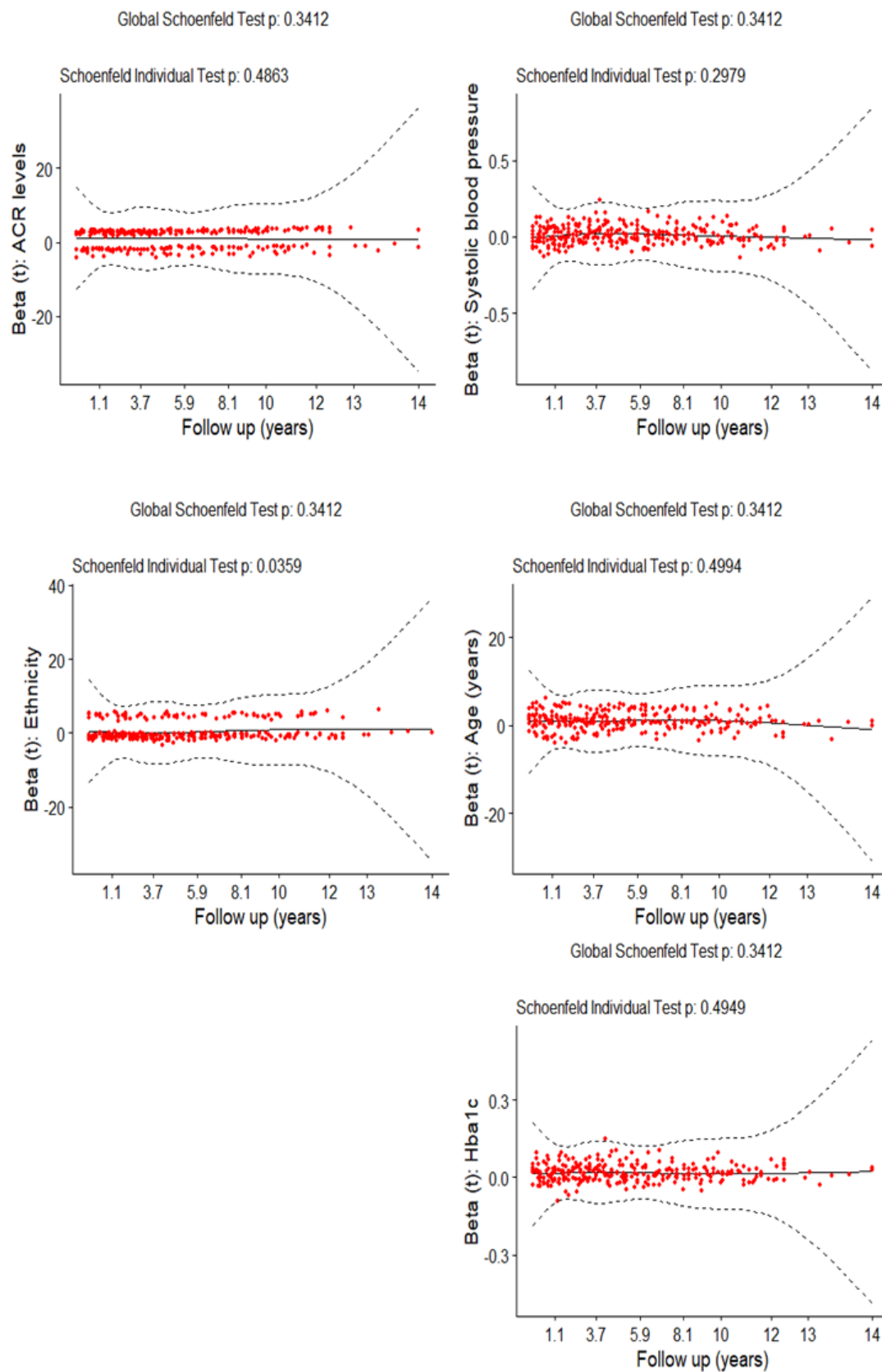
Hazard ratios

	hazard ratio estimates	2.50%	97.50%	p-values
Age (31-60)	2.334	1.68	3.242	<0.001
Age (60+)	5.562	3.71	8.338	<0.001
Ethnicity (African-Caribbean)	1.575	1.193	2.079	<0.001
ACR (A2)	1.314	0.8295	2.082	0.2446
ACR (A3)	2.924	1.887	4.533	<0.001
SBP (mmHg)	1.012	1.006	1.019	<0.001
Hba1c	1.018	1.014	1.022	<0.001

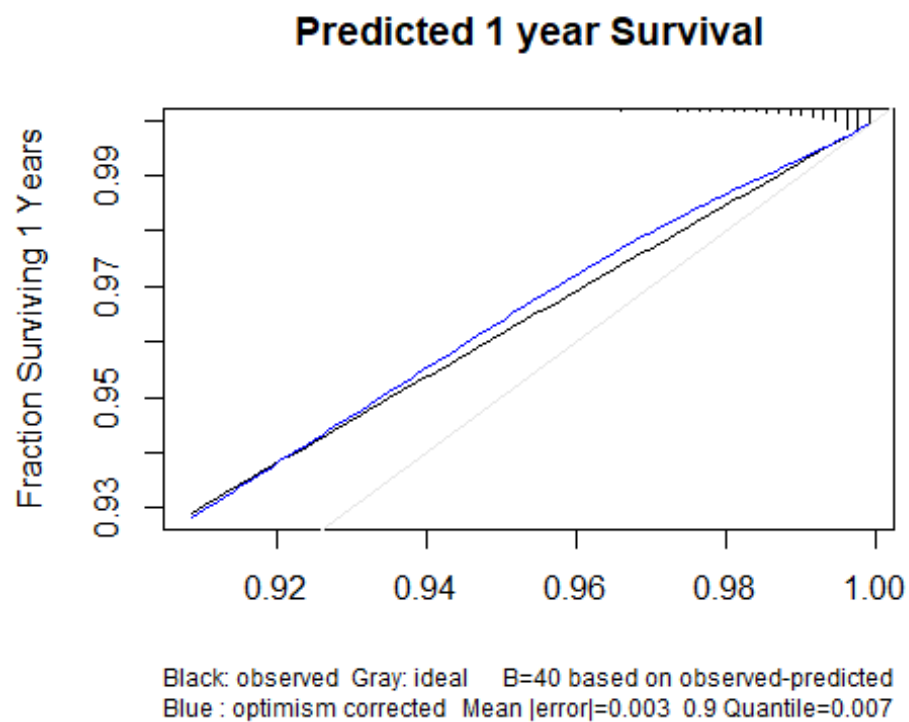
Supplementary 2, Table 2: Checking of the Proportional Hazards Assumption for Cox Regression analyses results for primary endpoint

		chisq	df	p
Age	1.389		2	0.499
Ethnicity	4.400		1	0.036
ACR	1.442		2	0.486
SBP mmHg	1.083		1	0.298
Hba1c	0.466		1	0.495
GLOBAL	7.904		7	0.341

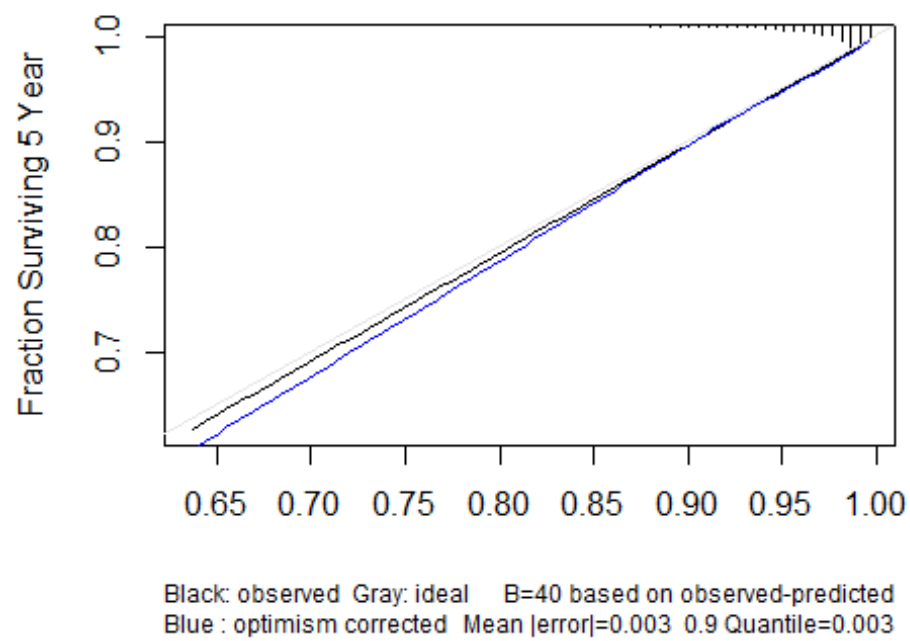
Supplementary 2, Figure 1: Global Schoenfeld test figures for visual assessment of the proportional hazards assumption.



Supplementary 2, Figure 2 Primary end point Cox Regression Model calibration plots for 1, 5 and 10 years



Predicted 5 years Survival



Predicted 10 years Survival

