Supplementary Methods S1. Original non-North American 4-variable Kidney Failure Risk Equation

KFRE for 5-year risk:

$$1 - 0.9365 \text{ ^ } \exp(-0.2201 \times (age/10 - 7.036) + 0.2467 \times (male - 0.5642) - 0.5567 \times (eGFR/5 - 7.222) + 0.4510 \times (logACR - 5.137))$$

KFRE for 2-year risk:

$$1 - 0.9832 \text{ ^ } \exp(-0.2201 \times (age/10 - 7.036) + 0.2467 \times (male - 0.5642) - 0.5567 \times (eGFR/5 - 7.222) + 0.4510 \times (logACR - 5.137))$$

Variables:

Age (years)

Male (male = 1, female = 0)

eGFR (estimated glomerular filtration rate, ml/min/1.73m^2)

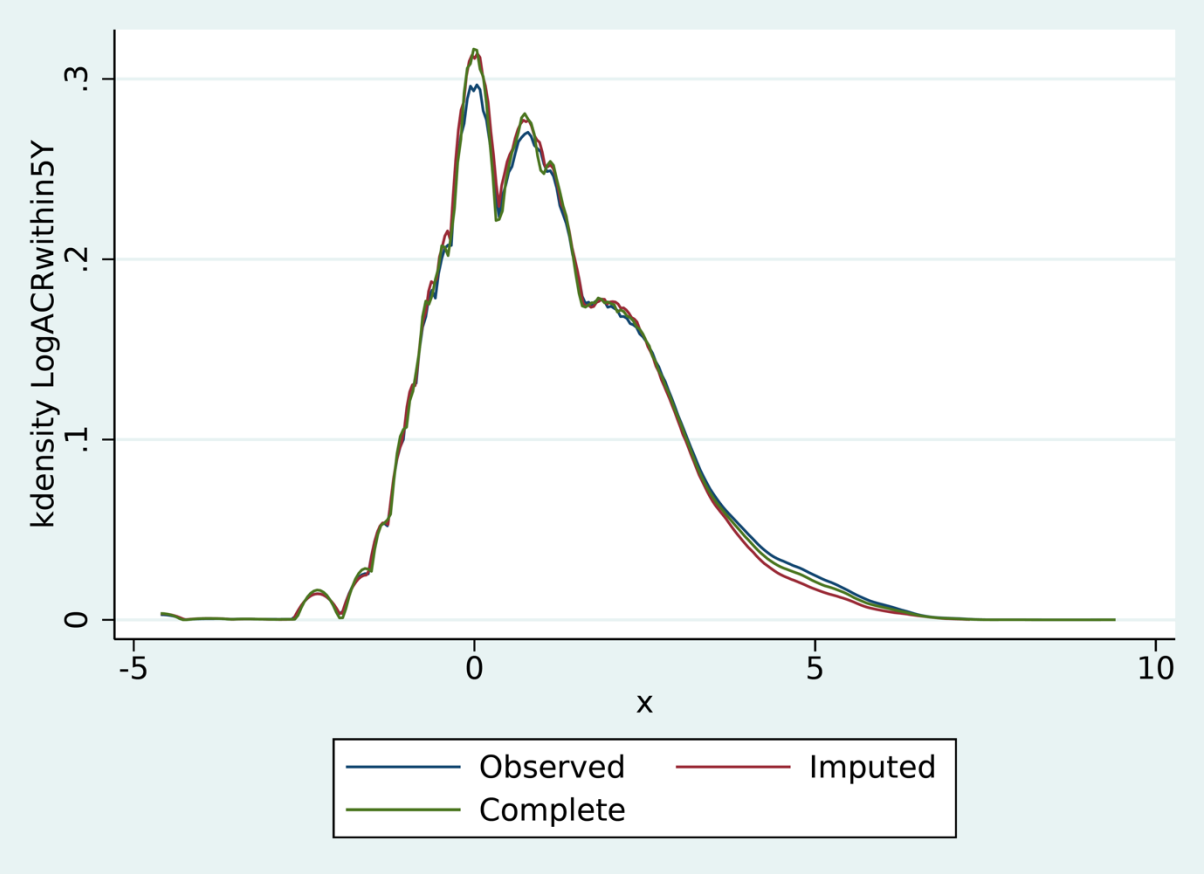
$$eGFR = 141 \times \min(SCr/\kappa, 1)^{\alpha} \times \max(SCr/\kappa, 1)^{-1.209} \times 0.993^{Age} \times 1.018 \text{ [if female]} \times 1.159 \text{ [if Black]}$$

- Calculated using Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) equation where, age is in years, SCr is serum creatinine in mg/dl (SCr values from The Health Improvement Network (THIN) database were in μmol/l so the conversion factor applied to convert to mg/dl was to multiply by 0.0113122), κ is 0.7 for females or 0.9 for males, α is -0.329 for females or -0.411 for males, min is the minimum of SCr/κ or 1 and max is the maximum of SCr/κ or 1.

ACR (albumin-creatinine ratio, mg/g)

- The clinical values obtained for ACR from THIN database were in mg/mmol or g/mol. Therefore, the conversion factor applied to convert to mg/g was to divide by 0.113.

Supplementary Figure S1. A graphical comparison of the observed and imputed data for albumin:creatinine ratio within 5 years*



kdensity – kernel density (plot); ACR – albumin:creatinine ratio; 5Y – 5 years

* ACR highly skewed so log(ACR) plotted on K-density plot.

Supplementary Table S1. Summary statistics of the observed and imputed data for albumin:creatinine ratio within 5 years

	Median (IQR)	Mean (SD)
Imputed ACR values	2.3 (1.0-7.7)	11.9 (47.1)
Observed ACR values	2.5 (1.0-8.7)	14.9 (72.8)
Complete ACR values	2.4 (1.0-8.0)	13.6 (62.9)

ACR – albumin:creatinine ratio (mg/mmol); IQR – interquartile range; SD – standard deviation

Supplementary Table S2. Modified STROBE Statement

Checklist of items that should be included in reports of observational studies (Cohort/Cross-sectional and case-control studies)

	Item No	Recommendation	Page(s)
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	1, 2
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	2-3
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	4-5
Objectives	3	State specific objectives, including any prespecified hypotheses	5
Methods			
Study design	4	Present key elements of study design early in the paper	6
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	6-7
Participants	6	(*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up *Case-control study*—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls *Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants	6-7
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	6-7
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement).	6-7
Bias	9	Describe any efforts to address potential sources of bias	8-9, 10
Study size	10	Explain how the study size was arrived at (if applicable)	6-7
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	7-9
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	8-9
		(*b*) Describe any methods used to examine subgroups and interactions	8-9
		(*c*) Explain how missing data were addressed	8-9
		(*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed *Case-control study*—If applicable, explain how matching of cases and controls was addressed *Cross-sectional study*—If applicable, describe analytical methods taking account of sampling strategy	7-9
		(*e*) Describe any sensitivity analyses	8-9

Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analyzed	10
		(c) Use of a flow diagram	33, Figure 1
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	10, Table 1
		(b) Indicate number of participants with missing data for each variable of interest	10, Table 1
		(c) *Cohort study*—Summarise follow-up time (eg, average and total amount)	N/A
Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time	N/A
		Case-control study—Report numbers in each exposure category, or summary measures of exposure	N/A
		Cross-sectional study—Report numbers of outcome events or summary measures	11, Tables 2-4, Figure 2
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	11
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	11-13, Table 4
Discussion			
Key results	18	Summarise key results with reference to study objectives	14
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	15-18
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	18-19
Generalisability	21	Discuss the generalisability (external validity) of the study results	14-17

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.