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P158 -Population prevalence of impaired renal function in Uganda, Malawi and South Africa: baseline results of the ARK study

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Introduction
We understand little about the epidemiology of chronic kidney disease (CKD) in sub-Saharan Africa (SSA). Published 'prevalence' data from this region may overestimate CKD because studies are relatively small and often convenience samples among populations at high risk for CKD. This study comprises a collaboration between cohorts or Health and Demographic Surveillance sites in Uganda (rural), Malawi (one rural and one urban) and South Africa (rural). An initial aim for the ARK study was for each site to determine a country-specific CKD population prevalence using estimated glomerular filtration rate (eGFR) and additionally, after pooling data, to jointly determine CKD prevalence for eastern and southern SSA.

Methods
We harmonized protocols across study sites. At each site we selected a representative stratified population-based sample of Africans aged 15-103 years who were screened for risk factors for CKD. KDIGO criteria were used to categorise eGFR into 'CKD' stages based on serum creatinine, using the CKD-EPI equation and albuminuria (ACR>3.0mg/mmol). We are currently rescreening those with eGFR <60ml/min/1.73m2 and/or albuminuria to confirm CKD at a minimum follow up period of 3 months. We assessed sociodemographic status with assets-based household scores, and phenotypic risk with a CKD risk questionnaire, height, weight, BMI, hip/waist circumference, blood glucose, cholesterol, haemoglobin, creatinine, urine dipstick analysis and urine microscopy for urinary schistosomiasis.

Results
Table 1: Prevalence of impaired renal function and characteristics across three countries

Conclusions
Our initial results show a substantial prevalence of impaired renal function among this young population from Eastern and Southern Africa despite a low prevalence of risk factors such as diabetes and obesity and expected poor survival. Our population prevalence for impaired renal function may be lower than expected because advanced kidney disease is likely to be associated with a high mortality in this region and because eGFR may be overestimated using the CKD-EPI equation, whose performance is known to be sub-optimal in African populations. Our results confirm the need to understand how to accurately estimate GFR in this region.

These data will make a critical contribution to the region for SSA to direct future science, promote informed decision-making for health policy in relation to screening, prevention and management of CKD, which is particularly relevant as those who progress to ESKD have very few treatment options.