

Online Supplementary Documents

Appendix S1: Exit Interview Questionnaire

Africa NCD Open Lab: Impact Exit Interview

Project No:	PI:	Date of Interview:
Project Title:		
Interviewer:	Interviewee(s):	

Scientific Quality with Impact

<p>Were the research objectives achieved? Yes <input type="checkbox"/> No <input type="checkbox"/> Partial <input type="checkbox"/></p> <p><i>Comments:</i></p>	<p>Were the research milestones achieved? Yes <input type="checkbox"/> No <input type="checkbox"/> Partial <input type="checkbox"/></p>
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<p>Were the research outcomes communicated? Yes <input type="checkbox"/> Please specify below No <input type="checkbox"/> <i>Include planned publications with details of journal to be submitted to and add 'PLANNED' in citation column</i></p>				
<p>Publications: <input type="checkbox"/></p>				
Title	Authors	Journal	Impact Factor	Citation (or pending if under review)

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Conferences: *Include future conferences for which abstracts have been accepted. Add details in Conference column if 'other' type of presentation.*

Title	Presenter	Type of Presentation	Conference	National or International	No. Delegates
		<small>NOT COVERED</small> Oral <input type="checkbox"/> Poster <input type="checkbox"/> Plenary <input type="checkbox"/> Other <input type="checkbox"/>			
		Oral <input type="checkbox"/> Poster <input type="checkbox"/> Plenary <input type="checkbox"/> Other <input type="checkbox"/>			
		Oral <input type="checkbox"/> Poster <input type="checkbox"/> Plenary <input type="checkbox"/> Other <input type="checkbox"/>			

Other (e.g. press release, review article, awards, recognitions):

Type of Communication	Presenter / Author	Date	Audience

Have the results of the project contributed to a change?
*Begin this interview with an open-ended question, e.g. What was the main impact/outcome of the research?
 Bring in the specific categories during the discussion and discuss and capture the consequence of the stated impact.
 Ensure clear negative outcomes of the research are captured where they have led to a positive impact.
 Probe for and capture reasons why no changes have been observed where this is the case.*

Change in individual practice/management of patients?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Comments/Details
Change in institutional practice/guidelines?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Comments/Details
Change in regional practice/guidelines?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Comments/Details
Change in National Guidelines?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Comments/Details
Follow-on Research?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Comments/Details
Improved Patient Education/Awareness?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Comments/Details

Other Comments:

Research Training and Professional Development

How has participation in the NCD Open Lab supported the professional development of you and your team?

Number MSc Funded Number PhD Funded Unfunded use of project data to support MSc/PhD Positions created for and sustained beyond NCD Open Lab Project

Sustainable High-Quality Training Programmes in Place

Training Programme	Number Trained	Impact	Sustainability Plans

Appropriate Access to Scientific Expertise

Was there sufficient access to GSK expertise during the study? Yes No If Yes, what was useful? If No, what was missing?

Was there sufficient access to non-GSK expertise during the study? Yes No If Yes, what was useful? If No, what was missing?

Research Environments

Physical Research Infrastructure Enabled: Have any new facilities, expertise or equipment been introduced as part of the NCD Open Lab project?

Facilities / Equipment Introduced	Post Study Use	Impact to the Community / Patients

Research Networks Established/Facilitated or Networks for Professional Development Joined (by PI or other team members)

Network	New Network?	Objectives of the Network / What has the Network Facilitated? <i>(e.g. Learning, Data Sharing, Future Collaborations, Professional Development)</i>
	<input type="checkbox"/>	
	<input type="checkbox"/>	

Research Support Groups Strengthened:

What support functions (e.g. statistics, finance, project management) have been strengthened as a result of Africa NCD Open Lab participation?

Research Support Group Strengthened	How was this strengthened by NCD Open Lab?	Post-study Impact

Additional Grants won? Yes No Enter number of additional grants by study team member below

	Related to / Influenced by Original Research Outcomes	Related to / Influenced by Increased Capacity or Experience as a result of NCD Open Lab Participation	Unrelated to Original Research or NCD Open Lab Participation
Principal Investigator			
Co-Investigator			
Other Research Team Members			
Other Research Teams			

Any Other Feedback not Covered above:

Appendix S2: Publications resulting from the Africa NCD Open Lab (as of 31 May 2023)

- 1 Peterson I, Ntsui N, Jambo K, Kelly C, Huwa J, Afran L, et al. Evaluating the reactivation of herpesviruses and inflammation as cardiovascular and cerebrovascular risk factors in antiretroviral therapy initiators in an African HIV-infected population (RHICCA): A protocol for a longitudinal cohort study. *BMJ Open*. 2019;9:e025576. doi:10.1136/bmjopen-2018-025576
- 2 Kirenga B, Chakaya J, Yimer G, Nyale G, Haile T, Muttamba W, et al. Phenotypic characteristics and asthma severity in an East African cohort of adults and adolescents with asthma: Findings from the African severe asthma project. *BMJ Open Respir Res*. 2020;7:e000484. Medline:32054641 doi:10.1136/bmjresp-2019-000484
- 3 Kwizera R, Wadda V, Mugenyi L, Aanyu-Tukamuhebwa H, Nyale G, Yimer G, et al. Skin prick reactivity among asthmatics in East Africa. *World Allergy Organ J*. 2020;13:100130. Medline:32612738 doi:10.1016/j.waojou.2020.100130
- 4 Bekel A, Haile T, Mekekasha A, Fuad O, Muttamba W, Mugenyi L, et al. Characterization of asthma and its determinants in Ethiopia: Part of the African Severe Asthma Project. *Ethiop Med J*. 2021;59:143-51.
- 5 Gama RM, Kalyesubula R, Fabian J, Mahalingasivam V. NICE takes ethnicity out of estimating kidney function. *BMJ*. 2021;374:n2159. Medline:34507980 doi:10.1136/bmj.n2159
- 6 Kalyesubula R, Hau JP, Asiki G, Ssebunya B, Kusemererwa S, Seeley J, et al. Impaired renal function in a rural Ugandan population cohort. *Wellcome Open Res*. 2018;3:149. Medline:31223661 doi:10.12688/wellcomeopenres.14863.3
- 7 Nakanga WP, Prynn JE, Banda L, Kalyesubula R, Tomlinson LA, Nyirenda M, et al. Prevalence of impaired renal function among rural and urban populations: Findings of a cross-sectional study in Malawi. *Wellcome Open Res*. 2019;4:92. Medline:31656860 doi:10.12688/wellcomeopenres.15255.1
- 8 Seeley J, Kabunga E, Ssembatya J, Tomlinson LA, Fabian J, Smeeth L, et al. Understanding kidney disease in rural central Uganda - Findings from a qualitative study. *Glob Public Health*. 2020;15:1566-77. Medline:32352888 doi:10.1080/17441692.2020.1758186
- 9 Kalyesubula R, Sekitoleko I, Tomlin K, Hansen CH, Ssebunya B, Makanga R, et al. Association of impaired kidney function with mortality in rural Uganda: Results of a general population cohort study. *BMJ Open*. 2022;12:e051267. Medline:35473721 doi:10.1136/bmjopen-2021-051267

- 10 Ingenhoff R, Brewster U, Rastegar A, Kalyesubula R, Knauf F. Global health education in nephrology: The time has come. *J Am Soc Nephrol.* 2021;32:2990-3. Medline:34645697 doi:10.1681/asn.2021060731
- 11 Ingabire PM, Ojji DB, Rayner B, Ogola E, Damasceno A, Jones E, et al. High prevalence of non-dipping patterns among Black Africans with uncontrolled hypertension: A secondary analysis of the CREOLE trial. *BMC Cardiovasc Disord.* 2021;21:254. doi:10.1186/s12872-021-02074-7
- 12 Ojji DB, Cornelius V, Partington G, Francis V, Pandie S, Smythe W, et al. Effect of 3, 2-drug combinations of antihypertensive therapies on blood pressure variability in Black African patients: Secondary analyses of the CREOLE trial. *Hypertension.* 2022;79:2593-600. Medline:36052684 doi:10.1161/hypertensionaha.121.18333
- 13 Ojji DB, Mayosi B, Francis V, Badri M, Cornelius V, Smythe W, et al. Comparison of dual therapies for lowering blood pressure in Black Africans. *N Engl J Med.* 2019;380:2429-39. Medline:30883050 doi:10.1056/NEJMoa1901113
- 14 Ojji DB, Poulter N, Damasceno A, Sliwa K, Smythe W, Kramer N, et al. Rationale and design of the comparison of 3 combination therapies in lowering blood pressure in Black Africans (CREOLE study): 2 × 3 factorial randomized single-blind multicenter trial. *Am Heart J.* 2018;202:5-12. Medline:29800784 doi:10.1016/j.ahj.2018.03.023
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- 16 Faconti L, McNally RJ, Farukh B, Adeyemi O, Cruickshank JK, Wilkinson IB, et al. Differences in hypertension phenotypes between Africans and Europeans: Role of environment. *J Hypertens.* 2020;38:1278-85. Medline:32205559 doi:10.1097/hjh.0000000000002403
- 17 Ojji DB, Poulter N. Comparison of dual therapies for lowering blood pressure in Black Africans. Reply. *N Engl J Med.* 2019;381:1392. Medline:31577888 doi:10.1056/NEJMc1909844
- 18 Moodley J, Walter FM, Scott SE, Mwaka AM. Towards timely diagnosis of symptomatic breast and cervical cancer in South Africa. *S Afr Med J.* 2018;108:803-4. Medline:30421705 doi:10.7196/SAMJ.2018.v108i10.13478
- 19 Githaiga JN, Walter FM, Scott SE, Mwaka AD, Moodley J. Symptom awareness measures for breast and cervical cancer in sub-Saharan Africa: A scoping review. *SAJO.* 2019;3:1-9. doi:10.4102/sajo.v3i0.78

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- 21 Nnaji CA, Kuodi P, Walter FM, Moodley J. Effectiveness of interventions for improving timely diagnosis of breast and cervical cancers in low and middle-income countries: A systematic review protocol. *BMJ Open*. 2020;10:e042788. doi:10.1136/bmjopen-2020-042788
- 22 Adoch W, Garimoi CO, Scott SE, Okeny GG, Moodley J, Komakech H, et al. Knowledge of cervical cancer risk factors and symptoms among women in a refugee settlement: A cross-sectional study in northern Uganda. *Confl Health*. 2020;14:85. doi:10.1186/s13031-020-00328-3
- 23 Harries J, Scott SE, Walter FM, Mwaka AD, Moodley J. Women's appraisal, interpretation and help-seeking for possible symptoms of breast and cervical cancer in South Africa: A qualitative study. *BMC Womens Health*. 2020;20:251. Medline:33187501 doi:10.1186/s12905-020-01120-4
- 24 Moodley J, Constant D, Mwaka AD, Scott SE, Walter FM. Mapping awareness of breast and cervical cancer risk factors, symptoms and lay beliefs in Uganda and South Africa. *PLoS One*. 2020;15:e0240788. Medline:33091035 doi:10.1371/journal.pone.0240788
- 25 Moodley J, Constant D, Mwaka AD, Scott SE, Walter FM. Anticipated help seeking behaviour and barriers to seeking care for possible breast and cervical cancer symptoms in Uganda and South Africa. *Ecancermedalscience*. 2021;15:1171. Medline:33680085 doi:10.3332/ecancer.2021.1171
- 26 Moodley J, Harries J, Scott SE, Mwaka AD, Saji S, Walter FM. Exploring primary care level provider interpretation and management of potential breast and cervical cancer signs and symptoms in South Africa. *Ecancermedalscience*. 2021;15:1298. Medline:34824621 doi:10.3332/ecancer.2021.1298
- 27 Nnaji CA, Kuodi P, Walter FM, Moodley J. Timeliness of diagnosis of breast and cervical cancers and associated factors in low-income and middle-income countries: A scoping review protocol. *BMJ Open*. 2021;11:e044093. Medline:33958339 doi:10.1136/bmjopen-2020-044093
- 28 Mwaka AD, Walter FM, Scott S, Harries J, Wabinga H, Moodley J. Symptom appraisal, help-seeking and perceived barriers to healthcare seeking in Uganda: An exploratory study among women with potential symptoms of breast and cervical cancer. *BMJ Open*. 2021;11:e041365. Medline:33550241 doi:10.1136/bmjopen-2020-041365
- 29 Nnaji CA, Ezenwankwo EF, Kuodi P, Walter FM, Moodley J. Timeliness of diagnosis of breast and cervical cancers and associated factors in low-income and middle-income countries: A scoping review. *BMJ Open*. 2022;12:e057685. Medline:35121607 doi:10.1136/bmjopen-2021-057685

- 30 Nnaji CA, Kuodi P, Walter FM, Moodley J. Effectiveness of interventions for improving timely diagnosis of breast and cervical cancers in low-income and middle-income countries: A systematic review. *BMJ Open*. 2022;12:e054501. Medline:35470184 doi:10.1136/bmjopen-2021-054501
- 31 Ahiante BO, Smith W, Lammertyn L, Schutte AE. Leptin and the retinal microvasculature in young Black and White adults: The African-PREDICT study. *Heart Lung Circ*. 2020;29:1823-31. Medline:32622912 doi:10.1016/j.hlc.2020.05.093
- 32 Ahiante BO, Smith W, Lammertyn L, Schutte AE. Leptin and its relation to autonomic activity, endothelial cell activation and blood pressure in a young Black and White population: The African-PREDICT study. *Horm Metab Res*. 2018;50:257-66. Medline:29179226 doi:10.1055/s-0043-122236
- 33 Ahiante BO, Smith W, Lammertyn L, Schutte AE. Leptin and the vasculature in young adults: The African-PREDICT study. *Eur J Clin Invest*. 2019;49:e13039. Medline:30347447 doi:10.1111/eci.13039
- 34 Barnard SA, Smith W, Mels CMC, Botha S, Schutte AE. Bioavailable IGF-1 is beneficially associated with biomarkers of endothelial function in young healthy adults: The African-PREDICT study. *Growth Horm IGF Res*. 2018;41:28-33. Medline:29936324 doi:10.1016/j.ghir.2018.06.002
- 35 Bollenbach A, Schutte AE, Kruger R, Tsikas D. An ethnic comparison of arginine dimethylation and cardiometabolic factors in healthy Black and White youth: The ASOS and African-PREDICT studies. *J Clin Med*. 2020;9:844. Medline:32244968 doi:10.3390/jcm9030844
- 36 Botha D, Breet Y, Schutte AE. Comparing the associations of clinic vs. ambulatory blood pressure with subclinical organ damage in young healthy adults: The African-PREDICT study. *Hypertens Res*. 2021;44:840-9. Medline:33564179 doi:10.1038/s41440-021-00627-z
- 37 Breet Y, Huisman HW, Kruger R, van Rooyen JM, Gafane-Mateman LF, Ware LJ, et al. Pulse pressure amplification and its relationship with age in young, apparently healthy black and white adults: The African-PREDICT study. *Int J Cardiol*. 2017;249:387-91. Medline:28893431 doi:10.1016/j.ijcard.2017.08.070
- 38 Craig A, Mels CMC, Tsikas D, Boeger RH, Schwedhelm E, Schutte AE, et al. Central systolic blood pressure relates inversely to nitric oxide synthesis in young black adults: The African-PREDICT study. *J Hum Hypertens*. 2021;35:985-93. Medline:33273698 doi:10.1038/s41371-020-00453-9
- 39 Craig A, Mels CMC, Schutte AE, Bollenbach A, Tsikas D, Schwedhelm E, et al. Urinary albumin-to-creatinine ratio is inversely related to nitric oxide synthesis in young black adults: The African-PREDICT study. *Hypertens Res*. 2021;44:71-9. Medline:32681162 doi:10.1038/s41440-020-0514-1

- 40 Craig A, Mels CMC, Schutte AE, Tsikas D, Kruger R. Nitric oxide-related markers link inversely to blood pressure in black boys and men: The ASOS and African-PREDICT studies. *Amino Acids*. 2020;52:639-48. Medline:32303905 doi:10.1007/s00726-020-02842-3
- 41 Crouch SH, Botha-Le Roux S, Delles C, Graham LA, Schutte AE. Inflammation and hypertension development: A longitudinal analysis of the African-PREDICT study. *Int J Cardiol Hypertens*. 2020;7:100067. Medline:33392493 doi:10.1016/j.ijchy.2020.100067
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- 45 De Beer D, Mels CM, Schutte AE, Louw R, Delles C, Kruger R. Left ventricular mass and urinary metabolomics in young black and white adults: The African-PREDICT study. *Nutr Metab Cardiovasc Dis*. 2020;30:2051-62. Medline:32669241 doi:10.1016/j.numecd.2020.06.004
- 46 de Beer D, Mels CMC, Schutte AE, Delles C, Mary S, Mullen W, et al. A urinary peptidomics approach for early stages of cardiovascular disease risk: The African-PREDICT study. *Hypertens Res*. 2023;46:485-94. Medline:36396816 doi:10.1038/s41440-022-01097-7
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- 48 du Toit WL, Schutte AE, Gafane-Matemane LF, Kruger R, Mels CMC. The renin-angiotensin-system and left ventricular mass in young adults: The African-PREDICT study. *Blood Press*. 2021;30:98-107. Medline:33084438 doi:10.1080/08037051.2020.1831902
- 49 Du Toit WL, Schutte AE, Mels CMC. The relationship of blood pressure with uric acid and bilirubin in young lean and overweight/obese men and women: The African-PREDICT study. *J Hum Hypertens*. 2020;34:648-56. Medline:31712713 doi:10.1038/s41371-019-0287-7

- 50 Gafane-Matemane LF, Kruger R, Smith W, Mels CMC, Van Rooyen JM, Mokwatsi GG, et al. Characterization of the renin-angiotensin-aldosterone system in young healthy Black adults: The African prospective study on the early detection and identification of hypertension and cardiovascular disease (African-PREDICT study). *Hypertension*. 2021;78:400-10. Medline:34176281 doi:10.1161/hypertensionaha.120.16879
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- 52 Gafane-Matemane LF, Mokae NL, Breet Y, Poglitsch M, Schutte AE. Associations of central and peripheral blood pressure with the renin-angiotensin-aldosterone system in healthy young adults: The African-PREDICT study. *Hypertens Res*. 2021;44:435-45. doi:10.1038/s41440-020-00566-1
- 53 Jacobs A, Pieters M, Schutte AE. The association of PAI-1 with 24 h blood pressure in young healthy adults is influenced by smoking and alcohol use: The African-PREDICT study. *Nutr Metab Cardiovasc Dis*. 2020;30:2063-71. Medline:32811735 doi:10.1016/j.numecd.2020.07.003
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- 56 Köchli S, Schutte AE, Kruger R. Adiposity and physical activity are related to heart rate variability: The African-PREDICT study. *Eur J Clin Invest*. 2020;50:e13330. Medline:32589287 doi:10.1111/eci.13330
- 57 Kriel JI, Fourie CM, Schutte AE. Monocyte chemoattractant protein-1 and large artery structure and function in young individuals: The African-PREDICT study. *J Clin Hypertens (Greenwich)*. 2017;19:67-74. Medline:27453537 doi:10.1111/jch.12868
- 58 Mokwatsi GG, Schutte AE, Mels CMC, Kruger R. Morning blood pressure surge in young black and white adults: The African-PREDICT Study. *J Hum Hypertens*. 2019;33:22-33. Medline:30038337 doi:10.1038/s41371-018-0089-3
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- 61 Ramoshaba NE, Huisman HW, Lammertyn L, Kotliar KE, Schutte AE, Smith W. Retinal microvasculature and masked hypertension in young adults: The African-PREDICT study. *Hypertens Res*. 2020;43:1231-8. doi:10.1038/s41440-020-0487-0
- 62 Maritz M, Fourie CM, Van Rooyen JM, Moss SJ, Schutte AE. Large artery stiffness is associated with gamma-glutamyltransferase in young, healthy adults: The African-PREDICT study. *J Am Soc Hypertens*. 2016;10:772-81.e1. Medline:27613367 doi:10.1016/j.jash.2016.07.006
- 63 Maritz M, Fourie CMT, Van Rooyen JM, Schutte AE. Evaluating several biomarkers as predictors of aortic stiffness in young and older Africans, not consuming alcohol based on self-report. *Diabetes Res Clin Pract*. 2018;142:312-20. Medline:29906479 doi:10.1016/j.diabres.2018.05.048
- 64 Maugana VF, Kruger R, Schutte AE, Smith W. Socioeconomic inequalities, modifiable lifestyle risk factors, and retinal vessel calibers: The African-PREDICT study. *Microcirculation*. 2021;28:e12714. Medline:34008905 doi:10.1111/micc.12714
- 65 Mels CM, Delles C, Louw R, Schutte AE. Central systolic pressure and a nonessential amino acid metabolomics profile: The African prospective study on the early detection and identification of cardiovascular disease and hypertension. *J Hypertens*. 2019;37:1157-66. Medline:30801385 doi:10.1097/hjh.0000000000002040
- 66 Mokwatsi GG, Schutte AE, Mels CMC, Kruger R. Morning blood pressure surge relates to autonomic neural activity in young non-dipping adults: The African-PREDICT study. *Heart Lung Circ*. 2019;28:1197-205. Medline:30093314 doi:10.1016/j.hlc.2018.07.003
- 67 Schutte AE, Gona PN, Delles C, Uys AS, Burger A, Mels CM, et al. The African prospective study on the early detection and identification of cardiovascular disease and hypertension (African-PREDICT): Design, recruitment and initial examination. *Eur J Prev Cardiol*. 2019;26:458-70. Medline:30681377 doi:10.1177/2047487318822354
- 68 Sekoba NP, Kruger R, Labuschagne P, Schutte AE. Left ventricular mass independently associates with masked hypertension in young healthy adults: The African-PREDICT study. *J Hypertens*. 2018;36:1689-96. Medline:29601412 doi:10.1097/hjh.0000000000001740
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- 71 Strauss M, Smith W, Kruger R, Wei W, Fedorova OV, Schutte AE. Marinobufagenin and left ventricular mass in young adults: The African-PREDICT study. *Eur J Prev Cardiol*. 2018;25:1587-95. Medline:29993282 doi:10.1177/2047487318788140
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- 73 Strauss M, Smith W, Wei W, Bagrov AY, Fedorova OV, Schutte AE. Large artery stiffness is associated with marinobufagenin in young adults: The African-PREDICT study. *J Hypertens*. 2018;36:2333-9. Medline:30382957 doi:10.1097/hjh.0000000000001866
- 74 Strauss M, Smith W, Wei W, Fedorova OV, Schutte AE. Autonomic activity and its relationship with the endogenous cardiogenic steroid marinobufagenin: The African-PREDICT study. *Nutr Neurosci*. 2020;23:849-59. Medline:30614779 doi:10.1080/1028415x.2018.1564985
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