Methods This study’s analysis is based on the South Africa arm of the Prospective Urban Rural Epidemiology (PURE) Study data of 2015. The bivariate analysis was used to generate the prevalence of hypertension according to the participants’ characteristics. In addition, the Chi-square test was used to examine the relationships between reported hypertension and characteristics of participants. Lastly, a multivariate logistic regression analysis was employed to estimate risk of hypertension, with 95% confidence interval.

Results Result shows that the prevalence of hypertension was higher among male, those who are 60 years and above, not employed, not educated, HIV negative, and overweight and obese. Further, the multivariate analysis showed the risk of hypertension is significantly lower among HIV-positive participants (OR: 0.45, CI: 0.31-0.64) and higher among obese participants (OR: 1.67, CI: 1.01-2.75).

Discussion Hypertension is an important health problem accounting for about 45.3% in the studied province in South Africa. Our study contributes to literature on the risk factors of hypertension in sub-Saharan African. Specifically, this study found that hypertension is relatively high in North West province and shows that the prevalence of hypertension is evident in the sociodemographic inequalities of the study population, as well as the modifiable factors used in the study. This study’s findings suggest that interventions should be directed at the identified factors found to be associated with hypertension. In addition, more emphases should be placed on sensitizing people on major lifestyles that may increase the risk of hypertension.

Objective The primary aim of this study was to portray the level of spread and the dynamic of diffusion of mobile phone technology in sub-Saharan Africa during the last two decades. The secondary aim was to investigate factors related to the use of mobile phone technology in sub-Saharan Africa and to derive profiles of the most suitable areas to conduct mobile phone technology-based research.

Methods The present work was based on the data collected by the World Bank database; a collection of public access data and as well as factors used in the study. Two methods were applied to perform the selection of variables related to the diffusion of mobile phones in sub-Saharan Africa. Firstly, a Least Absolute Shrinkage and Selection Operator (LASSO) regression was applied. Afterwards, a system of simultaneous equations was applied to estimate the model coefficients and determine the joint statistical significance.

Results The number of mobile phones subscriptions in relation to the population of sub-Saharan Africa has increased consistently during the period 2000 to 2010. The rate of mobile phones subscriptions in relation to the population ranged between less than 1% to more than 90%. Urban areas and having a lower number of people leaving in slums seems to be the most suitable places to conduct mobile phone-based interviews. This information is useful in identifying countries and macro areas to conduct mobile phone interviews; and this could be extended to smallest area within a country.

Discussion More effort is required to better understand how to identify areas suitable for conducting research using mobile phones and other electronic-based tools. Such an effort should be based on individual level surveys to understand not only the material possibility but also the will to participate to research based on data capturing made by mobile phones and similar tools.