



African Population and
Health Research Center

TERMS OF REFERENCE CONSULTANT DEMOGRAPHER

1. Introduction

The African Population and Health Research Center (APHRC) is an African-led and Africa-based international research institute committed to conducting high quality and policy-relevant multidisciplinary research. Our researchers address important development issues and challenges facing sub-Saharan Africa in areas such as education, population, health, aging, urbanization and wellbeing. Our goal is to generate evidence for meaningful action, engage with policy makers in the region to disseminate our research findings, influence policy decisions and improve the quality of life in Africa. APHRC invites applications for a **Consultant Demographer** to lead the re-design of its Nairobi Urban Health and Demographic Surveillance System (NUHDSS) project for a **6-month engagement period**.

2. Background

APHRC established the NUHDSS (<https://aphrc.org/project/nairobi-urban-health-and-demographic-surveillance-system-nuhdss/>) in August 2002 in two vibrant Nairobi slum communities: Korogocho and Viwandani, in partnership with community leaders and the Nairobi City Council. The primary purpose of the NUHDSS platform is to enable prospective, longitudinal research in order to highlight the urban-health disadvantage through generation of information for decision-making that address the plight of Nairobi's slum residents. Specifically, the NUHDSS aims to; (1) monitor trends and drivers of intra-urban migration, mortality and fertility among slum residents, (2) characterize the long-term effects of living in slums on health and socio-economic outcomes, (3) provide a platform on which specialized studies can be nested in order to better understand the drivers of intra-slum and intra-urban population health inequities among vulnerable groups such as women, adolescents and teenagers, under-5's and older persons, and (4) monitor and evaluate the impact of interventions and programmes by the Government of Kenya and other development agencies aimed at improving the general health and wellbeing of residents in informal settlements. As such from its inception up to March 2020, data was mainly collected to cover three main topical areas, that is, (a) demographic events - births, deaths and migrations, (b) health outcomes - morbidity, cause of death through verbal autopsy, child vaccination and nutrition, and (c) socio-economic indicators such as marriages, education, wealth and housing characteristics.

Over the 18-year surveillance period, findings from the NUHDSS and its specialized studies have contributed to the monitoring of health and development indicators, which are specific to slum settings such as the Millennium Development Goals (2000 – 2015) and Sustainable Development Goals (2016 – 2030). Several scientific products emanating from the NUHDSS have demonstrated that the NUHDSS surveillance data is vital for guiding policy and informing actions aimed at improving the wellbeing of urban slum dwellers. This is because the longitudinal perspective of the NUHDSS offers a more nuanced understanding of changes in the health and socio-economic status of urban slum dwellers over time, and allows the clarification of intra-urban and intra-slum differences in Nairobi.



Updated datasets from the nested studies and the NUHDSS, as well as their accompanying metadata are publicly available to both internal and external users on the APHRC Microdata Portal (<http://microdataportal.aphrc.org/index.php/catalog>).

3. Need for NUHDSS Re-design

Over the surveillance period, the approach to data collection and related tools have undergone periodic updates and modification following continuous engagement with policymakers, slum community leaders, slum residents and other stakeholders. These modifications were mainly implemented to ensure efficiency, optimal allocation of resources, and a commitment to collect up-to-date and relevant data for evidence-informed decision making in an environment that is evolving dynamically. However, there remain a few major challenges that remain outstanding and have necessitated a re-design of the NUHDSS. These challenges include:

- **Funding** – The NUHDSS has not had consistent and direct funding for several years and as such APHRC has had to dedicate about USD 500,000 annually, from its core funds to sustain the project activities. It should be noted that even though specialized studies that are nested on the NUHDSS do contribute to the platform, the contributions are small and inconsistent and have not been able to guarantee financial sustainability for the platform
- **Lack of depth and detail** – The data collection practice in the NUHDSS employs quantitative approaches in order to observe differences between the two slums and demographic transitions over the years. However, these differences and transitions are not well understood as such study often requires the employment of qualitative methodologies, which are not typical of Health and Demographic Surveillance System (HDSS) science. The nested specialized studies have been able to implement qualitative modules in their studies but often these modules are very focused research questions, do not have the required demographic scope and cannot speak on the observed differences and transitions in the NUHDSS.
- **Limited utility** – In order for the NUHDSS to provide a true picture of the urban-health disadvantage given the dimensionalities in the entire Nairobi City, it would have to have a broader scope that it currently does in order to generate evidence that is relevant to global priorities such as sustainable development goals (SDGs), universal health coverage (UHC), and civil registration and vital statistics (CRVS). Additionally, the picture of intra-slum differences that is rendered by the NUHDSS is not representative of Nairobi City and/or other urban slums in the Kenya. This is because, as it stands, the NUHDSS data is limited in breath and detail because its focus has been on two slums in Nairobi. It therefore cannot contribute to research agendas that pertain to national and global priorities such as Maternal, newborn and child health (MNCH), Sexual and reproductive health and rights (SRHR) for adolescents, Non-communicable diseases (NCDs) and Environment and Health, even at the City Status level only.
- **Uncoordinated removal and/or addition of questions and/or modules** – During the surveillance period, questions and modules have been introduced and/or deleted in a manner that may have not been consistent. This has made data management an insurmountable task and longitudinal analysis of the data quite complex such that the



data and not able to answer research questions. Further, there needs to be improved coordination with other regional HDSS site in order to standardize procedures and data collection tools to enhance open data sharing across sites, and enhance capacity strengthening in terms of data systems, infrastructure, data analysis, research agendas and collaborative fundraising efforts to ensure financial sustainability.

- Respondent fatigue – There have been concerns raised regarding respondent fatigue during the 18-year surveillance period. This was partly addressed by the reduction of surveillance rounds from four to three and then to two rounds by March 2020. However, it still remains a concern that should be addressed owing to the increasing number of specialized studies that are nested on the NUHDSS.
- COVID-19 global pandemic – Data collection stopped on March 16, 2020 following the outbreak of COVID-19. By July 2020, there were increased rates of confirmed cases within Nairobi and the country, increased restrictions on travel and public health guidance by the Government of Kenya such as social distancing and working from home. At this time, data collection activities were abandoned and all of the 22 NUHDSS data collectors had their position declared redundant. A resumption of NUHDSS activities would have to take into account needed human safety precautions brought about by highly infectious diseases such as COVID-19.

4. Scope of the NUHDSS Re-design

The successful candidate will lead the re-design of the NUHDSS project to ensure that the NUHDSS achieves its primary purpose while mitigating the aforementioned challenges and considering the all or some of the following key questions that have arisen regarding improving the utility of the NUHDSS. These key questions include, but are not limited to:

1. How should the re-designed NUHDSS position itself in order to generate evidence that is relevant to the national and regional policy processes and that is cognizant of existing intra-slum and intra-urban inequities?
2. How should the re-designed NUHDSS be implemented in order to have impact both at the local level and on a wider intra-urban scale?
3. Which approach would enable the re-designed NUHDSS to achieve its goals: a whole population surveillance or a thematic, sub-population surveillance?
4. How can lessons learned from previous membership in HDSS networks be addressed in the re-designed NUHDSS? Such lessons include: few or no Principal Investigators in HDSSs in low- and middle-income countries (LMICs), limited engagement with the East African society, low productivity in terms of scientific outputs and a lack of a community of practice in HDSS science.
5. How can the re-designed NUHDSS use advancements in technology to inform methodology for evidence generation and dissemination, e.g. data science methodologies, real-time capture of vital-statistics indicators, and linkages between HDSS data and health facility (hospital) data?
6. Should the re-designed NUHDSS exclude or include surveillance data pertaining to a) various forms of exposure to health risks; b) access to and use of health



services; c) access to and use of other social amenities; and/or d) on health and other social outcomes?

7. Should the re-designed NUHDSS limit its scope to selected socially vulnerable groups such as, children, women, adolescents, the elderly?
8. Should the re-designed NUHDSS have a special focus on an environment and health agenda that includes, low toilet ownership, contaminated drinking water, solid waste management, and, indoor and outdoor air pollution, among others?
9. How can the re-designed NUHDSS incorporate safety measures to protect data collection teams as well as the respondents in the face of highly infectious outbreaks such as the Covid-19 pandemic?

Currently, mainstream NUHDSS data collection activities have been paused for period of two years from October 2020 – September 2022 to enable the re-design of the NUHDSS even as specialized studies continue their data collection activities.

The re-designed NUHDSS will be implemented every two years with data collection teams engaged for a period of 6 months, during which data collection activities will be ongoing. Following the cessation of the data collection activities, a lean staff will be retained to engage in activities that include, policy engagement, community liaison, data management, analysis, report writing and dissemination of results.

The re-designed NUHDSS will maintain the primary objective for which it was established, that is, to highlight the urban-health disadvantage through generation of information for decision-making which is specific to the slum residents of Nairobi City. However, it will expand its area of coverage beyond Viwandani and Korogocho and cover different types of urban informal settlements in Nairobi. These settlements may include:

- Legally notified slum areas – Areas that have been declared as slum areas in the Nairobi City plans and in which dwellings are unfit for human habitation due to dilapidation, overcrowding, faulty arrangements and design.
- Unauthorized informal settlements – Areas where residential pockets, slum clusters or squatter settlements have emerged illegally on public or private lands within Nairobi City and are occupied by poor migrants from rural areas of Kenya.
- High density settlement areas – Clusters of households that may have been resettled from their original informal settlements, or have been established due to social economic activities in the area.
- Pavement dwellers – Squatters who do not have dwellings but move from place to place with their personal “household” belongings.

5. Consultant Roles and Responsibilities

The anticipated roles and responsibilities may include but not limited to:

- Lead, supervise and carry out the work pertaining to the benchmarking that informs the re-design



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- Lead, supervise and participate in the development two to three topical issues (and related indicators) in the urban space that highlight existing intra-slum and intra-urban inequities in Nairobi City in order to be relevant to the national and regional policy processes
- Lead, supervise and participate in the development of a new NUHDSS protocol project that addresses the challenges listed above for submission to desired institutional ethical approvals
- Advise on mobilization of resources for the NUHDSS project to ensure its financial sustainability.

6. Qualifications and Experience

- PhD Degree in Demography, Population Studies, Public Health or Statistics with an emphasis on Demography
- Minimum 7 years of professional experience in the implementation and management of HDSS or related longitudinal population studies
- Knowledge of methods of demographic analyses and theories that pertain to urbanization, urban demographic change and/or urban population trends
- Experience in developing protocols
- Excellent communication (written and spoken) and interpersonal skills
- Strong organizational and program management skills
- Ability to take initiative and work both independently and in teams.

If you meet the criteria above and are interested in this opportunity, please send your cover letters, technical and financial proposals to consultancies@aphrc.org and copy procurement@aphrc.org by **April 30th, 2021** with the subject: **Consultant Demographer**. APHRC will contact the shortlisted candidates only. Applications should be addressed to:

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