



**Makerere University**

**CENTER FOR HEALTH AND POPULATION RESEARCH**  
**Operating Population-based Surveillance Cohorts**



# **2023 TECHNICAL REPORT**

# MUCHAP HIGHLIGHTS 2023 ACHIEVEMENTS

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## ***A Year of Progress and Collaboration: MUCHAP Highlights 2023 Achievements***

2023 marked a vibrant year for the Makerere University Centre for Health and Population Research (MUCHAP). From ongoing research projects and capacity-building initiatives to active community engagement and international collaboration, we made significant strides in advancing scientific knowledge and improving health outcomes. This report highlights key achievements across our diverse activities, showcasing the unwavering commitment of MUCHAP and its partners to tackling critical health challenges.

In addition to ongoing studies, we implemented new research projects, and conducted nested studies within our core HDSS surveillance system, constantly pushing the boundaries of knowledge. Through trainings and workshops, we honed the skills of researchers and other professionals, leading to a robust network of talent in our community. Strong community engagement remained central to our work, ensuring research relevance, acceptance, and trust with the communities we serve. Welcoming visitors from across the globe, we fostered international collaboration and exchange of knowledge, enriching our research capacity and strengthening global health partnerships.

As you delve into this report, you will witness the dedication and innovation that characterized MUCHAP's journey in 2023. We invite you to celebrate our achievements and partner with us as we continue to contribute to Makerere University research agenda and strive for a healthier Uganda and beyond.

## **Update Round 22:**

The IMHDSS update-round 22 was conducted between May and September 2023. It aimed at updating longitudinal demographic data on births, deaths, migrations and pregnancies. Several studies including mental health, back pain, rehabilitation among others, were nested to this data collection round.



**Research Assistants conducting interviews at household**

MUCHAP is in advanced stages of establishing a collaborative engagement with Makerere University Biomedical Research Centre (MakBRC) to establish a Research Laboratory that will serve the HDSS population and the surrounding communities.

## Research at the Centre

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### Minimally Invasive Tissue Sampling (MITS)

The Minimally Invasive Tissue Sampling (MITS) procedure is an approach which aims at generating a more accurate and specific cause-of-death diagnosis. MITS procedure uses biopsy needles to obtain post-mortem samples of lung, brain and liver for histopathology and microbiology examination in order to determine the cause-of-death in children below 5 years. Recruitment started in March 2023 and by the end of the year, 85 cases have been successfully recruited.



MITS Specialists Collecting Samples

### IDAIR- Citizen Science

This needs assessment study was conducted between April and July 2023, with the aim of building Citizen Science Intelligence for Pandemic Preparedness and Response. Citizen Science is a practice of public participation and collaboration in all aspects of scientific research to increase knowledge and build strategies towards pandemic preparedness and response. The manuscript has been submitted for review.

**Funder:** HealthAI, Canada

**Collaborators:** AMREF Africa, Nairobi, Kenya



Conducting FGD's with Community Members

### Top line findings

- A total of 395 participants were enrolled for the study. Participants were categorized as- General population, Community Health Workers and Marginalized/Vulnerable population
- 68% of the study participants had never heard of Citizen Science activities.
- Majority of the study participants knew the activities related to Citizen Science
- Most participants agree with the notion that, it is important to involve the public (citizens) in Citizen Science activities.
- 63% of the participants showed interest to participate in Citizen Science activities, especially the general population category.
- 63% of the study participants were uninterested to participate in Citizen Science using digital technology.
- 95% of the participants knew about the Citizen science activities that are related to managing pandemics. Participants mentioned activities such as hand washing, masks, vaccination distancing, quarantine, use of facemasks and sanitizing.



## Excess Mortality

The goal of this initiative was to characterize all-cause (and cause-specific) mortality rates and trends, by age and sex, across a range of rural and urban sub-Saharan African and South and Southeast Asian settings under continuous health and demographic surveillance in order to understand the excess mortality of the COVID-19 pandemic in key low and middle-income country (LMIC) settings. The manuscript has been submitted to a scientific journal for review (Title: **Age and Vulnerability: Can we explain the disproportionate mortality in young children during Uganda's COVID-19 pandemic?**)

**Funder:** BMGF

**Collaborator:** University of the Witwatersrand, South Africa, INSPIRE Network, APHRC, Kenya

## Top-line findings

- In the period 2015 to 2021, a total of 132,367 individuals, resident in IMHDSS were followed up with a combined 615,790 person years. In the same period, 3,424 deaths were registered.
- The Crude Mortality rate (CMR) has fluctuated over time since 2015 and was consistently high for males compared to females. The lowest CMR was recorded in 2017 for females while it was lowest for males in 2019.
- There was a higher CMR (6.0, CI = [5.6-6.3] per 1000 person years) during COVID-19 period compared to before COVID-19 (5.4, CI = [5.2-5.6] per 1000 person years)
- Male participants had 40% greater risk of dying during COVID, and a 20% greater risk of dying before COVID compared to the female participants.
- Excess mortality was observed during the COVID-19 period for all age groups. Excess mortality was highest around the first and second quarters of 2021 across all age groups.

## Nutritional management of growth faltering in infants aged under six months in Asia and Africa: An individually randomized trial (BRANCH – Breastfeeding counselling and management of growth)

This WHO funded study commenced in November 2023, spilling over 2024. It aims at understanding nutrition/breastfeeding practices of mothers and to identify growth faltering in children below 6 months in order to improve child survival. The preliminary breast-feeding survey has successfully needed and now implementing the main study/trial activities.



**Funder:** WHO/BMGF

**Collaborator/PI:** Prof. Grace Ndeezi, Makerere University College of Health Sciences



## **EMERALD**

Nested to the MUCHAP update-round 22 of data collection, this study was conducted between May and September 2023, targeting women of reproductive age who had had a pregnancy in the last 2 years. It assessed the health care capacity of women, with specific interest in disabled women in a rural setting.

**Funder:** NIH

**Collaborator:** Johns Hopkins Bloomberg School of Public Health

## **CRVS/HDSS integration initiative – a pilot**

Between May and June 2023, MUCHAP and National Identification Registration (NIRA) engaged in a partnership aimed at harmonizing and improving death registration in a selected population. About 1,185 deaths were registered in the first Phase of the study. The project is still on-going, with death registration now in non-HDSS villages. The aim was to adopt the protocols of the HDSS to improve death registration by NIRA the government agency responsible for CRVS.



**Joint Training of MUCHAP Scouts and VHTs on births and death registration using NIRA form 12**

## **ARISE- Adolescent Health**

An end-line evaluation of this study was conducted in July 2023, targeting 1,200 adolescent girls and boys in the age group 10-19 years. It aimed at understanding the life-style practices of adolescents including substance-use and measurements such as- height, weight and blood level were taken.

**Funder:** Harvard university

**Collaborator:** Dr. Justine Bukenya and Prof. David Guwatudde, Makerere University SPH



**Training of field assistants at MUCHAP office**



## MUCHAP Activities

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### Medical Camp – community engagements

The medical camp was conducted in Wairama village, Nakigo sub-county on 17<sup>th</sup> June 2023. Approximately 270 community members from Wairama and neighboring villages turned up for the medical camp. The services offered included: testing for blood Pressure, blood sugar, HIV/AIDS and Malaria.



### CDC Foundation visitors to the Centre Research office in Iganga

In collaboration with National Identification and Registration Authority (NIRA) and Centre for Disease Control (CDC), MUCHAP did not only participate in training of VHT's to improve birth and death registration, but also engaged the team in a tree planting activity at MUCHAP offices.



### RTI visits MUCHAP – Dr. Norman Goco and Dr. Edwin Walong



## **Bench marking visit to KEMRI Kisumu**

In an effort to improve the implementation of MITS study activities at MUCHAP, we had a benchmarking visit to KEMRI-HDSS in Kisumu in April 2023.



MUCHAP-MITS team at KEMRI-CDC Kisumu

## **Workshops**

A number of workshops have been attended by representatives of our research team, including the data harmonization workshop in Nairobi, a data analysis and writing workshop in Johannesburg and a scientific writing workshop in Jinja.

*(Insert photos and when the activities were done)*

## **Team building**

We went out to carry out team building activities as MUCHAP staff, where we reviewed our strategic plan and crafted the way forward.





## MUCHAP Gallery

### Introducing MITS study to Iganga hospital (March 2023)



### Bio-Ethics training by Mild May Uganda (March 2023)



### MUCHAP-Government agencies Collaboration (June 2023)



### Uganda National Institute of Public Health Fellows working with MUCHAP (August 2023)

