

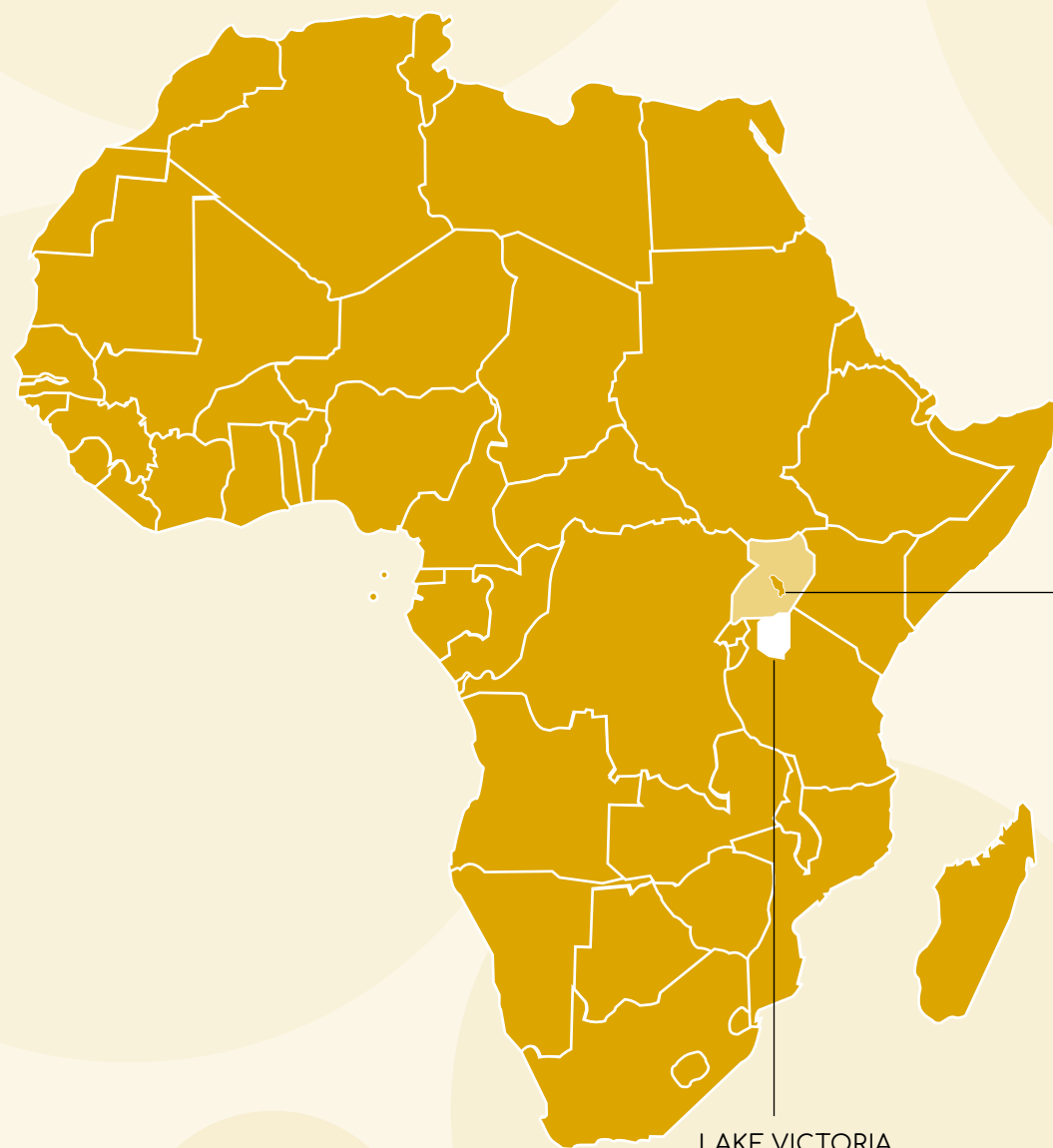
balamu

NCD Research,
Education & Care

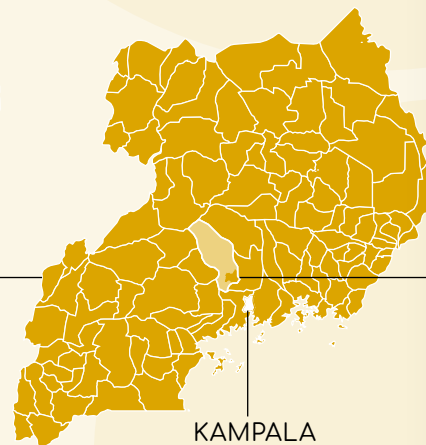


Annual report 2022

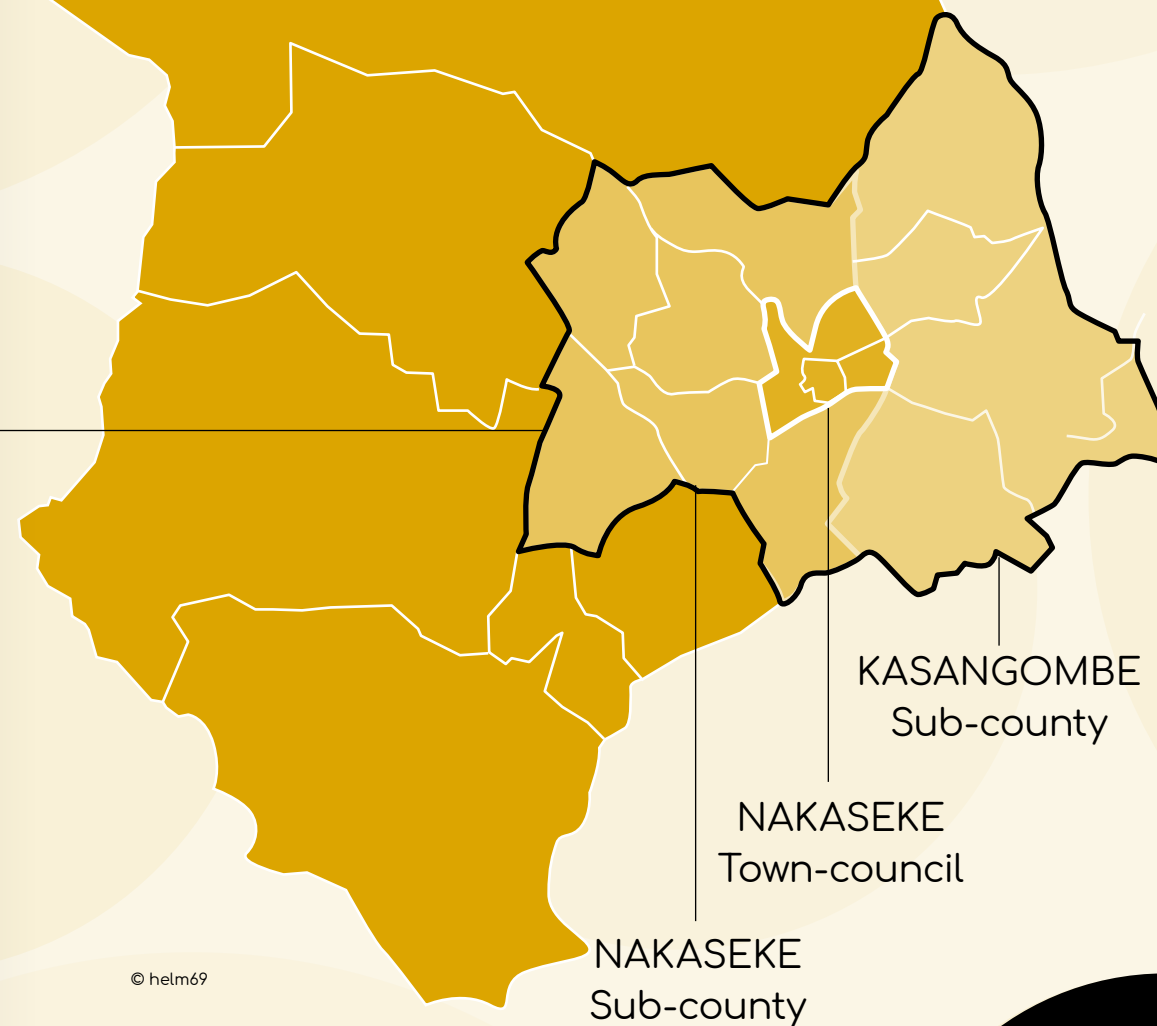
Where we work



LAKE VICTORIA



KAMPALA



KASANGOMBE
Sub-county

NAKASEKE
Town-council

NAKASEKE
Sub-county

© helm69

Africa

Uganda

Nakaseke District

Annual
report
2022

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Keynote from the Balamu Team

We are very pleased to share with you the progress we have made. Thanks to the support of the Else Kröner-Fresenius-Stiftung, the only **NCD services in the Nakaseke district** have been secured so far.

This report summarizes the Balamu achievements, a **collaboration** between ACCESS Uganda, Charité - Universitätsmedizin Berlin, Yale University, Johns Hopkins University, University of Miami, and Makerere University. We are very proud that this project has created such **far-reaching networks** that continue to inspire **young professionals** to get involved in NCD research in Sub-Saharan Africa.

Being healthy is exactly what we aim to achieve through our project activities: **reducing morbidity and mortality** due to the increasing global NCD burden whilst improving **quality of life** by generating **evidence**.

Extremely grateful for the support of the Else Kröner-Fresenius-Stiftung, we complete another successful project year in which we were able to pursue our vision. We continue to focus on **NCD research, education, and care** with the goal of achieving **effective management and control of non-communicable diseases**.

Wishing an enjoyable read,
The Balamu Team



CHW Florence Nakafeero reading results on the peak flow meter

Executive Summary

The Balamu project on NCD Research, Education and Care was established in 2020 to build upon the successes of the initial 3-year project, also supported by the Else Kröner-Fresenius-Stiftung.

This year, we more than doubled the amount of patient consultations. We have provided 9,300 NCD clinic visits by over 2,200 patients. In addition, we successfully implemented and further developed studies investigating community health worker (CHW) interventions.

We have employed a tool to assess the knowledge, attitude and practices of nursing tutors towards NCD management. We have implemented an electronic medical record system that the clinic team uses to capture clinical data and patient outcomes.

We held various stakeholder meetings with the Ministry of Health, local government and the district health office. In addition, we continue to engage the community advisory board (CAB) as our NCD taskforce. Our project website and twitter channel continue to flourish. Moreover, we successfully published three peer-reviewed articles and are in the preparation or review phase for further articles. Various team members presented our findings and activities at national and international conferences.



Objectives

Balamu aims at establishing a center of excellence for NCD Research, Education, and Care. We target to consolidate, improve, and expand the care for patients with NCDs by developing a model of care that can be adapted to diverse contexts.

Objective 1

Improving and expanding NCD care in rural Uganda

Objective 2

Strengthening NCD training in Nakaseke, rural Uganda

Objective 3

Developing infrastructure and sustainability



Clinical officer James Karahuka comforts a patient at Life Care Clinic

Improving and expanding NCD care in rural Uganda

Objective

1



Nurse Peruth measuring blood pressures at Semuto Health Centre IV



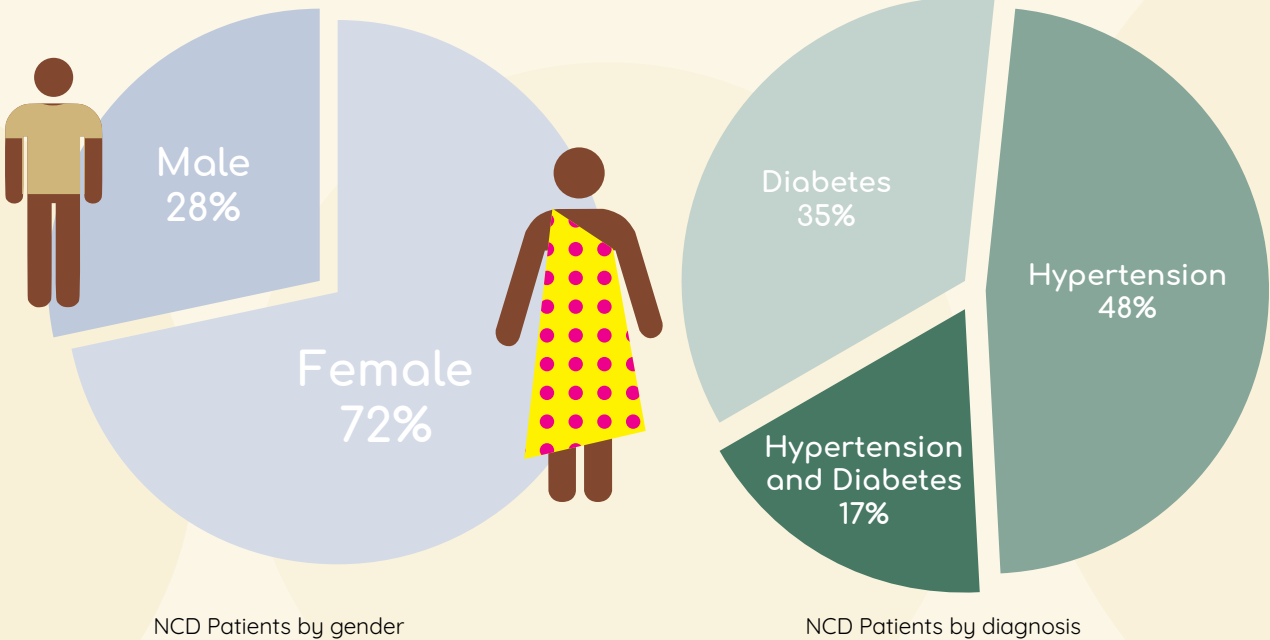
Rebecca Ingenhoff and Dr. Richard Munana during a NCD clinic site visit

2,219
NCD patients

Clinical strand

Our three NCD clinics are all operating on a weekly basis. These clinics are essential institutions for providing the best NCD education and patient care. We strongly increased the numbers of NCD patients and patient consultations in all clinics throughout this operating year.

Nakaseke Hospital NCD Clinic provides comprehensive NCD screening, care, and management of patients every Friday. Further, Semuto NCD Clinic, located in a sub-county in Nakaseke district, and Life Care Center NCD Clinic at ACCESS provide these services every Wednesday and Tuesday. The clinics are run by a medical doctor, two clinical officers and three nurses.



Patient characteristics:

A total of **2,219 NCD patients** have been attended to by our Medical and Clinical Officers since the start of the project. Of these patients, **1,595 (72%)** were female, **623 (28 %)** were male, **780 (35%)** were diagnosed with diabetes mellitus type II, **1052 (48%)** were diagnosed with hypertension, while **386 (17%)** suffered from both, hypertension and diabetes.

Patient visits:

A total of **9,391 patient consultations** have been registered at the three NCD clinics. These include new patient visits, return or scheduled visits and emergencies. During these visits, patients are seen by the clinicians who take their vital signs and medical history, perform laboratory and radiological tests, make diagnoses, prescribe and dispense medication. In addition, patients receive health education and counseling on diet, physical activity, alcohol and drug use cessation as well as medication adherence.

9,391
patient consultations

Research strand



CHW Kizito Mayombwe screens for chronic kidney disease

Protocol 1:

Titled 'Task Shifting Screening and Referral for Common Non-Communicable Diseases by Community Health Workers for Early Detection and Referral in Nakaseke, Rural Uganda.'



Sr Clinician Susan Kawuma prescribing NCD medication at Nakaseke Hospital



CHW Kizito Mayombwe obtaining informed consent

We implemented our first comprehensive study protocol for a CHW-led NCD management system. It now consists of three research interventions towards screening and referral of common NCDs lead by CHWs

- 1) Hypertension and diabetes
- 2) Chronic obstructive pulmonary disease (COPD) and
- 3) Cervical cancer.

We trained 25 CHWs and recruited 20. The study employs a mixed methods approach. CHWs screened 3500 community members for hypertension, diabetes and later COPD to investigate task shifting capacities. We are currently in the sustainability phase to assess patient, CHWs and key stakeholders' experiences and recommendations.

In the coming months, we will implement the cervical cancer screening among almost 600 women in Nakaseke. We completed the community assessment and obtainment of local experts' opinion for this study.



Nurse Winnie Namugula collecting a blood sample from a study participant



CHW Kevin Namutebi performs blood pressure screening in the community

900
Patients

STUDY PROTOCOL Open Access



Effectiveness of a community health worker-delivered care intervention for hypertension control in Uganda: study protocol for a stepped wedge, cluster randomized control trial

Rebecca Ingenhoff¹, Juliet Nandawula², Trishul Siddharthan³, Isaac Ssekitooleko^{4,5}, Richard Munana^{2,6}, Benjamin E. Bodnar⁷, Ivan Weswa², Bruce J. Kirenga⁸, Gerald Mutungi⁹, Markus van der Giet¹, Robert Kalyesubula^{2,10,11} and Felix Knauf^{1,11}

Abstract
Background: Over 80% of the morbidity and mortality related to non-communicable diseases (NCDs) occurs in low-income and middle-income countries (LMICs). Community health workers (CHWs) may improve disease control and medication adherence among patients with NCDs in LMICs, particularly in sub-Saharan African settings. In Uganda, and the majority of LMICs, management of uncontrolled hypertension remains limited in constrained health systems. Intervening at the primary care level, using CHWs to improve medical treatment outcomes has not been well studied. We aim to determine the effectiveness of a CHW-led intervention in blood pressure control among confirmed hypertensive patients and patient-related factors associated with uncontrolled hypertension.
Methods: We will conduct a stepped-wedge cluster randomized controlled trial study of 869 adult patients with hypertension attending two NCD clinics to test the effectiveness, acceptability, and fidelity of a CHW-led intervention. The multi-component intervention will be centered on monthly household visits by trained CHWs for a period of 1 year, consisting of the following: (1) blood pressure and sugar monitoring, (2) BMI monitoring, (3) cardiovascular disease risk assessment, (4) using checklists to guide monitoring and referral to clinics, and (5) healthy lifestyle counseling and education. During home visits, CHWs will remind patients of follow-up visits. We will measure blood pressure at baseline and 3-monthly for the entire cohort. We will conduct individual-level mixed effects analyses of study data, adjusting for time and clustering by patient and community.
Conclusion: The results of this study will inform community delivered HTN management across a range of LMIC settings.
Trial registration: [ClinicalTrials.gov NCT05068505](https://clinicaltrials.gov/ct2/show/study/NCT05068505). Registered on October 6, 2021.

Ingenhoff, R. et al. (2022). Effectiveness of a community health worker-delivered care intervention for hypertension control in Uganda: study protocol for a stepped wedge, cluster randomized control trial. *Trials*, 23(1), 440

Protocol 2:

Titled, ‘Effectiveness of a community health worker intervention for hypertension control in Uganda, a stepped wedge, cluster randomized control trial’.

We received ethical approval for our randomized control trial, measuring the effectiveness of a CHW education intervention.

In this study we will recruit almost 900 participants with uncontrolled hypertension. Thereby we will compare clinical outcomes between intervention and control groups. The intervention groups will receive an individual, home-based CHW education intervention while the control groups continue to receive usual care at our NCD clinics.

Through the stepped wedge design, we ensure that all patients will receive the intervention. We are currently in the final preparation phase. The study protocol was successfully published in a peer-reviewed scientific journal

Strengthening NCD Training

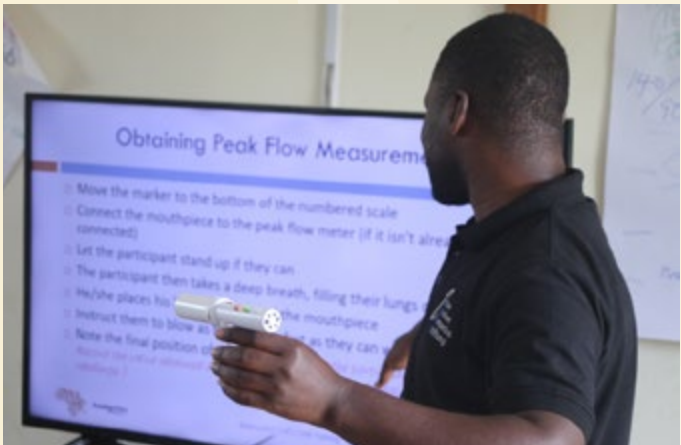
Objective

2



Ivan Weswa meets CHW Ronald Kisekka during a community visit

Lead by our Ugandan team, we continue to train our five research nurses and 25 community health workers on NCD screening and referral to ensure adherence to study protocols.



Dr Richard Munana training CHWs on how to use peak flow meters to screen for COPD in the community

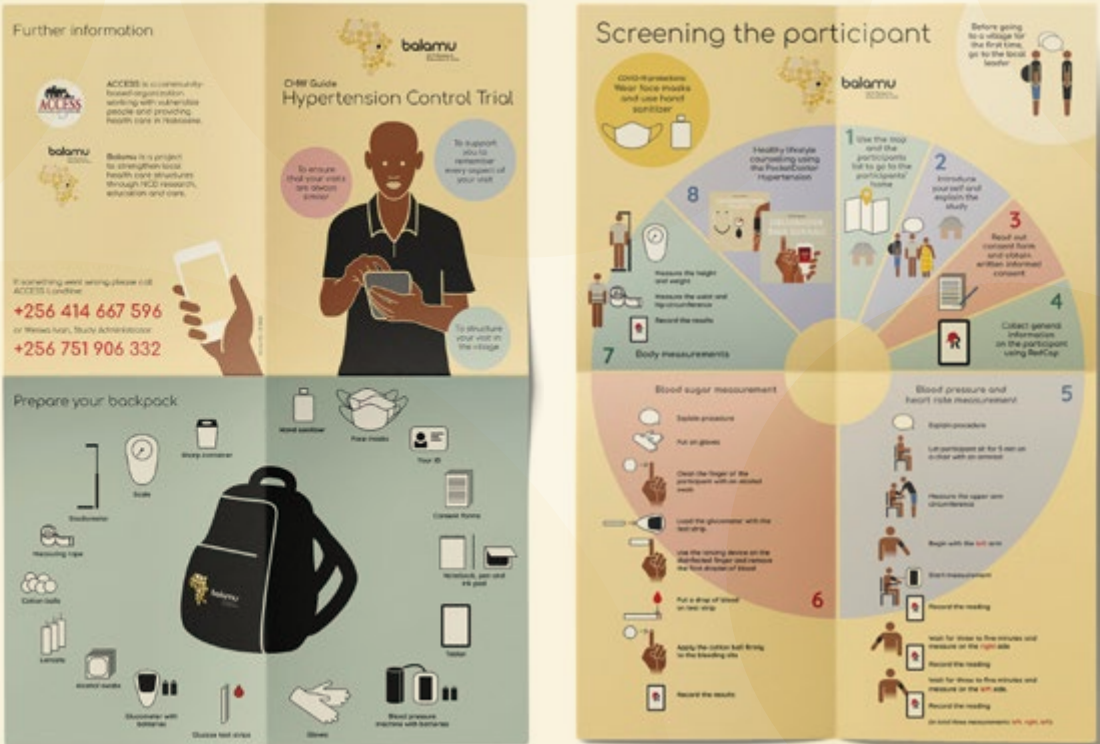


Continuous revisions and trainings

On a weekly basis, our project managers in Nakaseke conduct meetings with all CHWs to address opportunities and challenges faced throughout the screening process. After finalization of the first study, the project team facilitated an open discussion to review key challenges, positive outcomes and recommendations for a CHW program implementation.

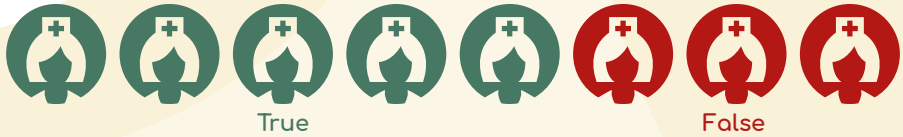
CHWs confirmed the following accomplishments:

- Community members learned about Balamu and ACCESS Uganda
- CHWs identified community members with NCDs & providing treatment guidance
- CHWs reduced myths and misconceptions about NCDs in the community
- CHWs reached new villages and raised NCD awareness
- CHWs are able how to screen for hypertension, diabetes and chronic kidney disease without direct supervision
- An increasing number of patients attends the NCD clinics

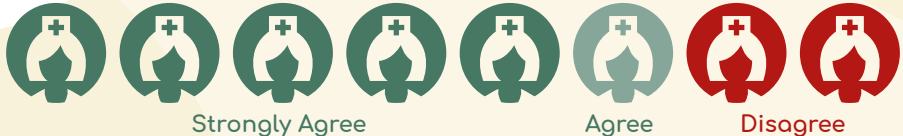


We further developed [education materials](#) that are being evaluated through our randomized control trial

Most patients with hypertension are asymptomatic



The nurse can play a role in early detection of hypertension and diabetes



There are too many patients with hypertension and diabetes



Nursing curriculum

We designed and implemented a questionnaire among eight tutors at the ACCESS School of Nursing and Midwifery.

The survey encompassed a diverse range of questions regarding tutors' knowledge on the detection, screening and management of NCDs. We aim to use this assessment to develop concrete recommendations on including NCDs in the nursing curriculum while closely collaborating with the schools' principal.

While tutors displayed a good general knowledge regarding NCDs, we discovered areas which could be

enhanced through a deeper NCD curriculum. While some tutors rightly answered that hypertensive patients are asymptomatic, some were not aware of this circumstance. In addition, identifying risk factors for hypertension posed a risk for some participants.

Lastly, three tutors emphasized that there is a need for comprehensive NCD training to employ nurses in the early detection of NCDs.



Alex Kalungi, Jovia Nakiyana and Charles Sekaayi

Nursing scholarships

Three nursing students from ACCESS School of Nursing and Midwifery were awarded full scholarships to cover their tuition in 2022, and these scholarships will continue this year to enable the successful graduation of our scholarship recipients.

These students are high performers and in high need for support as they endured hardships. We aspire that these scholarships will enable three more health professionals to improve NCD care in Nakaseke.

Global Health Exchange



Institutional Exchange, Makerere University & Charité, June 2022

As a visiting Scientist, Dr. Robert Kalyesubula provided a lecture for nephrology and medical intensive care doctors and research fellow during his visit to Charité in June this year. The lectures' focus laid on kidney disease management in rural Uganda and the inherent global health inequalities

Student exchanges

Our bilateral exchange provides medical professionals from Uganda, Germany and the US with a broader knowledge of global health issues and the discrepancies between countries.. Due to Covid-19 restrictions and travel limitations, we had to put our annual bilateral exchange between Makerere, Yale and Charité on hold for the academic years 2020 and 2021.

In February 2022, fourth-year medical student Julia Gaal from Charité completed a clinical elective in Uganda funded by Balamu. Julia chose electives at Nakaseke General Hospital and Mulago National Referral Hospital. She rotated through our NCD clinics while learning about CHW research.

During her rotation she was able to experience practicing medicine from a lower level of resources. She received mentoring from our Principal Investigator Robert Kalyesubula and Scientific Manager Dr. Richard Munana.



Dr. Jana Reichardt, Juliet Nandawula and Rebecca Ingenhoff at GLOHRA Day in Berlin, 2021



Julia Gaal and Dr. Robert Kalyesubula at Makerere University in Kampala

“This elective helped me become a physician with an eye for clinical manifestations. I learned to get my diagnosis largely based on the patient history and examination. I gained insight in the health care system in Uganda and grew tremendously on a personal and professional level. The extraordinary impressions I gathered will have great impact on my future training. I am extremely grateful for the opportunity.” – Julia Gaal



Research Fellows



Dr. Richard Munana
Cand. MPH

Richard receives intensive mentoring from experts in NCDs from Uganda, the United States, and Germany. He has a strong interest in non-communicable diseases and focuses his MPH thesis on investigating opportunities for health system strengthening at the NCD-infectious disease nexus. He has played a key role in providing care to patients at the NCD clinics and in the scientific management, such as developing and implementing all clinical and research interventions.



Isaac Sekitoleko
PhD Cand.

Isaac is a research degree student and fellow at the International Statistics and Epidemiology Group (ISEG) at the prestigious London School of Hygiene and Tropical medicine (LSHTM). Isaac has participated in research design database development, protocol writing, and statistical analysis. Isaac believes that using advanced statistical methods to develop predictive models can improve the diagnostic process and treatment of disease.



Rebecca Ingenhoff
Cand. rer. Medic.

Rebecca leads the Balamu operations as a program manager while pursuing her PhD in the Department of Nephrology and Medical Intensive Care at Charité. As a fellow Rebecca leads all qualitative research interventions, investigating the feasibility of CHW-led interventions. Prof. Dr. Felix Knauf supervises her dissertation while Rebecca further collaborates with Dr. Christine Nalwadda from Makerere University.



Jana Kimmel
Cand. Med.

Jana completed medical school this year. As a doctoral candidate, she focuses on the acceptability of screening performed for HPV-associated cervical cancer and its implications for our patients. Jana aims for a better understanding of what barriers prevent women from participating in the screening program. Dr. Andreas Kaufmann supervises her dissertation. Jana hopes to gain knowledge about working in an international, interdisciplinary team in the field of medicine and learn from the experiences of our Ugandan colleagues.



Julia Gaal
Cand. Med.
Medical Research Assignment

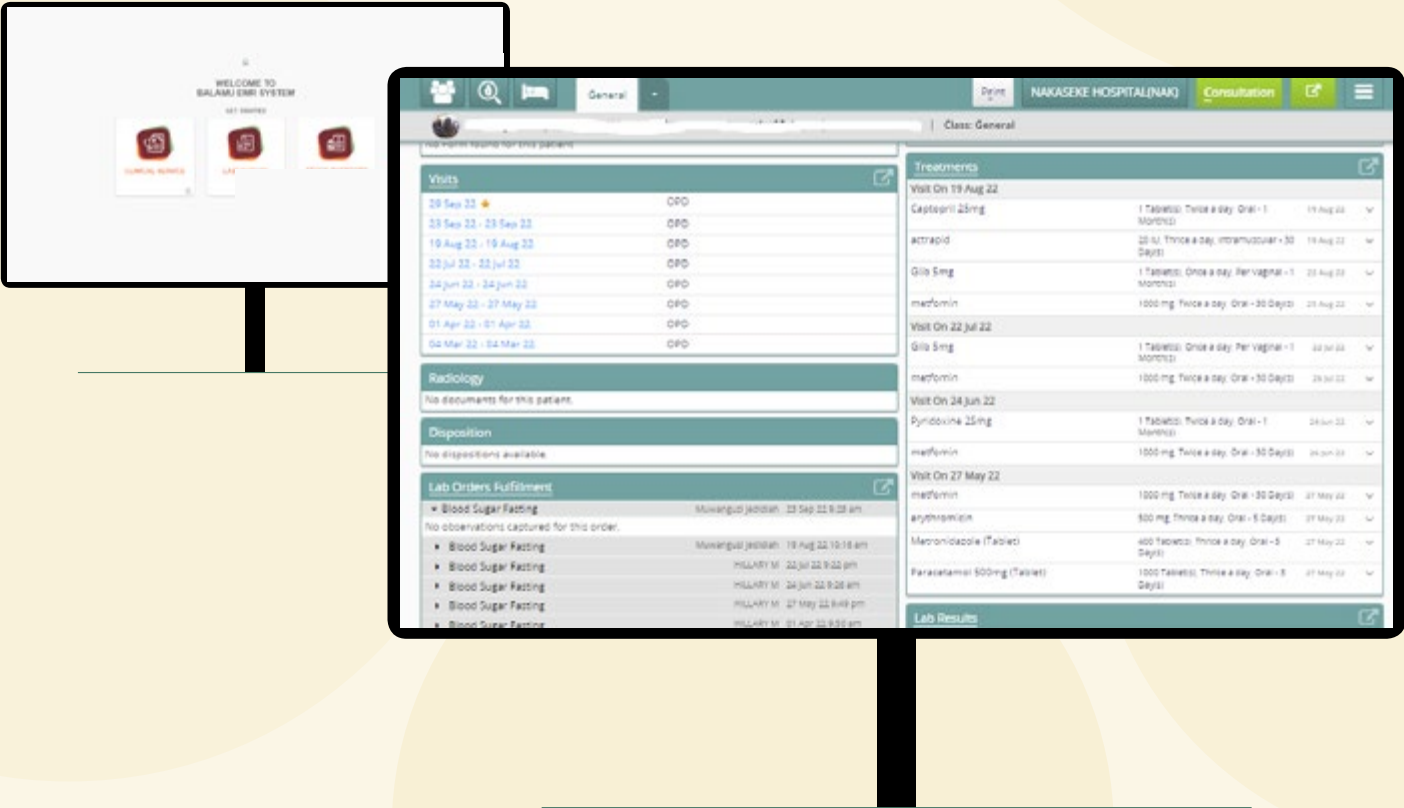
Julia joined the team due her interest in global health and internal medicine in 2021 as an undergraduate research fellow. She conducted her third-year research project to investigate the barriers to NCD medication availability and accessibility in rural Uganda. In early 2022, she conducted qualitative research with our project members during a ten-week stay in Uganda. Furthermore, she received a scholarship to complete her internal medicine rotation in Uganda.



Developing infrastructure and sustainability

Objective

3



Electronic Medical Record (EMR)

The team developed, installed and configured a digital infrastructure through an Electronic Medical Record (EMR) system, tailored to the local environment and needs. In resource-limited settings, health records and medical histories are often charted on paper forms. This often results in the loss of valuable patient health information. Longitudinal health data is imperative for managing complex medical conditions.

The EMR improves the digital infrastructure and quality of, access to, and monitoring of NCD care. The system was designed using the open-source platform and is installed on a server that runs CENTOS 7. It is designed in modules according to the patient flow and the program reporting needs. The project team completed a training to familiarize 18 health workers with the system. It is used for our weekly NCD clinics.



Nurses and clinical staff during an EMR training



Our Community Advisory Board Members

Community Advisory Board: Our NCD Taskforce

A Community Advisory Board (CAB) was established as our NCD taskforce to ensure support and integration of the local community leaders and members. Our Advisory Board consists out of the Nakaseke District Deputy Chief Administrative Officer, Nakaseke Hospital Medical Superintendent and Administrator, Nakaseke Town Council Mayor, two CHWs Members, Com-

munity Religious Leader, and ACCESS District and Community Engagement Director. The CAB meets quarterly to advise our project team on the community research activities that are feasible, culturally sensitive and acceptable in the community. Such input is extremely important in areas where religious and local leaders have great influence on communities.



Meeting at the Ugandan Embassy Berlin

In January 2022, our Charité team met with officials Ugandan Embassy in Berlin. Future research projects and planning to improve and ensure nephrology care in Uganda were discussed. We were congratulated on our achievements so far and encouraged to continue our focus on NCD research, education and care to make a sustainable difference in health care in Uganda.

Dr. Jana Reichardt, Rebecca Ingenhoff, Ambassador Margaret Otteskov and Prof. Felix Knauf at the Ugandan Embassy in Berlin (left to right)

Meeting at the German Embassy Kampala

In addition, team members from Uganda and Germany met with the German Ambassador in Uganda to present the Balamu Project, our vision and mission, and our approaches. This meeting cemented support for our projects from the German-Ugandan side. We continued to receive full support from both the German and Ugandan side.



Julia Gaal, Dr. Robert Kalgesubula, Prof. Felix Knauf and Ambassador Matthias Schauer (left to right)

Site Visit of the Uganda Ministry of Health NCD Commissioner

Dr. Oyoo Charles Akiya is the newly appointed commissioner of NCDs from the Ministry of Health in Uganda. He visited the Balamu Project and Nakaseke Hospital NCD clinic to understand our work regarding NCDs management and care in Nakaseke District. This visit was fundamental to the relationship between the Balamu NCD Project and the Ugandan Ministry of Health. The team explained to the commissioner how the Balamu project has supported the NCD clinics.

Further discussions encompassed challenges patients face, such as limited NCD medications and supplies, affordability of medications, long distances, and limited availability of NCD services. The commissioner commended the Balamu project for its services to the people in rural communities.

He assured that Ministry of Health will support the increase of NCD medication for the growing numbers of NCD patients. He will provide a platform for the Balamu Project to disseminate its research findings to advocate for supportive policies at the Ministry of Health Uganda.



Dr. Oyoo Charles Akiya and Dr. Robert Kalgesubula with representatives from ACCESS Uganda and Nakaseke District Hospital



Participants of the capacity building visit of St. Mary's Health Center Kasaala in Luweero

Visit of St. Mary's Health Center Kasaala in Luweero

The ACCESS team visited St. Mary's Health Center Kasaala in Luweero. The teams discussed the opportunities and challenges of working around infectious diseases (ID) and non-communicable diseases care in the Luweero triangle. Collaboration could include training courses and capacity building of health workers.

PEN-Plus: World Health Organization Model Clinic

Our NCD clinic at Nakaseke Hospital was chosen as PEN-Plus is a model clinic by the Ministry of Health and the World Health Organization in Uganda. Supported by the NCDI Poverty network, the Uganda Initiative for Integrated Management of NCDs (UINCD) in collaboration with MoH and partners will lead implementation of the PEN-Plus pilot in Uganda. The Goal is to develop integrated health service delivery for severe or advanced chronic NCDs at the first hospital level. It builds on the WHO’s package of essential NCD interventions (WHO PEN).

PEN-Plus will strengthen capacity for both basic and advanced NCD services at general hospitals and will provide basic support to lower-level facilities down to the community level. More so, this model aligns with the Ministry of Health integrated chronic care concept that aims to decongest tertiary hospitals. The PEN-Plus pilot is a three-year project with the main goal to pilot PEN-Plus implementation in Uganda and develop a plan for national scale up.



Dr. Oyoo Charles Akiya and Dr. Kalyesubula during the visit of our NCD clinic at Nakaseke District Hospital

Project objectives:

1. To establish two PEN-Plus clinics in general hospitals in rural settings in Uganda
2. To establish two PEN-Plus model training centers in rural settings in Uganda.
3. To develop a PEN-Plus policies national operational plan to guide national scale up.



Participants of the KDIGO Consortium

KDIGO International Consortium

Dr. Robert Kalyesubula was selected as representative of Uganda for the prestigious Kidney Disease Improving Global Outcomes (KDIGO) Consortium. He attended the yearly conference titled “KDIGO Controversies Conference on Improving CKD Quality of Care: Trends and Perspectives” which took place in June 2022 in Berlin.

His goal by joining this consortium is to achieve equitable access to kidney disease care while advocating for his home country Uganda and Sub-Saharan Africa.

Community Radio

We are working with local radio stations, including Nakaseke Radio and Sekke Radio stations, to provide health talks about NCD care and management to the community. We are able to direct community members to our three NCD clinics and respond to community questions through phone calls on the radio.

On average, during a radio talk, we are able to reach a population of 150,000 people in the Greater Luweero Triangle where the Nakaseke district is located. Feedback about our radio talk is normally obtained through our community health workers and through the toll-free phone calls at ACCESS Uganda

Dissemination of our findings

Event participation



Rebecca Ingenhoff and Juliet Nandawula at GLOHRA Day 2021

Presentation at GLOHRA Day, Berlin, October 2021

Rebecca Ingenhoff and former team member Juliet Nandawula presented the progress on our cross-sectional, collaborative “IMPEDE CVD” project at the German Alliance for Global Health Research (GLOHRA) day in Berlin.

IMPEDE CVD is a cross-sectional project run by Charité Berlin, ACCESS Uganda, Heidelberg Institute of Global Health and mTOMADY gGmbH. In addition, they introduced the Balamu project to GLOHRA attendees.



Participants of the GRIP-NCDs workshop including Balamu members from ACCESS Uganda, Makerere University, Charité, University of Miami

Workshop German Research Innovation Program for Non-Communicable Diseases (GRIP-NCDs) in Kampala, February 2022

Experts from renowned institutions in Germany, Nigeria, Mozambique, South Africa, and Uganda joined forces to elucidate the interaction of infectious diseases (IDs) and NCDs. Lead by the Balamu team, the partners met in Kampala in early February 2022 to attend a joint workshop focusing on project development. The aim of our project was to apply novel methods to characterize NCD risk in the African partner countries.

We managed to build a research network through a far-reaching transfer of knowledge and the willingness to collaborate. Especially young scientists can benefit from the network and gain experience on IDs/NCDs in LMICs and high-income countries. 30 people from various career levels attended the workshop.

World Health Summit 2021 October 2021

The Balamu team was represented at the 2021 World Health Summit (WHS). The team was inspired by new strategies and ideas for global health.

Workshop: Health Literacy in Diverse International Contexts at Munich Technical University (TUM), April 2022

The hybrid workshop on Health Literacy in Diverse International Contexts, supported by GLOHRA, brought together experts in global health. On-site participants had the possibility to participate in Rebecca Ingenhoff's afternoon working group **Strengthening Health Literacy through Educational Tools**. A total of 92 people participated in the workshop.

World Health Summit Regional Meeting 2022 at Sapienza University in Rome, June 2022

Balamu was represented at the 2022 World Health Summit Regional Meeting at Sapienza University in Rome. Dr. Robert Kalyesubula, as the President of the Ugandan Kidney Foundation, led joint discussions with a panel of experts on how to achieve health for all while embracing technology and innovations. Through Balamu he shared his expertise on NCD management and CHW-based models of care in Uganda.

Science Summit United Nations General Assembly, September 2022

Dr. Robert presented in the session **Creating an Empowerment Model in Global Health: An Evolving Practice to Build Capacity, Research Methodologies, Educational Modalities, and Health Equity** at the Science Summit at United Nations General Assembly 77 (UNGA77). He shared about the ACCESS model in the context of Global Health decolonization.



Upcoming:

GLOHRA Day 2022, Berlin, October 2022

Our scientific Manager Dr. Richard Munana will join the discussion **Community partnerships in global health research** as a panelist. He will represent the medical and early career research community from Uganda.



Berliner Dialysis Seminar, Berlin, December 2022

Dr. Robert Kalyesubula will attend the **Berliner Dialysis Seminar** In early December 2022 to deliver a presentation titled 'Challenges and Opportunities in Achieving Equity in Global Kidney Disease' for the session "Dialysis care in times of crisis".



Media presence

During a site visit of our German project team in February 2022, an image film about our project was created, which illustrates the most important elements of our project work. In 2022, we started our Meet our Team series via our news channel and Twitter account **@Balamu_NCD**. Moreover, we continue to keep our visitors informed with monthly project related updates. Since joining twitter, we received over 9.000 impressions



Additional funding secured

2020:

We were awarded a two-year joint Grant in collaboration with Heidelberg Institute for Global Health located at the University of Heidelberg and the mTOMADY gGmbH. GLOHRA funds this cross-sectional project entitled IMPEDE CVD through the German Ministry of Education and Research (BMBF). The project focuses on tackling the growing burden of NCDs by integrating innovative mHealth solutions to protect hypertensive patients from catastrophic out-of-pocket health expenditures.

2021:

For the six-months project, experts from renowned institutions in Germany, Nigeria, Mozambique, South Africa, and Uganda joined forces to elucidate the interaction of infectious diseases (IDs) and NCDs. This project was funded by the German Federal Ministry for Education and Research (BMBF).

2021:

Alex Kayongo, former EKFS fellow, received funding from the European and Developing Countries Clinical Trials Partnership under the program Horizon 2020 by the European Union to conduct a microbiome study in HIV positive COPD

2022:

In collaboration with a team of Early Career Researchers from the Technical University Munich, the University of Education Freiburg (PH Freiburg), School of Public Health of the Bielefeld University, and the Center for Global Health of the University of Oslo, Rebecca Ingenhoff from Charité received support from GLOHRA to facilitate a hybrid workshop on health literacy.

Scientific publications

We published four scientific papers in peer-reviewed journals. Currently one paper is under peer-review while further primary and secondary data publications are anticipated.

Published:

1. **Ingenhoff, R., Nandawula, J., Siddharthan, T., Sekitoleko, I., Munana, R., Bodnar, B. E., Weswa, I., Kirenga, B. J., Mutungi, G., van der Giet, M., Kalyesubula, R., & Knauf, F.** (2022). Effectiveness of a community health worker-delivered care intervention for hypertension control in Uganda: study protocol for a stepped wedge, cluster randomized control trial. *Trials*, 23(1), 440. doi.org/10.1186/s13063-022-06403-9

In this study protocol we present our intervention measuring the effectiveness of a community health workers (CHWs) care intervention model for NCD control in rural Uganda.

2. **Siddharthan T, Kalyesubula R, Morgan B, Ermer T, Rabin TL, Kayongo A, Munana R, Anton N, Kast K, Schaeffner E, Kirenga B, Knauf F.** (2021). The rural Uganda non-communicable disease (RUNCD) study: prevalence and risk factors of self-reported NCDs from a cross sectional survey. *BMC Public Health*, 21(1) :2036. [doi:10.1186/s12889-021-12123-7](https://doi.org/10.1186/s12889-021-12123-7)

In this commentary, we call for bilateral, mutually beneficial global health education programs in nephrology between high-income and low-middle-income countries.

4. **Fabian J, Kalyesubula R, Mkandawire J, et al.** Measurement of kidney function in Malawi, South Africa, and Uganda: a multicentre cohort study. *Lancet Glob Health*. 2022 Aug;10(8):e1159-e1169. [doi: 10.1016/S2214-109X\(22\)00239-X](https://doi.org/10.1016/S2214-109X(22)00239-X)

Since current examination methods for estimating renal function using serum creatinine have limited regional validation, this study aimed to determine the most accurate method to estimate the prevalence of impaired kidney function in African populations.

5. **Kalyesubula R, Brewster U and Kansiime G.** Global Dialysis Perspective: Uganda. *Kidney360* May 2022, 3 (5) 933-936; doi.org/10.34067/KID.0007002021

In this piece, Dr. Kalyesubula and colleagues discuss the burden and common presentations of kidney disease in Sub-Saharan Africa and Uganda. Thereby, they illustrate the impaired access to dialysis services and plans for kidney care in Uganda.

Under Review:

1. **Ingenhoff R, Munana R, Weswa I, Gaal J, Sekitoleko I, Mutabazi H, Bodnar B, Siddharthan T, Kalyesubula R, Knauf F and Nalwadda K. C.** Principles for task shifting hypertension and diabetes screening and referral: A qualitative study exploring patient, community health worker and healthcare professional perceptions in rural Uganda. (In Review, *BMC Public Health*)

In this article, we investigate the perceptions of stakeholders involved in the CHW or NCD programming on integrating CHWs in the healthsystem.

Anticipated:

1. **Quantitative study:** Led by Dr. Kalyesubula, the team is currently analyzing the quantitative data towards task-shifting hypertension and diabetes.
2. **Mixed-methods study:** Under the supervision of Dr. Siddharthan the team is compiling the data on the feasibility of COPD screening and referral led by CHWs.
3. **Commentary:** R. Ingenhoff and Dr. Munana are currently collaborating with the health literacy working group to integrate health education in global health projects

Our Team

Meet our Community Health Workers

"Now we are experts in the community."

Denis Oloka
(42 years)



Denis lives in Kireku, Kasangombe Sub-county, Nakaseke district with his wife and is a father to nine children. He comes from the Nakaseke district, has been supporting our project for five years, and is responsible for eleven communities in Nakaseke. Deniz advises community members on health issues. In addition to being a CHW, Deniz also works as a real estate agent

for land. Since there was a gap in rural health services in his community, Deniz decided to work as a CHW in our project. Now Deniz bridges the gap between the health professionals in the clinics and the community members. His favorite task as a CHW is raising awareness of non-communicable diseases among community members. Since non-communicable diseases are silent killers,

Deniz advocates for lifestyle changes and medication adherence to prevent complications such as a stroke or heart attack. In his opinion, the most important skills CHWs have are medical knowledge and reachability. Especially valuable to Deniz are moments when he can impart knowledge about disease background to patients so that they can understand what is happening to them and their family members.

Our CHWs are crucial in hard-to-reach communities. We hope that these two portraits will bring you a bit closer to the core people of our project.

"If there is a need, they can consult me at any time, because I am always available for my community."

Robinah Nantongo Babirye (30 years)



Robinah lives in Kiggege, Nakaseke Subcounty, Nakaseke district with her two-year-old son and family. She has been working in five communities in Nakaseke for the last year. Besides being a peasant farmer Jane Robina wanted to work more closely with her community members. This community component motivated her to undergo the training to become a CHW.

Robina especially likes being a CHW because of her exposure to new people, areas, and situations. She acts as a trusted advisor on health issues and is contacted by community members when questions arise, or uncertainty exists.

In her opinion, to be accepted in the community as a CHW, you must be open-minded, communicative, and patient.

Our Community Health Workers (CHWs)



Sharon
Kamwaka



Ronald
Kisekka



Fred
Lutaaya



Ibrahim
Kimbugwe



Kizito
Mayombwe



Winnie
Mazzi



Mable
Najjemba



Kevin
Namutebi



Christine
Namyalo



Ruth
Nankabirwa



Robinah Nantongo
Babirye



Amiinah
Nanyunja



Denis
Oloka



Patrick
Sabwe



Isaac
Ssemanda



Moses
Walakira



Albert Godfrey
Kasule



Everlyne Samalie
Tibwaga



Florence
Nakafeero



Jane
Nabanjala

The Balamu Team



Felix Knauf, M.D.

is a Professor in Internal Medicine and Nephrology at Charité Berlin and Adjunct Assistant Professor of Medicine at Yale. He acts as the Principal Investigator.



Robert Kalyesubula, M.D.

is the Ugandan Principal Investigator. He is the president of ACCESS Uganda and the Chair of Physiology at Makerere University.



Trishul Siddharthan, M.D.

is an Assistant Professor in the Division of Pulmonary and Critical Care at University of Miami. He guides all research activities for Balamu.



Richard Munana, M.D.

is our scientific manager. Richard is responsible for the scientific management, such as planning and implementing all clinical and research interventions.



Ivan Weswa

is our administrative project manager, being responsible for all administrative duties and human resources within our diverse and wide-reaching project activities.



James Sewanyana

is the co-founder of ACCESS Uganda. James serves as the primary clinician at our three NCD clinics.



James Karahuka

is our second clinical officer, providing care in our NCDs clinics and confirming measurements in the field for our studies.



Samuel Zziwa

is a Laboratory Technician working with Balamu Project. His major role is to conduct and support laboratory scientific investigations and experiments.



Pius Kiwanuka

is a Community Mobilizer and dedicated to mobilizing community members to engage in our project activities by following up with participants and monitoring CHWS' activities.



Jedidiah Mwanguzi

is a volunteer Data Clerk and supports the Data Manager to data capture data into the EMR system.



Kyanzi Tadeo

is the driver of the program. He ensures that our staff is transported for outreach programs. He also supports transport for visiting scientists.



Rebecca Ingenhoff, M.Sc.

manages all project activities in collaboration with Dr. Richard Munana and Ivan Weswa on site. Rebecca is pursuing her PhD on the feasibility of community health worker programs.



Tracy Rabin, M.D.

is an Assistant Professor of Medicine and Director of the Office of Global Health at the Yale. She co-directs the Makerere-Yale Collaboration, a bilateral medical education partnership.



Benjamin Bodnar, M.D.

is an Assistant Professor of Medicine and Pediatrics at the Johns Hopkins School of Medicine. He supports our team as a research advisor.



Andreas Kaufmann, Ph.D.

is the Head of Research at the Department of Gynaecology at Charité Berlin. He manages a sub-project focusing on cervical cancer screening.



Hillary Mutabazi, B.Sc.

is a Data Manager. He supports the Balamu project by managing the implementation of the medical records while supporting research data analysis.



Isaac Sekitoleko, M.Sc.

is a PhD student. As our statistics expert, he supports the research design and data analysis of our studies to build evidence for community-based interventions.



Jana Kimmel

is in her last year of medical school at Charité Berlin. She supports the sub-project focusing on cervical cancer screening.



Julia Gaal

is a fourth-year undergraduate medical student supporting the Balamu project as a Student Assistant.



Brenda Nalwanga

as a Research Nurse, her responsibilities include the provision of health talks about non-communicable diseases in the community and the screening of NCDs.



Hellen Namugenyi

supports our work as a Research Nurse. She identifies study participants with hypertension and diabetes mellitus from the community and refers to our NCD clinics.



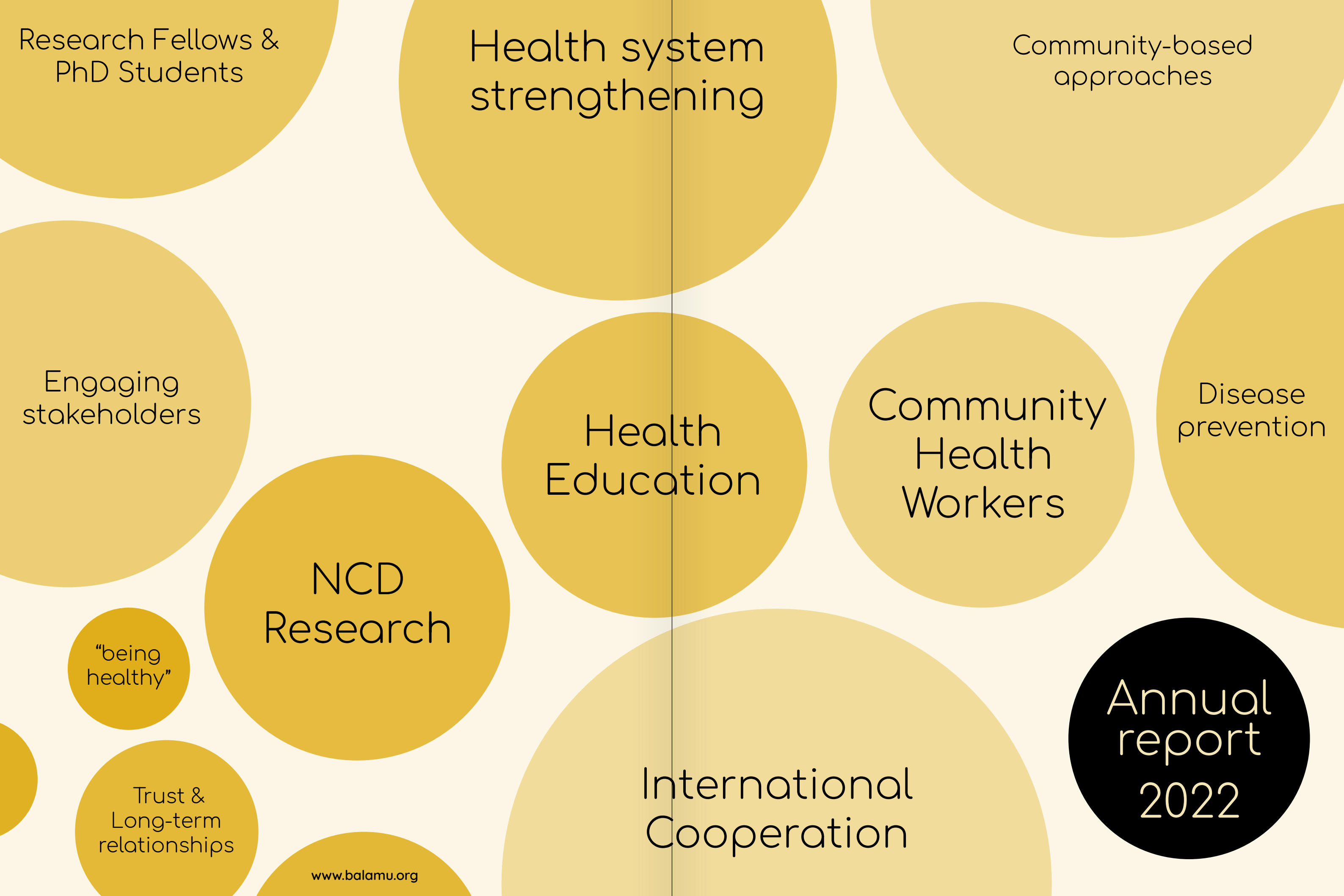
Prossy Nabbumba

as a Research Nurse, she is responsible for screening and enrolling of study participants from the community.



Winnie Namugula

as a Research Nurse, she strives to control NCDs through continuous health education, follow-up for adherence to medical treatment and research.



Research Fellows &
PhD Students

Health system
strengthening

Community-based
approaches

Engaging
stakeholders

Health
Education

Community
Health
Workers

Disease
prevention

NCD
Research

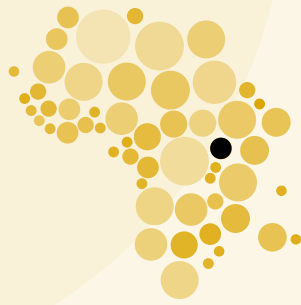
“being
healthy”

Trust &
Long-term
relationships

International
Cooperation

Annual
report
2022

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NCD Research,
Education & Care

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