

## Kenya's First Lady Launches Global Nutrition Report 2016

By Lauren Gelfand, Director of Policy Engagement and Communications

First Lady Margaret Kenyatta launched the East African version of the Global Nutrition Report in June, with an announcement on the commitment to doing more-and doing better-to ensure that all children get the healthiest possible start to life.

APHRC's Health Challenges and Systems Research Program was deeply involved in the development and analysis of the Kenyan component of the annual independent review of the state of the world's nutrition, which lays out progress toward global targets that include optimizing breastfeeding, reducing stunting and malnutrition rates and preventing the spread of food-related non-communicable diseases such as obesity and diabetes.

Kenya's progress toward achievement of the 2025 World Health Assembly targets is unmatched on the African continent. The country is on track to achieving most of the child-specific goals, including increasing rates of exclusive breastfeeding during a baby's first six months, and reducing child obesity, stunting and wasting. Additionally, Kenya has recruited an impressive cadre of development partners to supplement its own investments in combatting malnutrition.

The First Lady expressed pride at Kenya's efforts to address these persistent challenges, which threaten overall population health, and called for continued commitment to ensure progress is made.

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*Betty Samburu, program manager of the Maternal Infant and Young Child Nutrition project at Kenya's Ministry of Health, shares information with First Lady Margaret Kenyatta*

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“We know that it is only healthy people who are able to be productive, innovative and aspirational, free to drive businesses, and work harder for their employers, and allow infants to grow into young healthy adults,” she said.

Nutrition is closely tied to the First Lady’s efforts to improve maternal and child health in Kenya. Her *Beyond Zero* campaign is working to accelerate progress towards global targets. The First Lady noted that she has seen first-hand the impact of poor diets and poor health environments on children.

“The burden of malnutrition not only robs them of experiencing their full potential, but it also affects families, communities and societies. It affects us all, and we must therefore do more to address this challenge,” she said in a keynote address, emphasizing that new policies and national investment in nutrition are essential weapons in the fight against malnutrition.

According to the First Lady, exclusive breastfeeding is also of utmost importance. Providing women with the supportive environments they need to maintain breastfeeding or to express milk once they return to work will be critical to increasing the number of Kenyan mothers who exclusively breastfeed for the recommended six months, and continue for up to two years with other foods.

These sentiments were echoed by Parliamentary Health Committee Chair, Hon. Rachael Nyamai as she expressed confidence that the legislative body will act to “ensure mothers are given the right environment to breastfeed”.

The First Lady renewed her belief that Kenya is capable of bringing an end to malnutrition by 2030, in line not only with the global Sustainable Development Goals but also with the plans outlined under the country’s Vision 2030.

“We have already demonstrated that we have the moral and economic motivation; we have the resources; we have the guiding national documents; and we have the impetus to do away with malnutrition for good,” she said.

Health Cabinet Secretary Dr. Cleopa Mailu used the report’s launch to call for a better response to the problems of low birth weight, stunting and wasting. According to the latest Kenya Demographic and Health Survey (2014), one in four Kenyan children are stunted (short for their age), and nearly one in ten is severely stunted.

Health Principal Secretary Dr. Nicholas Muraguri said that while Kenyan children are improving against global indicators, the risks to the adult population are mounting. One in three Kenyan adults is either obese or overweight, which puts them at greater risk for cancer, hypertension and diabetes.

Those who spoke during the event reiterated the importance of data and evidence to inform policymaking and action. Donors including the European Union called for more analysis of the root causes of malnutrition in order for targeted interventions to address both the cause and consequences.

APHRC research is helping to drive nutrition-related policy-making in Kenya. Working in collaboration with the Ministry of Health, APHRC is conducting research in urban and rural settings in Kenya to inform implementation of the Baby Friendly Community Initiative,

which promotes optimal breastfeeding and other infant and young child feeding practices at the community level in order to reach all mothers and provide a continuum of care.

Another joint initiative with the MoH and in partnership with UNICEF includes research to inform the enabling of baby-friendly workplaces to help women successfully combine work with breastfeeding.

One of the programs that piqued the interest of the First Lady was a partnership the MoH and APHRC have formed with PATH to inform the establishment of human milk banking in Kenya as a strategy to provide access to breast milk for vulnerable children including preterm babies, orphans and low-birth-weight infants who may not have access to their mother’s own milk.



Improving the quality of education requires a multi-sectoral approach involving parents, teachers and government. We need to all take responsibility to help our children learn better



# The Quality of Education in Uganda Calls for Re-examination of Policies

By Carol Gatura, Communications Officer

As we drive to Iganga from Entebbe, I have a chat with the taxi driver, Eric\*. Fifteen minutes into the journey, I know his family lineage, place of birth and a few fun facts about Uganda. One thing is missing though- I don't know where he went to school. He chooses to ignore me, and we're quiet for most of the journey.

As we near Iganga town, Eric confesses to me that he doesn't like to talk about his education because he can neither read nor write. I don't push the issue further and change the topic to Iganga's history. When we get to the hotel, it hits me just how important the report we are here to launch is for the future of Uganda.

On June 17, community leaders, teachers, county and national government officials met in Iganga for the release of the launch of a report/study: *The Quality of Education in Uganda: A case of Iganga and Mayuge districts*, the result of collaboration between APHRC's Education Research Program (ERP) and Makerere University's Iganga-Mayuge Health and Demographic Surveillance System (IMHDSS).

The study examined schooling patterns and identified barriers to learning, generating evidence through inputs provided by primary school students and parents; teachers of English and mathematics; and head teachers. The report also includes recommendations for education policy and practice in Iganga and Mayuge districts and Uganda in general.

Enrollment in Ugandan schools has improved since the introduction of Universal Primary Education (UPE) and Free Primary Education (FPE) policies. In 1996, enrollment was less than 60%; by 2012, that figure had risen to about 98%. However, increased enrollment does not guarantee that children are learning.

The study found that while around half of the P3 students achieved a 50% or better score in a math test, by the time they got to P6, that number reduced to one in ten. This means that the quality of learning deteriorated over time as students got older, making it more complicated for them to progress to higher levels of schooling or have even a remote chance for post-secondary education.

Low test scores are a function of a number of inter-related factors, including teacher and student absenteeism, teacher workload and preparedness, and low parental involvement in their children's education.

The study showed that one in three teachers in public schools missed at least one day of work every week. Absenteeism was higher among female teachers than among male teachers.

"Teachers were only teaching for 1.3 hours a day against the expectation of five hours," said Dr. Moses Ngware, who leads the ERP team at APHRC. "This calls for the need to increase student-teacher contact time, which we believe will improve learning in schools."

It wasn't only teachers who were truant; the study found that at least one in three of P6 students missed classes at least once a week.



From left: Edward Galiwango, Site Coordinator at the Iganga-Mayuge Health and Demographic Surveillance System (IMHDSS), APHRC researchers Njora Hungi and Moses Ngware, and Ag. Director of Basic and Secondary Education at the Uganda Ministry of Education

"Absenteeism was higher among boys and those from poorest families," said ERP researcher Dr. Njora Hungi. "This is because many are involved in child labor by helping their parents harvest sand and sugarcane in the fields."

Overall, only one in every three P6 math teachers scored 50% or above in a teacher math test, emphasizing the need for improvement in teacher training.

"Quality of education has to do with critical thinking and problem solving," said Robinson Nzumba-Lyazi, the acting director of Basic and Secondary Education at Uganda's Ministry of Education. "As key players we need to discover our roles on how we can address these challenges. We need to take interest in changing the situation in our schools. The outstanding problem in this report is absenteeism and teacher workload, which can be addressed with minimal financial action."

Other government leaders present at the report launch lauded the evidence-based insight into the challenges confronting education in the districts, saying that it provided a foundation on how to develop targeted policy actions to improve the overall quality of education in schools.

"Improving the quality of education requires a multi-stakeholder approach involving parents, teachers and government. We all need to take responsibility to help our children learn better," said Joyce Namboze, Mayuge District's chief administration officer.

The Ministry of Education pledged its commitment to implementing the report's recommendations. Finding the funding to do so, however, remains a significant obstacle to full implementation. But if the funds can be found, and both teachers and students are given the support that they need, it is highly likely that Eric's children will be able to access better-quality education than he did.

\*Name changed

# Nurturing Knowledge Management Champions in Africa

By Lauren Gelfand, Director of Policy Engagement and Communications



*APHRC's associate research scientist Joyce Mumah leads a Knowledge Cafe session on how to transfer ownership of evidence to local government during the USAID-sponsored Share Fair in Arusha, Tanzania, in April*

Knowledge management has become somewhat of a watchword in communications for development over the last several years, a by-product of the recognition that it is not enough to design and share tools as single-use products. In providing users with demonstrated best practice in how to communicate ideas, promote recommendations and share strategies, the hope is that well-managed knowledge will be a continual resource for those who would want their work to drive durable change.

As part of our continued commitment to improving our own ability to manage knowledge effectively and systematically, APHRC was pleased to have been included at the USAID Knowledge Management Share Fair in April, held in Arusha, Tanzania. The idea, according to the organizers, was to help government, non-government and independent actors better understand the value of not only producing information but translating that information into knowledge that would lead to greater impact.

Two strong contingents from APHRC attended the event co-sponsored by a long-time APHRC partner, the East, Central and Southern Africa Health Community: researchers from the Population Dynamics and Reproductive Health Research Program, as part of the African Strategies for Health project; and representatives from the 13 Implementation Research Teams supported by the Innovating in Maternal and Child Health for Africa project (IMCHA).

They were among the more than 80 participants from 13 countries who attended the two days of plenary and breakout sessions designed to explore the scope and breadth of knowledge management and where best practice could help to bolster partnerships and sustain momentum in service delivery.

Using an innovative, round-robin approach to swift delivery of information to interested audiences known as a Knowledge Cafe, three APHRC researchers shared tips, tricks and lessons learned from three different knowledge management tools that have been deployed to great effect as part of the APHRC evidence to action model.

Associate Research Scientist Stella Muthuri provided a window into the qualitative research methodology known as PhotoVoice: a practice by which

the most vulnerable populations -- usually women and girls -- are trained in the use of cameras and how to document their environments in order to answer questions related to the challenges they face.

APHRC has used PhotoVoice to great effect as part of our GROW project, which is trying to unpack the value of quality childcare for working mothers in some of Nairobi's informal settlements.

Data Analyst Michael Mutua shared lessons from experiences in collaborative engagement with traditional and community leaders in order to improve use of and access to family planning methods in rural communities in Western Kenya. Patient and extensive consultation with these leaders, including outreach and sensitization on the value of child spacing, helped to solicit and sustain buy-in across multiple communities for increased use of a variety of family planning options, thereby demonstrating that barriers to access can come down when there is enough information around.

Associate Research Scientist Joyce Mumah used her time in the Knowledge Cafe to detail the steps taken to encourage ownership of project recommendations by municipal government, in order for them to be carried out and carried forward once a project is over. Mumah is part of a team that has worked extensively with the Nairobi City County to expand the number of public schools in the county that are providing comprehensive, age-appropriate sexuality education to students.

The Share Fair was also a showcase for the premiere of an APHRC-produced film about the challenges confronting urban youth related to access to, and information about, uptake and usage of sexual and reproductive health services. The film *African Strategies for Health: Meeting the Needs of Urban Youth* is available for viewing on the APHRC YouTube channel.

For the participants from the IMCHA project, the Share Fair was a great opportunity to put knowledge into practice, coming as it did as part of an intensive introduction to the broad lines of strategic communications and policy engagement.

APHRC, along with ECSA and Partners in Population and Development, are engaged over five years in the IMCHA project to cement skills in advocacy, strategic communications and knowledge translation among researchers in five countries to help provide an enabling environment for policy reform in maternal and child health. The training was the first in a series of hands-on workshops for the research teams vying to ensure that research being done to prevent women from dying in childbirth will inform policy development or reform in Ethiopia, Tanzania, Uganda, South Sudan, Malawi and Mozambique.

# Giving Back to Our Communities: APHRC Runs its Annual Free Medical Camp

By Policy Engagement and Communications Division

Six in ten of Nairobi's residents live in one of the sprawling informal settlements that are choked by poor sanitation, minimal access to infrastructure such as electricity or clean water, and remain breeding grounds for instability and insecurity. Life in these urban slums is a daily challenge for both residents and their children, all of whom are hustling to find ways to escape, to thrive and to achieve their full potential.

APHRC has worked in the slums of Korogocho and Viwandani for 15 years, collecting stories and data about the social determinants of health and education for the urban poor. The knowledge and evidence being generated has been used repeatedly to help inform policy change and drive decision-making that will help to improve the lives of slum residents.

In collecting this information from the communities, APHRC is also giving back, in innumerable ways both quiet and considerable. One of the most visible manifestations of this collaboration between community and organization is the annual free medical camp run by the Center in each slum community. These medical camps provide an opportunity for community members to receive health consultations from APHRC's cadre of specialists and community-based medical personnel.

The lines were long, stretching around the corner from the clinic where the camp was being held, with mothers with babies strapped to their backs and clutching the hands of their toddlers waiting patiently to be seen. From 7:30 in the morning until late in the evening, they filed through under the attendant eyes of the clinical staff, who provided consultations and treatment for common ailments; guidance and counseling for expectant mothers on nutrition and childcare; anonymized voluntary counseling and testing for HIV/AIDS; and screening for diabetes and high blood pressure. Family planning services were also provided.

The ailments were not uncommon side effects of living in poverty, and reflected the data collected three times a year through APHRC's pioneering Nairobi Urban Health and Demographic Survey Surveillance System (NUHDSS). The longitudinal data generated by the system identifies three key characteristics of life in a slum setting: poor environmental conditions and infrastructure; limited access to services due to lack of income to pay for treatment and preventive services; and reliance on poor quality and mostly informal and unregulated health services that are not well suited to meeting the unique realities and health needs of slum dwellers."

While the NUHDSS is conducted only in Viwandani and Korogocho, the symptoms and signs it reveals are not unique to these two settlements. They cut across the length and breadth of the country despite access to quality health care being a right guaranteed under the Constitution of Kenya (2010). Too many Kenyans are unable to afford health services; economic data suggest that after rent and school fees, health services are the third-largest expense facing households in the country.

The provision, therefore, of these free services in a judgment-free, respectful environment, is a boon to the communities we work with. Nearly 1,500 people were seen over the course of the two days of the camp, by volunteers representing APHRC, government, and medical students from the University of Nairobi. It was a clear demonstration of what strong partnerships can achieve: from the donors who invested to support the camp to corporate partners who donated medication; from the community mobilizers who went door to door announcing the camps and hung posters on every inch of the community; to health care facility staff who donated their time, it was a collaborative effort that many remarked should not be limited to an annual exercise.



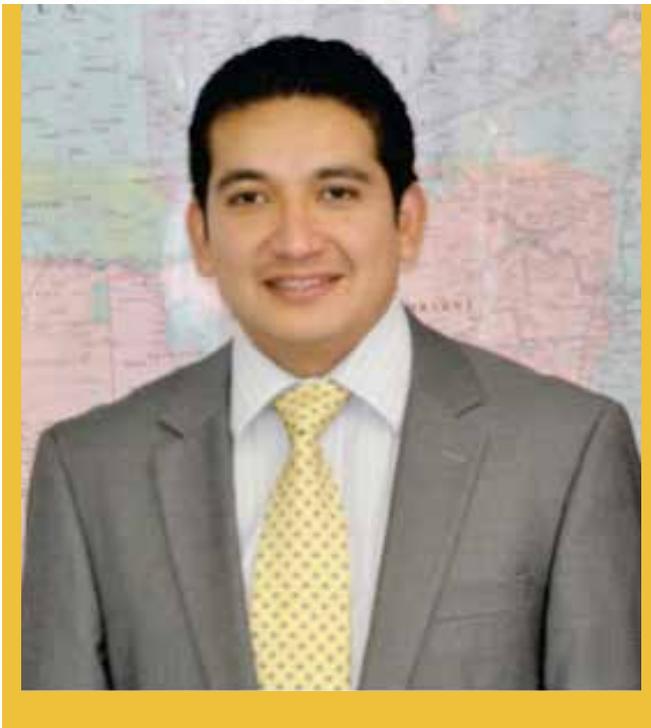
Health camps alone will not meet the access needs of slum communities; what is needed is a holistic approach to engagement at all levels of government and the health system to provide detection and prevention services alongside treatment that is compassionate, affordable and accessible to all, no matter where they live, where they are from or who they are. APHRC's commitment to these communities, and to the health camps, will continue, alongside our dogged determination to develop a robust body of evidence to support policy change that turns universal health care from theory into practice.



*From left: A community health volunteer and APHRC's Director of Operations Joseph Gichuru register participants who attended the free medical camp at Viwandani*

# We Are All Migrants: Interview with the International Organization for Migration's Erick Ventura

By Danielle Doughman, Policy Outreach Manager



*Dr. Erick Ventura, the Regional Coordinator for IOM's Partnership on Health and Mobility in East and Southern Africa*

In June, APHRC and the International Organization for Migration (IOM) renewed their cooperation agreement to address issues of migration and health, extending a collaboration that began in 2013.

IOM is committed to the principle that humane and orderly migration benefits migrants and society. They work to meet the growing challenges of migration by advancing understanding of related issues, encouraging development through migration, and upholding the human dignity and well-being of migrants.

The terms of the cooperation agreement will support enhanced collaboration between the two entities in research that aims to provide better understanding of migration and health. It is hoped that this research will yield new and improved strategies for how to engage in policy discussions about migration around sub-Saharan Africa.



Ultimately we are all migrants. Whether one is from Zimbabwe, Ethiopia, Somalia, Europe, or Limpopo Province, we are all migrants, and migration is an essential part of our lives. Borders are meant to manage migration, not to divide us as people.



Dr. Erick Ventura is the regional coordinator for IOM's Partnership on Health and Mobility in East and Southern Africa, which responds to the health needs of migrants in more than 15 African countries. A medical doctor by profession, Dr. Ventura has been with IOM since 2010. He also served as medical director for the American Refugee Committee (ARC) in Pakistan and was previously with Doctors without Borders (MSF). He spoke to us from Pretoria, South Africa.

As a first fruit of the collaboration between APHRC and IOM, a report on the social determinants of health for migrants in East and Southern Africa is expected to be released before the end of 2016. This report is a broad overview of the health challenges confronting migrants and mobile populations in Africa, among them: demographic factors following pressures associated with population growth; economic factors; socio-cultural contexts; political systems in countries; and environmental conditions.

"APHRC is a natural partner for us, especially in helping to better understand the evidence base on health of migrants," said Ventura. "This next phase of our partnership dovetails with, and expands upon, our previous work together. APHRC will also help us to reach our target audiences, especially with their network across the African continent and their expertise in population and health."

Indeed, APHRC's Urbanization and Wellbeing research program is currently exploring rural-urban migration and its health outcomes. By 2050, nearly seven of every ten Africans will be living in cities. Sub-Saharan Africa (SSA), currently the least urbanized of all major regions of the world, will see the share of its urban population increasing from the current level of about 37% to more than 60%. The problem is that most African cities are ill-prepared to address even the basic needs of their current urban populations, making the flow of people into cities - and the growth of the already resident urban populations - likely to strain existing infrastructure to its limits.

"There are so many people moving to urban areas, and cities are growing without any planning," Ventura said. "Cities must account for both internal migration - migration within a country-as well as closed border migration." These are huge challenges for government, especially in addressing basic needs and services in urban settings.

"In cities such as Johannesburg and Nairobi, the lack of reliable, timely information on movements of people compounds insufficient planning. This is one of the challenges we are seeing. Even so, some of the projections we've seen based on available data are concerning."

In the context of migration, health is construed more broadly than assessing clinical conditions. "In the types of cities we study, we see two types of situations," said Ventura. "One, we see individual-level communicable diseases like tuberculosis or malaria. But we must understand that the issue of health is broader than the individual. Social determinants of health - one's education, income, work and home environments, access to health care-- all play an important role. Some of these cities already experience a lack of clean water, a lack of sanitation, which have adverse public health effects."

He offered an example of the potential effects of lack of available potable water and poor fecal waste management. "I was recently in Kampala, and one of the main challenges is cholera. There is evidence that the outbreak is being driven by migrants from neighboring countries."

APHRC and IOM are planning secondary analysis of data on mixed migration flows: migration attributable to political crisis or economic instability, from migrant corridors in East and Southern Africa. In examining mixed migration, analysis will not be confined to those who migrate for economic reasons but also those seeking political asylum as well as refugees.

"Both IOM and APHRC are generating data, and it will be advantageous for us to share what we have with one another," said Ventura. "In this second phase of partnership, we will engage even more than we did in the first and identify areas of potential collaboration."

### Planetary Health: What Should Africa Do?

Picking up the threads of public and environmental health and how they are inextricably linked, APHRC hosted a joint dialogue with planetary health champions from around the world in May about how to move forward with recommendations and areas of further inquiry revealed by a groundbreaking report, *Safeguarding Human Health in the Anthropocene Epoch*. Much of the focus of the day-long meeting emphasized where Africa can and should play a role in spearheading innovations to mitigate the effect of climate change on populations, particularly vulnerable communities that are already bearing the brunt of expanded deserts, rising saline levels in oceans, lower levels of rainfall and other climatic shocks. The report was produced by a commission that included APHRC Executive Director Dr. Alex Ezeh, and developed a series of recommendations that include a redefinition of prosperity to focus on the enhancement of quality of life and delivery of improved health for all.

### So That No Woman Dies From Giving Life: APHRC meets African Parliamentarians on Maternal Health

A delegation of eight people representing both the research and policy components of the Innovations in Maternal and Child Health for Africa project attended the annual Network of Parliamentary Committees of Health conference in Uganda in June, organized by longtime APHRC ally Partners for Population and Development.

Dr. Pamela Juma delivered a plenary presentation about the project and exhorted parliamentarians to commit to increasing spending and exploring policy change in order to prioritize maternal and child health.

### Data Visualization in the Digital Age

Our ability to appropriately target goods and services to reach the populations that need them most depends on data. Yet far too often in Africa, data collection, analysis and management is incomplete and inconsistent. To make it easier for service providers, governments and other stakeholders to effectively use data, there is an urgent and compelling need to develop new platforms that organize data in intuitive and accessible ways.

Amos Thairu, a data analyst in the Statistics and Surveys Unit, was invited to join dozens of data denizens at the tenth annual R User Conference at California's Stanford University in June.

Amos used the opportunity to demo APHRC's new data visualization platform, which is expected to launch in September 2016. The Urban Health Statistics Platform is an interactive tool that shows how economic inequity plays a role in influencing health among populations in Africa living in urban areas. The data are derived from national demographic surveys from across Africa through the Demographic and Health Surveys (DHS) Program.

### Is There an Erosion of the Urban Advantage?

According to current estimates of population growth and expansion, another 2.3 billion people will join the human race by 2050. The vast majority of these people - some 2.2 billion - are likely to live in urban or peri-urban areas. While Africa remains the world's least urbanized continent, that situation is changing, and changing rapidly. The number of people living in urban Africa is expected to increase four-fold by 2050, which is likely to collapse the already overburdened public systems delivering services such as healthcare, water and sanitation. How to mitigate those risks, and develop coping mechanisms at both the individual and institutional levels for urban populations was the genesis of a three-year project funded by the UK's Department for International Development. As a key partner in the Urban Africa Risk Knowledge (UrbanARK) project, APHRC will be examining solid waste management in Kenya and Senegal and its implications for health outcomes. The project was launched in April with training for field staff, and data collection in the two countries - in Nairobi and Mombasa in Kenya, and Dakar in Senegal - has begun. More information is available on the UrbanARK website at [www.urbanark.org](http://www.urbanark.org).

### Bringing African Voices Together to End the Epidemics of AIDS, TB and Malaria

APHRC's Bringing African Voices Together project supports the Eastern and Southern Africa (ESA) and West and Central Africa (WCA) constituencies to the board of the Global Fund to Fight AIDS, Tuberculosis and Malaria with tools to enhance their voice at the board and committee levels.

Abdhalah Ziraba represented APHRC on April 9-10 at a meeting of the constituencies' steering committee that is working toward the establishment of the physical and legal entity of the Africa Constituencies Bureau in Addis Ababa, Ethiopia. At the end of April, he and Danielle Doughman provided technical support and briefings, and facilitated consensus building during the 35th Global Fund board meeting in Abidjan, Cote d'Ivoire.

Using the most recent Global Fund board meeting in Abidjan, Cote d'Ivoire - the 35th meeting of the multilateral financing mechanism since it was launched in 2002 as a war chest to fight the disease epidemics - as a frame of reference, board and committee members said they better understood the complexities in the Global Fund's policies and operations (80%) and personally witnessed increased participation by African constituents during Board and/or committee meetings (70%), according to a survey conducted by APHRC.

Djesika Amendah and Cheikh Faye conducted a rapid assessment of the status of country action plans designed to alleviate Global Fund grant funding absorption capacity issues that continue to slow progress against the three diseases in West Africa. They presented the results of the analysis in Dakar, Senegal in late June.

# Why African Genomic Studies Can Solve the Continent's Health Issues

By Nicholas Ngomi, Research Officer, APHRC via [Conversation Africa](#)



Genomic research has proven to be a considerably valuable tool in global attempts to tackle disease.

One crucial part of this research has been identifying diseases and health problems that are more likely to be influenced by genetic factors and assessing the risk of a particular disease in an individual.

Eventually, scientists will be in a position to develop new ways to treat, cure or even prevent the thousands of diseases that afflict humankind. And it will also allow them to assess the risk that exposure to toxic agents poses to individuals.

But for the world's poorest people, the diseases that affect them have remained understudied. This is mainly due to most of these studies focusing on the genetic risk factors for disease in European populations.

For example, recent [studies](#) from Sweden's Uppsala University show men with blood cells that don't carry the Y chromosome – a sex chromosome normally only present in male cells – are at greater risk of being diagnosed with Alzheimer's disease. They also have an increased risk of death from other causes, including many cancers.



Understanding the genetic and genomic markers of diseases such as alcoholism would lead to research interrogating whether drug use and abuse are genetically linked



But will African men be affected in the same way? African populations have evolved significantly over time. Their genetic composition is more diverse than that of European and other populations, so this may not be so. Very little is known about the nature and extent of this diversity.

With the high burden of disease in sub-Saharan Africa, medical research needs a significant boost on the continent to identify genetic risk factors for diseases

and to tackle the spread of drug resistance and emerging infections.

Genomic research has gained considerable momentum on the continent in the past decade. But challenges, such as a lack of high-quality clinical and epidemiological data across all countries, still hamper efforts.

## A different genetic makeup

Genetic research taking place in Africa has focused on the genomic and environmental risk factors for cardiometabolic disease in Africans. Cardiometabolic diseases are those associated with the heart and include strokes, heart attacks and diabetes.

According to the statistics, non-communicable diseases such as diabetes, cancer, heart disease and chronic respiratory illness have all [skyrocketed](#) in sub-Saharan Africa in the past ten years.

Globally, more than 16 million people die from non-communicable diseases. Of these, 80% are in low and middle-income countries.

Research teams are trying to understand the interplay between genetic factors, the changes in the way the gene expresses itself, or [epigenetics](#), and environmental risk factors for obesity and related heart diseases. They are using existing longitudinal cohorts from four countries: Kenya, South Africa, Ghana and Burkina Faso. And they have six study sites across these countries, which have undergone different population changes as a result of their individual burdens of disease.

The goal of this initiative, the first of its kind in Africa, is to develop the capacity to carry out these kinds of studies in populations around the continent. This would help scientists better understand the genetic and genomic markers for disease.

One of the diseases that the study is attempting to understand is alcoholism.

Global studies have shown that the amount of alcohol one drinks and whether this progresses to alcoholism has a [genetic influence](#). Separate [findings](#) show that processes that are related to factors in the gene, but that do not change the sequence of the DNA, also play a role. These are known as epigenetic processes.

And in European, North American and Asian populations, [research](#) has drawn a correlation between genetic variations for drugs and dependence.

Alcohol consumption and problems related to alcohol vary widely around the world but the burden of disease and death remains significant in most countries. It is the world's third largest risk factor for disease and disability.

It is also one of the four risk factors that lead to people developing non-communicable diseases such as heart attacks and strokes. In middle-income countries, it is the greatest risk factor.

But very little is known about the risk of alcohol consumption in sub-Saharan African populations. This is despite statistics from the World Health Organisation listing 17 countries on the continent as [heavy drinking countries](#). Nigeria takes the lead.

The high toll of alcohol and drug over-consumption among African populations means that this must become a priority. Understanding the genetic and genomic markers of diseases such as alcoholism would lead to research interrogating whether drug use and abuse are genetically linked.

And this could lead to an evidence-based approach to control drug use and abuse that fits the African context. It would help the continent improve its efforts to eliminate one of the four main risk factors for non-communicable disease.

## Challenges and solutions

The amount of available genomic information has grown rapidly in the past decade, mainly due to the falling cost and increasing efficiency of DNA sequencing technologies.

But DNA sequencing is still relatively expensive for large-scale studies. Africa lags behind other continents with such studies. This is mainly due to:

- a shortage of African scientists with genomic research expertise;
- lack of biomedical research infrastructure;
- limited computational expertise and resources;
- lack of adequate support for biomedical research by African governments; and
- the participation of many African scientists in collaborative research at no more than the level of [sample collection](#).

Although scientists on the continent are unable to match the scale of research produced on other continents, they are continuously attempting large-scale genome-sequencing studies focused on specific diseases.

The [H3 Africa project](#), funded by the [National Institutes of Health](#) and the Wellcome Trust, supports several studies involving collaborative centres on the continent.

In addition, ongoing genomic projects in Africa are both establishing infrastructure for genomic research and training local researchers, as well as generating genomic datasets.

Many of these projects have made capacity building one of their core missions. This will in the long run build a critical mass of highly skilled individuals in the field shaping the future of genomic studies in Africa.

## Staff Updates

April to June 2016

### New staff

1. Joshua Amo-Adjei
2. Abednego Mbindyo Kimanathi
3. Barrack Omondi
4. Dominic Mwaula Kiio
5. Monica Njonge

### Staff departures

1. Samuel Oti
2. Sabina Wanene
3. Ruthpearl Ng'ang'a
4. Thomas Yebei
5. George Okong'o
6. Julia Ombasyi
7. Vincent Mutua
8. Collins Juma
9. Daniel Adero
10. Barrack Omondi

## Publications: April to June 2016

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# Through the Eyes of Mothers

PhotoVoice is a participatory research tool that gives a voice to research participants to document and share their experiences. The 'Creating Better Economic Opportunities for Women in Nairobi Slums through Improved Childcare Options' (GrOW) project used this research method to better understand the challenges women in Korogocho slum face when combining work and child care.

The images and captions that follow are the work of mothers of young children who live in the communities in which they took the photos.



*This image speaks to the dangers children in Korogocho are exposed to when their mothers have gone to look for work. This child stands next to an open drainage which is not safe for his or her health.*



*APHRC and McGill University hosted an exhibit for stakeholders and policy makers to engage with the women and their photographs.*



*This is known as 'chombo' – leftover food dumped by local airlines in the nearby dumpsite. Selling 'chombo' is a source of income for many and these children have been left by the mother to sell the wares as she looks for extra income.*



*The mothers involved in the study were present to explain the images to guests who were eager to learn more about life in Korogocho from their point of view.*



*The exhibit was taken to the Korogocho community as well where the mothers were able to interact with community leaders and share their experiences on what policy changes need to be made to improve their economic well-being.*

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