THRIVE
TRAINING HEALTH RESEARCHERS INTO VOCATIONAL EXCELLENCE IN EAST AFRICA

News

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Personal experience of community engagement in scientific research

By: Dr. Joel Bargul, THRIVE-2 PostDoctoral Fellow

My THRiVE-2 ongoing research study primarily focuses on the transmission of camel trypanosomiasis and zoonotic pathogens in Laisamis, northern Kenya. The chief economic mainstay of the people in this arid and semi-arid region characterized by nomadic pastoralism is livestock production. Little research has previously been conducted here in early 1980s, partly because of lack of dedicated veterinary support from Kenyan government (as used to happen in 1980s) or private sector and as well due to limited accessibility owing to long distances – in search of pasture and water – travelled by the pastoralists into very remote regions lacking infrastructure.

In my first field study in September 2017 during a protracted dry season, we tracked these nomads in a place named Koya, precisely at a watering point known as Koya River, about 100 km from the nearest town. Camels usually drink water after every ten days and the drinking schedules alternate to minimize competition for water.

I discussed with the camel herders about our research work and why its relevance to them. Prior to this, I had informed the local area leaders and was assured of full support. The meetings were conducted in local languages (i.e. Rendille and/or Samburu), as most herders are unschooled, and my understanding of the complex cultural practices and religious beliefs made our interaction easier.

We embarked on a 5-day tedious activity of restraining camels prior to collection of 5ml jugular blood. On-site microscopic screening of all 249 blood samples was conducted to identify and treat camels infected with trypanosomes.

Herders were very enthusiastic about the entire process of disease diagnosis in which they were actively involved for the first

A camel owner looking through a microscope wanting to see trypanosomes we detected in camel blood

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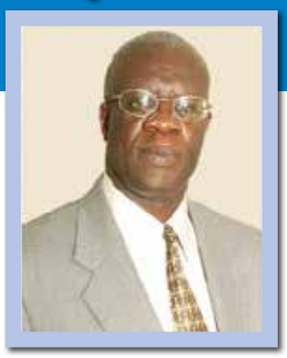
Editorial



Dear Reader,

THRiVE has been extra busy in the quarter ending June 31, 2018 but this has added to our enthusiasm and excitement as a network. The site visits to partner institutions offered very good opportunity to learn firsthand both the direct and indirect contributions that THRiVE has on host institutions. Clearly institutions do underreport their activities and may not optimally use the online monitoring and evaluation tool developed by THRiVE. Partners need to appreciate that underreporting may lead to negative consequences. This finding will require close attention as part of strengthening partner management. The latter is expensive in terms of time, money and other resources. KPMG auditors took keen interest in this issue as they did for network governance and a check on of value for money in all transactions both at the prime grantee and at partner institutions. The secretariat staff engaged the auditors in a very professional manner and this was well appreciated.

As in the past the Annual General Meeting (AGM) was an opportunity for making the face-to-face connections and learning from different experiences while assessing the progress made by the upcoming researchers. New additions to this year's program were talks on science and diplomacy, open publishing and a workshop on community and public engagement (CPE) in research. A loud message was delivered by Lilian Mutengu of AAS/AESA that CPE is one of the four pillars of the DELTAS Theory of Change and as such it should not be viewed as simply an appendage or add on to the other three pillars. It was evident from the AGM that nearly all fellows had engaged in CPE through the adoption of a school scheme. The THRiVE CPE committee developed a workplan that will be implemented during the rest of this year.

THRiVE-2 Advisory Board

Name	Institution
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7. Dr. Alponsus Neba	AAS/AESA (Observor)
8. Professor Nelson Sewankambo	Director THRiVE

Personal experience of community

time. We engaged farmers on diverse topics including; *techniques in modern camel husbandry, mechanisms of disease infection, vector-borne disease transmission and control.* On the other hand, camel keepers discussed the common diseases affecting camels and how they control them using both ethnoveterinary practices and modern veterinary drugs.

I was impressed at how knowledgeable herders were in the general management of camels and effective control of specific diseases using unpublished traditional methods passed on verbally and in practice over generations.

We transported blood samples preserved in liquid nitrogen to the *icipe* (International Centre of Insect Physiology and Ecology) molecular biology laboratories in Nairobi. Both live and dead (preserved in absolute ethanol) camel flies- genus *Hippobosca*, that are common blood-feeding ectoparasites of camels, were also collected in order to test their potential in disease transmission.

Currently, using molecular biology studies, we have successfully identified multiple disease-causing pathogens in both camel and fly samples and these include: African trypanosomes, *Anaplasma* spp, *Ehrlichia* spp, *Brucella* spp, and *Coxiella burnetii*. Importantly, by using laboratory mice we show the capacity of camel flies in the transmission of anaplasmosis and ehrlichiosis. Further, our findings confirm occurrence of the more virulent *Trypanosoma vivax* as the predominant cause of camel trypanosomiasis in Laisamis, unlike reports in other regions known to have mainly *T. evansi*. These key findings were disseminated to more than one hundred camel keepers and their leaders at the County level during the second field sampling conducted in April 2018. Appropriate treatment was recommended and in some cases, we provided free treatment to the diseased animals.

Engagement with Rendille community and stakeholders has clearly resulted into mutual trust and strong links that made me a community liaison or one of the contact persons in cases of disease reports, for instance in recently reported outbreak of Rift Valley Fever (RVF) virus in Marsabit County. During engagement process, most camel keepers complained of two fatal diseases, namely: Acute Camel Disease Syndome (ACDS) and Swollen Gland Syndrome (known as '*Khanid'* in Rendille). This feedback informed our collaborative proposal submitted to BBSRC-NRF Newton-Utafiti fund to study the role of heartwater (*Ehrlichia ruminantium* infection) in ACDS.

Our ongoing third 10-day field visit aiming at screening camel diseases in wet rainy season targets like RFV infections among other diseases. Further, we continue on daily basis to engage with the community on employment of modern strategies in camel management for improved milk and meat production.

Lastly, I have adopted Laisamis Secondary School for mentorship programme aimed at mentoring, motivating and challenging the students to consider undertaking future opportunities in science and technology for development of the region and the nation.

School engagement program at St Mary Gorreti Secondary School – Moshi, Kilimanjaro

By: Mary Vincent Mosha, THRIVE-2 Phd. Fellow

A key focus of this engagement program is to inspire secondary school students about science and research, and to increase their attitude in further learning and build self-confidence.

The program was initiated in February, whereby I had an opportunity to have a short conversation with the school headmistress. It started with a short introduction of who I am, a broad overview of my project goals and activities, followed by a discussive sessions. I was privileged to be introduced to all teachers (staff members) in the staff room and linked with nutrition teachers who are teaching both ordinary and advanced levels so as to start working together as a team.

In May 2018, I made a second visit to the school where I had a chance to visit Form Five Nutrition class and continued nutrition discussions. Students appreciated the efforts I made in my journey starting from primary school to become a nutritionist. The session continued with questions and answers about the challenges faced in registering my achievements and were discussed accordingly. They asked questions about research and ideas on how they can benefit from nutrition and become good scientists/ researchers. We concluded the engagement by identifying key topics on which we can engage students to understand science and research. After brainstorming we ended up with some suggestions for engagement from students themselves.

1. They requested to have broader knowledge shared by the experts on youth reproductive health, infant and young child feeding practices, and nutritional assessment methods

2. They proposed ideas for initiation of nutrition club and having ongoing activities like discussion groups, and debates on global nutrition issues

3. The students would like to get involved in some lectures and presentations at my College (Kilimanjaro Christian Medical University College) to gain knowledge gaining and insights in how researchers present their work.

4. They would like to participate in field data collection. We agreed that they will do so at least once for familiarization with field/ research skills and nutritional assessment protocols.

I found the engagement program very useful in nurturing young people in fields of science. This was noted during winding up, as every student was very much excited to know about research, and how they were very much interested to initiate a nutrition club and ideas of organizing intra and inter school debates, as well as visit a teaching and research institution (KCMUCO). Lesson learnt from these two visits was that, engaging students in understanding science in a more practical way (that is, not necessarily from their teachers or classroom sessions) is very important. Follow up visits are planned to take place after school has been re-opened. youth reproductive health counsellor has already identified, and ready to give them sessions. Other activities are in progress.

Top: *Mary V. Mosha discussing with students in class*
Botttom: *A group photo of students, Mary V. Mosha and school teachers.*

Sexual and Reproductive health talk with the girls

By: Ruby Mcharo THRIVE-2 Phd. Fellow

Loleza Girls Secondary School located in Mbeya region, within Tanzanian Southern Highlands zone is a girls-only secondary school with O' and A' level classes that I had adopted as part of THRiVE-2 requirement under Community and Public engagement (CPE). The School administration was very welcoming and supportive to this idea and after a number of meetings, I managed to secure a date on the last day of school at the end of 2017. Since my main research interests are around sexual and reproductive health (SRH) especially among adolescents and young adults, for this first event, we agreed to have a discussion with the girls on SRH as well as Sexually Transmitted Infections (STIs).

On a bright sunny Thursday of the first week of December 2017, we were welcomed at the school hall by about 400 'A' level girls smartly dressed in white shirts and light blue pleated skirts in the presence of their teachers. Majority of the girls were between 15-19 years. For this event, I had sought the assistance of some staff from NIMR-MMRC (National Institute for Medical Research-Mbeya Medical Research Centre) - Dr. Winston William, a Medical Doctor/Research scientist, Mr. Jerry Kapungu, a Social Scientist and Ms. Abbie Sigauke, a Quality Control and Assurance personnel. To set the pace, after a round of introduction, a short video clip was shown to illustrate general SRH issues among young people; what STIs are, symptoms, diagnosis and prevention. The clip largely focused on HIV/AIDS and some of the social challenges of the disease such as stigma. This clip was developed by MAF (Medical Aids Films) in collaboration with experts from Pathfinder and AMREF healthcare. MAF is an international NGO that produces free film and animation to support community health education and health worker trainings. I assisted- in part- the editing of the final message in this clip (http://www.medicalaidfilms.org/film/understanding-stis-2/).

After viewing this clip, the discussions continued with general information on other STIs, such as Syphilis, Gonorrhea, and Genital herpes, and how the girls can prevent such diseases through abstinence, acquisition of correct health information from their parents/guardians and/or medical personnel. It was emphasized that having the correct knowledge on SRH is crucial for their well-being and future reproductive health and so they should not shy away from talking to or asking elders,

Sexual and Reproductive health talk with the girls

teachers or even reach out to me (*I left contact details*) on such sensitive health issues. Swahili and English languages were both used in the discussions so as to allow all present in the hall to understand the message being shared.

It was fulfilling to hear that the session had brought in additional knowledge on SRH and STIs to the students, and not only on how to protect themselves but also caring for people with chronic STIs like HIV. Many of the students were very much interested in the clip and promised to share it with their friends when they return home during the holidays. Students and teachers further suggested that we continue with such sessions for young people, as well as to the general public.

The teachers requested that during the next event, we organise a health education discussion on TB (Tuberculosis) for the students. Moving forward I plan to identify girls undertaking the Science subjects, and slowly try to encourage and interest them in the pursuit of health research as a career, and importantly for them to stay in school; as this is the main focus of THRiVE CPE.

THRIVE-2 follow up to Partner Institutions

By David Kitunzi & Shem Wakaindha

By coincidence the recent THRiVE-2 monitoring and evaluation site visits preceded an internal audit by KPMG which focused a lot on whether there was Value for Money aspects in relation to procurements done under the program while following the institutional policies at THRiVE-2's respective host partner institutions; whether financial reports were prepared in an accurate and timely manner in line with the grant terms and conditions and that policies are available and being used within the THRiVE-2 program to guide financial management. They also wanted to confirm that complete fixed assets registers were being maintained for all assets purchased within the consortium since inception of THRiVE-2.

As a follow up to the KPMG audit exercise and as part of the team from secretariat we carried out monitoring and evaluation site visits that focused on addressing some of the areas of concern and noted from our follow up that best practices were being used in most units. However, as far as financial reporting was concerned in some units, there was need for improvement. For example even when some units submit erroneous reports using the reporting template and these are corrected by the lead and sent back to the units so they use that guidance moving forward, some of the units still go ahead to submit subsequent reports using the wrong version and not the corrected one. This calls for the need to pay more attention to detail by the finance officers and the review structures available at these units to ensure that the right instructions are being executed

The follow up also revealed that a number of units need to update their human resource policies and staff contracts to match the practice on ground and treatment within their accounting systems. All units should also endeavour to maintain up to date complete fixed assets registers according to the accounting standards. Some registers from units were lacking in these areas due to untagged equipment purchased using THRiVE-2 funds, locations not indicated or vaguely narrated on the register in some cases.

We noted that some units which procured items that were sampled during the audit, sent incomplete documentation to the lead for audit which attracted audit queries such as whether their institutional policies had been followed while carrying out those procurements or why single sourcing had been used as opposed to getting at least 3 alternative quotations. However during the monitoring and evaluation site visit we were able to see documentation that nullified some of the queries justifying choice of action while in other instances there was absence of such documentation for choices taken.

During the follow up / site visits, we continuously noted the need to develop fundamental policiesand guidelines that enable the smooth management of the grant at most units. These included; the anti-bribery, anti-fraud, whistleblowing and risk management policy, including the development of risk registers to better manage the effects of obstacles likely to affect the attainment of THRiVE-2 objectives

There was need to improve the burn rates at THRiVE-2 units as some had extremely low burn rates which could end up affecting the overall consortium burn rate and thus being rated as an underperforming consortium. We need to devise means to overcome whatever challenges there might be in a compliant manner.

All units also agreed with the KPMG recommendation to amend the subcontracts between the lead and partner institutions to include their responsibility for CORE budget funds transferred to their institutions as the current one isn't explicit on that point. The need for this recommendation was further strengthened when we noticed during our site visits that some units did not have clear or full documentation for the recruitment of the masters and intern fellowships that are a CORE budget activity and recruited at institutional level.

Handling malnutrition with locally grown foods

By Tabo O. Geoffrey, Alaroker F. Martha, Kiduma Robert, Onen Walter Yagos, and Elizabeth A Opiyo

MSc Student, Department of Food Science, Faculty of Agriculture and Environment, Gulu University

The goal of THRiVE's Community and Public engagement (CPE) programme is to improve public understanding of science, informed participation in scientific discourse and research processes by members of the non-academic public with a view to develop relationships with communities and organisations where THRiVE researchers operate.

THRiVE-2, at Gulu University conducted a CPE based on research conducted by a MSc. student on Gari-Soya formulation to manage malnutrition. Basically the research aimed at finding the optimal formulation of Cassava and Soya beans that could be used to improve the nutrition of children. Malnutrition is an important public health concern especially among children, and communities in northern Uganda where Gulu University. The combination of materials used in the formulation are locally produced and readily available within our communities.

Briefly, in this research, the student looked at a combination of Cassava and Soya beans flour mixed in an optimum ratio to provide nutrition solutions to children and patients.

The site for the CPE was the Department of Nutrition and Child Health within the Gulu Regional Referral Hospital (GRRH). After obtaining permission from the Administration of GRRH to share the research findings with the would-be end users of the product, a programme was developed.

The CPE activity took place on Tuesday 27th March 2018. The main aim of the engagement was to provide a platform to interact directly with the community who are faced with nutrition problems in order to inform, advocate and share knowledge.

In this engagement, our community was a collection of mixed audiences including mothers with children whom the research results target and health service providers present at the time of the engagement.

Martha shows the community some dried products from Cassava and Soya beans as the Administrator and staff look on

CPE at the Department of Nutrition and Child Health

The Department selected a date that was scheduled for out-patients who were due for review. This was an opportunity for patients to learn practically how to help themselves and improve the health of their communities which could result in reducing on referrals. It also offered a platform for staff of GRRH and patients to share good health practices based on locally available resources and knowledge with the community. The Head of Department noted that it was a unique opportunity for the staff and patients to learn from the findings of the research that some of them had participated in.

Ms. Alaroker Martha the MSc Student explaining the process of production.

Many people attended the engagement session which was very interactive with women and especially mothers learning how to make the product.

Feedback and discussions

It was so inspiring to listen to the community reacting to how easily the product is made and appreciated that these resources are available in their homes. Many women easily reflected on their youthful days making pancakes known locally as *Kabalagala* out of cassava and ripe bananas. They agree that they use cassava almost on a daily basis for food either on its own or mixed with millet and/or sorghum and that soya (grown and sold for making animal feeds) is readily available in the market.

The participants gave feedback from various perspectives. One of the nurses had asked "what food values do these ingredients have and in what quantities?" the research could not at this stage go in-depth to determine the food values and their quantities in each raw material, but earlier studies indicate all these. It is generally known that cassava is more of carbohydrate and soya has adequate proteins.

A mother asked, “why some soya beans are roasted, and others germinated?” the researcher responded by saying that it was done to determine the amount of food nutrients in both. After tasting the two products, the community later commented that the alternative with roasted soya tested better than that with germinated soya. Most likely because of the aroma, they preferred the one with roasted soya. The germinated soya had a strong aroma of fermented product! The researcher’s response was that the germinated soya alternative had more food value despite the taste not being so appealing. The researcher advised the mothers to improve the taste by adding some other ingredients like Orange/Lemon juice or Tamarind fruit juice and sugar to the mixture. The addition of sugar naturally helps improve the taste and palatability of the product.

On the issue of product storage and expiry, the researcher informed the audience the importance of keeping the product dry. The community was advised to use plastic containers so as to keep the products dry. She went ahead to demonstrate how to do it and emphasized that presence of moisture leads to spoilage by moulds. However, if well kept the product can last up to three months.

Mothers reflecting and sharing during the session

Some of the people were quick to think of earning income from such products. They inquired where such a product can be sold in case someone can prepare it in excess or directly for entrepreneurship purposes. An opportunity for creating a livelihood from such simple innovations and product diversification especially from cassava that is in abundance in the community.

The team helping out with preparation of porridge from the products

People tasting the different compositions of the product.

The demonstration given by the researcher allowed for the participants to reflect on their normal practices and also to understand how they could tackle the problem of malnutrition by using locally available material. There were more women participants and the opportunity they had to recall experiences around the dietary practices that could have led to hospitalising the children was very inspiring. The storyline is that when people are together, they feel the possibility of addressing their challenges through social interactions. The team made a video from the event that is ready for sharing with THRiVE Consortium and the wider public on appropriate platforms.

The CPE was conducted in the local language to allow for better research uptake and relevance to the consumers. Choice of the composition of such community is very important in keeping the discussion relevant to the participants. In this case some of the questions were more academic and professional to the disadvantage of the mothers from rural areas. All in all, one could see the enthusiasm of the audience, impressive interactions between people from different places, the satisfaction and approval on the face of people as they taste and evaluate these products.

We thank the GRRH Administration and the Department of Child Health for the opportunity and providing space to conduct this CPE. We highly appreciate the staff at various ranks who spared time to prepare for the CPE. The arrangement and the humility of the hospital staff meant much to the dissemination activity. The CPE would not have been conducted without the community members who attended the OPD on this specific date to whom we are indebted.

We thank THRiVE for supporting this activity.

The First part of My PhD Journey

By Imelda Namagembe
THRiVE Phd Fellow

THRiVE has continued to provide opportunities to build capacity through Training Health Researchers into Vocational Excellence in East Africa whose research has continued to improve lives in various communities. I am greatly honored to be among those who received this opportunity from THRiVE-2 grant for my PhD fellowship after going through a strong sieving process. Oh my God, it was a unique experience!

I received the grant in June 2018 and made progress to develop my concept further, presented my work in October 2017 for ethics approval to Higher Degrees School of Medicine Research and Ethics Committee which I received end of December 2017. This enabled me to receive my provisional admission to Makerere University on 5th January 2018. My proposed research project title is "Reducing maternal deaths using maternal death surveillance with confidential enquiry in a busy African setting: A Case study of Mulago Hospital". THRiVE training provides opportunities for collaboration with Northern partners from either Cambridge or London School of Hygiene and Tropical Medicine). This requires each to identify supervisors/mentors from both Makerere University plus either University of Cambridge or London School of Tropical Medicine (LSTM) of United – Kingdom (UK). This is a great vehicle to enhancement of future networks.

I am so grateful to my great team that supported me right from the time of applying for my PhD fellowship. I was supported by Dr. Catherine Aiken and Prof Ashley Moffett from University of Cambridge while from Makerere University College of Health Sciences, I am supported by Dr. Annette Nakimuli, Assoc. Prof Josaphat Byamugisha and Assoc. Prof Noah Kiwanuka.

After receiving my provisional admission to Makerere University, I was then eligible to access the funds from THRiVE-2 grant. I started making progress in writing my full proposal and the discussions regarding the initial placement at University of Cambridge went into high gear. Originally, I had thought that it would be better to go to University of Cambridge when I have some data to work on, but after discussions with my team, we agreed that it was important to go earlier to enable me meet my mentors from University of Cambridge and link up with other research scholars to give input regarding maternal death surveillance and confidential enquiries related study. The maternal death surveillance and confidential enquiry system of UK (Mothers Babies Reducing Risk through Audits and Confidential Enquiries –MBRRACE) is internationally recognized as the most advanced. It was initiated over 60 years ago and has greatly contributed to reduction of maternal and child related deaths. Many researchers and countries have learnt from its system. Little did I know that I would one day interact with the senior researchers of MBRRACE- such as Prof Marian Knight, but THRiVE-2 grant made it come to pass.

I arrived in Cambridge on 26th March 2018, during the Easter week. Both the excitement and anxiety related to getting accommodation in the busy environment of

Imelda Namagembe after a discussion with team from University of Cambridge Left to right Prof Ashely Moffett, Dr. Catherine Aiken (Key mentor), Imelda and Prof Graham Wendy (Senior Researcher in Maternal Health)

Imelda Namagembe in the compound of Kings College next to Kings College Chapel at University of Cambridge

University of Cambridge made me fail to realize that I would have to travel around Easter. The entire team of Cambridge University (Corinna Alberg (THRiVE Cordinator), Dr. Catherine Aiken, Prof Ashley Moffett, Pauline Essah, Wati, Hawa, Prof David Dune and administrative team of Department of Pathology) were all very supportive and made it possible to help me feel at home despite the fact that real home was across big seas. I had the opportunity to experience Easter week activities in the renowned Kings College Chapel. Listening to the melody of Kings Chapel Choir was another spiritual awakening moment.

King College Chapel & river Cam

I spent time at the Pathology Department with support of Prof Ashley Moffett. This enabled me get space to work from and have quick access to electronic resources especially journal articles through the University of Cambridge e-based service, some of which I had failed to readily access while in Kampala.

In addition, I spent time at Rosie Hospital of Addenbrooke's Hospital of University of Cambridge which is about 15 to 20 minutes away on the Cambridge-bus ride. Rosie side is the Women's –Newborn Hospital. This is the place where my mentor, Dr. Catherine Aiken, a Senior Researcher-Clinician Scientist, Obstetrician and Gynaecologist is based. I was introduced to other obstetricians and Gynaecologists (Dr. Charlotte Patient, Dr. Alison Wilson, and Dr. Jennifer Brewster to mention but a few) who were very welcoming too. They had planned for my coming and we discussed my planned research project. At the hospital, I was taken through what happens regarding critical incident reporting. Critical incident reporting is considered as broader approach to improve quality of health care since they report (notify) both severe morbidity and mortality as critical incidents in UK. Maternal deaths within 6 weeks of pregnancy are rare events in UK since the past two decades. I participated in maternal & perinatal morbidity critical incident discussions. This helped me appreciate the role of a dedicated High Risk-midwife and administrator for successful critical incident reporting which would be very good for our maternal & perinatal death reporting at Mulago Hospital & Uganda in general. The available resources and infrastructure at Addenbrooke's were eye openers. Although not part of the PhD, I had great opportunities to witness some important diagnostic procedures in obstetrics and gynaecology such as chorionic villus sampling (CVS) and amniocentesis (amniotic fluid harvesting) not routinely done in our setting. The critical issue here is availability of basics, such as diagnostic equipment for identifying some severe abnormalities at early stages in pregnancy.

Dr. Catherine Aiken & Prof Ashley Moffett worked on arrangements for me to visit MBRRACE Department based at National Perinatal and Epidemiology Unit (NPEU) at Oxford University when I was still in Uganda. I met Prof Marian Knight and her team as already stated earlier. It helped me appreciate how information about critical incidents such as maternal deaths is received from the Health facilities, assigning of ID-numbers, identification of independent accessors involved in the confidential enquiry process, and the various infrastructure involved up to generation of reports for maternal & perinatal audits with confidential inquiries. All this exposure helped me appreciate what is feasible regarding my implementation research in the area of maternal death surveillance with confidential enquiries to reduce maternal mortality.

A number of discussions have been held with various researchers/ Scholars such Prof Graham Wendy (renowned researcher in maternal Health & worked a lot with WHO and also in places such as Ethiopia on Maternal Health issues), Prof Kate Bull, Dr. Tom Bashford (critical care person and anesthesiologist), Dr. James Bamber (one of the National Independent assessors for MBRRACE) and Prof. Matthews Matthai

The First part of My PhD Journey

(Professor of Maternal and Newborn Health, Liverpool School of Tropical Medicine). All these inputs brought more insight into what I can be able to chew in the given time for the PhD fellowship. In addition, more literature sources were advised and study tools to look at. We discussed prospects for potential grants to apply for in maternal-health.

I continued to work closely with Dr. Catherine Aiken to make progress on my full proposal. She helped me acquire skills in conducting a comprehensive literature search, use of End-Note and briefly touched on systematic review of the literature. Although my work is not laboratory-based, there was a lot to read. I needed Panasonic speed which is another story. Most students were in holidays and did not have formal lectures.

In April, I participated in a basic training on how to use films in research dissemination and also had an interesting teleconferenced seminar between University of Cambridge and Uganda Cancer Institute on Pathobiology and immunobiology of genital human papilloma viruses by Prof Margaret Stanley, Department of Pathology at University of Cambridge.

Again, in April, I managed to concentrate on writing our manuscript, learnt how to use open scientific framework (OSF) for public data bases, and going through requirements for open access research. It was my first time to do it, I learnt a lot. It is exciting in that our article was one of those published in AAS open research access launch on 18th April 2018.

"Single dose ceftriaxone and metronidazole versus multiple doses for antibiotic prophylaxis at elective caesarean section in Mulago hospital: A randomized clinical trial [version 1; referees: 1 approved, 1 approved with reservations] Gideon Alex Mugisa, Paul Kiondo, Imelda Namagembe".

During the last week, I crowned off the visit with Cambridge Africa-day on 1st May 2018. This is a major activity at Cambridge where there is show casing of the research conducted in a number of African countries as a result of the Cambridge-Africa collaboration.

There were exciting presentations and panel discussions involving teams from Ghana, Kenya, Uganda and Zambia. It was amazing to listen to and see pictorial presentations of big research centers that have come up as a result of the Cambridge-Africa collaboration. On that day, videos were captured of Cambridge-mentor/mentee from Africa setting discussing way forward. My mentor Catherine Aiken and I felt that my research work on maternal death surveillance, response & confidential enquiry will help institutionalize this process at Mulago National Referral Hospital as a center of excellence. We hope that our work will contribute to reduction of the burden of preventable maternal deaths and severe morbidity. In addition, there is a plan to incorporate key stakeholders and public engagement to harness advocacy for availability of emergency supplies, early health seeking behavior, referral & emergency preparedness.

Lastly, I remembered that work without play is not healthy, thus spared a moment to go punting on river Cam. I enjoyed the calmness as I pondered more about nature's goodness and the PhD journey ahead.

Preventing C of

David Meya et al., 2015

Overview

In this era of HIV/AIDS pandemic, most of the people in sub-Saharan Africa have been affected in one way or the other. One of the largest causes of illness and death among HIV/AIDS patients in sub-Saharan Africa is cryptococcal meningitis, responsible for approximately 20% of AIDS-related deaths. This work outlined the strategies for prevention of cryptococcal meningitis as well as discussing impact of its new diagnostics.

Implications of the findings

Research has revealed that 55 to 70 % of the cases die every three months in sub-Saharan Africa. The new, highly sensitive, and affordable point of care diagnostic test for cryptococcal infection can detect early asymptomatic cryptococcal disease. This test is very timely and crucial, especially in areas with limited laboratory infrastructure, like in many of the healthcare facilities in Uganda. Thus, implementing a screen and treat strategy as part of HIV care practice among patients with CD4 <100 cells/μL could prevent the incidence of the highly fatal cryptococcal meningitis high HIV/AIDS setting.

Link: https://link.springer.com/article/10.1007/s40475-015-0045-z

ryptococcosis—Shifting the Paradigm in the Era Highly Active Antiretroviral Therapy

Symptomatic presentation with cervical cancer in Uganda: a qualitative study assessing the pathways to diagnosis in a low-income country

Amos D Mwaka et al., 2015

Overview

It is not uncommon for symptomatic cervical cancer patients in low-income countries like Uganda to present with late stage disease and even have high mortality. This paper explored the views of cervical cancer patients on their symptom appraisal and interpretations, and their healthcare-seeking including lay consultations.

Findings

Eighteen women aged 35–56 years, recently diagnosed with cervical cancer were interviewed. Their first symptoms included abnormal vaginal bleeding, offensive vaginal discharge and lower abdominal pain. Most participants did not perceive themselves to be at risk for cervical cancer and they usually attributed the initial symptoms to normal bodily changes or common illnesses such as sexually transmitted diseases. Lay consultations with husbands, relatives and friends were common and often influenced decisions and timing for seeking care.

Prompt help-seeking was frequently triggered by perceived life-threatening symptoms such as heavy vaginal bleeding or lower abdominal pain; symptom burden sufficient to interfere with patients' work routines; and persistence of symptoms in spite of home-based treatments. Their cancer diagnosis was often further delayed by long help-seeking processes including repeated consultations. Some healthcare professionals at private clinics and lower level health facilities failed to recognize symptoms of cervical cancer promptly therefore delayed referring women to the tertiary hospitals for diagnosis and treatment.

Implications

Ugandan patients with symptomatic cervical cancer often misattribute the cancer symptoms with their physiological symptoms, and experience long appraisal and help-seeking intervals. These findings can inform targeted interventions including community awareness campaigns about cervical cancer symptoms, and promote prompt help-seeking in Uganda and other low- and middle-income countries with high incidence and mortality from cervical cancer.

Link: https://bmcwomenshealth.biomedcentral.com/articles/10.1186/s12905-015-0167-4

Mind the gaps: a qualitative study of perceptions of healthcare professionals on challenges and proposed remedies for cervical cancer help-seeking in post conflict northern Uganda

Amos D Mwaka et al., 2013

Overview

The increasing burden of non-communicable diseases, especially cancers in Uganda, presents a Public health challenge to both the health workers and the general population. Limited information was available on the perceptions of health workers on challenges faced by cervical cancer patients that seek healthcare in the developing countries. The authors documented the views of health workers from two hospitals in northern Uganda, on barriers to cervical cancer screening and early help–seeking for symptomatic cervical cancer as well as proposed remedies to the challenges.

Implications of the findings

A number of barriers to cervical cancer screening and early help–seeking were cited by Health workers, among which were; Community related barriers (like lack of awareness on cervical cancer and available services), discomfort with exposure of women's genitals and perceived pain during pelvic examinations, and men's lack of emotional support to women). The authors also highlighted health policy challenges like lack of specialized cancer treatment services, and lack of vaccination for cervical cancer. Other challenges included increased number of cervical cancer patients and late stage of cervical cancer at presentation.

Other barriers included individual healthcare professionals' challenges like inadequate knowledge and skills about cervical cancer management, health facility related barriers like long distances and lack of transport to the care centers, few technical staff, delay in releasing test results, lack of established palliative care services and inadequate pain control.

Thus, lasting solutions to these challenges need to be found through the Ministry of Health and partners to address the growing trends of cervical cancer disease and deaths.

Link: https://bmcfampract.biomedcentral.com/articles/10.1186/1471-2296-14-193

Preventing Cryptococcosis

Alcohol Consumption among HIV-Infected Persons in a Large Urban HIV Clinic in Kampala Uganda: A Constellation of Harmful Behaviors

Bonnie Wandera et al., 2015

Overview

Alcohol use by persons living with HIV/AIDS (PLWHA) poses a big public health burden as well as contributing to poor treatment outcomes. This work used a standardized alcohol assessment tool to estimate the prevalence of alcohol use, identify associated factors, and test the association of alcohol misuse with sexual risk behaviors among PLWHA in Uganda.

Findings

Among the 725 subjects enrolled, 33% (235) reported any alcohol use and 18.6% (135) reported alcohol misuse, while 5.2% (38) drank hazardous levels of alcohol. Subjects who were not yet on ART were more likely to have alcohol misuse. In addition, those with self-reported poor adherence were more likely to have alcohol misuse. On the other hand, belonging to Pentecostal or Muslim religious denominations was protective against alcohol misuse compared to belonging to Anglican and Catholic denominations. Alcohol misuse was associated with reporting risky sexual behaviors among males, but this association was not significant among females. Non-disclosure of HIV positive status to sexual partner was significantly associated with risky sex in both males and females.

Implications

Alcohol use among PLWHA was high, and interventions targeting alcohol use and the associated negative behaviors ought to be exploited.

Link: http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0126236

All units have an accounting system although it was not the case

by David Kitunzi & Shem Wakaindha

Initially during the THRiVE 1 phase of the grant, we encountered difficulty in preparing financial reports for onward submission to Wellcome Trust in an accurate and timely manner. And even when we eventually got these submitted, there was a lot of back and forth in terms of information contained in these reports, corrections and clarifications mainly because the financials were prepared in a manual way for some of our partners which in the end presented its own challenges to the lead partner who had to eventually consolidate these different partner reports before reporting to Wellcome Trust. You can can only imagine the time lost or delays encountered in getting information back and forth between the partners and lead partner for consolidation before onward submission to the Trust in case of queried transactions and reports.

Because of some of those challenges some partners from THRiVE 1 were not even considered for THRiVE2, however as the lead and together with input from AESA we set out to manage some of these risk factors that affect attainment of objectives by simplifying the reporting process. Since a new template had been developed by AESA for quarterly reporting purposes, we had a training on how to use this template conducted by AESA finance officers for the finance committee of THRiVE2 during a THRiVE2 initiation site visit by AESA.

Subsequently in April 2017, we then had a follow up practical hands on finance training organised by Makerere as the lead together with the AESA finance officer where all finance officers within the African partner institutions were invited and given a hands on training on how to use the current reporting tool. During this meeting, it was noted that a couple of challenges encountered by institutions like GULU and UVRI were because of the manual setup of their accounting system.

It was then recommended by the funder representative at the meet that these 2 institutions transition from manual accounting systems to the use of accounting software. UVRI has since done this successfully while GULU is still a work in progress but are almost there. Since that time there have been immense benefits that we have derived from this action and we think it can only get better.

Ensuring that all partners use accounting software has helped us save time during the THRiVE2 quarterly reporting process in comparison to the past as well as giving us valuable insight into our business as THRiVE2. Use of accounting software packages has enabled the African Partner Institutions to review financial statements in real time, aided the required budget monitoring processes and other financial management processes.

We know that as the finance officers get more accustomed to doing financial business through use of accounting packages that we shall have an eased up process in as far as financial reporting aspects are concerned.

New Grant to support research collaboration between LSHTM, KCMUCo, MRC Uganda and KEMRI:

Networking to Improve Menstrual Hygiene Management in Sub Saharan Africa

By Tara Mtuy (LSHTM) and Beatrice John (KCMUCo)

Attitudes towards menstruation and suboptimal hygiene facilities and practices present significant challenges for adolescent girls and women in lower income settings. Poor menstrual hygiene management (MHM) can lead to poor attendance at school or work; reduced participation in daily activities; shame; discomfort; and negatively impact health, specifically infections of the reproductive tract. In November 2017, an initial meeting of East African researchers working on menstrual hygiene management was held in Entebbe. The meeting was co-ordinated by Beatrice John, who holds a THRiVE career development award. The purpose of the meeting was to strengthen the established network on MHM and plan for a proposal for a larger grant around MHM. Following that meeting, the MHM network submitted an application to the Medical Research Council (MRC) Global Challenges Research Fund (GCRF) with the aim of strengthening East and Southern African capacity for MHM research. In June of this year the GCRF Networking Grant was awarded. The network leads and institutions includes Prof Rashida Ferrand from LSHTM, who is based at the Biomedical Research Training Institute in Zimbabwe, Prof Helen Weiss from LSHTM, Beatrice John from KCMUCo, Elizabeth Nyothach from the Kenya Medical Research Institute (KEMRI) and Dr Catherine Kansiime at MRC Uganda, which has recently joined LSHTM.

The network will bring together multi-sectoral MHM researchers and practitioners in the UK, Zimbabwe, Tanzania, Uganda and Kenya to share and strengthen research and programs on MHM. The network aims to capitalise on current research to build capacity in MHM in SSA. This will be achieved through (1) virtual multidisciplinary working groups focused on four themes; (2) physical networking activities including developmental site visits to MHM projects in Uganda and Kenya, and (3) a workshop in Zimbabwe, where working groups will share, examine and critically appraise findings.

1st East African Menstrual Health Research Meeting

Rheumatic Heart Disease/ Rheumatic Fever Stakeholder Meeting In Uganda: A Thrive/ Deltas Public Engagement Activity

By: Dr. Emmy Okello THRIVE-2 Post doctoral Fellow

Rheumatic heart disease (RHD) affects over 30 million people worldwide, causing some 345,000 deaths annually and a disability adjusted life year of 84.9% due to premature death.(Watkins 2017)

RHD is a long term complication of acute rheumatic fever, an autoimmune systemic inflammatory illness caused by Group streptococcal bacteria resulting in heart valve damage.

Risk factors for rheumatic fever include overcrowding, poor ventilation, poor housing and poor adherence to penicillin injection for patients already diagnosed with rheumatic fever and RHD.

Despite research efforts over the years looking at burden, risk factors and outcomes of RHD, a gap still existed in the pathogenesis of ARF/RHD because of the several stages involved in the disease process.

The purpose of our activity was therefore to get a platform that brings together policy makers from the Uganda Ministry of Health, development partners such as the World Heart Federation, persons living with rheumatic heart disease, health workers who encounter RHD on a daily basis and the general public represented by RHD champions and the media.

This will avail us an opportunity to dialogue with the public on disease processes, what we have been doing in terms of research and treatment, as well as what we plan to do in the future.

In return, we would learn from the public what challenges they face in understanding the disease and specifically and facilitators and barriers to care and prevention.

A patient sharing his experiences with other patients

The meeting was opened and attended by the Minister of Health for Primary Health Care Hon Joyce Moriku, the Director Clinical Services in the MOH and the Project Manager in charge of non-communicable diseases (NCDs).

We also had representation from academia including representatives from several local and international universities such as Case Western Reserve University, George Washington University, the University of Cape Town, Makerere University, Gulu University and the Mbarara University of Science and Technology.

Patients were represented by their support group leaders and we invited several pupils who have had ARF and RHD.

Activities:

The public engagement activity was divided into two,

A patient-led preconference activity day was designed to allow a dialogue between the public/ patients and the scientists.

This would be followed a day later with more formal presentations from the policy makers and scientists.

The public/ patient-led event was very engaging with back and forth conversation centering on life as an RHD patient and community involvement leadership.

Patients also gave feedback on their experiences as research study participants and how things could improve.

Important feedback included;

- The need for them to be involved in consent process designs eg we should hold a meeting with them to see how best to obtain consent. Some think we should have a group discussion before an

Minister Joyce Moriku (Third from left in front row) poses for a group photo with other dignitaries

individual consent is obtained.

- In follow up studies, they suggested that support groups should be established to help with follow up.

The Ministry of Health officials agreed to back the WHO resolution to make RHD a global priority. The WHO Health Assembly took place in May 2018 and RHD was resolved as a global priority.

Here in Uganda, the Ministry of Health continues to support research studies, provide penicillin and other medication required.

On our part, we set the stage for public engagement through several presentations about different stages and aspects of the disease, including Group A streptococcus biology, rheumatic fever pathogenesis, rheumatic heart disease treatment including advanced catheter techniques that are available for treatment of severe valve disease.

Dr. Okello (middle) poses for a photo with a nurse (right) and a patient (left) after the successfully held exercise

Dr. Emmy Okello (first from right) explains the treatment for RHD

Celebrating African science at the 2018 Cambridge-Africa day and THRiVE AGM

By Corinna Alberg, David Dunne, Pauline Essah

We have had a very successful Cambridge-Africa day which was held on 1st May with over 250 attendees. This event is a great opportunity to showcase the exciting initiatives linked to the Cambridge-Africa programme and highlights to our Cambridge colleagues and those from further afield the inspiring initiatives that are taking place and that we would like their ongoing involvement and support for. Our keynote speaker was Dr Tom Kariuki, Director of AESA who spoke about 'The Future of African science: Building a Coalition of African Research and Innovation'. We were also delighted to have in the audience another key figure from the African Academy of Sciences, Professor Kevin Marsh. Tom Kariuki spoke about the shortfall of researchers in Africa to deal with the high burden of disease. He noted that Africa has 25% of the global disease burden but only 2% of the world's researchers. But he then went on to describe the activities being spearheaded by the African Academy of Sciences to address this shortfall in research capacity and output.

Another excellent presenter was Professor Kelly Chibale who described his academic path from studying for his PhD at the University of Cambridge to now leading the H3D drug discovery unit, Africa's first integrated drug discovery centre, at the University of Cape Town. There, he pioneers world-class drug discoveries in Africa, and has become known for his pivotal work on malaria. He is an inspirational role-model who has used the academic training he acquired in Cambridge to lead a centre of excellence in Africa which will be of benefit to Africans as he researches the big 5 – in his case not lions, elephants, rhinos, buffalos and leopards but diarrhoea, TB, HIV, malaria and sleeping sickness. His achievements have been recognised by being listed this year in Fortune Magazine as one of the 50 World's Greatest Leaders along with the likes of Bill and Melinda Gates.

In addition to these speakers we had presenters from Uganda and Ghana talking about their research in both Cambridge and Africa, including Professor Gordon Awandare who now leads WACCIB (West African Centre for Cell Biology of Infectious Pathogens), one of the DELTAs programmes.

Other news from THRiVE in Cambridge is the arrival of the first of the THRiVE-2 fellows. Dr Imelda Namagembe came to Cambridge in March to work with her mentors on her research into preventing maternal deaths through enhancing the Ugandan confidential enquiry system into maternal deaths. Gerald Mboowa visited immediately after the THRiVE AGM to develop his bioinformatics expertise that his PhD focuses on and Dr Eddie Wampande will also visit in July to spend time with his mentor at the Department of Medicine.

Finally, I will mention the THRiVE AGM. We very much enjoyed the AGM and bringing some of our colleagues to the AGM where they contributed through some excellent keynote addresses. Dr Simon Frost is mentoring THRiVE-2 fellow Dr Ireen Kiwelu. Ireen and I joined Simon on a visit to Ireen's laboratory at KCMCU following the AGM. Thank you Ireen for showing us around the campus as well as giving a tour of your impressive facilities. Simon gave a talk to Ireen's laboratory staff which was much appreciated. Simon came to Tanzania as Dr Simon Frost and found out, while on his journey home, that he had been made a professor – so huge congratulations to Simon. Simon has been a wonderful supporter of the Cambridge-Africa programmes, mentoring both MUII and THRiVE-1 and 2 fellows (and a number of CAPREx fellows) as well as providing a video-linked seminar for the Masters in Immunology and Clinical Microbiology students at Makerere University. Dr Luke Meredith also was part of the Cambridge delegation – he had managed an extremely quick turnaround to be able to join us – he had arrived back from Berlin at 2 p.m only to leave again for Tanzania three hours later. His trip to Berlin had been to deliver results from validating protocols to enable the Ebola pathogens in Congo to be sequenced accurately during the latest outbreak. Dr Luke Meredith is mentoring THRiVE-2 fellow Dr Angelina Kakooza. The whole Cambridge team also enjoyed hearing how the THRiVE fellows' research is progressing – much progress having been made over the past year. We wish you even more progress over the next year and look forward to hearing about it at next year's AGM.

The Cambridge-linked THRiVE Fellows with the Cambridge team at the THRIVE AGM

Kilimanjaro making a rare appearance at the THRiVE AGM in Moshi, Tanzania