

OMWaNA Trial; Uganda leading ground-breaking research for new-born deaths in hospitals



L-R Prof. Pontiano Kaleebu, Director UVRI and MRC/UVRI and LSHTM Uganda Research Unit; Dr. Jesca Nsungwa- Assistant Commissioner Child Health at the Ministry of Health; Prof. Joy Lawn- Director of the Maternal Adolescent Reproductive and Child Health (MARCH) Centre at LSHTM and the Principle Investigator OMWaNA Trial; Dr. Cally Tann Associate Professor Global Newborn Health and Early Child Development at the LSHTM and Dr. Deogratius Munube the President of the Uganda Paediatric Association (UPA) at the launch event in Entebbe.

Unit researchers together with partners from Uganda and the UK are conducting a trial to determine the mortality benefits and cost-effectiveness of kangaroo mother care (KMC) amongst ill neonates weighing 2000 grams (g) or less. KMC is a method of care of preterm infants that involves skin-to-skin contact with the mother or another caregiver, breastfeeding, and supportive care. Many studies show that KMC reduce mortality, and infections, among babies who are already clinically stable. However, $\geq 75\%$ of newborn deaths occur before stabilisation in settings without intensive care.

The World Health Organization (WHO) recommends KMC for the “routine care of newborns weighing less than 2000g initiated as soon as newborns are clinically stable”. However, $\geq 75\%$ of newborn deaths occur before stabilisation in settings without intensive care. Hence WHO has stated that a priority research gap is if KMC is effective and safe for newborns who are not clinically stable. KMC is promoted by the Government of Uganda and is especially important in large, busy hospitals since KMC reduces length of hospital stay.

To page 4



Pamela Nabukenya Wairagala
Head of Communication and Engagement

Dear readers,

It is that time again when we share a summary of what has transpired at the Unit through our quarterly Newsletter.

During this quarter, the Unit launched two Trials; The OMWaNA Trail that seeks to investigate whether or not Kangaroo Mother Care (KMC) will save more lives than the current standard of care as well as the ZEBOVAC Trial, the largest Ebola Vaccine Trial in Uganda, that will be conducted among healthcare and frontline workers to provide additional information and assess the immunogenicity and safety of the investigational Ebola vaccine Ad26.ZEBOV, MVA-BN-Filo, manufactured by Janssen Vaccines & Prevention B.V.

In June, the International Partnership for Microbicides (IPM) released the results of the Open-label Study of its Dapivirine Vaginal Ring. The results showed increased use and suggest lower infection rates compared to earlier Phase III Study. The Unit's Masaka field station was one of the study sites; we bring you a write up on these results.

"A picture is worth a thousand words" is a common English language adage. Through our pictorial section, we share with you some of the many activities that took place during this quarter that could not be covered otherwise in this edition.

Starting with this edition, The Heartbeat will be produced only in soft copy format. We hope that you will still be able to share it within your networks. We hope to resume the hard copy production sooner than later.

Please share with us any news, photos and updates such as upcoming events, meetings, new collaborations, new trials/updates on progress, community/ public engagement activities, scholarships, if you won a grant etc. We would like to share these across our different communications platforms.

Happy Reading and God bless you

INSIDE

This issue

UVRI Insectary launch– 6

Ebola Vaccine Trial - 7

Clinical Research Construction - 9

The ZETRA Study -10

Dapivirine Ring Study - 12

Staff Updates - 20

Pictorial - 22



Prof Pontiano Kaleebu
Director - MRC/UVRI and LSHTM
Uganda Research Unit

Dear colleagues,

It is always a pleasure to share with you some updates on our work.

At the beginning of May, the Scientific Advisory Committee members met in Entebbe for two days (9th-10th May 2019) for their annual meeting. The SAC meeting reviews the Unit's Research progress and also plans and advises on planned activities for the coming year. The review comprised of meetings with Unit executive and management team and presentations from the heads of themes, programmes and sections at the Unit. A report was also compiled for the committee, to provide detailed updates from the respective themes, programmes and sections. I am glad to report that the SAC were impressed by the Unit's work.

As part of our information sharing and capacity building efforts, we had the NCD and HIV theme days in June and August respectively. The Theme days, held on a quarterly basis provide an opportunity for the respective teams to share

their work with colleagues. I also take this opportunity to congratulate the Mental Health Programme on hosting a successful investigators meeting during the month of June.

During this quarter, the Unit launched two large clinical trials in partnership with key collaborators; The Ebola vaccine trial (ZEBOVAC) which is sponsored by the London School of Hygiene & Tropical Medicine and will be undertaken at Epicentre Mbarara, Mbarara University of Science and Technology in Western Uganda. The two-year trial among healthcare and frontline workers will provide additional information and assess the immunogenicity and safety of the investigational Ebola vaccine Ad26.ZEBOV, MVA-BN-Filo, manufactured by Janssen Vaccines & Prevention B.V., part of the Janssen Pharmaceutical companies of Johnson & Johnson (Janssen). The trial is funded by the Coalition for Epidemic Preparedness and Innovation, CEPI.

Our teams also started the OMWaNA trial to determine the mortality benefits and cost-effectiveness of kangaroo mother care (KMC) amongst neonates with low birth weight; 2000g or less.

The two-year OMWaNA trial will be conducted among more than 2000 mothers and their babies at four hospitals in Uganda including Entebbe, Masaka and Jinja Regional Referral Hospitals, and Iganga District Hospital.

Our work continues to demonstrate our value of collaborations and we are grateful to our partners.

To page 5

OMWaNA Trial

The three-year OMWaNA trial will involve more than 2000 mothers and their babies at four hospitals in Uganda including Entebbe, Masaka and Jinja Regional Referral Hospitals, and Iganga District Hospital. The trial will determine if KMC for ill or unstable new-borns will save more lives than current standard of care.

OMWaNA will also examine other important clinical outcomes, including breastfeeding, weight gain, and women's well-being.

The OMWaNA trial is a partnership of the Medical Research Council/Uganda Virus Research Institute & LSHTM Uganda Research Unit, the London School of Hygiene & Tropical Medicine (LSHTM), Makerere University, and four Ugandan government hospitals. It is funded through the UK's Joint Global Health Trials scheme, from MRC UK, UKAID, the Wellcome Trust, and NIHR.

Conventional new-born care is a major gap especially in low resource settings. 2.5 million new-borns die worldwide each year, among which more than 80% are born small due to being preterm, small-for-gestational age, or both. Many countries, especially in Africa, and including Uganda, need to more than double their progress for new-born survival to meet the SDG 3.2 by 2030. Uganda's new-born mortality has not reduced significantly in the last two Uganda DHS and is still 27 per 1000, and the target is 12 per 1000 by 2030.

More than 20 million LBW infants are born every year – over 96% of them in developing countries. These LBW infants are at increased risk of death and developmental delay. Major mortality reductions could be achieved by improving care of small neonates in low resource settings.

Data from the Ministry of Health shows that, each year, over 200,000 or 14% of Ugandan babies are born prematurely (<37 weeks gestational age). The same data source reveals that complications of preterm birth are directly responsible for 31% of Uganda's neonatal deaths, and many of the preterm babies who survive face a lifetime of disability. According to the WHO, Uganda ranks 13th out of 184 countries for the highest number of babies born prematurely and 11th for number deaths due to complications from preterm birth.

As part of the trial, the neonatal units at the participating hospitals are being refurbished and provided with extra nursing care. The trial will also improve high quality new-born care and training for study staff as well as improve the research capacity at the four hospitals.

“ In much of the world, Kangaroo Mother Care is only initiated 3–10 days after birth or when babies are considered to be clinically stable – by which time many deaths among preterm and low-birth weight babies have already occurred. ”

Prof. Joy Lawn,

Director of the Maternal Adolescent Reproductive and Child Health (MARCH) Centre at the London School of Hygiene & Tropical Medicine and OMWaNA Principle Investigator

Director's Comments - From page 3

We hosted various high level visitors to the Uganda Virus Research Institute and the Unit including the Director General of the World Health Organisation, Dr. Tedros Adhanom Ghebreyesus; Africa Director of CDC John Nkengasong and Ms. Jane Edmondson, DFID Director for East and Central Africa. Visitors to the Unit were impressed by our work and appreciated our contribution to health research, care and policy not only in Uganda but the region and internationally.

I congratulate our colleagues at the UVRI on the opening of a new Arthropod Containment Level 2 (ACL-2) insectary. The new insectary will be used for future genetically modified mosquito experiments under containment. The insectary was officially opened by the First Deputy Prime Minister Hon Kirunda Kivejinja also Minister for East African Affairs who represented President Yoweri Museveni.

Congratulations to our researchers Dr. Irene Biraro Andia and Dr. Simon Kimuda (PhD) upon being selected among seven scientists to receive the new African Career Accelerator Award Fellowships by the Crick African Network. As part of the fellowship, Irene and Simon will each spend six months at the St. Francis Crick Institute in London. We appreciate our partners and collaborators for providing opportunities that enhance the capacity of our researchers to address local health challenges.

I welcome staff that have joined the Unit during the course of the last quarter and thank those that have worked with the Unit and have moved on during the same period. I wish them the best in their careers.

Malaria;

research insectary opened at Uganda Virus Research Institute



Hon. Kirunda Kivejinja, Second Deputy Prime Minister and Minister of East African Community Affairs who represented the Guest of Honor. His Excellence Yoweri Museveni and Dr. Moriku Joyce the Minister of State for Primary Health Care cut tape to commemorate the official opening of the insectary.

On 29th July 2019, the Uganda Virus Research Institute (UVRI) in collaboration with Target Malaria Uganda officially opened a new Arthropod Containment Level 2 (ACL-2) insectary at the UVRI campus, Entebbe. The new insectary will be used for future genetically modified mosquito experiments under containment. This will allow the further development of Target Malaria's activities in Uganda.

The insectary was officially opened by the First Deputy Prime Minister Hon Kirunda Kivejinja also Minister for East African Affairs who represented President Yoweri Museveni.

President Museveni in a speech read by

Hon. Kivejinja commended researchers at the institute for their work on infectious diseases. Noting that such research is very costly and requires strategic partnerships to address the funding gap.

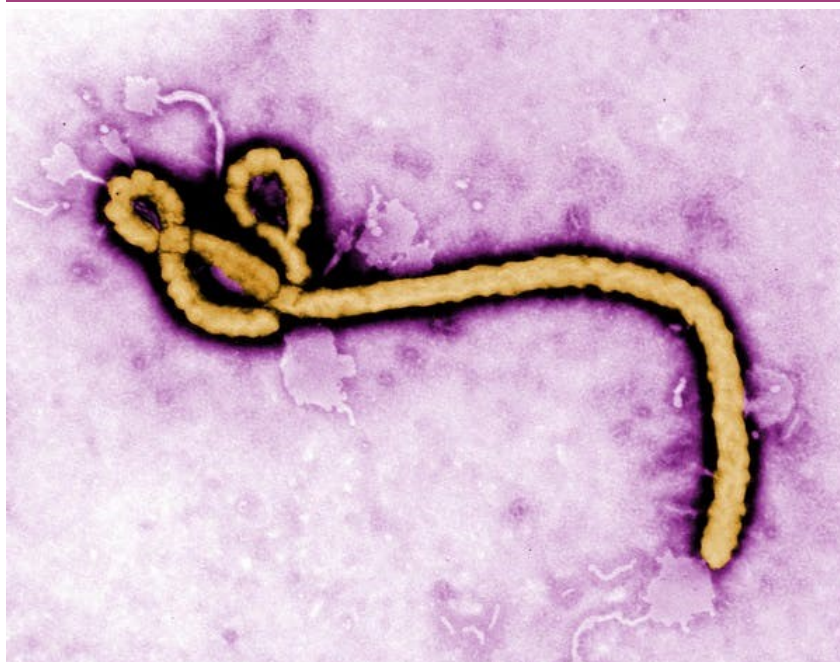
The Director of Uganda Virus Research Institute Prof Pontiano Kaleebu said the Institute's aim is to carry out research and discovery for novel vector targeted disease controls. He added that the newly opened facility is the first of its kind in the country and will go a long way in enabling research on genetically modified mosquitoes at internationally recommended containment levels.

The Principal Investigator of Target Malaria Dr Jonathan Kayondo said he was excited by the new research and specialised facility, which will boost the capacity of scientists researching on malaria.

Target Malaria, is a not-for profit research consortium working with UVRI to develop and share new, cost effective and sustainable genetic technologies to modify mosquitoes and reduce malaria transmission. This new malaria control tool would be complementary to the already existing malaria control tools.

EBOLA;

Uganda starts Vaccine Trial among Healthcare and Frontline Workers in Mbarara



Kampala, Uganda- Researchers in Uganda have started a two-year trial among healthcare and frontline workers to provide additional information and assess the immunogenicity and safety of the investigational Ebola vaccine Ad26.ZEBOV, MVA-BN-Filo, manufactured by Janssen Vaccines & Prevention B.V., part of the Janssen Pharmaceutical companies of Johnson & Johnson (Janssen). The vaccine regimen is based on AdVac® technology from Janssen, and MVA-BN® technology from Bavarian Nordic A/S.

The trial team will also describe knowledge about Ebola virus disease and transmission, and the perception and attitudes about the vaccine and protection in a subset of participants.

Code named ZEBOVAC, the trial will be undertaken at Epicentre Mbarara, Mbarara University of Science and Technology in Western Uganda and sponsored by the London School of Hy-

giene & Tropical Medicine.

It will test the Johnson & Johnson (J&J) investigational Ebola vaccine regimen which uses a 'prime-boost' approach where Ad26.ZEBOV is given as the first dose followed by MVA-BN-Filo 56 days later.

It aims to enroll 800 people including healthcare workers such as physicians, clinicians, nurses and pharmacists, and frontline workers such as cleaners, mortuary attend-

ants and surveillance, ambulance and burial teams.

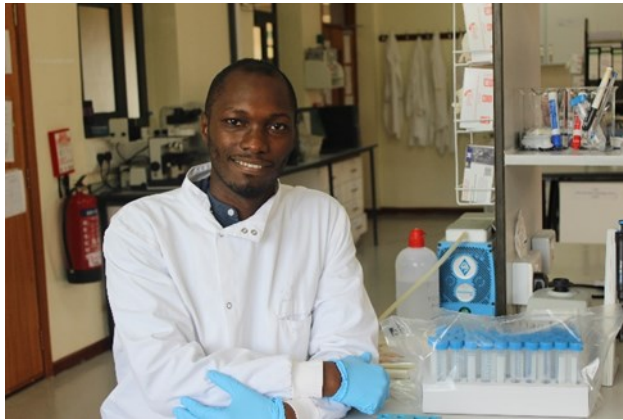
Other participants will include healthcare staff providing non-Ebola related care which places them in contact with patients at public and private health centres or clinics. Frontline workers, particularly healthcare workers, are at increased risk of contracting Ebola Virus Disease.

During the early phase of the 2014 outbreak in West Africa, a study in Guinea found that up to 38% of the Ebola patients were healthcare workers with hospital acquired infection transmissions likely in 12 of the 14 cases.

The Johnson & Johnson (J&J) investigational Ebola vaccine regimen has been tested in more than 6000 persons in Europe, United States and Africa, including Uganda and is safe.

To page 15

Unit staff win Crick's African Career Accelerator Awards



Simon Kimuda (Right) and Irene Andia Biraro (Left)

Two Unit researchers are among seven scientists to receive the new African Career Accelerator Award Fellowships by the Crick African Network.

Irene Andia Biraro and Simon Kimuda are part of the Network's final cohort, which aims to promote economic development and healthcare in partner countries by sharing the Crick's extensive experience researching diseases including HIV, tuberculosis (TB), and malaria.

The African Career Accelerator Awards are designed to help postdoctoral research scientists to become research group leaders on the African continent.

Speaking about the Award, Irene, an infectious diseases physician said, "I am particularly excited to get hands on experience using state of the art technologies to analyse a super wide range of immune biomarkers. I feel privileged to be trained by a world-class immunologist and hope to transfer the knowledge I acquire to my fellow Ugandan scientists."

Irene will study the impact of pregnancy-associated tuberculosis on poor maternal and infant clinical outcomes, especially in the presence of HIV co-infection.

Simon will study the immune response in children that are able to resist TB infection despite being exposed to the disease in order to advance the development of new vaccines against TB.

He said, "I am keen to learn new advanced techniques used to study immune responses to infectious diseases at the Crick and collaborating facilities at King's College London. I am also looking forward to working with my new collaborators and gaining new insights into new ways of developing new vaccines." As part of the fellowship, awardees will spend at least six months at the Francis Crick Institute (The Crick) UK. The Crick African Network fellows will also work at one of five African partner institutions, including the MRC/UVRI and LSHTM Uganda Research Unit. The Network will support 16 scientists by the end of its 51-months grant in December 2021.

Clinical Research Centre construction starts



An artist's impression of the Clinical Research Centre that is under construction in Entebbe

Construction work has started on the first phase of a state-of-the-art Clinical Research Centre at the Entebbe-based UVRI campus.

Funded under the MRC UK Capital funding, the facility will provide an integrated, multidisciplinary facility with consultation / patients' rooms, investigation rooms, clinical research laboratories and support spaces, which will enable efficient and effective patient management as well as delivery of high standards of clinical research and trials at the Unit.

The £ 780,000 project commenced on 1 July 2019 and will take a duration of 8 months.

The building has been designed to be environmentally sustainable with improved cross ventilation hence less reliance on mechanical ventilation and will be powered by solar energy, which will greatly reduce on the cost of maintaining the facility.

At completion it is expected that the facility will attract more research funding and collaborations to the Unit.

Construction work is undertaken by FBW Uganda limited and are supervised by the Unit's Estates section. Excavation of foundation trenches has been completed and casting of concrete for foundation bases is ongoing.



Follow this link for photos of progress on the Clinic Research Centre construction

<https://photos.app.goo.gl/bAmCf1qHki1bRNK29>

Understanding Sexual and Reproductive Health Behaviour of Young Female Sex Workers in Uganda



Miriam Nakitto

The ZETRA study is assessing sexual and reproductive health behaviour of young female sex workers in Kampala following interventions that address their knowledge of HIV and other sexually transmitted infections (STIs), their cognitive processes, and their contextual or environmental factors.

We work with adolescent girls and young women aged 15 to 24 years old primarily looking at the outcomes of unprotected sex, which could be infections with STIs or HIV, or unplanned pregnancies. We are also assessing both the uptake and continued use of family planning and retention in care, which includes regular STI, HIV, and cervical cancer screening. Out of the 644 HIV-uninfected volunteers participating in the study, 322 are receiving the standard-of-care prevention counselling (the control group) while the other 322 are receiving health literacy and technical skills building in addition to the standard-of-care prevention counselling.

Challenges and opportunities in conducting research among adolescent sex workers

One of the structural challenges that we currently face is that the adolescent girls come to the same clinic as the adults. While we have created separate physical spaces for their clinic visits, the fact that they are seeing the same clinical staff as the adults means there is a chance that they will encounter their parent or guardians as they move around the clinic, so we still have to modify our set-up. One of the approaches we are considering is having sessions over the weekend for the 322 participants receiving the intervention package so that they are completely separated from the adults and have shorter clinic visit times. We are working towards having an adolescent-friendly clinic with ample private spaces for adolescents, clinical staff who only attend to adolescents, and entertainment like free WiFi, TV, and music that appeals to them.

Since the adolescents are interested in using computers and having access to smartphones, these technologies have been incorporated into the study. Many of our volunteers already use social media platforms so we have incorporated social media applications as a channel for health literacy. Discussions on various health issues take place on a closed Facebook group which is moderated by a counsellor when necessary. We have also reserved two computers for those who want to drop in and use them. Audio computer-assisted self-interviewing (ACASI) in local languages is more popular among the younger volunteers who sometimes find it easier to answer very sensitive questions through this interface as opposed to doing face-to-face interviews. As some girls do not have numeracy and literacy skills, we incorporate illustrations and show-and-tell approaches to explain

various concepts including how to keep clinic visit dates.

Many of our participants, like so many other sexually active adolescents, have a low negotiating power when it comes to whether or not to have unprotected sex. Older men sometimes prefer younger girls for transactional sex because they charge lower and have less negotiating power. The fact that they often use alcohol and other drugs to enable them to cope with the tough environment in which they work makes them more vulnerable and less able to negotiate for safe sex. Furthermore, unprotected sex is paid more highly than protected sex. Some of our sessions are aimed at giving them skills to negotiate condom use and to reduce — and eventually stop — substance abuse. The high rate of mobility among the girls poses a great challenge to keeping them in the study. Often under the control of a “Queen Mother,” the girls are made to migrate from town to town depending on where there is money to be made. This makes it hard for them to honor their clinic visits. Additionally, they often live and work in groups, and sometimes conflicts within these groups cause the girls to change location abruptly. Despite these challenges, the study team works with the same groups and

sometimes with bar owners to trace the volunteers.

The need for more sexual and reproductive health research among adolescents

One of my observations, having worked on this study, is the urgent need to tackle misinformation associated with sexual and reproductive health among young women and adolescent girls. More can and should be done to develop scalable interventions that will ensure this very vulnerable group has access to and uses available interventions for healthier lives.

To do this, we would need more comprehensive policy guidelines on working with and providing sexual and reproductive health services to adolescents in general. The adolescents we are working with are not under the control of their parents or guardians, so we use the Uganda National Council for Science and Technology (UNCST) guidelines on working with emancipated minors. However, these guidelines do not cover non-emancipated minors who may seek the same services.

“adolescents are interested in using computers and having access to smartphones, these technologies have been incorporated into the study”

Miriam Nakitto was a study coordinator for the Zero Transmission of HIV among High Risk Adolescents (ZETRA) project being conducted at the Unit. The study is being conducted in collaboration with University of California, San Francisco; University of Connecticut; and the National Institute of Mental Health (NIMH).

Final Results of Open-label Study of IPM's Dapivirine Vaginal Ring Show Increased Use and Suggest Lower Infection Rates Compared to Earlier Phase III Study



Durban (13 June 2019)—Final data from an open-label extension study of the monthly dapivirine ring show increased product use compared to a previous Phase III study. In addition, modeling data suggest that women's HIV-1 risk in the open-label study, known as DREAM, was reduced by 63%.

Developed by the nonprofit International Partnership for Microbicides (IPM), the ring is designed to provide women with a discreet and long-acting HIV prevention option. The vaginal ring, which women can insert themselves, slowly releases the antiretroviral (ARV) drug dapivirine over the course of a month and is currently under regulatory review.

Results from DREAM, announced today at the 9th South African AIDS Conference, showed an increase in ring use over its parent Phase III study, known as The Ring Study, with 95% of women in DREAM using the ring at least some of the time. Adherence is assessed by measuring residual levels of dapivirine in used rings.

The analyses also suggest that the overall HIV incidence rate among women in the DREAM

study is 63% lower than would be expected without use of the dapivirine ring based on statistical modeling. This finding has limitations due to the lack of a placebo comparison group in the open-label study (meaning that all participants were using the active product).

“**DREAM data suggest a 63% reduction in HIV-1 risk using statistical modeling**”

Today's news builds on [Phase III results](#) from IPM's Ring Study, announced in 2016, which showed that the dapivirine ring reduced HIV risk by about 30% overall and was well-tolerated with long-term use.

“The DREAM results support the outcome we hoped to see—that when women knew that the dapivirine ring helped to lower HIV risk in the Phase III trials, they were more likely to use it and to potentially see higher levels of protection,” said Dr. Zeda Rosenberg, founding chief executive officer of IPM. “Today's findings give us insight into how women might use the ring in the real world.”

IPM extends its deep thanks to the women who participated in DREAM, and to their families and communities, for their dedication to finding new HIV prevention tools that women can use on their own terms.

Results from another open-label extension study of the ring, called HOPE, conducted by the US National Institutes of Health-funded Microbicide Trials Network (MTN), are expected this year. HOPE was a follow-on study to ASPIRE, a second Phase III trial of the ring that reported similar results to The Ring Study.

About DREAM

DREAM (Dapivirine Ring Extended Access and Monitoring/IPM 032) was an open-label extension study that provided the dapivirine ring to women who participated in the Phase III ring trial, The Ring Study, and who tested HIV-negative, were not pregnant and were using an effective contraceptive method. DREAM collected additional safety data and information on how women used the ring once they were aware it was shown to reduce HIV risk in the Phase III study.

IPM led DREAM at six former Ring Study sites in South Africa and Uganda among 941 women ages 20-50. DREAM began in July 2016 and completed in January 2019. All participants were followed for approximately 12 months. All women received regular HIV testing and risk reduction counseling, condoms, testing and treatment for sexually transmitted infections, and adherence counseling.

Results: DREAM and comparison to The Ring Study

- **Safety:** The ring was found to be well-tolerated in DREAM with a safety profile similar to The Ring Study.
- **Adherence:** Adherence to the ring was assessed by measuring residual dapivirine levels in used rings, which were returned at each study visit. Current methods are unable to determine the precise duration of ring use, but final data from DREAM show an increase in used rings that indicated at least some use (ranging from intermittent to consistent use), up from 83% in The Ring Study to 95% in DREAM.

Risk reduction: DREAM data suggest a 63% reduction in HIV-1 risk using statistical modeling. From July 2016 to November 2018, an HIV-1 incidence of 1.6 percent was observed, compared to an incidence rate of 4.3% in a simulated placebo group, which was based on data from participants with similar characteristics in the placebo arm of The Ring Study. As noted, the lack of a contemporaneous placebo group in DREAM poses important limitations on its comparison to the placebo-controlled Ring Study, which should be considered when interpreting these results.

As previously announced in 2018, [interim data](#) from both open-label studies of the dapivirine ring, DREAM and HOPE, showed increased ring use and suggested increased HIV risk reduction compared to the Phase IIIs, by about 50% overall.

Advancing new options for women

The dapivirine ring is currently under regulatory review by the European Medicines Agency (EMA) through the Article 58 procedure, which allows the EMA, in cooperation with the World Health Organization (WHO), to provide a scientific opinion on the ring's use in low- and middle-income countries. IPM also plans to submit applications to the South African Health Products Regulatory Authority (SAHPRA) and the US Food and Drug Administration (FDA) later this year.

Despite progress against the epidemic, women remain at alarmingly high risk for HIV, especially in sub-Saharan Africa where nearly 60% of adults living with HIV/AIDS are women. If approved, the ring could fill an important gap with the first long-acting HIV prevention method for women unable to use daily oral PrEP. Because no single approach will meet everyone's needs, a comprehensive range of prevention options is needed to control the epidemic—including condoms, daily PrEP, long-acting rings and other methods in development.

IPM is also developing a three-month dapivirine-only ring that could offer women a longer-acting prevention option and reduce annual costs, and a three-month dapivirine-contraceptive ring to simultaneously offer HIV prevention and contraception. Both products are in Phase I trials.

IPM holds an exclusive worldwide license for dapivirine from Janssen Sciences Ireland UC, one of the Janssen Pharmaceutical Companies of Johnson & Johnson, designed to ensure that women in low-resource settings have affordable access to any dapivirine-based microbicide.

IPM's work is made possible through generous support from the Danish Ministry of Foreign Affairs, Flanders Department of Foreign Affairs, Irish Aid, the German Federal Ministry of Education and Research (BMBF) through the KfW Development Bank, the Ministry of Foreign Affairs of the Netherlands, UK aid from the British people, the American people through the United States Agency for International Development (USAID) in partnership with the US President's Emergency Plan for AIDS Relief (PEPFAR), and the Bill & Melinda Gates Foundation.

About the dapivirine ring: The flexible silicone ring provides sustained-release of the ARV drug dapivirine locally to the site of potential infection during vaginal sex with minimal absorption elsewhere in the body. Women insert the product themselves and replace it every month.

About IPM: IPM is a nonprofit organization dedicated to developing new HIV prevention tools like the dapivirine ring and other sexual and reproductive health technologies for women, and making them available in developing countries. IPM has offices in South Africa, the United States and Belgium.

Please visit www.IPMglobal.org.

EBOLA Vaccine Trial



The Unit Director and PI of the Ebola Vaccine Trial Prof. Pontiano Kaleebu (C), Associate Prof Juliet Mwangi (L), the Director Epicentre and co-PI of the Trial and Dr. Geoffrey Kimbugwe (R), the Trial Sponsor Representative address the press in Kampala at the launch of the Trial.

Although it has not been used in previous outbreaks, and thus demonstration of efficacy in humans is lacking, it has shown outstanding safety and immunogenicity in humans and is highly protective against Ebola challenge in non-human primates.

Uganda has kept Ebola infections to a minimum through active surveillance, preparedness and swift containment despite an ongoing Ebola outbreak declared in the neighbouring DRC almost a year ago. In June 2019, Uganda registered its first Ebola case, a five-year-old boy who had previously travelled to the DRC for the burial of his grandfather who had succumbed to Ebola. The boy and two other cases are the only known fatalities in Uganda. In July, the World Health Organization (WHO) together with the Ministry of Health declared Uganda Ebola-free.

Professor Pontiano Kaleebu, Director of the

MRC/UVRI & LSHTM Uganda Research Unit and trial Principle Investigator, said:

“A vaccine, alongside strong community engagement, strengthened diagnosis and real time sequencing, is key to controlling Ebola epidemics. Available vaccines have been used under study conditions as primary prevention or ring vaccination approaches, however currently there is no licensed Ebola vaccine for international use. Developing effective vaccines and treatments against

Ebola are therefore global public health priorities. In this trial we hope to avail more information that will help us work towards having a licenced Ebola vaccine. “

ZEBOVAC is funded by Coalition for Epidemic Preparedness Innovations (CEPI) and is sponsored by the London School of Hygiene & Tropical Medicine. The vaccine regimen is provided in kind by Janssen. Both local and international investigators from Medical Research Council/ Uganda Virus Research Institute & London School of Hygiene and Tropical Medicine (MRC/UVRI and LSHTM) Uganda Research Unit, Uganda Virus Research Institute, Epicentre- Mbarara & Paris, Mbarara University of Science & Technology and of Ministry of Health, Uganda are collaborating on the trial. The study team is further supported by the Ministry of Health (Uganda) and the EBODAC consortium.

Surviving & thriving after Birth Asphyxia in Africa: Developing a pilot feasibility neonatal encephalopathy cohort in Uganda (**Baby BRAiN study**)

PI: Dr. Cally Tann

Summary: Neonatal encephalopathy (NE) is the third leading cause of under 5-year mortality and contributes substantially to long-term neurological morbidity worldwide¹. In low income countries (LICs), families often lack the resources to care for affected children. For those with disabilities, stigma is high, and social and emotional impacts are substantial. This study aims at establishing the feasibility of a facility-based cohort of children with NE in Uganda to enhance our understanding of NE in a low resource sub-Saharan African setting and provide infrastructure to conduct high-quality research on neuroprotective/neurorestorative strategies. The study will be carried at Kawempe referral hospital.

Study Objectives:

Establish a pilot NE cohort in Uganda to investigate clinical course, role of infection and nature and timing of perinatal brain injury

Describe electrographic brain activity and seizure burden amongst neonates with NE and how they relate to neurological and neurodevelopmental outcomes.

Develop capacity for neonatal brain Magnetic Resonance Imaging and Spectroscopy amongst Ugandan neonates with NE

Operationalising kangaroo Mother care before stabilisation amongst low birth Weight Neonates in Africa: a multi-site randomised controlled trial to examine mortality impact in Uganda (OMWaNA Study)

PI: Dr. Cally Tann

Summary: The OMWaNA trial is a partnership between the Medical Research Council / Uganda Virus Research Institute (MRC/UVRI), the London School of Hygiene & Tropical Medicine (LSHTM) and Makerere University, and involves a four-centre, individually randomised, controlled trial (RCT) with two parallel groups; an intervention arm receiving KMC and a control arm receiving ‘standard’ incubator care. Given the nature of the intervention, blinding clinicians or participants is not possible. The study will enrol neonates before stabilisation for whom the indication for KMC is currently “uncertain,” defined as receiving ≥ 1 medical therapy [e.g., intravenous (IV) fluids, oxygen to support breathing] in accordance with the WHO Practical Guide for KMC. Process and outcome data will be anonymised, and analyses will be blinded.

Study objectives:

- ◆ Determine the effect of KMC initiated before stabilisation on mortality within 7 days relative to standard care amongst neonates ≤ 2000 g.
- ◆ Does KMC initiated before stabilisation reduced early neonatal mortality (within 7 days) relative to standard care amongst neonates ≤ 2000 g?
- ◆ Determine the effect of KMC initiated before stabilisation on other important clinical outcomes relative to standard care amongst neonates weighing ≤ 2000 g
- ◆ Does KMC initiated before stabilisation effect other important clinical outcomes relative to standard care amongst neonates ≤ 2000 g?
- ◆ Estimate the incremental costs and cost-effectiveness of KMC initiated before stabilisation relative to standard care from the societal perspective.
- ◆ What is the incremental costs and cost-effectiveness of KMC initiated before stabilisation relative to standard care from the societal perspective?
- ◆ Explore causal pathways for the clinical effects of KMC initiated before stabilisation relative to standard care amongst neonates weighing ≤ 2000 g.
- ◆ What are the causal pathways for the clinical effects of KMC initiated before stabilisation relative to standard care amongst neonates weighing ≤ 2000 g?
- ◆ Examine the barriers and facilitators to initiating KMC before stabilisation to inform uptake and sustainability in Uganda.

Status: Under Implementation

Charting the progress of dual elimination of mother to child transmission of syphilis and HIV in two districts of South-western Uganda – a retrospective cross-sectional health facility based study

PI: Prof Phillippe Mayaud

Summary: Globally, syphilis is the second leading cause of stillbirths, and leads to prematurity, low birthweight, neonatal deaths and congenital syphilis. This study argues that to eliminate MTCT of syphilis, it is important to estimate the syphilis care cascade cure rates (defined as the product of syphilis screening and treatment rates), and the syphilis burden among women attending ANC clinics. This will inform the design of a large intervention study to eliminate the MTCT of syphilis in Uganda.

The study will be conducted in 11 health facilities in Kalungu (5) and Masaka (6) districts in south-western Uganda.

Study objectives:

Primary objectives

To estimate the prevalence of the cascade indicator – syphilis cure rates (i.e. the product of the percentages screened x treated) before and after the implementation of the dual POC HIV and Syphilis testing among women attending ANC clinics between January 2018 and December 2019 in Kalungu and Masaka Districts in south-western Uganda.

Secondary objectives

Among women attending ANC clinics between January 2018 and December 2019 in Kalungu and Masaka Districts in south-western Uganda;

To compare the cascade indicator (i.e. the product of the percentages screened x treated) between Health care facility levels (Health Centre IV, III and II) and between communities (general populations and populations at high risk of HIV infection - fishing communities).

1. To estimate the burden of Genital Ulcer Diseases (GUD) seen and treated and rate of partners notified and treated at the outpatient's clinic of these health care facilities.
2. To document the perinatal outcomes of women who deliver in the health care facilities included in the study.
3. To document availability of trained staff, testing kits and drugs for screening and treating syphilis and HIV

Status: Under Implementation

Socio-ecological systems, conservation and Mental illness in Uganda (SESCMD)

PI: Mr. Thomas Pienkowski

Summary and Study objectives:

The project is being conducted in collaboration between the University of Oxford, MRC/UVRI and LSHTM Uganda Research Unit, University of Edinburgh, and Budongo Conservation Field Station

Environment and human health links have received increased interest across a range of fields. Evidence of these links, mainly focused on physical health, is also growing. Yet, the ways that interacting social and ecological systems might contribute to mental illness have received limited attention.

The objective of this project is to understand the environmental determinants of common mental disorders in a Ugandan case study.

The project has three primary research questions:

What are the perceived stressors, emerging from SES dynamics, within the lives of Budongo's residents?

Are these SES dynamics determinants of depression?

How does the relationship between SES dynamics and depression vary between socio-economic, ethnic, and gender groups?

The project also has three secondary research questions:

What phrases and terms do people use to describe symptoms of psychological distress, anxiety, and depression ("idioms of distress")?

How are stressors characterized in terms of how frequent or continuous they are?

What factors influence the likelihood of people experiencing a stressor?

Status: Under Implementation

Staff Updates



ARRIVALS

Name	Title	Start date	Station
Nicholas Bbosa	Senior Lab Technologist	03/03/2019	Entebbe
Immaculate Namulindwa	Nursing officer	15/07/2019	Entebbe
Florence Nangobi	Nursing officer	15/07/2019	Entebbe
Zulaika Namusisi	Nursing officer	15/07/2019	Entebbe
Mathias Matege	Nursing officer	15/07/2019	Entebbe
Phiona Nabaggala	Study Pharmacist	22/07/2019	Entebbe
Fredrick Katongole	Medical officer	15/07/2019	Entebbe
Haroon Yiga	Data Manager		Entebbe
Pius Mutebi	Grants Assistant		Entebbe
Zidah Najjuma	Nursing Officer		Masaka
Ruth Abarinde	Nursing Officer		Masaka
Grace Among	Nursing Officer		Masaka
Sylvia Kamusiime	Nursing Officer		Masaka



DEPARTURES

Name	Title	Last date	Station
Harriet Kindagaire	Administrative assistant	30/05/2019	Masaka
Diana Nakitto Kesi	Pharmacist	30/06/2019	Entebbe
Irene Bagala	Medical officer	30/06/2019	Mengo
Emmanuel Aling	Data Manager	30/05/2019	Entebbe
Aloysious Semaganda	Post-doctoral scientist	30/06/2019	Entebbe
Derick Niyoshoma	Laboratory Technologist	31/08/2019	Kyamulibwa
Laura Joan Nyanzi	Medical Officer	09/08/2019	Masaka

Entebbe staff in blood Donation Drive



On 25th July, Unit staff together with members of the UVRI family participated in a blood donation drive, as part of the Unit's Corporate Social Responsibility (CSR).



June 2019– Entebbe Dr. Tedros Adhanom Ghebreyesus, the Director General of the World Health Organization in one of the Unit labs during a visit to the UVRI Entebbe campus. Right is Dr. Deogratius Ssemwanga a Senior Scientist at the Unit and left is Dr. Yonas Tegegn Woldemariam, the WHO Uganda Country Representative.

Dr. Tedros, was in Uganda to assess the country's Ebola surveillance and preparedness efforts



July 2019– Entebbe Dr. John Nkengasong, the Director for CDC Africa visited and toured Labs and other facilities at the UVRI including the Uganda Medical Informatics Centre (UMIC)



August 2019– Entebbe Prof. Pontiano Kaleebu met with the Global Health Technologies Coalition (GHTC) and International AIDS Vaccine Initiative (IAVI) and US Congressional staff during their working visit to Uganda. The team was in Uganda to learn about work funded by the US Government and meet key stakeholders.

The team was led on a guided tour of the UVRI campus, including Unit labs.



Entebbe- The DFID Director East and Central Africa Region Jane Edmondson visited and commended the Unit's work.



1st Inter- University Annual Biotechnology Symposium- Kisubi University – The Unit Director Prof. Pontiano Kaleebu officiated as Chief Guest.

The Unit's Head of Biorepository Section Ms. Sureya Nasiimbwa (L) made a presentation on *'Biobanking; A pillar for Medical Research and Biotechnology'*

Ms. Beatrice Nassanga (C) made a presentation on *'Biotechnological Approaches in TB Vaccine design'*.



July 2019 London, UK- Prof. Janet Seeley (2nd Left) and Allen Asimwe © and Prof. Sarah Barnays (R) at the AIDS Impact Conference.

The team presented Unit's work on Adolescent mobility and it was well received.



ENTEBBE

MRC/UVRI and LSHTM Uganda Research Unit
C/O Uganda Virus Research Institute
Plot 51- 59 Nakiwogo Road - Entebbe
P.O Box 49 Entebbe

Tel: +256 (0) 417 704000 | +256 (0) 393 262910/1 +256 (0) 752 731733

KAMPALA

Plot No. 616 Musajja Alumbwa Road
Mengo– Kisenyi Kampala
Tel: 0414-269715/ 0414– 272953

MASAKA

Plot 2-5 Ntiko Hill Road– Masaka
Tel: 04814 21211

KYAMULIBWA

Gomba Road– Kyamulibwa Town Council
Next to the Sub-County Offices
Kalungu District
Tel: 0392-720042

Website: www.mrcuganda.org Email: mrc@mrcuganda.org



@MRC_Uganda