MRC Unit The Gambia

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

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Our Science

A quarterly newsletter produced by the MRC Unit The Gambia at LSHTM focusing on our scientific research in health and highlighting our achievements in Africa.

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Our Science: Issue 7

Our Science is one of our ways of communicating to our collaborators and the general public, including the Gambian population, our activities and achievements. We are committed to increasing the proportion of women scientists and we have taken the opportunity on the International Day of Women and Girls in Science to promote our female scientists. I hope this, and other initiatives we will undertake, will contribute to address the gender gap among scientists, particularly in Africa. We would also like to join the worldwide efforts on climate change, which is driven by carbon emissions. We have taken a first step by installing solar panels that for the time being cover about 5% of the Unit's energy consumption. The plan forward is to increase the number of solar panels available to cover at least a quarter of our energy needs. Each theme has highlighted a specific project, each of them important and fascinating. Rheumatic heart disease is a neglected disease that unfortunately has tragic consequences in many low income countries, including The Gambia. This is a new research topic for the Unit; we first started to work on it when we realised the substantial number of children with heart disease, some of them with heart failure, attending our clinical services. Rheumatic heart disease could be easily prevented and we are working to identify possible approaches for its control and elimination. The environment in which we live has a major influence on our health. It is fascinating to look at the project highlighted by the Nutrition Theme, which looks at the epigenetic changes in the embryo soon after conception, influenced by the mother's diet. It looks as if the embryo senses the environment where it will be born into and adjust the expression of its genes to it. Finally, we all carry in our body trillions of bacteria and other microorganisms; the Vaccine & Immunity Theme focuses on how the environment, particularly indoor and outdoor pollutants, influence the type of bacteria we have in our throat, including those responsible for meningitis and pneumonia. This is very important for understanding the seasonal occurrence of these diseases. The section on support services reports on the accreditation of our laboratory, which is essential for carrying out clinical trials at the highest possible standard, and the challenges of monitoring one of our sponsored trials outside The Gambia. Thanks to the Clinical Trial Support Office team, we were able to initiate the trial in Burkina Faso according to schedule. Finally, the profiles section provides a sense of the variety of competences and careers we have at the Unit and presents three of our scientists and our head of the data management department.

- Professor Umberto D'Alessandro

International Day of Women and Girls in Science

Opening Doors, Closing the Gender Gap

High School students at the event

As part of celebrations marking the International Day of Women and Girls in Science, the Medical Research Council Unit The Gambia at the London School of Hygiene & Tropical Medicine on Thursday 8th February 2018, invited 350 students from 17 schools to an Open Day under the theme Opening Doors, Closing the Gender Gap.

Women have a long legacy of significant contributions to science. However, the proportion of male to female leadership in the field remains heavily skewed towards men. In Africa, challenges for women begin early as chances of getting into the university are five times lower for women than for men. To help close the gender gap in Africa, both women and men need to perceive women as intellectually equal.

As part of celebrations marking the International Day of Women and Girls in Science, the MRCG at LSHTM hosted this event with the aim to educate youth – both boys and girls – about the significant accomplishments of female leaders in global health in sub-Saharan Africa and to illustrate the career opportunities that are available in science.

Professor Umberto D'Alessandro, Unit Director, welcomed the students and underlined the importance of MRC Unit The Gambia at LSHTM opening doors to the community. Dr Anna Roca, Deputy Theme Leader Disease Control & Elimination at the Unit, explained to the students the importance of making women visible in the different fields of science as otherwise societies are at risk of missing half of their potential.

Speaking at the occasion, Sharon Wardle United Kingdom Ambassador to The Gambia applauded MRC Unit The Gambia at LSHTM for the great initiative and Mrs Ramou B Gaye, CEO Bridging Gaps Advisory also expressed her support to the initiative. MRC Unit The Gambia at LSHTM female PhD students, post-doctoral fellows and senior scientists gave short oral presentations on the benefits and opportunities of being a woman in the field of science.

Other female MRC Unit The Gambia at LSHTM staff explained their path to reach to their current position and senior laboratory scientists showcased their research activities that are conducted in the labs. In addition, posters with inspirational quotes of female scientists were on display.

Installation of the Solar Power System

MRC Unit The Gambia at LSHTM has taken the first bold step to be install the biggest solar power generation system in The Gambia

The solar panels harness the sun's energy and converts it to electrical power which will be fed directly into the MRCG at LSHTM Fajara internal distribution electrical system to augment and offset the consumption costs. This current project consists of installing solar panels which generate up to 65 kilowatts per hour.

In Fajara alone, power consumption is over 240,000 kilowatts per month which eventually brings the annual energy bill to a substantial figure. After this solar power project is commissioned and fully operational, we expect to optimally produce 120 megawatts per annum. This is savings of up to 5% of our energy bill and will also increase our overall energy capacity as we are constantly growing. We aim to increase this system to produce at least 25% of our annual energy consumption.

The project will cut down on MRCG at LSHTM's carbon emissions by a significant amount as we use 320,000 litres of diesel per annum. This translates to 800,000 kg of CO2 emissions every year at Fajara main site. We hope to cut this by 50% or more as we continue to grow our capacity with solar energy installations over the next few years.

This is in line with the unit's overall strategy to make our buildings and operations more energy efficient. Also, as the unit moves towards becoming a smarter and more innovative community and environment, the facilities will have to constantly improve and evolve with the latest green technologies available.

The installation was carried out by Azimut 360 who worked in partnership with M'bolo Association which is a women skills development and training centre in Tujereng. The project empowers young vulnerable women who have not been able to complete their education to learn life skills such as how to manage their finances and literacy skills, to help build a better future for themselves and their families.

For this current phase, the solar system is installed on the roofs of a few buildings in Fajara. In time, more will be mounted on other roofs across all field stations including Keneba and Basse.

Their participation in the solar installation at MRCG at LSHTM, gives them the practical knowledge to become professional solar installers and develop their technical skills.

M'bolo Association installing the panels

HIGHLIGHT The installation was carried out by Azimut 360 who worked in partnership with M'bolo Association which is a women skills development and training centre in Tujereng.

Rheumatic heart disease (RHD) remains the leading cause of cardiac death and disability in children and young adults worldwide

RHD results from cardiac valvular damage caused by an exaggerated immune response to Group A Streptococcus infections (GAS), usually during childhood and adolescence, with global estimates of >34 million people affected and >345,000 deaths with sub-Saharan Africa as the main hotspot

Complications include heart failure, atrial fibrillation, stroke, infective endocarditis and adverse pregnancy outcomes. Though RHD is readily preventable with penicillin, there are numerous misunderstood barriers to effective control programs.

In The Gambia, RHD burden is expected to be high due to the number of children identified with heart failure at Edward Francis Small Teaching Hospital (EFSTH) and MRC Unit The Gambia at LSHTM. However, there is no high-quality data available, and no control activity is currently being implemented.

Dr Annette Erhart, a Clinical Epidemiologist from MRC Unit The Gambia at LSHTM, and her colleague Cardiologist Dr Lamin Jaiteh, from the EFSTH, were able to secure a Wellcome Trust Seed Award for a pilot project aiming to generate baseline data on the burden of RHD among high risk groups (children and pregnant women) in The Gambia.

The study team consists of two Gambian staff (one nurse, one medical officer) in addition to the two above mentioned study Principal Investigators. The first phase of the study started in November 2017 based at the MRC Unit The Gambia at LSHTM Clinical Services Department where all registered RHD cases were reviewed clinically and by standard echocardiography (EC).

This allowed for a detailed assessment of the epidemiological, clinical and valvular characteristics of RHD patients presented at referral health facilities and prognosis under penicillin prophylaxis.

The second phase of the project started in January 2018 and consists of a population based screening by EC of children aged 5 to 19 years in Farafenni town (rural town in the North Bank Region at about 135km from the coast) as well as all pregnant women consulting for antenatal care at Farafenni Health Centre (FHC). The study team is based at FHC and works in close collaboration with the Farafenni Health and Demographic Surveillance System (HDSS) team to identify study participants and later follow up for RHD cases.

The study team plans to scan over 3,000 children and about 1,000 pregnant women by the end of June 2018. This will create a gateway to accurately estimate the prevalence of RHD and identify related risk factors among children and pregnant women. All study participants identified with RHD will be invited to undergo secondary prophylaxis and two local nurses will be specially trained to administer safe penicillin injections at monthly intervals. In addition, all newly detected cases will be monitored annually by EC at the MRC Unit The Gambia at LSHTM.

This pilot project, initiated with the close collaboration of The Gambian Health Services, represents a first step on the roadmap for RHD control in The Gambia, and constitutes the evidence-base for the formulation of larger multi-disciplinary studies that will address pending knowledge gaps and bottlenecks for the implementation of an effective RHD control program.

FACT The study team plans to scan over 3,000 children and about 1,000 pregnant women by the end of June 2018.

Dr Jaiteh scanning a study participant

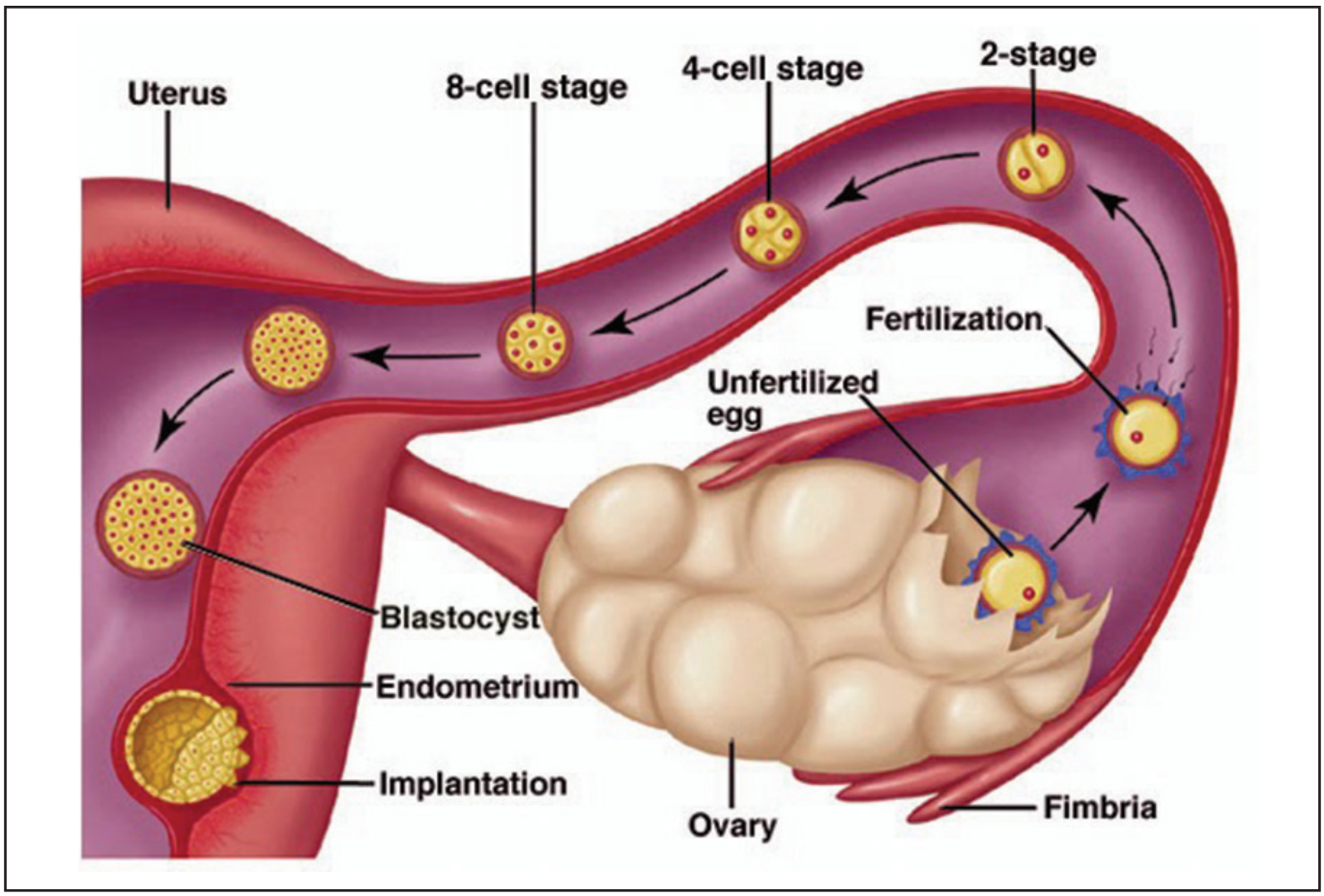
Dr Erhart examining a study participant

Dr Jaiteh sensitizing pregnant women

Sensitization through community radio by Dr Jaiteh and Prof D'Alessandro

An understanding of how a mother's nutrition around the time of conception leads to changes in her developing embryo's epigenome

In a series of studies carried out across The Gambia, we have seen that epigenetic marks at key regions of the genome appear to be influenced by seasonal changes in a mother's diet around conception



Stages of Development-Early Embryo

These changes are only seen postnatally without direct evidence that they could occur in the very first few days of life.

In a unique analysis, a Bioinformatician in the Nutrition Theme, Noah Kessler, was able to track these changes by analysing public data collected from Chinese embryos obtained after in vitro fertilisation. The epigenome of the developing embryo undergoes dramatic changes in the very first few days of life as the cells formed when sperm and egg are fused begin dividing.

This work gives a vital insight into how and when a mother's diet might impact her offspring's epigenome. These epigenetic changes have the potential to affect how the offspring's genes are regulated later in life which could in turn affect health and disease susceptibility throughout the life course.

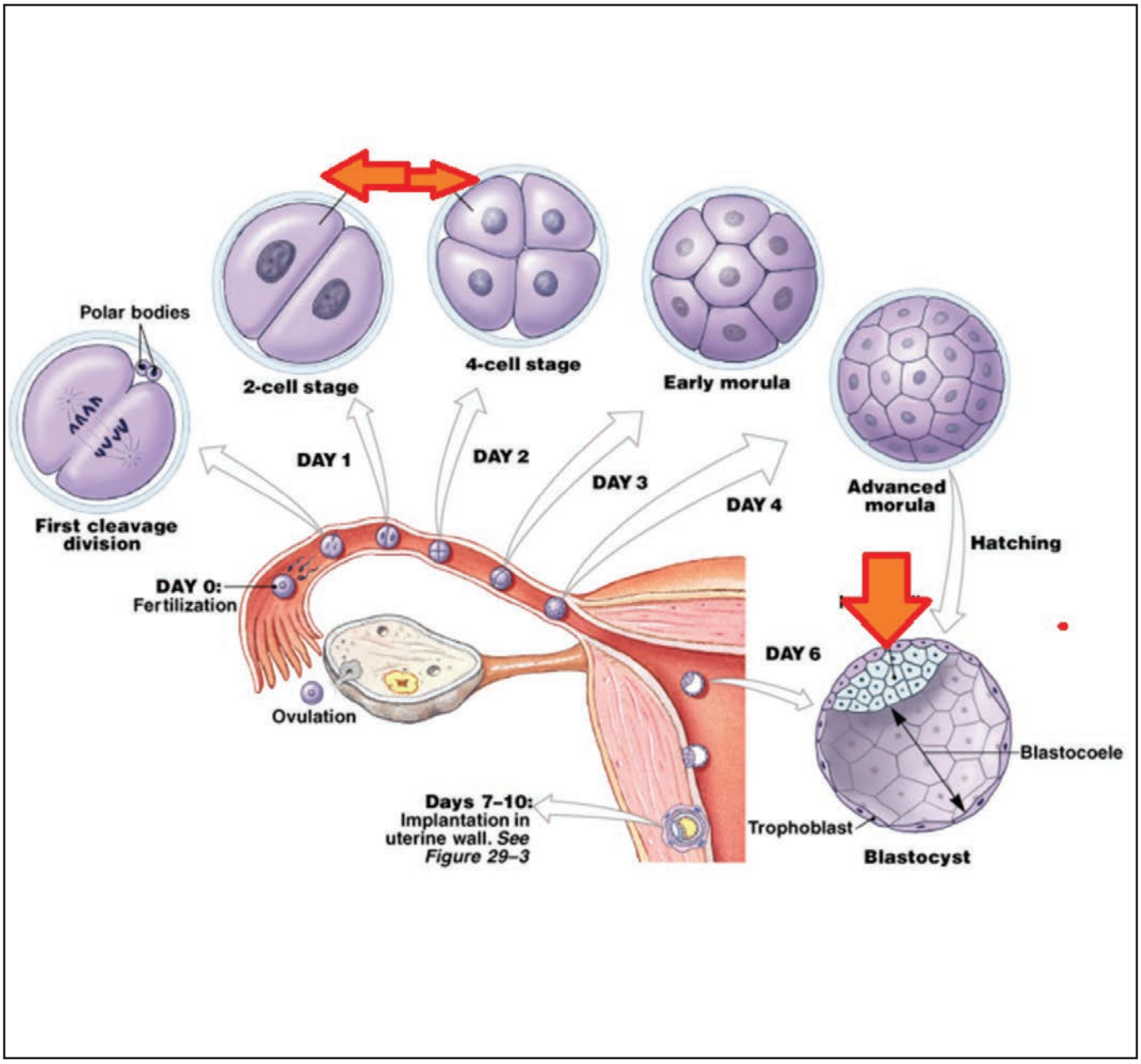
HIGHLIGHT This work gives a vital insight into how and when a mother's diet might impact her offspring's epigenome.

Further work conducted by the team and others is suggesting that epigenetic changes could also be influenced by signals passed through the paternal line.

This work was done in the second half of 2017 by Noah Kessler, Dr. Matt Silver, Profesor Andrew Prentice and our collaborator from the US, Rob Waterland.

Next steps are to link these epigenetic changes to changes in specific nutrients that are circulating in a pregnant mother's blood and see if these can be altered by giving a nutritional supplement.

We are also continuing to explore possible effects of these epigenetic changes on later health and the potential role of paternal health and nutrition in programming the embryonic epigenome.



Embryo Development

Understanding the impact of inhaled environmental exposures on the microbiota of the upper airways of African children

Professor Martin Antonio and Dr Brenda Kwambana-Adams won a competitive grant from The National Institutes of Health (NIH) under the H3 Africa Scheme

The grant is to be use in understanding the impact of inhaled environmental exposures on the microbiota of the upper airways of African children.

Inhaled exposures, such as dust, environmental tobacco smoke, volatile compounds, particulate matter and microbial components modify the risk of developing respiratory tract illness in children, including asthma and lower respiratory tract infection. In the sub-Sahelian region of Africa, during the dry season, there are outbreaks of meningococcal disease, which are preceded by oropharyngeal colonization with Neisseria meningitidis.

The team studied the association between indoor air pollutants and the upper airway microbiota, including nasopharyngeal carriage of S. pneumoniae and oropharyngeal carriage of N. meningitidis. They also looked at the seasonal variation in inhaled exposures and the relationship with the Nasopharyngeal carriage.

Influence of inhaled environmental exposures on the nasopharyngeal and oropharyngeal microbiota will contribute towards an improved

Professor Martin Antonio
Unit Molecular Biologist & Principal Investigator
Director, WHO Collaborating Centre for New Vaccines Surveillance

Dr Brenda Kwambana-Adams
MRC-LSHTM West Africa Global Health Research Fellow and Molecular Microbiologist

In the sub-Sahelian region of Africa, during the dry season, there are outbreaks of meningococcal disease, which are preceded by oropharyngeal colonization with Neisseria meningitidis.

understanding of risk factors that influence the upper airway microbiota.

As part of Brenda's PhD and her LSHTM-West Africa Fellowship, she established a birth cohort in 27 villages in the Western Region of The Gambia where she studied the impact of the pneumococcal conjugate vaccine on pneumococcal carriage and the bacterial component of the nasopharyngeal microbiome during infancy. This new grant will utilise the same cohort to understand the impact of inhaled environmental exposures on the microbiota of the upper airways of African children.

Woman exposed to dust and smoke while cooking

Laboratory Accreditations in Fajara, Keneba and Basse

ISO 15189 Re-Accreditation, plus GCLP Certification at our Field Stations

In October 2017, MRCG at LSHTM Laboratories in Fajara operating according to GCLP were re-assessed by an independent certification body, Qualogy. The laboratories included in this assessment were Haematology, Clinical Chemistry, Microbiology, Serology and Mycobacteriology (TB) Laboratories. The objective of the assessment was to examine the laboratory facilities, processes, systems and procedures that have been implemented at the laboratories and to assess these for continued compliance with Good Clinical Laboratory Practice (GCLP). In addition to the laboratories based at Fajara, for the first time, the laboratories at Basse and Keneba field stations were assessed for inclusion into the GCLP certification. It was recommended by Qualogy that continued and full accreditation to GCLP be granted to the laboratories in Fajara for another two years. Basse and Keneba laboratories were granted a conditional GCLP accreditation to last for one year. The next surveillance assessment for these two laboratories will get conducted in October 2018.

In March 2018, the Kenya Accreditation Service (KENAS) returned to the unit to conduct a re-accreditation assessment against ISO 15189 because accreditation from the first cycle is due to expire in July 2018. Yet again, the assessment was a success, and the unit is now re-accredited to ISO 15189 for another 3 years.

Staff working in our Keneba Field Station lab

HIGHLIGHT Laboratory Accreditation to high quality standards is important for all laboratories supporting clinical trials.

Laboratory accreditation to high quality standards is important for all laboratories in ensuring that reliable and accurate data and results are produced. Laboratories supporting clinical trials are required to meet the principles and objectives of the International Conference on Harmonization Good Clinical Practice (GCP); which are: ensuring that data generated by the laboratories are of high quality; that they are accurate and reliable for evidence-based decision for clinical management of patients; that there are appropriate systems for the management of investigational products, if applicable; and that the rights, safety and wellbeing of clinical trial participants are protected. It is therefore a major accomplishment for the unit to have the flexibility to carry out GCP-related work.

Re-accreditation of the laboratories to ISO 15189 provides confirmation that the unit's Quality Management System is robust, and that the unit has maintained the technical competence to perform the accredited tests.

During both assessments, all support systems and facilities required for GCLP and ISO 15189 compliance were added in the scope. These areas are Quality Management, Procurement, Logistics, Biomedical Engineering, Biobank, Human Resources, Archives, Clinical Trial Support Office, Research Laboratories Services, Clinical Services, Health Safety & Environment, Communications, Research Governance, and our Research Support Office were also assessed.

Staff working in our Basse Field Station lab

MRC Unit The Gambia at LSHTM First Multi-Country Sponsored Clinical Trial

There are a lot of challenges in meeting GCP requirements in clinical trials

Randomised control clinical trials are considered the gold standard in health care research and our reliance on them will continue as the world seeks to find new health care interventions that solve the growing global health problems. More so in Sub Saharan Africa where the burden of disease is greater, therefore, the need to conduct trials across the developing world to answer important health questions is becoming more necessary. Multinational trials are imperative in a way of helping to address budget constraints, generalizability of results, recruiting huge sample sizes and getting results in a fairly quick timeline. Noting that clinical trials which should be conducted according to Good Clinical Practice (GCP) are the most regulated of all health care interventions and requires monitoring from the sponsor. Monitoring is essential to ensure that the rights, safety and wellbeing of clinical trials participants are protected and that the trial data are accurate, complete, and verifiable against source documents.

Clinical Trial Support Office Team with Burkina Faso Site Staff

The PregnAnZi-2 trial is MRC Unit The Gambia at LSHTM sponsored trial conducted in two countries namely The Gambia and Burkina Faso. This is a phase II double blind randomised clinical trial aimed at preventing neonatal sepsis and death by administering Azithromycin to pregnant woman pre-delivery during active labour.

The sponsor, MRC Unit The Gambia at LSHTM, sent in two monitors to Burkina Faso from 20th to 24th Nov 2017 to conduct a site initiation visit to ensure that the site is ready to start recruiting participants for the trial.

It was a first experience for the two monitors to go beyond The Gambia to conduct monitoring visits and face new challenges especially in a Francophone country. The monitors had good rapport with the study staff. The site was found to be well equipped with an experienced study team. The trips to the study sites was the first challenge faced during the monitoring visit; the study main site is at Nanoro which is 85 KM from the capital Ouagadougou.

During the monitoring visit the two monitors were able to work with the study team to ensure that all GCP and applicable regulatory requirements were met for the site to start recruitment.

Trial Site in Burkina Faso

FACT Monitoring is essential to ensure that the rights, safety and wellbeing of clinical trials participants are protected and that the trial data are accurate, complete, and verifiable against source documents.

Dr Brenda Kwambana-Adams is a MRC-LSHTM West Africa Global Health Research Fellow

Brenda was awarded a competitive MRC Capacity Development PhD studentship to carry out her doctorate studies at MRC Unit The Gambia at LSHTM and the University of Leicester

Dr Brenda Kwambana-Adams
MRC-LSHTM West Africa Global Health Research Fellow and Molecular Microbiologist

Following her undergraduate studies in Biological Sciences at Wellesley College, Massachusetts on a prestigious Davis United World Scholarship and an MSc in Medical Microbiology at London School of Hygiene and Tropical Medicine (LSHTM).

As part of her PhD studies, she designed, conducted and established a birth cohort at a rural site in Sibanor, The Gambia and this experience early in her research career has continued to positively shape her approach to research. Her doctorate research showed that replacement of pneumococcal conjugate vaccine (PCV) serotypes by non-vaccine serotypes occurs more rapidly than thought (< 2 weeks) following vaccination. She observed that microbiome assemblies and ecology were stable across vaccinated and unvaccinated infants, which has important implications for species replacement disease. She also showed that Gambian children are rapidly colonized by pneumococcus after birth and that pneumococcus tends to be co-carried with other respiratory pathogens. This work published in 2011 has been cited at least 66 times. In 2014, she was awarded the first competitive MRCG-LSHTM West Africa Global Health Research Fellowship in which she investigated the associations between microbial ecology, inflammations and iron deficiency. Brenda is currently the Deputy Head of the WHO Collaborating Center for New Vaccines Surveillance and leads technical missions during bacterial meningitis outbreaks.

Brenda currently has 20 peer-reviewed publications and four manuscripts that have been submitted. This includes two senior author papers and one first author paper. She also co-authored a chapter in the book Genomics Applications for the Developing World published by Springer in 2012. Her publications reflect her core research interests and wide range of international collaborations. She presented her research at several meetings including the American Society for Microbiology (ASM), the International Human Microbiome Consortium Conference, International Symposium on Pneumococcus and Pneumococcal Diseases (ISPPD) among many others.

Dr Brenda Kwambana-Adams is the Co-Chair (with Professor Shabir Madhi, Wits, South Africa) in the Plenary Lung session at the 11th International Symposium on Pneumococci and Pneumococcal Diseases (ISPPD-11) held from April 15 - 19, 2018 in Melbourne, Australia.

FACT Brenda currently has 20 peer-reviewed publications and four manuscripts that have been submitted.

Dr Helen Brotherton is a Wellcome Trust Research Training Fellow

Dr Brotherton has over 13 years clinical paediatric experience in a variety of health care settings in UK, Ireland, Australia and West Africa

Dr Helen Brotherton
PhD student, General Paediatrician

She is a visiting PhD student in the Disease Control Elimination Theme at MRC Unit The Gambia at LSHTM and an Honorary Consultant General Paediatrician with an interest in Paediatric Infectious Diseases, at the Hospital for Sick Children, Edinburgh.

Helen was inspired to pursue a research career whilst working at Edward Francis Small Teaching Hospital (EFSTH), then known as Royal Victoria Teaching Hospital (RVTH), neonatal unit as a Voluntary Service Overseas (VSO) volunteer and clinician from 2007 to 2009. The number and tragedy of avoidable newborn deaths and futility of clinical "fire fighting" motivated her to shift career focus to researching feasible and effective newborn interventions for low-resource settings.

After taking a break to have two children and complete her Paediatric Specialist Training at the Royal Hospital for Sick Children, Edinburgh, Helen was awarded a Wellcome Trust Research Training Fellowship. The learning objective of this fellowship is to develop the skills and experience to work as a clinical trialist in global newborn health. Utilising research as a vehicle for development was also a motivating factor in her choice of PhD topic, which aims to investigate the clinical effects of early kangaroo mother care (KMC) for unstable, preterm hospitalised newborns and explore potential underlying mechanisms for clinical effect.

Since moving to The Gambia in January 2017, Helen has conducted a mixed methods feasibility study in preparation for a pragmatic randomised controlled trial comparing early KMC with standard care in unstable neonates <2000g, in Spring 2018 at EFSTH neonatal unit. Due to a partnership between Dr Brotherton and team, EFSTH, The Gambian Government, Ministry of Health and UNICEF, the first national KMC Training of Trainers workshop occurred in August 2017 and the first KMC unit in The Gambia was opened at EFSTH on 11th October 2017, where Helen continues to provide supportive Consultant supervision.

She is grateful for mentorship from supervisors Professor Joy Lawn and Dr Anna Roca, as well as the rest of her supervision team (Professor Simon Cousens and previously Dr Akram Zaman) and advisory committee (Dr Cally Tan, Dr Anna Seale, Dr Loveday Penn-Kakana, LSHTM). Developing these research skills would not be possible without their strong support, particularly learning how to balance clinical-research commitments and have a healthy work-life balance in the context of academic work.

Helen sees living in The Gambia with her husband and children as a fantastic opportunity to develop as a clinical researcher, learn from the vast experience present at MRC Unit The Gambia at LSHTM and contribute towards the improvement of newborn hospital care in the country.

HIGHLIGHT The first national KMC Training of Trainers workshop occurred in August 2017 and the first KMC unit in The Gambia was opened at EFSTH on 11th October 2017

Fatou Joof joined the MRCG at LSHTM in 2011 as a Trainee Scientific Officer

She is studying the molecular mechanisms by which human genetic variations in RBC surface proteins impact Malaria Pathogenesis

Fatou Joof
PhD Student

She has a bachelor's degree in biology from the University of Mohamed V in Rabat Morocco. She was awarded a scholarship by the MRC Unit The Gambia at LSHTM to do an MSc course in Molecular Parasitology and Vector Biology at the Universities of Keele, Manchester and Salford in the UK. Her thesis was based on estimating the rate of kill of novel antimalarial drugs.

After completing her MSc studies, Fatou worked as a Higher Scientific Officer in the malaria lab platform supporting many projects, before receiving an award from the unit to do a PhD concentrating on 'Genetic polymorphisms of red blood cells and malaria pathophysiology'.

Fatou's work is based at the Keneba field station where our scientists developed a biobank of samples from the residents of West Kiang which is one of the largest of its kind in Sub-Saharan Africa. This provides a very rich resource for translational research such as her project.

Over the past year, after extensive literature review, bioinformatics and molecular analysis, she found that some red blood cell polymorphisms identified by recent Genome Wide Association Studies (GWAS) to protect against malaria, are present at relatively high frequencies in the residents of West Kiang and are in strong linkage disequilibrium.

Having identified the relevant polymorphisms, genotypic groups and subjects, she will further determine the functional variant of this gene following laboratory analysis. Additional analysis will permit her to identify the cellular and molecular mechanisms by which the protective effect against malaria might be mediated.

Fatou is leading this project under the supervision of Dr Carla Cerami and Professor Andrew Prentice.

The study provides an opportunity to understand the evolutionary genetic race between humans and the malaria parasite in a population in an endemic area.

HIGHLIGHT The study provides an opportunity to understand the evolutionary genetic race between humans and the malaria parasite in a population in an endemic area.

Bai Lamin Dondeh leads the data management team and supports the Unit's increasing portfolio of research projects

Bai Lamin has keen interest in understanding and influencing the evolution of large and complex information systems in healthcare, particularly within the medical research setting

Bai Lamin Dondeh
Head Data Management

After completing his BSc in Software Engineering, he did an MSc in Strategic IT Management at Wolverhampton, United Kingdom.

In 2009, he returned to The Gambia where he worked as a Project & Systems Manager implementing The Gambia's and surrounding region's first National Biometric Identification System. In 2011, Bai Lamin took up a post as Data Manager/Database Developer at the Keneba Field Station of the MRC Unit The Gambia at LSHTM where he single-handedly developed a fully customized Biobank Sample Management System. He went on to enhance the Keneba Clinic's Electronic Medical Records System (EMRS) to cover more detailed features particularly with the addition of the maternity module. In 2014, Bai Lamin took up his current post where he drew from previous experience and spearheaded the implementation of an EMRS for the Clinical Services Department and is in the process of establishing an official electronic data repository for the unit enabling visibility for data sharing and further collaboration.

Over the past few years, he has established a core team of developers within his department who develop systems not only for research support but also for operational support – a new dimension of in-house information systems for the unit. All these systems are now being used at MRC Unit The Gambia at LSHTM.

Bai Lamin was selected as one of the mentors for the National Robotics Competition. He provided advice, guidance, and technical assistance to the students as they worked on the competition challenges. His team emerged as the 2018 National Robotics Competition winners and will represent The Gambia at the Pan African Robotics Competition (PARC) in Rwanda.

Leading health research in West Africa to save lives and improve health across the world

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Our Science – the newsletter of MRC Unit The Gambia, at LSHTM is for everyone who is interested in our work and community.

We are keen to receive feedback and suggestions for new features from our readers, if you have any comment please let us know.

Email: ourscience@mrc.gm

MRC Unit The Gambia at LSHTM
Atlantic Road, Fajara
P.O.Box 273 Banjul
The Gambia

Communications
+220 449 54 42 Ext: 2306
communications@mrc.gm
www.mrc.gm