

MRC

Unit
The Gambia

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Our Science

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

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Our Science: Issue 2

This second issue of “Our Science” is extremely heterogeneous and shows the wealth of on-going activities in The Unit. The Keneba Open Day was a great success and is part of our strategy to reach out the general public to explain/illustrate what MRC Unit The Gambia is currently doing and why. It is essential that the importance of research and its capacity of positively influencing human life is understood by the wider public.

Quality is an area in which The Unit has invested substantial resources over the last few years and this is shown by the achievements reported in this issue. Similarly, the development and introduction of the Electronic Medical Record System in our Clinical Services Department will allow a better management of patients and resources.

The “human capital” is our most important asset and this is shown by the profiles at the end of this issue, presenting the wealth of available expertise and experience. We are well aware that The Unit’s performance is heavily dependent on the wellbeing of its staff, wellbeing that has several dimensions, namely financial, psychological, physical and environmental. The launch of the MRC and ME Wellbeing Programme is a welcomed initiative that will have a beneficial impact in the years to come.

Finally, two research projects are brought to the fore; the Malaria Programme Grant aims to provide information on how malaria transmission, though much lower than 10 years ago, is still maintained in The Gambia – results may help identify possible strategies to further decrease malaria transmission; and the BRIGHT study, a fascinating project with the objective of mapping the effects of pre- and postnatal insults on early brain development that will provide a tool for monitoring the efficacy of early-life interventions to prevent such insults.

– Professor Umberto D'Alessandro

Hundreds turn out for MRC Unit The Gambia's Open Day in Keneba

"The first of its kind in Keneba" according to the feedback received from people who came from all over the surrounding villages in West Kiang to find out more about MRCG.

MRC Unit The Gambia's Open Day in Keneba on the 19 May 2016 attracted over 1000 residents of West Kiang. All ages were represented, from students looking for information on a potential career to mothers seeking an insight into both the projects being conducted and services provided by MRCG in the region.

The main event consisted of a tour of six stands - Field, Lab, Science, Clinic, Supplement Centre and Quiz - with groups of 25, guided by MRCG Staff, making 10 minute stops at each stand.

The Field stand comprised of a drama to make people aware of and explain the process of the Ethics Committee.

The ten minute drama included all stages of the ethical approval process leading to the point at which villagers themselves are approached.

The Lab stand took the form of a drama to show the process of blood taking: how much blood is taken in relation to the volume of blood in the body, and what blood taking actually involves and including explanations of the equipment used.

The Science stand incorporated 2 poster presentations focusing on the selected themes of 'Early Growth and Development' and 'Calcium, Vitamin D and Bone Health'. 'Early Growth and Development' highlighted the importance of healthy growth across the first 1000

days, which is essential in ensuring a productive and fulfilling life. The Calcium section emphasised the importance of calcium and vitamin D for the development of healthy bones.

The Clinic stand described the process of attending the clinic: opening hours, specialist clinic services, and the process of moving through the clinic. A flow chart poster with photos of all clinic areas was used to illustrate this. Public health posters relating to birth spacing and healthy aspects of pregnancy were also used, as the midwives explained the benefits of early antenatal booking and warning signs to be aware in pregnancy.

At the Supplement Center stand explained the process of making nutritionally rich porridge, demonstrating with readily available foodstuffs and explaining the importance of this in healthy weaning.

The Quiz segment was a fun and interactive way to test what visitors had learnt from the tour. The first section tested general knowledge about MRCG Keneba while the second focused on specific questions relating to the 6 stands visited.

Throughout the tour there was ample opportunity for attendees to voice any concerns and raise any questions that they had regarding MRCG's activities in the region.



Supplement Center stand

Such open dialogue allowed many of the myths surrounding MRCG to be dispelled and issues addressed, thus further strengthening the already special relationship that The Unit shares with the surrounding community.

The day concluded with food and refreshments for all who participated in the day's activities. Entertainment was also provided in the form of the local 'Manduar Women Cultural troop' and 'Nyodema Kafoo' from Kantong Kunda.

Perhaps most importantly of all, the event provided an opportunity for the staff of Keneba to thank the people of West Kiang for their ongoing support which enables cutting edge research to be conducted in Keneba.

Rita Wegmuller, Head of Keneba Field Station, said: "I was impressed by the diverse mixture of people attending the Open Day and by how attentively they listened to all presentations at the different stands and asked questions. Clearly, this Open Day was very much appreciated by the communities and will maintain our great relationship with all the West Kiang villages."

When asked to comment Prof Umberto D'Alessandro, Director said "It is extremely important communities in which we are working are fully aware of what we are doing and why. This Open Day in Keneba has offered the perfect opportunity to show, explain and discuss with the local communities our research. It has been a moment of sharing and I am extremely pleased with the number of people we were able to attract."



MRCG Keneba Open Day

Aiming for Pre-elimination Status with Malaria Programme Grant

Although malaria still contributes significantly to both morbidity and mortality in sub-Saharan Africa, the last decade has seen major progress in the fight against malaria as the burden has substantially decreased. The Gambia is one of the African countries where a substantial decline has been observed. This decline is the result of the scaling-up of malaria control interventions, which include: increased availability and access to long-lasting insecticide bed nets (LLINs), integrated vector control interventions such as indoor residual spraying (IRS), strengthened case management with rapid diagnostic tests (RDTs), and artemisinin combination therapy (ACT). Despite the scaling-up of these interventions, malaria transmission, which is highly seasonal, has not been interrupted.



Study Coordinator, village Alkalo and youth representative

DISEASE CONTROL AND ELIMINATION THEME



Study Coordinator, village Alkalo and youth representative



Closeout meeting

The contribution of infected but not sick people to maintain malaria transmission is still unclear. Being able to understand it would provide the necessary information to design new interventions aiming at interrupting malaria transmission, and thus eliminate malaria. The Malaria Programme Grant at MRC Unit The Gambia in partnership with

the National Malaria Control Programme and other Northern institutions such as the London School of Hygiene and Tropical Medicine, UK, and the Institute of Tropical Medicine, Antwerp, Belgium, seeks to understand why there are huge variations in the malaria burden between neighbouring villages.

To understand how many apparently healthy people carry a malaria infection, a nationwide malaria survey in primary schools at the end of 2012 allowed the team to select 6 locations across the country with marked heterogeneity in malaria prevalence. In each of them, a village with a relatively low malaria transmission and a neighbouring village with a high malaria transmission were identified. For the period 2013-2015, data that would help us understand the difference in malaria transmission between villages was collected. One of the factors examined was whether people who sleep outdoors are more exposed to malaria. Blood samples were collected monthly, from all residents, to identify those who are infected and understand which of these people maintain malaria transmission.

As the country aims for pre-elimination status, this requires an in-depth understanding of the current burden of *Plasmodium falciparum* infection. Mosquitoes were captured and data is being currently analysed to understand their biting behaviour and the influence of human behaviour on malaria transmission, both critical for targeting control efforts. The malaria team will continue to work on asymptomatic malaria infection and try to understand how they can survive within the human population from one transmission season to the other.

Introducing the BRain Imaging in Global HealTh (BRIGHT) Study in Gambian Infants

Numerous risk factors can have an impact on a child's brain development in the early years of life and most critically in the first 24 months. Infants in low income, resource-poor settings may be frequently exposed to a range of social, environmental, nutritional and pathological insults which can impact academic achievement and mental health into adulthood. To inform interventions which may reduce the impact of these insults, early detection of atypical neurocognitive function is required, however, there is lack of suitable methods for use from early infancy.

In 2012 the Nutrition Theme was awarded a Phase I Grand Challenges Exploration (GCE) Grant from the Bill and Melinda Gates Foundation to investigate the feasibility of using an optical brain imaging technique, functional near-infrared spectroscopy (fNIRS), to provide biomarkers of brain development in young Gambian infants. fNIRS has previously been used to show that, as early as 6 months of age, infants at high risk of autism show different brain responses to socially relevant information compared to infants at low risk of autism in infants in the first year of life. The Phase I pilot studies in Keneba provided the first brain imaging of infants in Africa and proved the efficacy of fNIRS measures of brain function in Gambian infants over the first two years of life.

As a result, the Nutrition Theme was awarded Phase II GCE follow-on funding in May 2015 to set up the BBrain Imaging in Global HealTh (BRIGHT) study. The aim of the BRIGHT study is to combine fNIRS brain imaging with a range of other measures to deliver brain function for age curves in both Gambian and UK infants from birth to 24 months of age. These markers will be used to map the effects of pre- and postnatal insults on early brain development and provide an assessment tool for monitoring the efficacy of nutritional, and other early-life, interventions.



fNIRS studies being performed in a newborn, a 6 month old infant, 13 month old infant and a 2 yr old toddler in The Gambia.

HIGHLIGHT

The aim of the BRIGHT study is to combine fNIRS brain imaging with a range of other measures to deliver brain function for age curves in both Gambian and UK infants from birth to 24 months of age.

NUTRITION THEME



Behavioural assessment of a young Gambian infant



fNIRS measures on a newborn infant

Recruitment of infants is due to commence in May 2016 with 200 infants being studied in The Gambia and 50 in the UK. The study will enable the development of a battery of tools incorporating neuroimaging, growth, behavioural and socio-demographic measures to chart brain development from birth to early childhood in infants from different settings.

These tools will be used to generate brain function for age reference curves in Gambian and UK infants, which will allow early markers of atypical brain development to be identified and used to inform targeted intervention strategies. These reference datasets will be the first of their kind, and importantly the longitudinal birth cohorts that will be established will provide a unique

opportunity to investigate the relationship between early markers of brain development and long-term cognitive and behavioural outcomes into childhood and beyond.

Spearheaded by Professor Clare Elwell (PI), Department of Medical Physics and Biomedical Engineering, University College, London. The BRIGHT project is part of the Globalfnirs initiative for the use of fNIRS in global health projects (www.globalfnirs.org). Robust, objective and cross-cultural tools for the assessment of cognitive function are urgently needed in a range of global health projects and Globalfnirs has been established to redefine what can be investigated in the developing brain of infants at risk of undernutrition and other environmental factors in resource-poor settings.

The BRIGHT team includes; Dr Sophie Moore, MRC Human Nutrition Research, Cambridge; Dr Sarah Lloyd-Fox, Centre for Brain and Cognitive Development, Birkbeck, University of London; Professor Andrew Prentice, MRC International Nutrition Group, London School of Hygiene and Tropical Medicine and MRC Unit The Gambia; Dr Momodou Darboe, MRC Unit The Gambia; Sophie Budge, MRC Unit The Gambia; Christine Bartram, MRC Unit The Gambia; Perijne Vellekoop, MRC Unit The Gambia.



EU approval of pneumococcal vaccine based on MRC Unit The Gambia study

The European Medicines Agency (EMA) have approved a new multi-dose preparation of Prevenar 13®, sponsored by biopharmaceutical company Pfizer, based on a study conducted by MRC Unit The Gambia.

The vaccine is a new four-dose, multi-dose vial (MDV) presentation of pneumococcal polysaccharide conjugate vaccine Prevenar 13®; it covers 13 of the more than 90 pneumococcal bacteria serotypes, the most common causing disease worldwide before the introduction of pneumococcal conjugate vaccines.

Pneumococcal disease, including pneumonia and meningitis, is predominantly caused by the *Streptococcus pneumoniae* bacteria. It mainly affects children under five and causes significant illness and death.

A single-dose preparation of Prevenar 13® is already used in many countries as part of WHO Expanded Programme for Immunisation, including The Gambia, but the new multi-dose vial vaccine was developed to help reduce costs and improve the efficiency of vaccine delivery. Having four doses of the vaccine in each vial, instead of one, offers a 75 percent reduction in temperature-controlled supply chain requirements, United Nations International Children's Education Fund (UNICEF) shipping costs, and storage requirements at the national, regional, district, and community levels.

FACT

The results of the trial showed that the new formulation was as safe, tolerable, and as immunogenic as the already licensed single-dose syringe.

VACCINES AND IMMUNITY

Developed by Pfizer in collaboration with GAVI, the Vaccine Alliance, the MDV Prevenar 13® study was conducted by the MRC Unit The Gambia at Fajikunda Health Centre in The Gambia between 2013 and 2014. Subjects received doses of the vaccine in multi-dose vials or in a single-dose syringe according to the infant vaccine series scheme in The Gambia at two, three and four months of age. The results of the trial showed that the new formulation was as safe, tolerable, and as immunogenic as the already licensed single-dose syringe.

Once approval of Pfizer's submission of Prevenar 13® has also been granted by the World Health Organization (WHO), global use of this vaccine by United Nations agencies and countries worldwide that require WHO pre-qualification can proceed.

If and when pre-qualified, the MDV presentation is expected to be introduced under the Advance Market Commitment program in early 2017, for shipment to countries covered by GAVI, the Vaccine Alliance.

Trial Director Professor Beate Kampmann, Theme Leader for Vaccines and Immunity, said, "We are very pleased indeed that the high standards routinely achieved in our clinical trials have enabled the swift approval from the EMA. I thank the field team and the clinical trials group for their outstanding support. The impact of this vaccine on affordability and therefore on prevention of serious disease in LMIC will be tremendous."

Dr Olubukola Idoko, Clinical Trial Coordinator said, "The region urgently needs affordable vaccines to ensure that the most vulnerable children can begin to or continue to be protected from preventable diseases. This is a remarkable success on this front and, has been made possible in part by a dedicated team of staff playing a part in attaining The Unit's goal of contributing to the control and elimination of infectious diseases of public health importance."

Dr Anna Roca, Theme Coordinator, Disease Control and Elimination Theme said, "These results are excellent news, especially soon after The Unit has shown that Prevenar 13® can reduce pneumonia in The Gambia by 55%, as this outcome means that the new formulation will be more affordable within the region."



Some members of the trial team

Development of Electronic Medical Records System for MRC Unit The Gambia Clinical Services Department

The Development of Electronic Medical Records System (EMRS) for MRC Unit The Gambia Clinical Services Department (CSD) project is a major project milestone which serves as a tool to aid physicians and clinicians to improve quality care, patient safety and reduce costs.



Moving into automation with the EMRS has significantly improved efficiency, speed, and safety within the CSD. It enables a seamless and timely flow of information with regards to streamlined processes as well as implement automated validation controls in critical areas of the system. Time spent on capturing and confirming information has been reduced drastically.

The system enables the various groups within the CSD i.e. doctors, labs, pharmacists, and billing to share information as the patients proceed through the clinic. In the not so distant future, the aim is to work on integrating the EMRS with Electronic Data Capture (EDC) systems used in clinical research to facilitate research. Such a functional integration will eliminate transcription errors, facilitate retrospective study analysis, and serve as the primary resource for clinical care.

Spearheaded by Bai Lamin Dondoh, Head of the Data Management Department, phase one of the implementation process of EMRS started in March 2015. To date the team has completed the automation of the Records Office, lab requests and reporting of results including billing.

Subsequent phases of the project will include; automation of the Gate Clinic, pharmacy, inventory of stock as well as the in-patient clinic.

Within a broader context, the future of EMR-EDC integration will provide opportunities for secondary use of data and automated decision support systems.

The Quality Journey at MRC Unit The Gambia

The Quality Journey at MRCG started with the Clinical Trials Support Office (CTSO) in 2006 which lead to the establishment of the Quality Department in 2008.

In 2006, the Clinical Trial Support Office started to work closer towards the International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH) Good Clinical Practice (GCP) guideline following the implementation of the European Directive on clinical trials into national law in the UK in 2004. The CTSO continued to play a critical role by ensuring compliance with international standards in clinical trials conducted at MRCG to assure protection of safety of trial participants and providing credible and reliable clinical trial data. With this approach quality assurance became essential to the office. It started with writing standard operating procedures for the conduct of clinical trials and introducing monitoring according to GCP requirements. In close collaboration with the CTSO a Quality Management System (QMS) was also developed in the laboratories.

The Unit management, recognising that quality measures need to be applied to the other departments, established a Quality Department in 2008 to ensure quality assurance for the whole Unit. This department started by developing and maintaining a robust quality infrastructure that could be built upon as The Unit's demands and objectives change over time.

The Quality Department had a strategy which emphasised on strengthening the routine diagnostic laboratories, specifically, the Clinical Laboratories (CLAs), which includes Biochemistry, Haematology and Microbiology laboratories. This included identifying the most suitable standard for these facilities based on The Unit's priorities and the majority of work conducted within the laboratories. Although clinical trials make up less than 20% of The Unit's overall research activities, the Quality Department strategically reinforced the QMS to include elements that would further give assurance that the processes involved ensure the safety of study participants as well as ensure reliable and credible results.

As a result, Good Clinical Laboratory Practice (GCLP) was implemented in 2010 to address the pre-analytical, analytical, and post-analytical phases of laboratory diagnostics. In addition, the strategy included support areas such as Clinical Services Department, Quality Department, Procurement & Stores, Transport Department, Archives, Unit's Management, Biomedical Engineering, Biobank Department, Data and Facilities Department. Figure 1 illustrates the relationship between the Clinical laboratories and the external areas providing direct support.

Implementing GCLP in the Clinical Laboratories encouraged the relevant support areas to comply with the applicable requirements of the international standard.

Implementing GCLP required development of many standard operating procedures, training of personnel in GCLP and implemented procedures, frequent periodic internal audits, and external audits as required. All of these resulted in a successful assessment in 2011 when the Clinical laboratories received certification to GCLP, which was valid for 2 years.

After getting certified, The Unit's Leadership identified additional routine laboratories, namely Serology and Mycobacteriology (TB) Diagnostics Laboratories, where the standard should be implemented. As a result, the Quality Department worked closely with the Clinical Laboratories to support the new labs added to the scope. The strategy illustrated in Figure 1 was again employed, with the objective to be assessed for certification in 2013, the same time when the re-assessment of the Clinical Laboratories was conducted. Furthermore, the support areas also applied the GCLP requirements in non-GCLP related facilities, where applicable. This further strengthened The Unit's already established Quality Management System (QMS).

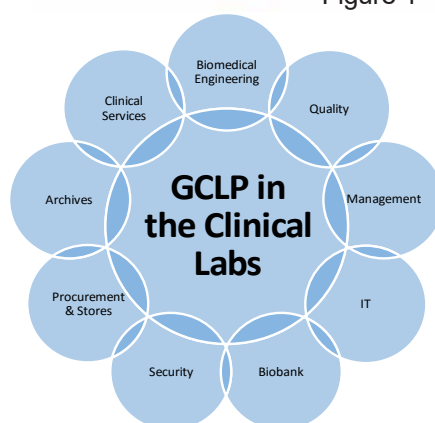
The key prerequisite to successfully implementing and maintaining a robust QMS is to have it based on continuous improvement. As a result, the Quality Department introduced ISO 15189:2012, which is an all-inclusive standard that fully meets the needs of our medical laboratories and the clinical care provided to research or non-research patients. Similarly to Figure 1, the technical requirements were implemented in the laboratories and some support departments, alongside the management requirements in the remaining support departments, see Figure 2.

The Quality Department in MRCG is fully established. However, since our QMS is based on continuous improvement, the QMS will continue

to be built upon to meet the present demands and objectives of The Unit.

The table below gives a listing of the major achievements of the Quality Department in MRCG.

Figure 1



GCLP implementation in the Clinical Laboratories and the relation to the support departments.

Figure 2



ISO 15189:2012 in the laboratories and the relation to the support departments.

Summary of Achievements since 2008

Period / Year	Achievements
2008-2010	Implemented a Quality Management System (QMS)
2009	Started implementation of GCLP in the Clinical Laboratories: Biochemistry, Haematology, and Microbiology Laboratories
2011	GCLP Certification in the Clinical Laboratories
2011	Started implementation of GCLP in Serology and TB Diagnostics Laboratories
2012-2015	Implementation of ISO 15189:2012
2012	Formed a Quality Steering Committee with representation from various areas within MRCG. The objective of the group is to: <ul style="list-style-type: none"> raise awareness about the QMS; discuss Quality-related issues and take actions to address these; ensure requirements of ISO 15189:2012 and any other approved standard are addressed as applicable; and Support the Quality Department to continuously improve the QMS.
2013	GCLP Certification in Serology and TB Diagnostics Laboratories
2015	Received accreditation of ISO 15189:2012 in Clinical Laboratories, Serology and TB Diagnostics Laboratories, with expiry date of 9 July 2018 (surveillance visits to be conducted periodically until 2018).
2015	GCLP Re-assessment: Received unconditional recommendation to maintain full GCLP-certification status in Clinical, Serology and TB Diagnostics Laboratories valid until June 2017.
2016	Surveillance visit of ISO 15189 accredited facilities and the QMS. Received recommendation to maintain ISO 15189:2012 accreditation status.

HIGHLIGHT

ISO 15189:2012, which is an all-inclusive standard that fully meets the needs of our medical laboratories and the clinical care provided to research or non-research patients.

MRC and ME Wellbeing Programme

The management team of MRC Unit The Gambia has introduced a pioneering employee health promotion programme for all staff. This has been developed in response to the high number of reported cases at the Staff Clinic of lifestyle-induced illnesses including hypertension, type 2 diabetes and back pain, and recognises the importance of advocating behavioural change as a channel for increased wellbeing.



The MRCG's Wellbeing Programme was launched at the main Fajara site in July 2015 as an adaptation of MRC (UK)'s 'MRC and Me' programme. MRCG's Programme is structured around four themes: financial, psychological, physical and environmental wellbeing. It was rolled out subsequently at the Keneba Field Station in September 2015 and at the MRCG's Basse Field Station in April 2016.

Leading international bodies, including the WHO have long recognised that a workplace that supports healthy lifestyles can influence the overall health and wellbeing of an organisation significantly. The ultimate aim of the MRCG's Wellbeing Programme is to promote lifestyle change to prevent or delay the onset of preventable diseases, thereby reducing sickness-related absenteeism and improving quality of life.

Another important objective of this initiative is to boost staff morale and engagement, which will no doubt result in better team relationships, performance, better staff recruitment and retention.

Through talks on health issues, financial issues and the promotion of physical activities, it is believed that employees will be apt to take a more holistic approach to their own health – both physical and mental.

The Wellbeing Programme is being driven by a Steering Committee which is co-managed by Joan Vives Tomas, Director of Operations; Sarah Dufie Sarpong, Head of Safety, Health and Environment and Kalilu Dibba, Senior Human Resources Advisor and the Steering Committee is comprised of individuals from various departments/sections across The Unit including the MRCG Workers' Union. Activities at the field stations are coordinated by the local sports and social committees. In addition, various health and wellbeing initiatives are being led by The Unit's Wellbeing Champions - individuals who have a particular interest in an activity and who are keen to support other staff members by leading these activities.

Since the launch almost a year ago, the committee has introduced free yoga lessons, free gym membership, overseen the building of a new basketball court, installation of table tennis tables and approved the upgrading of the existing football pitch and volleyball court. There have also been talks on hypertension, cervical cancer, healthy eating and back pain.

In December 2015, the committee organised a very popular Unit-wide 'Family Fun Day'. The day included various sporting activities for staff members and their families, which attracted over 500 participants. All of these initiatives have been extremely well received by staff, and feedback indicates that the Wellbeing Programme has been one of the best 'preventive medicine' initiatives to have been introduced by The Unit.

While it is difficult at this stage to highlight any appreciable or evidence-based decline in the number of staff presenting at the Clinic with diseases such as hypertension and diabetes, Dr

Chibuike Nnadozie Okpara (Staff Doctor) reports that he has seen significantly fewer staff with Low Back Pain (LBP) at the MRCG's Fajara Field Station.

According to him, before the introduction of the Wellbeing Programme, LBP was one of the most common complaints amongst staff members, accounting for about 10% of clinic visits.

Presently, complaints of LBP now account for less than 5% of all clinic visits, a good indicator and positive reflection of the Wellbeing advocacy work. There has also been a tremendous increase in the knowledge and practice of healthy lifestyle behaviours amongst staff members. Indeed, behavioural change has been the greatest achievement of the Wellbeing initiative so far; according to Dr Okpara.

There has been a marked increase in the number of physically active staff, who are now engaging in a wide range of activities including cycling, running, basketball,

volleyball and football, thanks to the additional push that has been provided by the Wellbeing Programme.

Going forward, the Wellbeing Committee will continue to promote existing activities through the respective Champions and introduce new initiatives such as talks on managing personal finance; a staff abroad support scheme and periodic health maintenance examinations for staff. There are also plans to organize mini programmes to mark the international days for breast cancer, diabetes, blood donation and others.

With the sustained enthusiasm of both staff and management, there are likely to be palpable results in terms of numbers presenting at the Staff Clinic with preventable illnesses. The committee, in collaboration with the Staff Doctor (who is a member of the committee), will continue to collect data on the benefits of having a successful Wellbeing Programme, and share this information with staff.



Wellbeing Committee and Champions

For more information, please contact the Wellbeing Committee on wellbeing@mrc.gm

Dr Olubukola Idoko, a star in the team of aspiring African Vaccinologists'

Originally from Nigeria, trained Paediatrician and Clinical Trial Coordinator, Dr Idoko has worked at MRC Unit The Gambia since June 2010 (following a 1 year stint between July 2007 and July 2008). During this time Olubukola has been involved in a number of important vaccine trials, including the studies for MenAfriVac, a very important vaccine that protects against an epidemic strain that sweep the countries of the meningitis belt. The vaccine was recently introduced into The Gambia in a mass vaccination campaign, and it is hoped will also soon be part of our national immunisation program.



Dr Olubukola Idoko

Dr Idoko holds a medical degree from the University of Jos in Nigeria and a Master of Science in Public Health from the London School of Hygiene and Tropical Medicine. She also possesses post graduate clinical qualifications in Paediatrics for which she received training at the Jos University Teaching Hospital in Nigeria, and is a Fellow of the West African College of Physicians in Paediatrics.

More recently, Dr Idoko coordinated the multi-dose vaccine trial for the new preparation of the 13-valent pneumococcal conjugate vaccine (PCV) 13 Prevenar vaccine. This randomised control trial recruited 500 infants in Fajikunda and compared the immunogenicity between the standard preparation, which is a single dose per vial, with the multi-vial preparation of PCV13. The vaccines were found to be equivalent, and the new preparation was licensed by the European Medicines Agency (EMA) in April 2016 as a consequence of the trial she led which will make the PCV vaccines more affordable for Africa.

She has published a lot of the output from her work with high impact. Dr Idoko led the field team with great enthusiasm and is a highly respected leader. She is keen to pursue further academic training in Vaccinology and has just been awarded a 1-year Wellcome Trust Fellowship via Imperial College and a place on the PhD program at the University of Munich.

According to Prof Beate Kampman, "Dr Idoko is a prime example of how the hard work, perseverance and the required multi-tasking of a professional African woman can lead to being an inspiration for others at the MRCG and beyond".

Read more about the working life of Dr Idoko on our website on <http://www.mrc.gm/working-life-olubukola-bukky-idoko/>

PhD student Christine Bartram

Christine Bartram is a PhD student currently involved in data collection at MRCG Keneba for the psycho-social measures in the BRain Imaging in Global HealTh (BRIGHT) study. Christine's research interest is on parents' mental health, newborn behaviour and parent-child interaction.



Christine Bartram

Christine graduated with a BA in Politics, Psychology and Sociology from the University of Cambridge. Along with another undergraduate student, she collected data for 60 of the families enrolled in a Cambridge Centre for Family Research study on theory of mind and executive functioning in children with and without an Autism Spectrum Disorder. During her studies, Christine trained and certified in the Newborn Behavioural Observation system, a support tool for parents with infants under three months.

In 2013, she completed an MSc in Children and Young People's Mental Health and Psychological Practice at the University of Edinburgh, and was awarded a scholarship to begin her PhD in Health Sciences at the University of Warwick.

In early 2015 she certified in the Neonatal Behavioural Assessment Scale (NBAS), which can be used as a support tool as well as a research measure.

Within the same year, Christine was invited to join the BRIGHT study at MRCG in Keneba to collect NBAS data for the team. The study seeks to investigate the feasibility of using an optical brain imaging technique, functional near-infrared spectroscopy (fNIRS), to provide biomarkers of brain development in young Gambian infants.

During the pilot phase in July 2015, Christine demonstrated that the NBAS is culturally acceptable with only minor adjustments.

She then worked with a dedicated team in Keneba to translate and adapt the five mental health questionnaires which will be implemented as an adjunct to the main BRIGHT study.

Christine has also previously conducted qualitative research with individuals living on the street in Cambridge and with women of child-bearing age receiving in-patient treatment for eating disorders in a clinic in Scotland.

Beyond research, she is passionate about supporting vulnerable families, and has done so in a voluntary capacity in various roles, including offering NBO and NBAS sessions to new teenage parents, volunteering as a receptionist in a community counseling centre, and teaching a class on newborn care and communication for mothers in sheltered accommodation.

When asked to comment, Prof Andrew Prentice, Nutrition Theme Leader said, 'We frequently have to call upon specialist skills to assist with studies at MRCG. Christine is a great example of combining the skills we need with the field opportunity that she needs.'

Head of Health, Safety and Environment

Sarah Dufie Sarpong

Sarah Dufie Sarpong is the Head of Health, Safety and Environment (HSE) at MRC Unit The Gambia. She has over six years' experience in Health and Safety Management and over eight years' experience in Quality Assurance Management. Sarah provides strategic leadership for MRCG's various HSE initiatives, and is responsible for ensuring The Unit's compliance with all applicable local and Medical Research Council (MRC) UK HSE requirements.



Sarah Dufie Sarpong

Sarah is a graduate member of the Institute of Occupational Health and Safety, UK. She holds an MSc in Occupational Health and Safety Management from the University of Portsmouth, UK; NEBOSH Certificate in Occupational Health and Safety Management; a Postgraduate Diploma in Occupational Safety, Health and Environmental Management from the Ghana Institute of Management and Public Administration; and a Level 3 Certificate in Quality Assurance from the Chartered Quality Institute, UK. She has received extensive practical Health and Safety training from the MRC (UK) Safety, Security and Resilience Team and other MRC UK Units including the Laboratory of Molecular Biology (Cambridge University), MRC Harwell, and the Animal Health and

Veterinary Laboratories Agency (UK). Previously, Sarah worked for Norpalm Ghana Limited as a Quality Assurance Supervisor following her graduation from the University of Cape Coast, Ghana and National Service with the organisation. After a few years of high performance, during which time she developed a fully fledged and effective Quality Assurance section, she was promoted to the level of Assistant Manager and Head of Section. Sarah was also given the additional responsibility of championing the company's Safety, Health and Environment (SHE) issues, and was in charge of policy development and implementation across the entire organisation, with specific responsibility for liaising with all statutory and external regulatory bodies regarding SHE issues to ensure compliance and certification.

Initially employed as The Unit's Health and Safety Manager, Sarah has made significant progress over the years in developing and implementing improvement strategies and has had particular success in raising the level of Health and Safety awareness amongst staff. Following on from this success, she was given the additional responsibility of integrating environmental management into The Unit's Health and Safety management system.

Since joining The Unit in 2011, Sarah has effectively transformed the Health and Safety Department. This has been attributed to her energy, resilience,

willingness to question the status quo and her focus on delivering results. Sarah's proactive approach to introducing new Health and Safety initiatives is coupled with a commitment to empowering others, thus ensuring ownership of ideas and actions at the departmental level. Training of staff including managers/supervisors, conducting accident investigations and inspections, responding to urgent health and safety calls, ensuring compliance to HSE rules, organising HSE awareness programmes, developing and implementing new standard operating procedures are a few of her day-to-day responsibilities.

With the addition of environmental management to her role, Sarah's new vision for the department is to achieve excellence through striving to prevent harm to employees, other associates and the environment. In line with this vision, she recently launched an energy saving campaign across The Unit, themed 'make a small change', encouraging staff to make small changes in their daily lives to help contribute to bigger improvements in the environment. This campaign is targeted at reducing The Unit's energy costs by 10% over the next two years and most importantly, at reducing its carbon footprint. Over the next few years, her plan is to introduce other environmentally sustainable initiatives such as the installation of solar energy street lights, recycling some of The Unit's solid and liquid waste.

Sarah's proven leadership and organisational skills have been used in a number of Unit-wide context including, schools' open day, a nationwide fire safety awareness Programme, a Family Fun Day for staff, launching the 'MRC and Me Wellbeing Programme' and annual HSE awareness week celebrations. She is the chair of the Steering Committee of The Unit's Wellbeing Programme and is responsible for introducing initiatives that promote healthy lifestyle choices amongst staff.

Coordinator of the malaria group within the Disease Control and Elimination Theme

Dr Jane Achan

Dr Jane Achan is the Coordinator of the Malaria Group within the Disease Control and Elimination Theme.

Jane plays a pivotal leadership role in strengthening the quality of science delivery within the Malaria Group. Her wealth of experience having worked in the field of paediatrics since 1999, Jane is one of the most experienced Ugandan Paediatricians specialised in infectious disease care and actively involved in research on malaria and HIV. For the past 2 years, Jane has significantly improved the Coordination of a large multidisciplinary malaria team within the related activities across MRC Unit The Gambia.

Jane's research interest is in Clinical Trials, Infectious Diseases and Pediatrics and has written several high impact publications about her research. Jane has a track record of delivering remarkable science and has received numerous awards of recognition for her work. As part of her role, Jane represents the Malaria Group internally and externally, especially with the National Malaria Control Programme. As an inspirational leader from the malaria group, Jane gives support to more junior scientists to ensure outputs are well generated within the different malaria projects.

Jane has contributed to some high impact publications from the Malaria Group and also been involved in several grant applications that will contribute new areas of research under the Theme. Beyond these coordinating activities, Jane is pursuing her career as an independent scientist and looking forward to having her own niche within the malaria field.

Professor Umberto D'alessandro, Director said "I had the opportunity and pleasure of supervising Jane during her PhD, which was on the management of malaria patients, including those infected with HIV. When she accepted to move from Uganda to The Gambia, to become the Coordinator of the Malaria Group, I was particularly pleased because I knew she was the right person for such position. Indeed, Jane has contributed substantially to our malaria research activities and I strongly believe she has the potential of becoming an independent and influential scientist in her field. We will definitely support her in this endeavor."



Dr Jane Achan

Prior to joining MRCG in 2014, Dr Jane Achan was a Lecturer at the Department of Pediatrics and Child Health of Makerere University College of Health Sciences in Kampala, Uganda and the President of the Uganda Pediatric Association. Dr Jane did her master's degree in paediatrics and child health at

the Makerere University in Kampala, Uganda in 2001. She then pursued an MSc, in Clinical Trials, at the University of London, in 2008 and in 2009, Dr Achan was awarded an institutional scholarship from the Institute of Tropical Medicine in Antwerp, Belgium for her PhD studies.

FACT

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

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