



AMANET *Newsletter*

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Contents

- 3 AMANET New Five-Year (2007-11) Strategic Plan
- 4 New MIM Secretariat Coordinator
- 5 Second Phase of Afroimmunoassay
- 6 The Fifth AMANET Biennial Conference
- 7 The New AMANET SCC and BoT
- 8 AMANET Welcomes New Staff
- 9 Malaria Vaccine MSP3-LSP Tested in Burkina Faso
- 10 Report on the First Health Research Ethics Workshop for Ethics Committees and Review Boards in Africa
- 11 Obituary: Prof. Stephen Chandiwana (1953-2007)
- 12 Opportunities

Upcoming AMANET Activities:

2nd and 3rd HRE Workshops,
Grant Awards
July/Sept 2007

Site Launch: Makerere, Uganda
August 2007

DSMB Workshop
October 2007

BoT and SCC Meetings
October 2007

AMANET Launches Clinical Trial of Candidate Malaria Vaccine AMA1 in Mali

Charles Wanga



Photo source: dayphotos on Flickr

A young Malian sleeps comfortably on the back. Children below five years are the ultimate target and beneficiary of the ongoing AMA1 trial in Mali

The African Malaria Network Trust (AMANET) has launched a Phase Ib candidate malaria vaccine trial in Mali, marking an important milestone in its quest to contribute to the development of effective tools against malaria.

AMANET is sponsoring a Phase I trial of the candidate malaria vaccine AMA1 (apical membrane antigen 1) to confirm its safety in healthy adults in Bandiagara, Mali. The vaccine trial is

being run by a well-qualified Malian team of doctors, researchers and scientists from the Malaria Research and Training Centre (MRTC) at the Medical School, University of Bamako, led by Prof Ogobara Doumbo, the director of MRTC.

Speaking during the launch Dr Mahamadou Thera, the principal investigator of the trial, said "We are very excited to be part of this important milestone in the fight

against malaria in Africa. This trial is being conducted at the highest ethical and good clinical practice (GCP) standards, everything is in place, and the team is very well prepared”.

The AMA1 vaccine was invented by a team led by Dr Alan Thomas and based at the Biomedical Primate Research Centre (BPRC) in Rijswijk, The Netherlands. The vaccine was developed by the European Malaria Vaccine Initiative (EMVI) based at Copenhagen Denmark, which has been responsible for the manufacture and earlier clinical trials in Europe. AMANET, which is based in Dar es Salaam, Tanzania, is the sponsor of AMA1 clinical trials in Africa. AMANET receives major funding for this and other malaria vaccine trials from the European Commission - EuropeAid Cooperation Office (AIDCO).

“This current study is the first time the AMA1 candidate vaccine from the EMVI consortium is being administered to individuals living in malaria endemic areas.”

The AMA1 vaccine has already demonstrated safety and ability to induce immune responses in trials conducted in European adults. The vaccine targets a protein used by the *Plasmodium falciparum* malaria parasite to invade red-blood cells. The stage of the parasite that invades red blood cells (the merozoite) is a logical target for a malaria vaccine since blockade of red blood cell invasion would prevent clinical disease as well as prevent

progression to severe malaria and death.

Africa bears the heaviest burden of malaria. The most dangerous parasite species, *Plasmodium falciparum*, is responsible for more than one million deaths worldwide each year. More than 90% of these deaths occur among children aged five years or less and pregnant mothers in sub-Saharan African. In areas of stable malaria transmission, 25% of all-cause mortality in children aged five years or less has been directly attributed to malaria.

Given the limits of the current malaria control tools, and the successes achieved by vaccines in the prevention and control of other diseases, development of a safe and effective malaria vaccine would be a major boost in the battle against malaria. In general, vaccines help the body to prepare in advance to fight illnesses and potentially deadly diseases.

Essentially, vaccines give the body a preview of the invading agent, allowing it to learn how to defend itself. If the body is subsequently invaded by that particular infection, the body's immune system is ready and responds promptly to avoid or minimize the illness.

An ideal malaria vaccine would prevent all infection by priming the immune system to destroy all malaria parasites, whether in the liver, or free swimming in the blood, or even, though theoretically, while “hidden” inside red blood cells. Hitherto, there is no licensed vaccine against malaria and the several factors responsible for the failure have been ably articulated elsewhere.

The size and genetic complexity of the malaria parasite (*Plasmodium*)

means that each malaria infection presents thousands of challenges to the human immune system. Scientists have been grappling to understand which of these can be a useful target for vaccine development.

Moreover, the parasite changes through several life stages even while in the human host, presenting a different subset of molecules for the immune system to combat at each stage. To add to the list of difficulties, the parasite has evolved a series of strategies that allow it to confuse, hide, and misdirect the human immune system and also to resist some effects of some previously effective drugs. Not surprisingly, to develop immunity against malaria as it occurs naturally, one has to suffer repeated attacks for several years.

Recently, the situation looks more promising as a good number of potential targets have been identified, and several candidate malaria vaccines produced.

Forty (40) adults are participating in the Mali AMA1 malaria vaccine trial, of these, half (20) are being immunised with the AMA1 malaria vaccine and the other half will serve as a control group receiving a vaccine against tetanus.

Each trial participant will receive three injections in the schedule on days 0, 28 and 56. Each vaccination dose will be followed by an active 14-day surveillance period to look for side effects, and then the research volunteers will be passively followed up for one year.

This current study is the first time the AMA1 candidate vaccine from the EMVI consortium is being administered to individuals living in malaria endemic areas. A cautious

safety approach has been taken to lead to testing of the vaccine in the target group (infants), in a step wise manner.

The study has been approved by the Faculty of Medicine, Pharmacy and Dentistry of Bamako Institutional Ethics Review Committee and the Malian Ministry of Health approved the use of the experimental malaria vaccine. If found to be safe in adults, the next step of the trial will involve children to further demonstrate safety and also show that the vaccine induces appropriate immune responses.

Speaking on this launch and on the upcoming trials, the AMANET Clinical Trials Coordinator, Dr Roma Chilengi said, "The search for a malaria vaccine for Africa has been one of AMANET's cherished goals. The launch of this trial demonstrates AMANET commitment on this regard".

Ever since its inception, AMANET has demonstrated leadership in malaria research and development in Africa.

Besides strengthening capacity and sponsoring vaccine trials, AMANET has trained nearly 1,000 African researchers in workshops in bioethics, good clinical practice (GCP), design and methodology of intervention trials, data management, molecular biology and immunology of malaria vaccine development, management and leadership of malaria research institutions, accounting and procurement, health research ethics (HRE) and several more.

AMANET recently launched a free web-based basic course in HRE, designed to provide training for hundreds of investigators and ERC members. ■

AMANET New Five-Year (2007-11) Strategic Plan

Francis K. Nkrumah

The African Malaria Network Trust (AMANET) now enters its second level hierarchy in development by the evolution and presentation of this ambitious five-year strategic plan that will run from 2007-2011.

I remember with fond memories when we inaugurated the first strategic plan in 2004 and I wrote the first foreword filled with much humility and hope. AMANET was born in 2002, and can now walk and run. From mainly organizing training workshops in research ethics to include GCP and GLP, now AMANET can sponsor vaccine trials. The present strategic plan uniquely introduces more complex sets of proposed actions that of necessity are both desirable and contemporary with what is expected of an initiative with great expectation like AMANET.

This new strategic plan will enhance promotion of regional and global awareness of the burden of malaria in Africa and provide possibilities for positive disease impact resulting from relevant research that evaluates prospective interventions with the greatest potential to impact more favourably on malaria. AMANET will apply novel approaches of collaboration with stakeholders and support capacity building to strategic institutional structures to provide the basis for well conceived and executed clinical and field interventions.

I am pleased that this plan draws much orientation from a thorough analysis of the experiences and lessons learned during the last planning period. The plan is up to date and is cognisant of current challenges faced by research



Professor Nkrumah, Chairman, AMANET Board of Trustees

institutions in Africa which include sustaining research activities in concert with infrastructural and human resource development for meaningful operations. The development, for example, of Afro immunoassay gold standards for evaluating malaria vaccines will provide far reaching opportunities for institutions to network on validating outcomes from vaccine clinical trials.

Finally, I wish to commend our international development partners that have made it possible for such a plan to be conceived and developed. I will appeal to their continued collaboration in order to ensure that the good work AMANET has embarked on continues to receive appropriate technical and financial support. AMANET on its part will be required to strengthen its secretariat to support coordination of these increasingly more complex programmes. Let me also take this opportunity to ensure our networked institutions and partners of our determination to see that this strategic plan is wholly implemented on schedule. ■

Dr Francine Ntoumi is the New MIM Secretariat Coordinator

Charles Wanga

The African Malaria Network Trust (AMANET) is pleased to announce that Dr Francine Ntoumi is the new Multilateral Initiative on Malaria (MIM) Secretariat Coordinator effective from 15 August 2007. She joins MIM, a global alliance with a mission to strengthen and sustain malaria R&D capacity in malaria endemic countries in Africa, from the European and Developing Countries Clinical Trials Partnership (EDCTP), where she has been Senior Scientific Officer.

"Being one of the first proud beneficiaries of the MIM initiative, I am excited to be given an opportunity to work for the MIM fraternity. MIM has and continues to play a very important role in building a pool of African malaria researchers who are taking the fight against malaria into all frontiers. Their input is crucial and they have to contribute to the global research malaria agenda", said Dr Ntoumi.

As Coordinator, Dr Ntoumi will be the operator in-charge for the MIM Secretariat on advocacy, resource mobilization and raising awareness for the malaria cause among stakeholders in Africa and globally; promoting malaria R&D capacity strengthening; enhancing networking and coordination among MIM constituents and other malaria research and control alliances; and in promoting African involvement and commitment into the Initiative. Dr Ntoumi will be assisted by a Communications Officer, an Executive Assistant and Information and Technology Officer.

Dr Ntoumi, a Congolese national, has vast experience in malaria research, capacity building, management and leadership. Prior to her position as

Senior Scientific Officer for EDCTP, she was Director of Research/Associate Professor and Malaria Research Leader at the Medical Laboratory, Albert Schweitzer Hospital, Lambaréné, Gabon and the University of Tübingen, Germany from 2000-2005; Senior Molecular Biologist, Malaria Group, Centre Medical de Recherchés de Franceville, Gabon; and Post doctoral fellow, Experimental Parasitology, Institute Pasteur, France. She has a Masters degree and a PhD in Molecular Biology from the University of Paris VI, France. Before that she earned her undergraduate degree in her native Congo (Brazzaville).

Over the years she has worked and taught in different institutions in France, Gabon, Germany, The Netherlands, and Congo where she still teaches at Marien Ngouabi University. She has mentored over a dozen postgraduate students, mostly at PhD and postdoctoral levels.

Dr Ntoumi speaks and writes excellent French, is fluent in English and German and of course excellent in Lingala and Lari, the main Congolese national languages.

"This is the right time for Dr Ntoumi to come into the Secretariat as we work towards repositioning MIM for more efficient performance to conform to contemporary scene for malaria capacity building and R&D in Africa. Her passion for facilitating development of scientific capacity will be the greatest asset she will bring in" said Prof Wen Kilama, Managing Trustee of AMANET. He further added that "AMANET wished to genuinely reach out to Francophone Africa: Francine will be a great asset in this regard".



Dr Francine Ntoumi

She has served on several international committees in various capacities: Member, MIM/TDR Task Force (2003-present); Member, AMANET Scientific Coordinating Committee (2001-2005); Member, Scientific Advisory Board for MIM (2003-2005); Deputy Chair, Developing Countries Coordinating Committee of EDCTP (2003-2005); Coordinator, Network on Ethics on Biomedical Research (NEBRA), Central African chapter (2005-2006) and coordinator for the Malaria Immunology and Pathogenesis in Africa Consortium (MIMPAC) involving Seven (7) African institutions and European partners (2004-2005) to name a few. She also serves as reviewer for several scientific journals.

Established in 1997, MIM is an alliance of individuals, funding partners and four autonomous constituents comprising the MIM Secretariat, MIM at the WHO Special Programme for Research and Training in Tropical Diseases (MIM/TDR), MIM Communication Network (MIMCom), and the Malaria Research and Reference Reagent Resource Center (MR4). MIM overarching mission is to strengthen and sustain, through collaborative research and training, the capacity of malaria endemic countries in Africa to carry out research that is required to develop and improve tools for malaria control and to strengthen the research-control interphase. ■

Second Phase of Afroimmunoassay (AIA) Network Activities

The African Malaria Network Trust (AMANET) is delighted to announce the second phase of the Afroimmunoassay (AIA) network activities within the European Malaria Vaccine Development Association (EMVDA) Integrated Project.

In this 5-year project, the AIA network will further develop and introduce standardized immunological assays for validating malaria vaccine candidate antigens. These assays will provide baseline information for clinical trials, build quality assured laboratory capacity in Africa and ultimately set criteria for validation of promising malaria vaccine candidates. In addition, efforts will be made to include assays targeting other antigens from candidate vaccines which meet the EMVDA criteria to proceed to clinical testing. This activity will ensure standardisation of the assays and enhancement of relevant laboratory expertise needed for clinical evaluation of the vaccines. The project compliments objectives of the EMVDA consortium and aims at systematic development and testing of malaria vaccines by continuous evaluation of the credible candidates.

The network is being coordinated by Dr Daniel Dodoo, principal investigator for the AIA hub at the Noguchi Memorial Institute for Medical Research (NMIMR)-Accra in Ghana together with Dr Ramadhani Noor, AMANET Projects and Sites Manager, at the AMANET Secretariat in Dar es Salaam, Tanzania.

Started by AMANET in 2003, the multi-centre Afroimmunoassay network is working on developing standardized immunological assays using centralised supplied reagents and statistical tools to assess the association between acquisition of

malaria specific antibody responses to four potential malaria vaccine candidate antigens and protection from clinical malaria. The antigens include the Glutamate Rich Protein (GLURP), The Merozoite Surface Protein 3 (MSP-3), the 19-kilo Dalton region of the Merozoite Surface Protein 1 (MSP1-19) and the Apical Membrane Antigen 1 (AMA1). This work involves analysis of the plasma samples obtained from studies with similar longitudinal cohort designs from different geographical and epidemiological settings of malaria disease pattern, ranging from low to high endemicity.

The EMVDA consortium is an integrated project under the Sixth Framework Programme of the European Union aiming at systematic clinical development and testing of malaria vaccines by continuous evaluation of candidate antigens. This project extends from the antigen validation to early proof of principle trials and it involves selection and promotion of the best candidates from the development pipeline with a key goal of identifying specific antigens that have potential for development as candidate vaccines and move them quickly to clinical trials. The Consortium comprises of two (2) Small to Medium private enterprises, eight (8) European institutions, the European Malaria Vaccine Initiative (EMVI) and African Partner Groups already linked through the African Malaria Network Trust (AMANET).

In this project, AMANET will provide the inter-face between the European activities and African scientists through the AIA network. This second phase of the AIA Network will further carry on the work on the standardization of the assays for newer antigens with possible



Dr Daniel Dodoo, Principal Investigator, Afroimmunoassay, Ghana hub

Afroimmunoassay (AIA)

The AIA network is working on developing standardized immunological assays using centralised supplied reagents and statistical tools to assess the association between acquisition of malaria specific antibody responses to four potential malaria vaccine candidate antigens and protection from clinical malaria.

additional sites preferably from those with ongoing activities or undergoing follow up for other studies. The second phase will also bring about a definite career development, leading to at least one masters' degree qualification at each of the participating centres plus other PhD opportunities which will be made available within the consortium. It is also expected that the new activities will provide the network with a framework for north-south as well as south-south mentorship and technology transfer. ■

The Fifth AMANET Biennial Conference



Some of Conference participants in a group photo with the Guest of Honour, Hon. Sultan Mohammed Mugheiry (seated, third from left) Minister for Health and Social Welfare of Zanzibar

The Fifth AMANET Biennial Conference was on 26–28 February 2007 in Zanzibar, Tanzania. The three day Conference brought together more than 120 senior and junior scientists and researchers, policy makers and other experts in malaria from all over Africa, Europe and the US.

The various stakeholders met to discuss new research findings, their implications for malaria control and future perspectives. Capacity building, funding and developments for malaria R&D, and progress in intervention and control formed major areas of discussion. The Scientific Conference was officially opened by the Honourable Minister for Health and Social Welfare of Zanzibar, Hon. Sultan Mohammed Mugheiry, Member of Parliament.

A total of nine scientific sessions were convened including six keynote

speakers and 55 oral and poster presentations by participants from over 20 countries.

The theme for this conference was “Results from Clinical Development and Trials of Malaria Interventions” and the sub-themes:

- Candidate Antimalarial Drugs and Pre-Clinical Development
- Clinical Trials of Antimalarial Drugs
- Capacity Strengthening and Trial Site Development for Malaria Interventions
- Experiences on Site Characterization for malaria Intervention trials
- Candidate Malaria Vaccines in Pre-Clinical Development

- Clinical Trials of Candidate Malaria Vaccines
- Developments in Malaria Prevention and Control Part I
- Developments in Malaria Prevention and Control Part II
- Who is who in Malaria Intervention Trials.

“The theme for this conference was “Results from Clinical Development and Trials of Malaria Interventions” ”

AMANET General Assembly Elects New SCC and BoT

James Oloo

The third General Assembly for AMANET held in Zanzibar on the 1st of March 2007, had important business to accomplish including election of the new Scientific Coordinating Committee (SCC) and to note and confirm the list of the new members of AMANET Board of Trustees (BoT).

This SCC will serve for the period November 2007 to October 2010. In tandem with its predecessor, this Committee is also constituted of a group of highly experienced and resourceful scientists.

The size of the SCC has been reduced from 20 to 12 on the recommendation of the AIDCO mid-term review and BoT in a move to enhance more focused approach to deliberations of the Committee.

The new members are deemed free of conflict of interest, and are called upon to declare any deviation from this fact at any time on any issue brought before the Committee.

The BoT further agreed that one third of the members of the new SCC should be continuing members from the outgoing SCC to provide continuity on issues and traditions of operations.

The following were elected as continuing members, namely; Achidi Eric Akum (Cameroon), Ibrahim ElHassan (Sudan), Kevin Marsh (Kenya) and Catter Diggs (USA). The new members of the Committee are Salim Abdulla (Tanzania), Kalifa

Bojang (The Gambia), Seth Owusu-Agyei (Ghana), Bernhards Ogutu (Kenya), Theonest Muttapingwa (Tanzania), Alfred Tiono (Burkina Faso), Adrian Luty (The Netherlands) and Marita Troye-Blomberg (Sweden).

The new SCC will participate in the change-over SCC meeting to be held in October 2007. It will be chaired by Robert Sauerwein (Netherlands) who has steered the outgoing SCC since its inception in 2002.

AMANET Board of Trustees

This is the highest statutory body for the management of strategic affairs of AMANET. The General Assembly noted the list of the new Board of Trustees, who will begin to give service and support in November 2007 up to October 2010.

The continuing members of the BoT are, Robert Guiguemde (Burkina Faso), Yadon Kohi (Tanzania), Rose Leke (Cameroon), Marcel Tanner (Switzerland), and Regina Rabinovich (USA).

They will be joined by Hassan Mshinda (Tanzania), Dan Kaseje (Kenya), Soren Jepsen (Denmark) and Louis Miller (USA) who are the new members into the Board. A change-over BoT meeting is also scheduled for October 2007.

From the outgoing Board, two members (Prof Francis Nkrumah and Prof Brian Greenwood) will retire from the Board after unparalleled distinguished service to AMANET.

Prof Nkrumah was also the chairman of the Board since 2002. The late Steven Chandiwana (Zimbabwe) had also been elected as incumbent member. ■



Professor Francis Nkrumah, Chairman, AMANET Board of Trustees



Professor Sauerwein, Chairman, AMANET Scientific Coordinating Committee

AMANET Welcomes New Staff

AMANET is delighted to welcome new staff members who have joined the Secretariat recently

Dr Aceme Nyika, Ethics Coordinator

Dr Aceme Nyika is our new Ethics Coordinator. He is the focal person for the new project at AMANET "Building Institutional Capacities in Health Research Ethics in Africa" funded by the Bill and Melinda Gates Foundation.

Dr Nyika joined AMANET in April this year. He will be managing the Health Research Ethics (HRE) Project which aims at strengthening the ethical review process at African health research institutions, training health research investigators in HRE and promotion of African perspectives to Health Research Ethics through the creation and fostering of an electronic discussion forum, and encouragement of electronic discussion and debate on bioethics issues in Africa.

"Africa faces a unique risk for exploitation in health research because of its rampant poverty, poor health facilities and inexistent or ill-developed ethical review mechanisms. I am confident that the vast experience and resources accumulated by AMANET will be brought to bear in her endeavor to protect the rights and well-being of African research participants, and I feel much honoured to be part of this crucial undertaking" says Dr Nyika.

Before joining AMANET, Dr Nyika was an Ethics Fellow with the Malaria Genomic Epidemiology (MalariaGEN) at the University of Oxford (2006-2007) and before that he was Ethics Fellow with the Center for the AIDS Programme of Research in South Africa (CAPRISA) in 2005. Dr Nyika was a lecturer at the University of Zimbabwe (2000-2003) where he contributed to the development of an Ethics Committee at the University.



Dr Nyika, a Zimbabwean national, obtained his Bachelor of Science in Biosciences at the University of Zimbabwe in 1992, holds a PhD degree in Molecular Biology from the University of Florida, and Master of Public Health degree majoring in Health Research Ethics from the University of Pretoria

Dr Ramadhani Noor- Projects and Sites Manager

The AMANET Secretariat has been further strengthened by the coming of Dr Ramadhani Noor, as the new Projects and Sites Manager, who joined AMANET in April, 2007. Besides assisting the Clinical Trials Coordinator in the AMANET vaccine trials project, Dr Noor will be responsible for centrally managing Afroimmunoassay (AIA) network activities within the European Malaria Vaccine Development Association (EMVDA) Integrated Project where AMANET is a collaborating partner representing African Partner Groups.

"I am joining the Secretariat at its busiest time ever: four clinical trials of candidate malaria vaccines launched just this year, ongoing capacity strengthening projects plus a new range of activities in the invigorated Afroimmunoassay to add to the mouthful of the stockpile. Surely it can't get busier than this, but that's the AMANET spirit" says Dr Noor.

"Being probably the only African sponsor of clinical trials so far, AMANET has to stay on top of the game: ICH/GCP compliant malaria research that is not only ethical but also reflective of Africa's needs and priorities, and I feel uniquely privileged to be part of this important hallmark", he adds.

Dr Noor comes from a strong background in health research. Prior to joining AMANET, Dr Noor was working with the Muhimbili University College of Health Sciences-Harvard Research Collaboration as a Medical Monitor and thereafter as a Research officer and Assistant to the Field Director, Muhimbili – Dar es salaam City – Harvard (MDH) HIV/AIDS Care, Treatment Programme (Harvard, PEPFAR) (2003-2006). He worked concurrently as part-time Research Fellow with the Department of Nutrition Epidemiology of the Harvard School of Public Health on Multivitamins and HIV/AIDS trial for people on highly active anti-retroviral therapy (HAART). Before that Dr Noor



worked as a Registrar Medical Officer at the Muhimbili National Hospital (2001-2003) in Tanzania.

Dr Noor, a Tanzanian national, obtained his Doctor of Medicine degree at the University of Dar es Salaam, Tanzania, in 2001. He also holds a Masters in Public Health (Quantitative Methods) from the Harvard School of Public Health in the US.

Mr Bonney Majila-Accounts and Procurement Officer

Bonney Majila wraps up the trio of new staff who joined AMANET in April 2007 as an Accountant and Procurement Officer. Mr. Majila, who is on the HRE Project funded by the Gates Foundation, will assist the Finance and Administration Manager in executing AMANET projects particularly the HRE project. He will, among other responsibilities, monitor project finances, procurements, and operations, and ensure that AMANET sub-grantees adhere to agreed financial and accounting procedures.

"I am joining an institution that has built considerable experience in managing, disbursing and accounting for funds and other resources in Africa, which is a major challenge to many. Besides ongoing projects, AMANET will soon be offering HRE capacity strengthening grants to 20 African ethics review committees, and I am proud to be part of the AMANET financial and accounting machinery to ensure that the much needed scarce resources meet the desired objectives" says Mr Majila.

He brings with him six years of experience working with international organizations. Before joining AMANET, he worked as Finance and Administration Manager for Plan International-Kibaha Programme Unit, Tanzania (2006-2007) where he was responsible for various projects funded from various international sources. Prior to this he had worked as Programme Accountant and Administrator for World Vision Tanzania (2001-2005).

Mr. Majila, a Tanzanian national, obtained his Bachelor of Commerce and



Management (Finance Major) at the University of Dar es salaam, Tanzania, in 2000. He also holds a Masters degree in Business Administration majoring in Finance and Banking from the Mzumbe University, Tanzania.

Candidate Malaria Vaccine MSP3-LSP Tested in Child Population in Burkina Faso

Charles Wanga

The candidate malaria vaccine MSP3-LSP (merozoite surface protein 3- long synthetic peptide) with Aluminium hydroxide as adjuvant has entered clinical testing in child populations in Burkina Faso.

The MSP3 study is being conducted by the Centre National de Recherché et de Formation sur le Paludisme the (CNRFP) at its Malaria Vaccinology Unit (Projet de Développement de Vaccins Anti-Paludique-PDVP) in Balonghin village, Saponé district, with Dr Sodiomon Sirima as the Principal Investigator. The highly competent and well experienced PDVAP/CNRFP team has been working in this area for over five years now, and have established solid relationship with the community.

CNRFP also enjoys good working rapport with the Burkina Faso Ministry of Health, and in this case, the African Malaria Network Trust (AMANET), a

pan-African NGO dedicated to finding effective and affordable malaria intervention tools. With more than 20,000 Burkinabe children dying from malaria each year, the community in Balonghin are determined to contribute to the fight against the gruesome statistics of the malaria scourge.

"This is the second trial of this candidate vaccine malaria to be conducted in this community, the first having been successfully completed in male adults. The community understand the crucial role they have by taking part in finding solutions which may well lead into a reliable arsenal against the malaria debacle" says Dr Sirima.

The study, which was approved by the Health Research Ethics Committee (Comite d'Ethique pour la Recherché en Sante) of the Burkina Faso Ministry of Health, involves 45

healthy children aged 1-2 years old. This trial, as in all phase Ib trials of candidate malaria vaccines, aims at further demonstrating that the MSP3 vaccine is safe in children in endemic areas. A careful design is being implemented where a lower dose is evaluated before a higher dose is administered with a two-week time lag among the children groups. To accurately evaluate safety, any immediate or delayed adverse events will systematically be monitored during the entire study period of 1 year. The MSP3 is being compared with a vaccine against hepatitis B which is already registered for public use.

This clinical trial is sponsored by the African Malaria Network Trust. AMANET, which is responsible for the clinical development of this vaccine in Africa, and is funded by the European Commission-EuropeAid Cooperation Office (AIDCO) on this programme of

>> continued page 12

Report on the First Health Research Ethics Workshop for Ethics Committees and Review Boards in Africa

Aceme Nyika, Okyere Boateng, Christine Wasunna, Caroline Kithinji

AMANET organized a five-day "Health Research Ethics (HRE) Workshop for Ethics Committees and Review Boards in Africa" from 28th May to 1st June 2007 at Giraffe Ocean View Hotel, in Dar es Salaam, Tanzania.

This workshop was the first in a series of eight similar HRE workshops to be spread in four years in the new AMANET HRE capacity strengthening project funded by the Bill and Melinda Gates Foundation. The thirty three (33) members of ethics review boards and committees who participated in this training came from Burkina Faso, Cameroon, Ethiopia, Gabon, Ghana, Kenya, Malawi, Nigeria, Tanzania, Uganda and Zambia.

The workshop was opened with a scintillating speech from the guest speaker, Prof Brig. General Yadon Kohi, Director General for the Tanzania Commission for Science and Technology and Member of the AMANET Board of Trustees who set the scene by unpacking the origins and meaning of the word 'Ethics'. He highlighted the importance of Health Research Ethics in the wake of increasing volumes of health research. In this opening session Professor Kohi and then Professor Kilama captured the basis of ethics and the historical development of health research ethics largely in response to inhuman practices.

Subsequent plenary sessions by Prof Godfrey Tangwa, Mrs Joyce Ikingura, Mr Paul Ndebele, Dr Aceme Nyika, Dr Roma Chilengi and Dr Nditonda Chukilizo addressed on philosophical mechanisms of assessing the moral and ethical rightness of an action or research protocol. The four main ethical principles, namely the

principles of autonomy, beneficence, non-maleficency and distributive justice, were elaborated as a means of ensuring logical and objective way of assessing the ethical correctness of an action. It was noted that dynamics in health research have an impact on the practicalities of the four ethical principles. Thus risks and benefits could be at individual, family, community or population levels depending on the nature of the research. Nevertheless, the requirement for truly voluntary informed consent remains a cornerstone of ethical health research.

It was made clear right from the beginning of the workshop that Ethics Committees play a major role in ensuring that the welfare and well-being of research participants are protected, and thus they need standard operating procedures that guarantee uniformity, transparency and independency in the review of research protocols.

The informed consent was also unpacked in the context of vulnerable groups of people, who include

prisoners, children, pregnant women, handicapped and institutionalized participants, refugees, and impoverished communities. This led to heated debate on whether or not pregnant women are vulnerable. One school of thought was that they are not vulnerable because they are competent individuals who can process information and make rational informed decisions.

A second school of thought was that they are vulnerable not in the sense that their decision-making capabilities are limited, but because they carry fetuses which are not yet adults but may be exposed to experimental conditions meant for adults. In addition, many hormonal physiological changes due to pregnancy could render them more vulnerable than adults who are not pregnant. Related to vulnerable groups, it was suggested that resource-constrained institutions should also be considered as a vulnerable group since the need for injection of research funds usually overshadows the need to consider ethical issues.



Group discussion during the HRE workshop

By the third day of the workshop, issues of standard of care and post-study benefits were flagged as critical aspects of health research that need to be considered if chances of exploitation of research participants are to be minimised.

These issues evoked lively discussions on the reality of research being conducted in areas with different standards of care and in resource-constrained settings where products of health research could be unaffordable to the researched communities. Interactive debate on ancillary care during and post study ensued.

After plenary on responsibilities and definitions of sponsors, investigators and Data Safety and Monitoring Boards (DSMB) comments to the

effect that the GCP guidelines seem to focus more on the sponsor than other stakeholders were made, and an all-encompassing review was suggested.

Towards the end of the workshop, legal and regulatory aspects of health research such as requirements of regulatory agencies and the importance of Material Transfer Agreements (MTAs) were dealt with.

To sum up the proceedings, ethical issues surrounding malaria research were flagged. These included uncertainties surrounding the third generation vaccines that are based on recombinant DNA technology and the adjuvants that may not have been well characterised for use in humans. Potential risks and uncertainties surrounding genetically modified

mosquitoes and the use of live vectors to deliver DNA vaccines were also highlighted. ■



Linda Kalliani, participant from Malawi

Obituary: Prof. Stephen Chandiwana (1953-2007)

Prof. Stephen Chandiwana, a member of the Board of Trustees (BoT) of the African Malaria Network Trust (AMANET), passed away peacefully on June 19, 2007 in South Africa after a long struggle with cancer. He was laid to rest on June 24 at his farm in Ruwa, a few kilometres east of Harare. Prof Chandiwana provided a uniquely African approach to the deliberations of the AMANET Board meetings.

The Chairman of the AMANET Board of Trustees, his former colleagues in the BoT, and the staff of the AMANET Secretariat are united in conveying our kind message of condolence to the bereaved family.

Prof. Chandiwana was born on June 16 1953 in Mutasa district, Zimbabwe. He earned a PhD degree in parasitology and epidemiology at the University of Zimbabwe. He obtained an MSc degree in parasitology at Cornell University in the United States. Prof. Chandiwana joined the Blair Research Laboratory

(now National Health Research Institute) in 1981 as a Medical Research Officer, and later to become the first indigenous Zimbabwean to head this institution.

Until his untimely departure, Prof. Chandiwana was Personal Professor and Assistant Dean Research and Postgraduate Studies in the Faculty of Health Sciences, University of the Witwatersrand (WITS University) in South Africa. He was a keen promoter of African networking and in developing competencies of young researchers.

Prof. Chandiwana was one of the founder directors of the Harare based non-governmental research organization - the Biomedical Research and Training Institute (BRTI), and served on honorary basis on the boards of the 'Scientists on Health Research and Development' (SHARED), the WITS Health Consortium (PTY) LTD, and the African Malaria Network Trust (AMANET). Other appointments



included serving on the Geneva based Council on Health Research and Development (COHRED), President Mbeki Advisory Committee on AIDS, the South African Medical Research Council's SAAVI, and the Johns Hopkins Malaria Institute Advisory Committee.

Prof. Chandiwana is survived by his wife Duduzile and three children: Mati, Thembi and Rutendo.

We will fondly remember his kind demeanour. ■

continues from page 9

malaria vaccine development. AIDCO is committed to supporting development of effective interventions against public health problems facing Africa and have been funding AMANET for malaria vaccine development activities and the African site capacity strengthening programme.

Having met the preset go criteria for safety in adult studies conducted earlier, the candidate malaria vaccine MSP3 is now carefully being taken closer to the ultimate target population, children in their infancy. In an article published this year in the journal *Vaccine*, MSP3 was found to induce no serious adverse events, and was well tolerated by adults previously exposed to natural *Plasmodium falciparum* infection in the same area of Balonghin.

Other earlier studies done previously in malaria naïve Swiss adults and published in *PloS-Medecine* showed that the vaccine readily induced immune responses able to kill *P. falciparum* under in vitro and in vivo conditions, and were long-lasting (more than one year).

The fact that until now there is no registered malaria vaccine confirms that creating such a vaccine is no easy task. The elusive nature of the malaria parasite and the complex parasite-host interaction requires innovation, resources, time, collaboration and passion. And talking about passion, the Biomedical Parasitology Unit at the Institute Pasteur-Paris has more than that. Led by Dr Pierre Druilhe, the inventor of MSP3, the team has worked tirelessly and managed to crack the conundrum on interactions between human beings and the notorious malaria parasite, *Plasmodium falciparum*, to come up with the novel MSP3 vaccine.

The majority of candidate vaccines against malaria have been selected according to the immune responses that they trigger in animals. But they have often been revealed to be disappointing during clinical trials on humans. To get around this difficulty, Pierre Druilhe's team has developed an innovative approach to selecting candidate vaccines that are effective in humans. They repeated part of an old clinical experiment that demonstrated that immune system proteins (antibodies) from a naturally-immune person could cure a naïve subject who had malaria.

In work that has spanned more than a decade; the researchers analyzed blood from adults living in malarial regions of Africa and eventually traced the protection to antibodies against a previously unknown malaria parasite protein called MSP3. They then demonstrated that antibodies to MSP3 promote the function of a group of white blood cells (monocytes) which can attack and kill the parasite.

"We had to think like the parasite to come up with a malaria vaccine that imitates the parasite's effects on the human immune system" says Dr Druilhe.

Results from a total of 15 studies have now converged in support of the vaccine potential of Merozoite Surface Protein 3 (MSP3). Moreover, MSP3 is "conserved" i.e. identical in all parasites infecting humans, a major advantage as compared to other malaria vaccine candidates.

Aluminium hydroxide, the adjuvant for this vaccine, has had the widest clinical experience. An adjuvant is a substance added to a vaccine to potentiate its immune response so that less vaccine is needed to produce a non-specific increase of

the body's immune response. The vaccine batch currently under trial in Burkina Faso was produced by Synprosis, a Biotechnology company based in Marseille, France. ■

More News and Opportunities on the AMANET Website:
www.amanet-trust.org

• **The AMANET Health Research Ethics (HRE) Project Is Now In Full Swing**

The AMANET HRE project, funded by the Gates Foundation, aims to ensure that as the African populations are recruited into health research projects, the protection of their welfare and interests is enhanced. There are basically three projects, namely the Health Research Ethics capacity building project, the Health Research Ethics online discussion forum and the Ask the Expert/Ethicist project...

• **CALL FOR APPLICATIONS: AMANET Training Workshop for Data Safety & Monitoring Board (DSMB) Members from African Institutions**

Applications are invited from middle to senior level African scientists who are working in research institutes and Universities in Africa, and in other non-profit AMANET networked institutions. Individuals with research experience in epidemiology, clinical trials, biostatistics and those participating in or likely to be involved in malaria vaccine development are encouraged to apply. Candidates from selected centres being developed by AMANET are given preference. **More details available online...**



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