

REPORT OF THE 1st SCIENTIFIC ADVISORY BOARD (SAB) OF THE GLOBAL HEALTH AND TROPICAL MEDICINE RESEARCH CENTRE AT THE INSTITUTE OF HYGIENE AND TROPICAL MEDICINE – UNIVERSIDADE NOVA DE LISBOA (IHMT/NOVA)

Members of the SAB:

Dr Maria do Rosário Bragança Sambo (MRB)	Ministério do Ensino Superior, Ciência, Tecnologia e Inovação - República de Angola
Prof Sylvie Manguin (SM)	Institut de Recherche pour le Développement, Montpellier, France
Prof Afranio Kritski (AK)	Federal University of Rio de Janeiro, Brazil
Dr Mateus Webba da Silva (MWS)	Ulster University, Northern Ireland
Prof Umberto D'Alessandro (UDA)	London School of Hygiene and Tropical Medicine, United Kingdom

The meeting was held via teleconference on April 6th, 2020 for 3 hrs 1/2. The meeting was opened by Prof Filomeno Fortes, Director of the IHMT/NOVA, who welcomed the SAB members and introduced each of them. This was followed by the approval, without any modification, of the proposed SAB's guidelines and regulations.

UDA was elected unanimously as chair of the SAB.

Miguel Viveiros, the scientific coordinator of the Centre, provided an overview of past achievements, vision and future plans. In 2019, the Centre was evaluated as excellent by the Portuguese Foundation for Science and Technology, approving the next 4-year funding cycle. Notably, in 2014-2018, the Centre produced 644 international publications, implemented 47 research projects, 40% of them international, and filed 4 patents. The Centre is also well connected internationally, with a focus on Portuguese-speaking countries. The Centre has also had substantial teaching commitments; during 2014-2018, it had 459 1st year students, 44 PhD completed theses and 167 MSc students. For the period 2020-2024, the Centre revised its structure with 4 research groups and 5 cross-cutting issues (instead of 3 and 3, respectively). The overview was followed by the presentation of each of the Centre's components.

The largest research group, with 55 members, is the **Vector-Borne Diseases**, led by Joao Pinto. It has a broad research portfolio that spans from the surveillance of *Aedes albopictus* in Europe to the development of point of care diagnostic tests and drug discovery. Isabel Couto presented the **TB & HIV Diseases and Opportunistic Pathogens**. The group comprises 28 members and works on a variety of pathogens, including the SARS-Cov2, although TB and HIV seem to represent a large part of the research portfolio, covering molecular epidemiology, pheno/genomic insights into drug-resistance mechanisms, drug discovery algorithm and develop tools for improved precision medicine. Rosario Martins presented the **Population Health, Policies and Services** group (8 members) that is working on health policies and planning, human resources for health and health determinants of vulnerable populations. They have notably set up a cohort of migrant children in one of the Lisbon municipality, with the plan of comparing them to other children in the countries of

origins. Reynaldo Dietze presented the **Individual Health Care** group, the newest among the research groups, that has the mission of developing and implementing clinical research. Investing in this research area was a deliberate choice of the Centre. This group of 10 persons is currently participating to a multicentre clinical trial on a treatment for sleeping sickness and on a study on the influence of oral polio vaccine on respiratory and gut microbiome. The group is planning to set up a field site to carry out clinical research in one lusophone African country although it is unclear where exactly this will be done and who will be the local collaborators.

There are 5 cross-cutting issues (CCI) or themes. **Diagnostics** presented by Ana Paula Arez aims at developing new diagnostic tools for different diseases, several examples were given, also by exploiting the biological samples stored in the biobank which currently contains about 21,000 samples. **Drug Discovery and Drug Resistance** was presented by Pedro Cravo and notably uses computational approaches (*in silico* drug repurposing and virtual high throughput screening) for drug discovery. There is a plan to translate results into novel treatments and diagnostic tools, but it is unclear if this will be done in collaboration with the Individual Health Care group. **Public Health Information** was presented by Louis Lapao; overall the group is working to improve the use of public health information to improve health care. It aims at using new technologies for this purpose. Both bioinformatics and telemedicine are part of its portfolio. **Global Pathogen Dispersion & Mobility of Population** was presented by Ana Barroso Abecasis. This cross-cutting theme works closely with the other 4 research groups. Finally, Isabel Craveiro presented the **Fair Research Partnership** whose aim is to contribute to sustainability and equity in global health research through capacity building and partnership. One of the achievements was that IHMT/Nova has become a Research Fairness Initiative (RFI) Reporting Institution.

The presentations were followed by a session during which the SAB asked questions to the researchers. MWS asked a clarification on the reasons for the observed drop in research funds income between 2014 and 2016. The answer was that this was due to the economic crisis and the decrease in Portuguese research funding. Research income is likely to increase over the next few years. Despite limited funding, the output of the Centre, both for research and training, is impressive. There was a long discussion on the capacity building activities carried out by the Centre in Low- and Middle-Income Countries (LMIC) (MRB, SM). This should be done at all levels, e.g. laboratory technicians or even administrators. In addition, the Centre should better leverage the unique opportunities its alumni have the potential to enable, whilst also benefitting their professional development and career. SM asked for a clarification on the interactions between research groups and CCI teams, requiring a schematic illustration showing the current links existing among them and possibly joint articles already published. AK remarked the need to identify and collaborate with partners with a wide range of expertise, e.g. industry. It is also important that, besides implementing clinical trials up to phase III, the Centre should also invest in implementation science linked to digital health, i.e. test interventions in real life situations to identify bottlenecks and possible solutions for their optimal implementation.

After this discussion, the SAB recommends the following:

1. It is unclear how the different research groups and cross-cutting issues interact. Although it is appreciated that the current structure is different from the previous 4-year period, the SAB recommends producing **a scheme in which the interactions between research groups and cross-cutting issues are mapped and quantified**. For the time being, this will include the interactions of the previous 4 years. This will serve as baseline to monitor the evolution and degree of interactions over the next 4 years.

2. Securing competitive research funding is essential for the success of the Centre. Information on available funding opportunities should be known by all researchers so that they would be able to submit grant proposals. Partnership with LMIC is essential, particularly with lusophone countries. The SAB suggests creating, whenever possible, a **network between researchers and policy makers at national level** in the countries where the Centre is operating.
3. The SAB is happy to hear that there is already a plan to recruit an **implementation scientist**. This is essential for expanding the research portfolio of the Centre and the impact of its research activities. In addition, the SAB recommends strengthening the **partnership with the industry**, particularly when considering that the Centre is actively working on drug discovery, new treatments and novel diagnostic tests. Without industrial partners, discoveries may be overlooked and not developed towards products.
4. The SAB recommends **capacity building should be done at all levels**, not only MSc and PhDs, but also technicians. Adequate consideration should be given to the inclusion of promising alumni in research activities benefitting their career and the centre's activities. The SAB approves the Master course in medical entomology done for lusophone technicians and students, which is part of the process of capacity building.
5. Finally, the research portfolio of the Centre is extremely broad. Identifying priority research areas may help increasing the efficiency in the use of resources. This is an exercise that the SAB is unable to do at this moment as the time available for the presentation of the different research areas was extremely limited. **Prioritization could first be done internally and then discussed with the SAB at the next meeting that hopefully would have more time for such discussion.**