

GloPID-R Zika Virus Research Workshop

**University of São Paulo, São Paulo, Brazil
November 30 to December 2, 2016**

Summary Report

The Oscar Freire Institute of São Paulo hosted an exciting meeting where [GloPID-R](#), a consortium of research funders, brought together their funded Zika research project teams. Over the 30th of November to the 2nd of December 2016 the grantees met together and with the funders, to discuss how they can better collaborate together to ensure high quality, harmonised research addressing many of the remaining research questions on the Zika virus and the complications thereof. The [recent awards](#) of over 45 million euros by the European Commission and three million Canadian dollars in the context of the Canada-Latin America and the Caribbean Zika Virus Research Program by the Canadian Institutes of Health Research (CIHR) and the International Development Research Centre (IDRC), demonstrates the clear commitment to the research of Zika.

The workshop brought together almost 70 participants, both funders and researchers, from nearly 50 different institutions, from 17 countries across the globe, as well as from the European Commission, the World Health Organization (WHO) and the Pan American Health Organization (PAHO). The two-day workshop ended with a third day of site visits to the Butantan Institute and the Virology department of the Institute of Biomedical Sciences of the University of São Paulo.

After a series of introductory presentations, the workshop was built around four themes, and two focus areas, the highlights of which are presented below.

Theme: Clinical spectrum of Zika virus infection

The discussion emphasised the need for reliable diagnostics, both for clinical and epidemiological purposes, as well as the need to better integrate the different clinical, epidemiological and entomological studies that are being carried out. Most importantly, efforts are needed to integrate the multiple cohort studies that are being implemented across the Latin American region, in order to reach sufficient patient numbers, allowing for meaningful study conclusions – both for Congenital Zika Syndrome (CZS) and for Guillain-Barré syndrome (GBS). The sharing of data and of samples was considered of particular added value for the case control studies.

Theme: Pathogenesis of Zika virus infection

Challenges that researchers are faced with include the variety of virus strains, and of the in vitro models and animal models being used; more exchange between researchers, working towards a consensus on experimental protocols would certainly be of added value for better comparability of study results. Other factors such as the genetic variability of the host and the impact of previous

exposure or co-infections need to be taken into consideration for a better understanding of the pathogenesis of Zika virus infection. The reporting of negative study findings was suggested as an additional avenue for more efficient research.

Theme: Diagnostics for Zika virus infection

A series of challenges were presented with regard to the different diagnostic tools and methods that are available for the diagnosis of Zika virus infection, both in the context of clinical settings, in the context of epidemiological studies and for research purposes. WHO is currently working on the development of international standards for diagnostics, which ideally give rapid results, and are easy to use at the point of care. One key priority for ensuring good quality diagnosis is increased sharing of external quality assurance materials, involving public health as well as research labs. A second issue related to the importance of quality biobanking methods, both at a local and international level, and the need to define international standards for accessing samples. Existing networks can be used for this purpose. Capacity to promote local storage and manipulation of samples will be reinforced throughout the different research projects.

Theme: Vector studies

A number of opportunities were identified for collaboration on vector studies, such as expanding geographical coverage of ongoing studies, improving vector surveillance research, or moving from research into implementation. A strong focus was put on the need for more harmonisation e.g. in the methods for collecting mosquitoes or in protocols for vector competence studies. Following this thematic discussion, some researchers signed up to create a small network to set up a more systematic exchange of information on ongoing and planned vector studies, and to collaborate on modelling exercises related to the expansion of the vector.

Focus area: Data sharing in public health emergencies

This session was organised by the [GloPID-R working group](#) on data sharing in public health emergencies. After an overview of the work being done by the working group, presentations focused on previous data sharing experiences, i.e. from the Ebola outbreak in West-Africa in 2014, and from the Zika virus outbreak in Brazil from the past year, as well as on concrete plans for data sharing related to the recently started studies by the EC funded consortia and to the WHO initiative on individual participant data meta-analysis. A final presentation focused on the potential of sharing and integrating different types of data, i.e. genomics, epidemiological and clinical data by using ontology.

GloPID-R members attribute great importance to sharing of data in public health emergencies, and are moving "from encouragement to expectation" in that regard. The importance of harmonisation of study protocols from the start, ensuring a certain level of standardisation in the collection of data across studies and research groups, was emphasised at many occasions during the workshop.

Focus area: Clinical trial networks and preparedness

A number of clinical trial and preparedness networks, funded by GloPID-R members and from different regions around the world, were presented. While some exist already for several years and

have proven their added value during the Zika epidemic, e.g. [REACTing](#), [PREPARE](#) and [ISARIC](#), others are in the early stages of being established, e.g. [APPRISE](#) and [REDe](#). REDe is of particular relevance to Latin America and the Caribbean, since this research capacity network (run by the three EC Zika consortia) aims to build strong partnerships between all research sites running Zika studies in the region.

The added value of the existing networks in the rapid mobilisation of new research initiatives in preparation of, or response to outbreaks was illustrated by different presenters. The running of studies outside of emergency contexts, but carried out through the network, were considered of particular relevance to facilitate a rapid clinical research response to an epidemic.

Concrete collaboration initiatives were agreed upon, e.g. on the inclusion of new sites for adaptive trials being coordinated by PREPARE, on the modelling of data, on collaboration between ISARIC and PREPARE for the operational response plan and on studies covering social sciences, socio-economic impact or mental health. The networks also agreed on joining forces to address ethical issues in a more coordinated manner, and a network of networks will be created to facilitate communication and further collaboration between the existing networks.

Conclusions

The workshop provided a good balance between presentations and opportunities for discussion and exchange, allowing for scientific updates as well as extensive networking. The mixture of researchers and funders, gathered around the common purpose of fostering better coordination and collaboration on Zika related research, was considered as a useful recipe, and it would be appreciated to repeat this experience in the next year or so. A number of new concrete initiatives to collaborate between researchers were launched, such as on vector studies or between the clinical trial and preparedness networks. Exchanges between researchers will continue on the different themes addressed, e.g. the integration of the cohort studies for a better understanding of the clinical spectrum of Zika virus infection, the need for consensus on experimental protocols for studies on pathogenesis, or on extending external quality assurance for diagnostic tools. The GloPID-R working group on data sharing in public health emergencies will make sure to follow up on the recommendations from the data sharing discussions. Finally, relevant recommendations for the further development of GloPID-R were also formulated, such as a regularly updated mapping of the research funded by GloPID-R members.

The workshop reinforced the fact that research needs to be an integrated part of any efficient outbreak response; and it confirmed that there are still many research questions remaining to be answered for the current Zika epidemic.

Links

- Workshop concept note
- Workshop agenda
- Press releases: [EU delegation in Brazil](#) and [CIHR](#)