

## **BOHEMIA will develop an innovative vector control strategy to kill mosquitoes and prevent malaria by administering drugs to humans and livestock**

*Unitaid has awarded a US \$ 25.3 million grant to the Barcelona Institute for Global Health (ISGlobal) for a project that seeks to reduce malaria transmission*

**Barcelona, 6 March 2019.-** Global efforts to fight malaria have hit a plateau and new tools that complement those currently in use are needed to achieve global malaria goals. In this context, the **Barcelona Institute for Global Health**, ISGlobal, has been awarded a **US\$ 25.3 million grant from [Unitaid](#)** to evaluate **mass drug administration (MDA) of ivermectin** to humans and livestock in two countries—**Tanzania and Mozambique**—to kill the mosquitoes that transmit malaria. ISGlobal will lead a **consortium** that includes the **Centro de Investigação em Saúde de Manhiça (CISM)**, the **Ifakara Health Institute**, the **University Hospital Bern**, the **University of Oxford**, and **Virginia Tech**.

“Vector control, our most effective strategy, is now doubly threatened by widespread insecticide resistance and residual transmission,” says **Regina Rabinovich**, principal investigator of BOHEMIA, director of the Malaria Elimination Initiative at ISGlobal, a centre supported by “la Caixa”, and ExxonMobil Malaria Scholar at Harvard University. “We need innovative thinking on how to prevent malaria if we want to make progress towards the goals proposed by WHO in the Global Technical Strategy for Malaria 2016-2030.”

The grant awarded by Unitaid will enable the consortium to advance the development of a **new strategy to reduce malaria transmission based on ivermectin mass administration**. BOHEMIA (Broad One Health Endectocide-based Malaria Intervention in Africa) is a four-year project that will conduct two clinical trials in different eco-epidemiological settings in east and southern Africa, specifically Tanzania and Mozambique. Ivermectin will be distributed in mass drug administration campaigns to humans and livestock, for two consecutive years.

The project will **generate evidence on four different aspects—efficacy, safety, social science, and environmental impact**—to support regulatory guidance, global and national policy change. Should evidence be supportive, engagement with WHO and other key stakeholders will support **policy and implementation of ivermectin** as an innovative vector control strategy for malaria control and elimination. By engaging **industry** early in the process, the project also aims to facilitate increased supply from at least two manufacturers if the malaria intervention is recommended.

The innovative **One Health approach** also offers an opportunity for preventing neglected tropical diseases in humans. “Delivery to livestock has a positive impact on households. It reduces the burden of intestinal helminths and ecto-parasites in domesticated herds, thereby increasing income and food security,” adds **Carlos Chaccour**, chief scientific officer of BOHEMIA, ISGlobal researcher and professor at the University of Navarra. “Indeed, these additional benefits would represent a step towards achieving the Sustainable Development Goals.”

**Francisco Saúte**, deputy director for science at the Manhica Health Research Centre and co-Investigator of the BOHEMIA project: “Most national malaria control program managers in Africa are anxiously looking for new interventions that can be added to their current toolkit to help them further the impact of their programs at a time when the 2018 World Malaria Report points to an increase in the burden of malaria in African countries and casts a grim prospect in the fight against vector-borne diseases.”

**Fredros Okumu**, director of science at Ifakara Health Institute, and co-investigator of the BOHEMIA project: “We are extremely excited to begin this new partnership with Unitaid, and to work with ISGlobal and other institutions across the globe. In line with our Institute’s mission to improve people’s health and wellbeing, this funding commitment will allow us to evaluate on a large scale that MDA with a wonder drug, ivermectin, when layered over ongoing initiatives such as insecticide treated nets, could tilt the scales towards eventual malaria elimination even in some of the most challenging conditions.”

**Felix Hammann**, physician at the University Hospital Bern and manager for pharmacokinetics at BOHEMIA: “The repurposing of ivermectin as a tool for malaria vector control is an innovative approach to a pressing problem. The BOHEMIA project is in an excellent position to generate much-needed evidence to make a case for its safe, sustainable use, and achieve a large and lasting impact. We are excited to contribute towards achieving these goals.”

**Marta Ferreira Maia**, researcher at the University of Oxford and lead entomologist at BOHEMIA: “Unlike long-lasting insecticide treated nets and indoor residual spraying which target indoor-biting and indoor-resting mosquitoes, MDA of ivermectin is likely to control malaria mosquitoes irrespective of where or when they feed or rest. If given to the majority of available blood hosts, we hypothesise that it will kill a large proportion of the vector population and so reduce malaria transmission.”

**Caroline Jones**, researcher at the University of Oxford and lead social scientist at BOHEMIA: “Understanding the drivers of adherence or non-adherence to ivermectin MDA for malaria control will be central to our research programme; contributing to the development of appropriate MDA delivery systems and community engagement strategies essential for the success of this approach.”

**Cassidy Rist**, assistant professor in the Department of Population Health Sciences at Virginia Tech and environmental leader at BOHEMIA: “Virginia Tech is excited to lead the economic and environmental impact assessments for BOHEMIA. We plan to take a One Health approach on both fronts to ensure that the impact of ivermectin MDA across human, animal and environmental health sectors is adequately captured and used to supplement the primary efficacy and safety outcomes of the trial in policy development.”

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### **About Unitaid**

Unitaid brings the power of new medical discoveries to the people who most need them and helps set the stage for large-scale introduction of new health products by collaborating with governments and partners such as PEPFAR, the Global Fund and WHO. Unitaid invests in new ways to prevent, diagnose and treat diseases including HIV/AIDS, hepatitis C, tuberculosis and malaria more quickly, affordably and effectively.

### **About ISGlobal**

The Barcelona Institute for Global Health, ISGlobal, is the fruit of an innovative alliance between "la Caixa", academic institutions and government bodies to contribute to the international response to global health challenges. ISGlobal is a hub of excellence in research that has grown out of work started by the Hospital Clínic and the Parc de Salut MAR, and, in the academic sphere, by the University of Barcelona and Pompeu Fabra University. Through its Education and Policy and Global Development departments, ISGlobal translates scientific knowledge into practice. The institute's ultimate goal is to help close gaps in health disparities.

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