

## RESEARCH TO FIGHT MALARIA

### The challenge

**Malaria** is a preventable and treatable disease and one of the World's deadliest diseases. Only in 2015 there were more than 400 000 deaths and 212 million new cases, mainly in children and women. Malaria is caused by poverty, but is also a cause of poverty. Under the Sustainable Development Goals 1 and 3, the EU is committed to work with the global community to reduce poverty and to ensure healthy lives for all. To achieve this, malaria must be effectively prevented and treated.



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In the last decade great progress has been made in malaria control as a result of using insecticide-treated bed nets and effective medicines. According to the World Malaria Report 2016, between 2010 and 2015 the rate of Malaria death rates fell by 29% and new cases by 21%. However, these improvements are threatened by the development of medicine resistance by the parasite and to insecticides by the mosquito vector, as well as the poor quality of the health systems in many affected countries.

In May 2015, the World Health Assembly approved the Global Technical Strategy for Malaria 2016–2030, providing comprehensive technical guidance to countries and development partners contributing to its elimination. It also highlights the urgent need to increase investments across all interventions – including preventive measures, diagnostic testing, treatment and disease surveillance – as well as in harnessing innovation and expanding research.

### What the EU does in research and innovation to meet the challenges

Under the EU FP7 and Horizon 2020 framework programmes, a total of **86 malaria research projects** have been funded in the last decade with a support of 160€ million. These projects concern diagnosis, vaccine development, vector control, treatment, as well as basic and operational research, research infrastructures and training.

Through these research actions the EU aims to contribute to the global research agenda while at the same time strengthening the involvement of relevant stakeholders in the research process and influencing policy-making by making evidence-based recommendations.

## Key initiatives

In 2003, the **European & Developing Countries Clinical Trials Partnership** (EDCTP) was launched by the Commission, in conjunction with 16 European countries, to support clinical trials and capacity building to fight HIV/AIDS, malaria and tuberculosis in Africa. The first EDCTP programme (2003-2013) awarded 254 grants overall, of which 42 were for Malaria. Currently, under the second EDCTP programme (2014-2024) 6 projects in malaria have been selected, with an allocation of 9.5€ million. Additionally, the new project **IMPROVE**, with a grant of 7.4€ million, is currently testing intermittent preventive treatment for malaria in high-resistant areas of Africa.

## Success stories

- The **MCD project**, led by In2Care, a small Dutch company, has developed a new method for prevention, named Eave Tubes, whereby insecticide-treated nets placed within the house walls stop mosquitos from entering. The project, which reports a reduction of 85-90% of mosquitoes within houses, is cheap and easy to install and reduces by 90% the amount of insecticide used, when compared with traditional indoor residual spraying. The project has also leveraged grants from other organisations, including a 5-year grant by the Bill & Melinda Gates Foundation to further develop this technology in West Africa where there is a high insecticide resistance.
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- The **DIAGMAL project** has developed a molecular diagnosis test for malaria in resource limited situations. This test requires a blood sample but does not require complex processing and its sensitivity and specificity allows for discrimination of Plasmodium species. This device has already been tested effectively in field evaluations in Kenya and Vietnam. This diagnostic tool can have a key role in the efforts to eradicate malaria, as it allows detection of low density infections. It is currently under negotiations for commercialization.
  - Two H2020 projects addressing vaccine development have recently been approved, targeting different stages of the malaria parasite cycle. The **OPTIMALVAX project** is tackling the Plasmodium falciparum, the most predominant and deadly infection in Africa and the **MULTIVIVAX project** targets the Plasmodium vivax, the parasite affecting mainly Southeast Asian and the American populations.