



PRESS RELEASE

Africa-Europe partnership launches study to evaluate emergency response tools for severe malaria in highly isolated rural settings

Study will generate evidence on intervention used to buy time to reach a health facility.

Geneva, Switzerland 27th November 2023. The new SEMA ReACT (SEvere MAlaria treatment with Rectal artesunate and Artemisinin-based Combination Therapy [in remote settings]) consortium aims to fill the evidence gap in the use of an intervention used to buy time to seek further care in remote contexts where health facility transfer is not feasible.

The challenge of saving lives: where systems fall apart

A malaria infection can turn into a medical emergency that can kill quickly if left untreated—within 24 hours of symptom onset. In some rural settings, the nearest hospital can be over 6 hours away. For severely ill children unable to swallow medicine orally, artesunate rectal capsules can be administered to buy precious time to make the journey. However, for those who fall ill with malaria in highly isolated settings, a health facility may be entirely out of reach. This can be due to lack of transportation in general, and, in case of flooding during the rainy season, challenging infrastructure, low availability of services, security concerns or cost.

In response to recent studies on pre-referral treatment with artesunate rectal capsules, the World Health Organization (WHO) has registered concern that in instances where the recommended follow-up measures, including transfer to a health facility, IV treatment and proper discharge planning, are not followed, that patients may suffer poor outcomes. However, there is currently little guidance based on real-world evidence available to inform front-line health workers on what to do when confronted with no timely options to transfer severely ill patients to higher level health centers.

This Phase IV observational study seeks to optimize pre-referral care of patients with severe malaria, in the context of these real-life challenges, by implementing and evaluating a novel approach to the management of severe malaria—one that may be used if timely transfer to a health facility is not feasible. Artesunate rectal capsules will be administered at the community level, and clinical outcomes and potential signs of drug resistance will be evaluated. Then, the intervention will be followed-up with the administration of oral artemisinin-based combination therapies (ACTs) once patients are well enough to swallow medicine. The approach represents an innovative effort to respond to the real challenges faced by those living in highly isolated rural settings, including the inability to reach a health facility in time to receive care.

Addressing the needs of rural patients



The project (101103191) is supported by the Global Health EDCTP3 and its members (the European Union and the EDCTP Association)



Co-funded by
the European Union

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Education,
Research and Innovation SERI

“The severe form of malaria is the nightmare that every home in Africa dreads,” says Christine Manyando, Head of the Public Health Department at the Tropical Diseases Research Centre in Zambia. “It can hit without warning and affects children primarily. Home grown and locally led solutions, such as the one this study is investigating, aim to allow for seamless implementation in the communities most affected by malaria, and long-term sustainability of lifesaving strategies.”

“New tools to combat malaria are only useful if they are integrated in healthcare policies and practices and make a real-life difference for those who need them,” says Jean-Pierre Van geertruyden, Professor of Global Health at the University of Antwerp in Belgium. “This implementation project is an indispensable milestone as it will assess—and hopefully help to overcome—barriers to implementing and maintaining severe malaria case management strategies to a high standard.”

“People living in poverty in very isolated rural settings are amongst the most at risk to malaria worldwide,” said George Jagoe, EVP for access at Medicines for Malaria Venture. “By exploring pragmatic ways to use today’s malaria medicines for optimal outcomes when severe malaria occurs in these difficult settings, this study may contribute to better algorithms for rural management of severe malaria in the future.”

The consortium is funded by the European & Developing Countries Clinical Trials Partnership (EDCTP) and the Swiss State Secretariat for Education, Research and Innovation (SERI). It is led scientifically by the Tropical Diseases Research Centre in Zambia, and management and coordination is provided by the Global Health Institute at the University of Antwerp in Belgium. The social science component of the study is led by The University of Kinshasa in the Democratic Republic of Congo. The National Institute of Medical Research in Tanzania leads molecular analysis and Medicines for Malaria Venture leads the communication and dissemination of data generated by the study.

In addition to the consortium partners, the National Malaria Elimination Centre in Zambia and the National Malaria Control Programmes in Democratic Republic of Congo and in Tanzania will play key roles in the study, ensuring readiness of health workers, training and managing logistics in the local districts where the study will be conducted.

For more information: www.severemalaria.org

Notes for editors

Background on the malaria burden

According to the latest [WHO World Malaria Report](#) released on December 8, 2022, there were an estimated 619 000 malaria deaths globally in 2021 compared to 625 000 in the first year of the pandemic. In 2019, before the pandemic struck, the number of deaths stood at 568 000.

Malaria cases continued to rise between 2020 and 2021, but at a slower rate than in the period 2019 to 2020. The global tally of malaria cases reached 247 million in 2021, compared to 245 million in 2020 and 232 million in 2019.

Despite successes, including an expansion of Seasonal malaria chemoprevention (SMC) and an increase of delivered Artemisinin-based combination therapies (ACTs), eradication efforts face

many challenges, particularly in the African Region, which shouldered about 95% of cases and 96% of deaths globally in 2021. Children under the age of 5 accounted for nearly 80% of all malaria deaths in the region.

In 2021, four countries in the African Region – Nigeria (26.6%), the Democratic Republic of Congo (12.3%), Uganda (5.1%) and Mozambique (4.1%) – accounted for nearly half of all malaria cases globally.

Background on severe malaria and artesunate rectal capsules

Malaria is a preventable and treatable disease. When diagnosed quickly and treated rapidly, patients recover completely and are unlikely to experience long-term consequences; however, if left untreated, the uncontrolled growth of parasites within the blood can leave long-lasting damage, particularly during childhood development.

In malaria-endemic countries, children with severe disease who cannot take antimalarial drugs orally have to be transported to the nearest facility that can give an injectable treatment of the antimalarial drug artemisinin; however, in many rural settings, parenteral drug administration is not feasible. Following pioneering studies, first in China, and then in Vietnam, the rectal route of administration for artemisinin (in the form of artesunate rectal capsules) was shown to provide a simple prereferral approach in rural settings for the management of patients who could not retain oral antimalarial medicines, or who had suspected severe malaria.

In rural settings where referral healthcare facilities are not accessible, pre-referral intervention can play a major positive role on the burden of severe malaria. Results of [verbal autopsy studies](#) have demonstrated that most patients with severe malaria never reached the hospital. Addressing this gap requires making improvements to the initial emergency response package for identifying and treating cases of suspected severe malaria.

Partner information

About the Tropical Diseases Research Centre in Zambia

The Tropical Diseases Research Centre (TDRC) was established as a national research centre in 1981. The operations of the TDRC Board are guided by the provisions of the TDRC Act No. 31 of 1982. The members of the TDRC board are appointed by the Minister of Health. The TDRC Board provides strategic leadership to the TDRC management. The Chairman of the board is the Permanent Secretary for the Ministry of Health. The Director, appointed by the Board, is the Executive Officer of the TDRC and responsible for the administration of TDRC. The Director is assisted by the Deputy Director and Board Secretary who are also appointed by the TDRC Board. There are three scientific departments: Biomedical Sciences, Public Health and Epidemiology, and Clinical Sciences.

Our mission is to contribute to socio-economic development through targeted research and product development leading to effective prevention and control of disease. Our vision is to be a Centre of excellence in the promotion of health in Zambia and the African Region through research.

About the Global Health Institute at the University of Antwerp

The "Global Health Institute (GHI), University of Antwerp's functions as a network and focuses via interdisciplinary research, a broad set of diseases, including their biological and structural determinants, and the one-health concept to reflect the changing patterns of global health and has established academic networks and long-lasting partnerships to generate sustainable collaborations and maximize return of investment for both partners. GHI synergizes and aligns research, training, teaching and services to the priorities of the University of Antwerp and the partner institutions (university, private sector, governmental and non-governmental organizations) and build on their unique strengths. GHI builds capacity for epidemiological global health research among Belgian and international scholars through integration of scholars in research studies, short-term exchange programs, training in quantitative and qualitative skills required to conduct high-quality global health research, and enrollment in the University of Antwerp dual PhD program. GHI strengthens institutional capacity of partnering institutions in low- and middle-income countries and strengthens global health research capacity of the UAntwerp by stimulating leading fellow researchers to include a global health component in their research.

Within GHI functions the multidisciplinary Malaria Research Group (MaRch). MaRch considers that malaria remains a global health challenge and threat that needs sustained attention whatever its endemicity globally and contributes to invent, develop and optimize malaria control tools and strategies, and trains human resources needed in particular in malaria endemic countries. MaRch functions -as GHI- as a network with 3 components: in-house staff members, global sandwich PhDs based in malaria endemic settings, and PhD alumni and/or fellow (senior) malaria researchers in endemic areas. MaRch team members were involved in therapeutic efficacy studies (Phase 1, 2, 3, and pharmacovigilance studies), operational research including implementation research, mathematical modelling including health economic assessments, molecular analysis including assessment of drug resistance markers or disease transmission patterns. Over 20 academics from malaria endemic countries have obtained their doctoral degree under GHI supervision on a malaria related topic and are working today as senior staff members mostly still in malaria related field.

About the University of Kinshasa

The mission of the University of Kinshasa is to make the students and their contributions to the economic and social development of the country the center of all activities of training, research, and development. This mission consists of giving high-level global training to young people and adults admitted to the University, allowing them to adapt to society and participate in its evolution; providing specific training adapted to the contingencies of student orientation; and facilitating the University's contribution to the development of the region of Kinshasa and the Democratic Republic of Congo.

The University of Kinshasa intends to maintain the tradition of excellence established by its founders and is committed to offering education and training guided by creativity, innovation and excellence. The work will be done by the Department of Tropical Medicine, which has a broad expertise in conducting studies in remote areas and is involved in several malaria projects.

About the National Institute of Medical Research in Tanzania

The National Institute for Medical Research (NIMR) is a parastatal organization under the Ministry of Health. NIMR was established by the Parliament Act No. 23 of 1979 and became operational in 1980; holding the following mandates:

1. To carry out and promote the carrying out of health research designed to alleviate disease among the people of Tanzania;

2. To carry out, and promote the carrying out of, medical research into various aspects of local traditional medical practices for the purpose of facilitating the development and application of herbal medicine;
3. In co-operation with the Government or any other person or body of persons, to promote, or provide facilities for, the training of local personnel for carrying out scientific research into medical problems;
4. To monitor, control and co-ordinate medical research carried out within Tanzania, or elsewhere, on behalf of or for the benefit of the Government of Tanzania, and to evaluate the findings of that research;
5. To establish a system of the registration of, and to register, the findings of medical research carried out within Tanzania, and promote the practical application of those findings for the purposes of improving or advancing the health and general welfare of the people of Tanzania;
6. To establish and operate systems of documentation and dissemination of information on any aspect of the medical research carried out by or on behalf of the institute;
7. Carry out, and promote the carrying out of, research and investigation into the causes and the ways of controlling and preventing the occurrence in Tanzania of particular diseases or a category of them.
8. In co-operation with the Government or any person or body of persons, carry out and promote the carrying out of, basic, applied and operational research designated to provide effective measures for the control of diseases endemic in Tanzania

The institute has 7 centres and 7 stations in 7 regions of Tanzania. Coordination is done by the Headquarters.

About Medicines for Malaria Venture (MMV)

MMV is a leading product development partnership (PDP) in the field of antimalarial drug research and development. Its mission is to reduce the burden of malaria in disease-endemic countries by discovering, developing and facilitating delivery of new, effective and affordable antimalarial drugs.

MMV receives funding and support from government agencies, private foundations, international organizations, corporations, corporate foundations and private individuals. These funds are used to finance MMV's portfolio of R&D projects, as well as specific, targeted access & product management (APM) interventions that aim to facilitate increased access to malaria medicines by vulnerable populations in disease-endemic countries and support their appropriate use.

Since its foundation in 1999, MMV and partners have built the largest portfolio of antimalarial R&D and access projects ever assembled and have brought forward 15 new medicines. Around 13.6 million lives have been saved by these MMV co-developed medicines. MMV's success is based on its extensive partnership network of around 150 active partners including from the pharmaceutical industry, academia and endemic countries.

MMV's vision is a world in which innovative medicines will cure and protect the vulnerable and underserved populations at risk of malaria, and help to ultimately eradicate this terrible disease.

Visit <http://www.mmv.org> to learn more.

For more information:

Elizabeth Poll, Communications Manager, MMV

Phone +41 79 907 5992

e-mail: polle@mmv.org

MMV Disclaimer

This document contains certain forward-looking statements that may be identified by words such as 'believes', 'expects', 'anticipates', 'projects', 'intends', 'should', 'seeks', 'estimates', 'future' or similar expressions, or by discussion of, among other things, vision, strategy, goals, plans, or intentions. It contains hypothetical future product target profiles, development timelines and approval/launch dates, positioning statements, claims and actions for which the relevant data may still have to be established. Stated or implied strategies and action items may be implemented only upon receipt of approvals including, but not limited to, local institutional review board approvals, local regulatory approvals, and following local laws and regulations. Thus, actual results, performances or events may differ from those expressed or implied by such statements.

We ask you not rely unduly on these statements. Such forward-looking statements reflect the current views of Medicines for Malaria Venture (MMV) and its partner(s) regarding future events, and involve known and unknown risks and uncertainties.

MMV accepts no liability for the information presented here, nor for the consequences of any actions taken on the basis of this information. Furthermore, MMV accepts no liability for the decisions made by its pharmaceutical partner(s), the impact of any of their decisions, their earnings and their financial status.