WORLD MALARIA DAY

What malaria treatments are currently available to patients in sub-Saharan Africa? What are the strengths of these treatments? What are their drawbacks?

- Artemisinin-based combination therapies (ACTs) are the gold standard for treating *Plasmodium falciparum* malaria. These therapies combine two antimalarial agents: one derived from the short-half-life artemisinin class, such as artesunate or artemether, and a longer duration partner from another class of antimalarials, such as lumefantrine or amodiaquine. ACTs are highly effective and well tolerated, enabling rapid parasite clearance with a short, typically three-day treatment course. This strategy not only improves treatment efficacy but also helps delay the emergence of drug resistance. Despite their success, resistance to artemisinin and partner drugs has already been reported and is expected to increase as the parasite evolves. Therefore, optimizing the use of existing ACTs, alongside the development of new non-artemisinin therapies, is essential to sustain effective malaria treatment into the future.

What is the focus of H3D's malaria drug discovery project/s?

- Building on a decade-long partnership with the Medicines for Malaria Venture (MMV) and the South African Medical Research Council (SAMRC), and a sustained collaboration with the Gates Foundation, our current malaria portfolio aims to deliver pre-clinical candidates for both chemoprevention and the treatment of drug-resistant malaria. The drug candidates ideally should have a long duration of activity and be administered as a single, low dose oral drug or long-acting injectable, to provide the next generation of medicines for malaria that are accessible, simple to administer, affordable and safe.

What challenges exist in drug discovery for malaria specifically?

- The key challenges to address towards malaria elimination and eradication include:
    - **Resistance:** Developing novel combination therapies, containing compounds with new mechanisms of action that have a low propensity for resistance generation is critical to mitigate the impact of existing widespread resistance and the rapid emergence of new resistance.
    - **Prevention:** Current preventive therapies are short-acting and require frequent dosing; longer-lasting protection for broader populations is essential for effective mass drug administration.
    - **Population coverage:** Treatment options remain limited for vulnerable groups, including pregnant and lactating women and older children.
    - **Transmission blocking:** Innovative tools and therapies are needed to target both the parasite reservoir and the vector.

- **Multi-stage activity:** we need medications which can act across various stages of the very complex life-cycle of the parasite, which most existing medications do not achieve.

Further information about the major challenges is available from the MMV website here and the Gates Foundation website here.

Can you share any breakthroughs that have been made in malaria drug discovery recently?

Two malaria vaccines, RTS,S and R21,have been rolled out in 25 countries in Africa as part of childhood immunization programmes for infants. According to modelling estimates, malaria vaccines could prevent approximately half a million child deaths by 2035 if they were scaled up in moderate and high malaria transmission areas.

In the last year, MMV and partners have achieved major milestones:

- Addressed a critical gap with the launch of Coartem® Baby, the first malaria treatment for infants weighing 2–5 kg.
- Reported positive Phase 3 results for ganaplacide–lumefantrine, the first novel mechanism treatment for acute malaria since 1999.
- Initiated Africa's first Phase 3 adaptive platform trial to assess the efficacy and safety of antimalarials in the first trimester of pregnancy.

FIGHTING MALARIA

H3D
PIONEERING WORLD-CLASS DRUG DISCOVERY IN AFRICA

Treatments

- Preventing relapse
- Treatment for severe malaria
- Treatment for simple malaria

Prevention

- Insecticide–treated Bednets
- Residual indoor spraying
- Clearing standing water
- Vaccines against malaria
- Chemoprevention (for residents & travellers)

WORLD **MALARIA** DAY 2026

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THE GLOBAL BURDEN OF MALARIA

282 million infections with malaria in 2024

610 000 deaths

80 countries

95% of the disease burden is in Africa

75% of deaths are children under 5yrs

WORLD MALARIA DAY 2026

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H3D

PIONEERING WORLD-CLASS DRUG DISCOVERY IN AFRICA