Two decades of Swiss leadership for new malaria medicines

On World Malaria Day 2019, Swiss organizations look back on a long history of successful public-private collaboration for new malaria medicines. Switzerland’s leading role in the fight against malaria was strengthened with the establishment 20 years ago of the first product development partnership (PDP), the Medicines for Malaria Venture (MMV). Since then, MMV and partners have brought forward 11 new approved anti-malarial medicines and helped to save more than 1.9 million lives globally. PDPs have revolutionized the development of drugs and other health products for the diseases of poverty. On April 24th, Swiss authorities, the Swiss Malaria Group, global health organizations and the diplomatic community meet in Geneva to celebrate two decades of successful Swiss collaborations and to discuss the way forward in malaria elimination.

A long history of Swiss leadership in antimalarial research

Switzerland has a long history of leadership and engagement in the fight against malaria. High-level malaria research has been carried out for over 70 years at the Swiss Tropical and Public Health Institute (Swiss TPH), other major Swiss universities, as well as in Swiss pharmaceutical companies. Today, thanks to Swiss contributions, 11 new antimalarials, brought forward by MMV and partners, have been pre-qualified by the World Health Organization (WHO) or approved by stringent regulatory authorities.

"Today we have a rich pipeline of antimalarials, thanks to our R&D partners. We also have many partners
working to improve access to new medicines. This would not have been possible without the support of the Swiss Government and Swiss research and development partners,” said Dr David Reddy, the CEO of MMV. “We also welcome Switzerland’s leadership in supporting other PDPs as they spearhead the development of much-needed prevention and diagnostic tools, thereby ensuring that the fight against malaria remains comprehensive and impactful.”

Four driving factors account for Switzerland’s leadership role, according to a recently published article in the peer-reviewed Malaria Journal:

- A history of scientific excellence and ability to attract new researchers.
- A long-standing commitment to promoting health as a basic human right.
- A highly innovative pharmaceutical industry willing to invest in the ‘diseases of poverty’.
- Hosting of international organizations that pursue the fight against malaria as well as not-for-profit public-private partnerships that have the expertise to align efforts in this area.

**Twenty years of innovative collaborations**

Twenty years ago, the development of much needed new tools to prevent, diagnose and treat malaria seemed nearly impossible because the investment was not seen as commercially viable by most pharmaceutical companies. To help address this problem, MMV and other PDPs were founded with support from the Swiss Agency for Development and Cooperation (SDC) and other donors.

“The SDC works towards reducing the burden of disease among poor people. Since 1999, SDC has been contributing to the fight against malaria by supporting public-private partnerships that harness Swiss excellence in pharmaceutical research and drive innovative R&D of new medicines, as well as vector control and diagnostic tools” said Tatjana von Steiger, Deputy Assistant Director General, Global Cooperation, Swiss Agency for Development and Cooperation.

As the first PDP, MMV has pooled together the efforts of the public and private sectors to discover, develop and deliver new antimalarials for vulnerable populations. Since its establishment, MMV has catalysed the development of the largest pipeline of antimalarials in history, including entirely new classes of compounds, discovered often in cooperation with Swiss partners.

One major success story is the joint development, by MMV and Novartis, of the first ever high-quality child-friendly antimalarial, Coartem® Dispersible (artemether-lumefantrine) launched 10 years ago. Since then, more than 370 million treatments have been delivered without profit by Novartis.

**Celebrating achievements and outlook to future Swiss engagement**

In commemoration of World Malaria Day 2019, the Swiss Agency for Development and Cooperation and the Swiss Malaria Group (a network of Swiss academia, industry, federal and non-governmental organisations) will host an event to celebrate decades of successful Swiss collaborations to develop and scale up access to new tools to end malaria.

Marina Carobbio Guscetti, President of the National Council of the Swiss Federal Assembly, will address the audience together with other speakers.

“Today a child dies every 2 minutes because of malaria,” said Ms Carobbio Guscetti. “Switzerland must continue to build on its excellence in innovation and research, and increase its efforts to scale up access to medicines while collaborating globally, until all children are safe from this deadly disease.”

**Paving the way for a future without malaria**

There have been huge strides in the fight against malaria in the last two decades. However, the World Malaria Report 2018 indicates the reduction of malaria cases stalled between 2015 and 2017, and the estimated number of malaria deaths in 2017, at 435,000, remained unchanged over the previous year.

“The global objective of ending malaria by 2030 is under threat. The international community must address
many challenges including ensuring the availability and accessibility of effective treatments,” said Christian Lengeler, President of the Swiss Malaria Group and Head of Unit at the Swiss TPH. “Swiss engagement continues to be critical. Switzerland has a legacy of innovation in the fight against malaria and we cannot hold back now, we must increase our efforts.”

Box


Co-hosted by the Swiss Agency for Development and Cooperation and the Swiss Malaria Group, the event/reception “Swiss Leadership in Innovative R&D Partnerships to End Malaria. Past, Present and Future” is aimed at celebrating the importance of the Swiss contributions in the fight against malaria, identify challenges and opportunities and encourage Swiss partners to step up their efforts.

The speeches will be held in English. Photos of the event and about the topic can be made available to journalists upon request.

PROGRAMME

24th April 2018, 18h00-20h30

Restaurant de la Maison de la Paix, Chemin Eugène-Rigot 2E (pétale 5, 8ème étage), Geneva

Welcome and opening remarks:

- Marina Carobbio Guscetti, President of the National Council of the Swiss Federal Assembly
- Tatjana von Steiger, Deputy Assistant Director General, Global Cooperation, Swiss Agency for Development and Cooperation
- Christian Lengeler, President of the Swiss Malaria Group and Head of Unit, Swiss Tropical and Public Health Institute

A history of Swiss contributions to R&D and access to end malaria:

- Research against malaria: what progress has been made thanks to Switzerland? Marcel Tanner, President, Swiss Academy of Sciences
- From research and development to access: a private-sector perspective, Lutz Hegemann, Head, Global Health Development Unit, Novartis
- A country experience on innovative partnerships for access, Margret Kaemba, Minister Counsellor and Chargé d’Affaires, Permanent Mission of Zambia to the United Nations Office in Geneva
- MMV @ 20 – new tools for the future, David Reddy, CEO, Medicines for Malaria Venture

Switzerland’s ongoing history in pioneering malaria medicines


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<tr>
<th>Time</th>
<th>Swiss milestones</th>
<th>Impact by 2019</th>
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<tbody>
<tr>
<td>1960s-70s</td>
<td>Fansidar (Sulfadoxine-Pyrimethamine) Malaria medicine marketed worldwide / developed by Hofmann-La Roche</td>
<td>Today Sulfadoxine-Pyrimethamine is part of seasonal malaria prevention, a programme protecting 16 million children under 5 (estimate WHO 2016)</td>
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<td>1990s</td>
<td>Development of Artemisinin based combination therapy (ACT) by Novartis</td>
<td>880 million doses of Coartem® (including more than 370 million paediatric treatments launched in 2009), have been supplied by</td>
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<td>1999</td>
<td>Foundation of MMV, first malaria-focused product development partnership</td>
<td>Medicines for Malaria Venture (MMV) founded with Swiss funding based on the innovative Public-Private-Partnership model. More than 1.9 million lives saved by medicines brought forward by MMV and partners. More than 60 per cent of the anti-malarial projects across the globe. Over 150 currently active partners across 50 countries from R&amp;D to Access.</td>
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<tr>
<td>2009</td>
<td>Launch of child-friendly formula Coartem® Dispersible by MMV/Novartis</td>
<td>385 million treatments made accessible, including 370 million on a no-profit basis.</td>
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<td>2019</td>
<td>The road to new products: Antimalarial pipeline with Swiss contributions</td>
<td>Pipeline of antimalarials where Swiss-based players played a key role in research and development over the last 20 years: 11 antimalarials prequalified by WHO or approved by stringent regulatory authorities 14 antimalarials in translational or product development phases</td>
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- **Discovery of Artemisinin** by Youyou Tu in the 70s who shared a Noble Prize for her work in 2015; basis for the development of the artemisinin based combination therapy (ACT) under the leadership of Novartis (Arthemether-Lumefantrine)
- **Novartis without profit and at an affordable price to countries**
- **MMV** founded with Swiss funding based on the innovative Public-Private-Partnership model
- **More than 1.9 million lives saved by medicines brought forward by MMV and partners.**
- **More than 60 per cent of the anti-malarial projects across the globe.**
- **Over 150 currently active partners across 50 countries from R&D to Access.**
- **Launch of child-friendly formula Coartem® Dispersible by MMV/Novartis**
- **385 million treatments made accessible, including 370 million on a no-profit basis.**
- **The road to new products: Antimalarial pipeline with Swiss contributions**
  - Cost-effective synthesis of Artemisinin: 3 new candidates, including **MMV052** potentially fully active against artemisinin resistant strains.
  - **Phenotypic screenings** find new starting points: Novartis first company to tests entire deck of compounds for malaria starting points.
  - Discovery of entirely new classes of compounds in a cooperation of the SwissTPH, MMV, Novartis, UK Wellcome Trust: e.g. **KAE609 (Cipargamin)** and **KAF156 (Ganaplacide)**, both compounds with novel mechanisms of action to overcome resistance, and with the potential to be used with a combination partner as single dose cure.
  - **ACT451840** antimalarial candidate discovered in a cooperation of Actelion/ Swiss TPH, potentially with transmission blocking capacity.
- **Contact:**
  - Prof. Christian Lengeler, President Swiss Malaria Group: +41(0)792574386; christian.lengeler@swisstph.ch
  - Ms Elizabeth Poll, Communications Manager, MMV: +41(0)22 5550317; polle@mmv.org
About the Swiss Malaria Group

The Swiss Malaria Group is a network of research, industry, federal and non-governmental organizations and is committed to Switzerland's leadership in the fight against malaria.


This year, international World Malaria Day celebrations will take place in Paris, France, with the French Government supporting a range of activities. This presents an opportunity to engage with other Francophone countries, where 313 million people are at risk of malaria. Of the 10 countries with the highest malaria burden, half are Francophone countries. 2019 will be a crucial year for donor countries, malaria-affected countries, and the private sector to increase their commitments to the fight against malaria, as France will also host the Global Fund's Sixth Replenishment Conference in Lyon on 10 October 2019.


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1 Source: Global Portfolio of Antimalarial Medicines, available at [https://www.mmv.org/research-development/mmv-supported-projects](https://www.mmv.org/research-development/mmv-supported-projects).