The story of malaria

Mosquitoes were plaguing the Egyptians, Indians and Chinese even in ancient times. Hippocrates realised that malaria occurred in swamps. But what was responsible for the transmission of «swamp fever»? Was it swamp gases, evil spirits, or «bad air», which gave «mal-aria» its name? In Switzerland, too, the Anopheles mosquito made large rivers and lakes insecure.

In the 18th century, malaria was still widespread on all continents. The only cure was quinine, yet still no one knew the cause. In 1880, Charles L.A. Laveran discovered the malaria parasite, Plasmodium falciparum, in the blood of malaria patients. Soon after, Ronald Ross linked the parasite to the Anopheles mosquito. The culprit had been discovered! Humanity finally knew what it was up against. Swamps, which were now known to be breeding sites for mosquito larvae, were drained, and drugs to fight the pathogenic malaria parasite were developed by the chemical industry.

In 1939, the insecticidal properties of the neuro-toxin DDT were discovered in Basel. Armed with DDT and the medicine chloroquine, the World Health Organization (WHO) rolled out a global eradication campaign to drive back the Anopheles mosquito and its parasites. All went well until the clever parasite began to develop resistance to both the insecticide and the medicine resulting in a rise in malaria epidemics. Today, artemisinin combination therapies and other drugs, as well as modern insecticides and insecticide-treated bed-nets, are used to keep malaria in check.

Transmission

The deadly duo is inseparable: the malaria pathogen and its carrier, the Anopheles mosquito. The pathogen is an insidious parasite invisible to the naked eye, that kills people in large numbers, aggressively and with terrifying efficiency. The parasite flies through the dark in the body of a bloodthirsty female mosquito. The landing target is exposed human skin. As the mosquito feeds, the malaria parasite in the saliva of the insect worms its way through the proboscis into the human victim’s bloodstream. There it immediately begins its ingenious work of destruction. It infiltrates the liver, multiplies without restraint, transforms itself continuously and destroys the red blood cells. It causes fever spikes, joint pain, diarrhoea and vomiting. And it craftily tricks the immune system of its victim until she or he falls into a coma and dies of P. falciparum malaria, the most dangerous of the four types of malaria. The crafty Plasmodium protozoon has made malaria, along with HIV/AIDS and tuberculosis, the most deadly infectious disease afflicting humanity. It claims about one million lives each year, especially in developing countries.

Switzerland against malaria: successful together!

Join the fight against malaria

Malaria is one of the worst scourges of humanity. It kills at least 700'000 children every year. It infects approximately 200 million people annually and traps them in poverty. It is also a major cause of underdevelopment.

25 April is World Malaria Day: With this exhibition in Bern we, the eleven members of the Swiss Malaria Group (SMG), wish to draw attention to different areas of progress in the fight against this tropical disease. Our innovations in applied research, and the adoption of successful measures against malaria, have helped to reduce the burden of this disease. Swiss public sector institutions, non-governmental organisations and the private sector play a central role in the global fight against malaria. With strong, continuous political support and necessary resources, Switzerland will continue to help improve the lives of millions of people vulnerable to malaria. But this requires more money, especially from Switzerland, as our per capita contribution to the fight against malaria is the lowest of all Western European countries.

With this exhibition, we invite you to experience the daily struggle against malaria and to lend it as much support as you can — moral, personal and financial. With your help, malaria can be cured and prevented. Thank you!

Switzerland’s commitment: United against malaria!
MALARIA IS LOSING GROUND - THANKS TO SWITZERLAND’S EFFORTS (EDITORIAL)

WELCOME TO THE GENEVA EXHIBITION!

Malaria remains one of the most serious diseases plaguing humanity, despite all efforts to contain it. To this day, more than 200 million people are infected each year. And every year, 560,000 children die of malaria. Malaria is also one of the main causes of poverty and underdevelopment in the countries affected by this scourge, particularly in Africa.

Together with the Natural History Museum of Geneva, the Swiss Malaria Group (SMG), brings you the exhibition «Switzerland against malaria: successful together». Our goal is to document Switzerland’s efforts in the area of malaria control. We also want to show the need to continue and intensify efforts to fight malaria, because political will and financial resources are essential for us to be able to continue our work and to significantly improve the lives of millions of human beings.

The Swiss Malaria Group has already achieved many of its objectives. We owe our victories to our spirit of innovation in the area of applied research and to the effective measures we have introduced to fight malaria. Institutions, non-governmental organisations and private companies in Switzerland play a crucial role in the fight against this disease.

Eleven African countries have seen their malaria rates decline by more than 50% in recent years. Tanzania is a good example of this trend: SMG members have been active in this country for years and Switzerland is making particularly significant efforts there. Thanks to specific anti-malarial interventions, the overall infant mortality rate has decreased by nearly 48% over the past decade. This represents 1.1 million young lives saved.

While the positive results of recent years are promising, they also encourage us to motivate political and business leaders as well as civil society to step up their efforts to fight malaria.

«The World Malaria Report 2010 shows what is possible when we join forces and embrace the mission of saving lives. If we heed the lessons highlighted in this report, we can achieve our goal of ending malaria deaths by the year 2015, accelerate progress toward the MDGs and usher in a better future for all.»


Who is the Swiss Malaria Group?
The Swiss Malaria Group (SMG) currently comprises fourteen Swiss organisations:

- The Swiss government’s activities in this area are mainly carried out through the Swiss Agency for Development and Cooperation (SDC).
- The Swiss Tropical and Public Health Institute (Swiss TPH), based in Basel, is an internationally recognised centre that plays a leading role in the fight against malaria in collaboration with its partners in regions affected by the disease.
- The organizations Medicines for Malaria Venture (MMV), Foundation for Innovative New Diagnostics (FIND) and Drugs for Neglected Diseases initiative (DNDi), which are based in Geneva, play a similar role and bring together public and private institutions to advance the development of new antimalarial drugs and diagnostic products worldwide.
Malaria exhibition brochure: Abstract

NEW WEAPONS AGAINST THE KILLER PARASITE
CUNNING PATHOGENIC AGENT KNOWS HOW TO DEFEND ITSELF

An inseparable pair: the pathogenic agent and its vector—the Anopheles mosquito—kill thousands of children every day. During the last century, humanity attempted to eradicate malaria—to no avail. But today there is renewed hope that this goal will be achieved thanks to Swiss know-how.

THE ANOPHELES MOSQUITO, HARBINGER OF DEATH
THE MALARIA CARRIER IS A SURVIVAL EXPERT

The mosquito’s thirst for blood anyone living in an endemic area anyone living in an endemic area makes a potential victim. The female Anopheles mosquito, carrying the pathogenic agent of malaria, used to kill people throughout the world, even in Switzerland. In the long-running battle against the mosquito, researchers have suffered many defeats. But gradually, they are beginning to see through its game plan.

COURAGE, MEDICINES AND MOSQUITO NETS
IN THE KILOMBOER VALLEY PEOPLE KNOW HOW TO PROTECT THEMSELVES

To defeat malaria, we need to invest in active research and demonstrate a spirit of initiative. Institutes, companies and non-governmental organisations in Switzerland maintain close ties with Tanzania, where innovative methods to fight malaria have been developed. The strategies implemented in Tanzania could benefit the whole of Africa.

ERADICATION, A LONG-TERM OBJECTIVE
NEW TECHNIQUES TO COMBAT THE NIGHTMARE OF RESISTANCE TO TREATMENTS

The fight against malaria gains new impetus. The disease is finally being taken seriously in rich countries. Research is intensifying to find solutions to the potential loss of effectiveness of current combination therapies: new diagnostics, a new type of medication or even a vaccine.

> Novartis Pharma is a leader in the development and production of the most widely used next-generation antimalarial drug (with 400 million treatments distributed to date). In 2010 alone, more than 81 million treatments were distributed at cost price in the poorest countries.

> With its innovations, including antimalarial drugs it develops itself, Mepha also makes a significant contribution to malaria control.

> With its research and development activities, Syngenta has positioned itself as a world leader in insecticides used in the fight against malaria.

> Mosquito nets impregnated with insecticide are a cheap and effective method to combat malaria vectors. In 2010 alone, Vestergaard Frandsen produced and delivered more than 100 million long-lasting insecticide-treated nets.

> The Roll Back Malaria (RBM) Partnership is a global framework for coordinated action against malaria. RBM was founded in 1998 by UNICEF, the WHO, UNDP and the World Bank and is strengthened by the expertise, resources and commitment of more than 500 member organisations.

> Lastly, Swiss non-governmental organisations such as SolidarMed, the Swiss Red Cross, Medicus Mundi Switzerland (MMS) and the Novartis Foundation for Sustainable Development are working in regions affected by malaria, where they conduct studies and support access to health care and malaria control measures.

Stepping up efforts to eradicate malaria

Switzerland’s considerable contribution to the fight against malaria is recognised around the world. But time has been lost and there is an urgent need to catch up. The fact is that Switzerland’s contribution to the main international organisations in the fight against malaria, particularly the Global Fund against AIDS, Tuberculosis and Malaria, remains modest.

The Confederation contributes only CHF 1 per capita to the Global Fund, whereas Germany contributes CHF 3.20 and France CHF 5.90 (2010 figures). Switzerland’s contribution is by far the lowest in Western Europe and does not correspond to the overall role played by Switzerland in the fight against malaria.

Therefore, much remains to be done! Not only in research, development and implementation, but also in the area of public funding. We hope that this small exhibition and the events organised to mark World Malaria Day 2011 will contribute to the efforts made to date and that our shared objective, namely to eradicate malaria worldwide, will be achieved as quickly as possible.

Christian Lengeler & Marcel Tanner
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**MALARIA AT A GLANCE**

Malaria is an infectious disease. It is caused by a unicellular parasite of the genus *Plasmodium*. There are four types of *Plasmodium* capable of infecting human beings. *Plasmodium falciparum*, the most menacing, causes malaria tropica. The parasites, which are visible under a microscope, are transmitted to humans by the bite of a female *Anopheles* mosquito, which is its main host. Humans are intermediate hosts. To infect a person the mosquito, which is mainly active in the evening and night, must previously have bitten a person who was carrying the parasite and have been infected by that person. It is an endless cycle: the disease spreads automatically as long as nothing is done to fight the mosquitoes, prevent bites or treat the disease. The life cycle of the pathogenic parasite is complex. *Plasmodia* multiply in the human body, specifically in the liver, and destroy red blood cells. A week or as long as a year may elapse before symptoms are noticeable. The symptoms are similar to those of the flu, so accurate diagnosis is important: fever, headache, aching limbs, fatigue, chills, nausea, vomiting and diarrhoea. If left undetected or untreated, malaria can quickly become fatal. Children die more often than adults from this disease. Malaria is still prevalent in tropical and sub-tropical countries, particularly sub-Saharan Africa, Asia, the Pacific, Central America and South America. Travellers from industrialised countries in particular should protect themselves because their organisms have not developed the appropriate immune defences. One of the most important measures to be taken to protect oneself against mosquitoes is by using bed nets, wearing long clothing and using repellents. Depending on the destination and time of year, prophylactic medication prescribed by a doctor may be recommended.

**THE STORY OF MALARIA**

Even as far back as ancient times mosquitoes laden with malaria parasites plagued mankind. Hippocrates realised that malaria occurred in swamps. But what was responsible for the transmission of «swamp fever»? Was it swamp gases, evil spirits, or «bad air», which gave «malaria» its name? In Switzerland, too, the *Anopheles* mosquito made large rivers and lakes unsafe. By the 18th century, malaria was remained widespread on all continents. The only treatment available was quinine, yet still no one knew the cause. In 1880, Charles L.A. Laveran discovered the malaria parasite, *Plasmodium falciparum*, in the blood of malaria patients. Soon after, Ronald Ross linked the parasite to the *Anopheles* mosquito. The culprit had been discovered! Humanity finally knew what it was up against. Swamps, which were now known to be breeding sites for mosquito larvae, were drained, and drugs to fight the pathogenic malaria parasite were developed by the chemical industry.

In 1939, the insecticidal properties of the neuro-toxin DDT were discovered in Basel. Armed with DDT and the medicine chloroquine, the World Health Organization (WHO) rolled out a global eradication campaign to drive back the *Anopheles* mosquito and its parasites. All went well until the clever parasite began to develop resistance to both the insecticide and the medicine resulting in a rise in malaria epidemics. Today, artemisinin combination therapies and other drugs, as well as modern insecticides and insecticide-treated bed-nets, are used to keep malaria in check.
TRANSMISSION

The deadly duo is inseparable: the malaria pathogen and its carrier, the Anopheles mosquito. The pathogen is an insidious parasite invisible to the naked eye, that kills people in large numbers, aggressively and with terrifying efficiency. The parasite flies through the dark in the body of a blood-thirsty female mosquito. The landing target is exposed human skin. As the mosquito feeds, she injects her saliva into the human victim’s bloodstream to prevent the blood from coagulating. With it she also injects the malaria parasite. Once in the bloodstream, the parasite immediately begins its ingenious work of destruction. It infiltrates the liver, multiplies without restraint, transforms itself continuously and destroys the red blood cells. It causes fever spikes, joint pain, diarrhoea and vomiting. And it craftily tricks the immune system of its victim until she or he falls into a coma and dies of *P. falciparum* malaria, the most dangerous of the four types of malaria. The crafty *Plasmodium* protozoon has made malaria, along with HIV/AIDS and tuberculosis, the most deadly infectious disease afflicting humanity. It claims about 665’000 lives each year, especially in developing countries.

PREVENTION

No one is safe from its thirst for blood. The nocturnal female Anopheles mosquito carrying malaria parasites kills people everywhere. But with the right knowledge, we can defend and protect ourselves, for example, by sleeping under a mosquito net. This method has already significantly reduced infant mortality in Africa. It is also possible to kill the Anopheles mosquito by spraying rooms, windows and doors with a contact insecticide harmless to humans. Modern insecticides play a key role in prophylaxis and defense against the Anopheles mosquito. But equally important, alongside efforts to combat outdoor breeding sites, are prophylactic medicines to protect vulnerable populations, such as children and pregnant women, living in disease-endemic regions.
RESEARCH AND DEVELOPMENT

Malaria makes the daily life of almost half the world's people a misery. In spite of this, global malaria research remained a neglected stepchild until the year 2000. The consequences of this neglect were fatal. Malaria experts and the World Health Organization watched with concern as previously effective drugs, such as chloroquine, beginning to fail. The cause was soon discovered: all the drugs used until then were monotherapies, having but one active ingredient. But the adaptable malaria parasite had found ways to survive and resist this monotherapy.

Resourceful researchers from the Swiss Malaria Group (SMG) soon realised that it was necessary to develop drugs with at least two active ingredients: if the parasite was resistant to one, the other would be sure to kill it. One key ingredient, artemisinin, comes from the Sweet Wormwood shrub, and was in use 2000 years ago in ancient China to treat malaria fever. Artemisinin-based combination therapy (ACT) is the current gold standard treatment against malaria. But there is a risk that it too will become less effective one day. For we have already begun to see the first signs that the parasite is developing resistance to artemisinin in south-east Asia. Therefore, SMG researchers are resolutely working on alternative therapies. Their big goal: a new class of active drugs that could provide a one-dose cure as well as an effective malaria vaccine. Initial results are promising!

But official Swiss institutions ought to increase their financial commitment, as this kind of research is extremely expensive. In 2010, France contributed CHF 5.90 per capita, Germany CHF 3.20 and Switzerland only CHF 1 to the Global Fund to Fight AIDS, Tuberculosis and Malaria.

DIAGNOSIS AND TREATMENT

Every year, Plasmodium falciparum, the most deadly malaria parasite, causes more than 200–300 million people around the world to become newly infected with malaria. Children under five and pregnant women are particularly vulnerable. What can be done? The experienced members of the Swiss Malaria Group (SMG) are in no doubt: the earlier malaria is detected, the faster it can be treated, the more lives can be saved. The most successful way to help patients is to combine continuously improved diagnostic techniques with the right medical treatment. Artemisinin-based combination therapies (ACTs) are effective where traditional remedies and conventional medicines can no longer help. The SMG occupies a leading position in the research, production and distribution of such new drug combinations, and it is doing this with resounding success, helping to save the lives of millions of people from this often fatal disease. In addition, some members are researching new alternatives to ACTs, to ensure that the medicine chest is not empty when artemisinin resistance emerges.
ACCESS, EDUCATION, AWARENESS-RAISING

Exactly how many children, women and men fall victim to malaria can only be estimated, as it is still not possible to conduct accurate surveys in medically underserved areas. But it is an undisputed fact that in many countries malaria is one of the main causes of poverty and underdevelopment. People suffering from malaria often become dependent on care and financial support thereby imposing a burden on society and the economy.

The Swiss Malaria Group is combating this disease in a targeted way in close cooperation with local health services – through broad-based information, education and awareness-raising activities directed at the general public, as well as through aid strategies and initiatives that improve access to medical facilities and treatments for malaria patients. This also enables people in rural areas, in particular, to seek and use good-quality malaria services early on. Thus, patients can benefit from a rapid and correct diagnosis, the right medication and the exact dosage. Consequently, an informed population learns to better protect itself, for example with mosquito nets. In Tanzania, these measures reduced malaria cases by 60% and deaths from the disease by approximately 48%.

FUNDRAISING

A vicious circle: poverty spawns malaria, malaria spawns poverty. The fight against malaria costs a lot of money. In order to pool forces in Switzerland, the Swiss Malaria Group (SMG) was founded in 2007, bringing together a wide range of companies and public health specialists. But there was also movement on the malaria front worldwide, not least thanks to large donations from various sources. New partnerships were established between NGOs, government and private institutions, and new initiatives were launched to achieve more reliable prevention, diagnosis and faster distribution of medicines in the affected areas. In addition, the World Bank, various governments, the Bill & Melinda Gates Foundation and others initiated research programmes and provided new funding for the most severely malaria-stricken regions of Africa. With its considerable financial leverage, the Global Fund to Fight AIDS, Tuberculosis and Malaria enables malaria-endemic countries to obtain the most effective medicines, nets and diagnostics, and to finance anti-malaria campaigns.

Between 2002, when the Global Fund was founded, and 2010, total funding for malaria control increased to US$ 1.9 billion. Switzerland is also doing its part, but on a per capita basis, it pays only CHF 1 per year to the Global Fund – the lowest contribution of any Western European country. Increasing this contribution is a major aim of the SMG.
THE FUTURE

It is a devastating tragedy: each year, up to 560’000 children fall prey to malaria. The numbers are falling thanks to the global efforts of a dedicated community of institutions, governments and donors. It has ensured that this disease has been rolled back considerably since 2005. Nonetheless, neither the Anopheles mosquito nor the malaria-causing parasite Plasmodium falciparum have been defeated. The tremendous adaptability of the malaria parasite continues to threaten the anti-malaria front: what will happen if ACTs no longer kill it? They are the current mainstay of antimalarial therapy. Thankfully, Swiss researchers are working diligently to develop new drugs and a malaria vaccine, as well as to bring the Anopheles mosquito forever under control in the tropics.

Malaria researchers also warn that mosquitoes are showing increasing resistance to insecticides. This poses a huge threat to the entire world. Moreover, any slackening in the fight against malaria – due to, for example, a false sense of security based on the decline in the number of malaria cases achieved by all efforts undertaken until now – would have terrible consequences. The Swiss Malaria Group is determined to defeat malaria. The odds are on our side, but only if the Swiss Government steps up its commitment! Together we will succeed in ensuring that one day no child need fear the Anopheles mosquito.

Swiss Agency for Development and Cooperation (SDC)

SDC contributes to the fight against malaria through bilateral as well as multilateral cooperation. In partner countries that are highly malaria endemic, SDC backs specific projects that tackle malaria by increasing mosquito-net coverage, strengthening health systems and supporting community-based initiatives. At international level, SDC contributes to the fight against malaria with financial contributions to global initiatives such as the Global Fund to Fight AIDS, Tuberculosis and Malaria and to internationally recognised academic institutions as well as public private partnerships that are driving innovative research and the development of new prevention means, drugs and diagnostic tools.

http://www.sdc.admin.ch/

Swiss Tropical and Public Health Institute

The Swiss Tropical and Public Health Institute (Swiss TPH) is active in various fields related to research and malaria control, in particular in the innovation of new concepts and products (vaccines and medicines), the validation of new interventions and the implementation of health system strengthening strategies. A number of large scale programs aim to improve the quality of health care for children. In Tanzania two vaccine candidates show promising results and the Swiss TPH supports the distribution of insecticide treated bed nets for over 15 years.

www.swisstph.ch

Novartis Foundation for Sustainable Development

Since over 30 years, the Novartis Foundation for Sustainable Development (NFSD) supports projects in developing countries to improve access to healthcare. In the frame of the ACCESS project in Tanzania, the foundation worked with partners to facilitate access to effective malaria treatment. Through different interventions, ACCESS enhances the quality of care, strengthens human resources and improves access to healthcare for patients through health insurance schemes and income-generating activities.

www.novartisfoundation.org

Swiss Malaria Group Partnership Portraits

Swiss Tropical and Public Health Institute

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www.swisstph.ch

Medicines for Malaria Venture

MMV, a not-for-profit public-private partnership, was established as a foundation in Switzerland in 1999. Our 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. Our vision is a world in which these innovative medicines will cure and protect the vulnerable and under-served populations at risk of malaria, and help to ultimately eradicate this terrible disease.

www.mmv.org
Medicus Mundi Suisse

Medicus Mundi Switzerland, the network health for all, is a network of 45 Swiss organisations working in the field of international health. Medicus Mundi Switzerland promotes the sharing of knowledge and know-how among its members and advocates for universal access to health and health care as a fundamental human right. Some of the members provide advice and support to partner organisations in their fight against malaria.

www.medicusmundi.ch

Mepha

Mepha is the leading generic company in Switzerland and represented in more than 70 countries all over the world. Besides a large number of generic products, Mepha also manufactures antimalarial drugs for prophylaxis as well as for treatment and offers these products in Africa*, in Asia* and in Latin America*. Mepha / Acino continues to invest in research and development for new antimalarial drugs to be offered in Swiss quality and at affordable prices to those in need for prophylaxis as well as for treatment.

*Mepha is a member of the Acino group in these countries.

www.mepha.ch
www.acino-pharma.com

Novartis

Focused on access, treatment, R&D and capacity-building, the Novartis Malaria Initiative is one of the healthcare industry’s largest access-to-medicine programs measured by the number of patients reached annually. Since 2001, the initiative has delivered 500 million malaria treatments without profit to the public sector in more than 60 countries, contributing to saving an estimated 1 million lives. Over the last two years, Novartis and partners have discovered two new classes of compounds with great antimalarial potential. And just recently, the access project «SMS for Life» was honored by the UN’s Innovation Working Group and mHealth Alliance for helping advance the goals of the UN Secretary-General’s Every Woman Every Child Initiative. Together with our partners, we are committed to the common goal of malaria elimination.

www.malaria.novartis.com

SolidarMed

SolidarMed est l’organisation suisse de développement pour la santé en Afrique. La concentration voulue sur une région du continent noir augmente sa compétence et donc aussi la qualité de son travail. SolidarMed mène une lutte holistique contre le paludisme: en 2010, l’organisation a équipé de moustiquaires 18’000 familles au Mozambique et en Tanzanie. Dans 10 hôpitaux partenaires, elle soigne chaque année plus de 35’000 personnes atteintes de paludisme. Le travail déployé par quelque 380 conseillers de santé locaux assure une sensibilisation durable de la population.

www.solidarmed.ch

Swiss Red Cross

The Swiss Red Cross (SRC) helps to improve the provision of health care for particularly vulnerable sectors of the populations in around 30 countries. The fight against malaria is of major importance in this, especially in Africa. Our priority is to distribute mosquito nets that are treated with insecticide. The Red Cross also trains volunteers to teach villagers how to correctly use the nets and where they can find help if they fall ill.

www.redcross.ch

Syngenta

Syngenta is one of the world’s leading companies with more than 26,000 employees in over 90 countries dedicated to our purpose: Bringing plant potential to life. Through world-class science, global reach and commitment to our customers we help to increase crop productivity, protect the environment and improve health and quality of life.

www.sygenta.com

Vestergaard Frandsen

Vestergaard Frandsen has been a family-owned company for more than 50 years, and operates under a unique «humanitarian entrepreneurship» business model that is dedicated to creating and deploying technologies that improve the lives of people in developing countries. We are driven by an abiding desire to lessen the burden on those populations most vulnerable and we have aligned our business objectives with the United Nations’ Millennium Development Goals. Vestergaard Frandsen is not content with «business as usual,» and has been at the forefront of innovation of disease prevention in the developing context.

Backed by research in the lab and in the field, our disease-control products include cutting-edge PermaNet® 3.0 bed nets, ZeroVector® Durable Lining, and ZeroFly plastic sheeting; award-winning and widely used LifeStraw® and LifeStraw® Family water filters; and innovative frameworks to reach those in need, like our LifeStraw Carbon for Water campaign, and the integrated CarePack®. Thanks to our robust product portfolio, more than half a billion people in the developing world will enjoy a brighter and healthier future.

www.vestergaard-frandsen.com

Foundation for Innovative New Diagnostics (FIND)

FIND is dedicated to developing affordable, easy-to-use and cutting edge diagnostic tests that save lives in the poorest areas of the world. In addition to malaria, the not-for-profit organization works on tuberculosis, sleeping sickness, leishmaniasis and Chagas disease. Beyond developing new tests, FIND also works with partners to ensure that diagnostics can be used effectively in the field. Since inception in 2003, FIND has already brought six new technologies into widespread use, using its public-private model.

www.finddiagnostics.org
Roll Back Malaria (RBM Partnership)

The Roll Back Malaria Partnership (RBM) is the global framework for coordinated action against malaria. Founded in 1998 by UNICEF, WHO, UNDP and the World Bank and strengthened by the expertise, resources and commitment of more than 500 partner organizations, RBM is a public-private partnership that facilitates the incubation of new ideas, lends support to innovative approaches, promotes high-level political commitment and keeps malaria high on the global agenda by enabling, harmonizing and amplifying partner-driven advocacy initiatives. RBM secures policy guidance and financial and technical support for control efforts in countries and monitors progress towards universal goals. The RBM Secretariat is hosted at World Health Organization in Geneva, Switzerland.

www.rollbackmalaria.org

DNDi

The Drugs for Neglected Diseases initiative (DNDi) is a not-for-profit research and development organization working to deliver new treatments for neglected diseases. Since its inception in 2003, DNDi has delivered six new treatments to patients in need, notably for malaria, sleeping sickness, leishmaniasis, and Chagas disease, and is working on other new treatments for these diseases as well as specific helminth infections and paediatric HIV. The two treatments developed for malaria are the fixed-dose combinations ASAQ and ASMQ. ASAQ, a pill combining artesunate and amodiaquine launched in 2007, was developed in partnership with the French pharmaceutical company Sanofi; whereas ASMQ, a pill combining artesunate and mefloquine, was launched in 2008 thanks to a partnership with the Brazilian public pharmaceutical company Farmanguinhós and was followed by a technology transfer to the Indian company Cipla.

www.dndi.org