**Actively looking for new research partners: The Bill & Melinda Gates Foundation at PSWC**

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*New drugs for malaria and neglected diseases, such as sleeping sickness, are recent examples of what can be achieved when investments are made in global health. Clare Samson spoke to Steve Kern, deputy director of quantitative services at the Bill and Melinda Gates Foundation, about strategies for drug development and why the foundation is supporting the 6th Pharmaceutical Sciences World Congress*

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When the history of the late 20th and early 21st centuries comes to be written, Bill Gates is more likely to be remembered as a philanthropist than as the founder of Microsoft. The Bill & Melinda Gates Foundation, set up in 2000, claims to be the largest private charitable foundation in the world. Between its inception and the end of 2015 it gave over USD 35bn in grants to support a variety of charitable causes in the USA and worldwide. Global health is one of the foundation’s key priorities, and it has invested many millions of dollars in the development of drugs and vaccines for HIV, tuberculosis, malaria and neglected tropical diseases. Much of this has gone into public-private partnerships such as the Medicines for Malaria Venture, and this type of partnership has attracted some pharmaceutical companies — often seen as interested only in the chronic diseases of the (relatively) affluent — back into work on infectious tropical diseases.

The International Pharmaceutical Federation (FIP) has shown a similar interest in promoting the convergence of first-class science with developing world priorities in planning its sixth annual Pharmaceutical Sciences World Congress (PSWC 2017), whose theme is “Future Medicines for One World”. The list of distinguished scientists that forms the International Programme Committee includes Steve Kern, who as deputy director of quantitative services at the Bill & Melinda Gates Foundation directs mathematical modelling programmes to support the drug discovery research it funds. “I became interested in this meeting through my friendship with Meindert Danhof [the congress chair, based at Leiden University in the Netherlands]; I have worked with him for over 30 years, both in academia and while I was at Novartis,” says Kern.

**Streamlining drug development**

The congress, to be held in Stockholm in May 2017, includes a foundation-led session on the development of new therapeutics for global health, chaired by Dan Hartman, who, like Kern, joined the foundation from the pharmaceutical industry. He now directs its integrated development division, which is involved with the strategic and technical development of drugs and diagnostics. Besides Hartman and Kern, other foundation speakers at the session include Susan Herschensen on drug formulation and Murray Lumpkin on regulation. Herschensen, who is deputy director for chemistry, manufacturing and controls, will talk about foundation-funded research into the development of new pharmaceutical formulations that are cheaper and easier to produce, which is of particular relevance to the developing world. She will also discuss the different formulation needs of children and the importance of developing specialist paediatric formulations of drugs for HIV and AIDS, for example.

Lumpkin joined the Gates Foundation in 2014 after a long and distinguished career at the US Food and Drug Administration, where he had had a particular responsibility for international programmes. He will describe the foundation’s work with the World Health Organization to develop and harmonise the regulatory framework in lower-income countries. “It is still necessary to make a separate application to market a pharmaceutical product in each country in East Africa, for example,” says Kern. “Streamlining this process will make it faster and more efficient.”

Kern explains, further, that the foundation’s interest in supporting and participating in the congress arises mainly from its links with industry. “We are actively looking for new research and development partners for Gates-funded projects,” he says. “We want to encourage all pharma and biotech companies, large and small, to get involved with us in developing drugs for neglected and tropical diseases.”

This strategy has already seen success, with drugs such as tafenoquine and fexinidazole now in the clinic or in advanced clinical trials. Tafenoquine is an aminoquinoline that is under investigation for malaria, particularly the rarer form caused by *Plasmodium vivax*. The current standard of care for this form of malaria is primaquine, a 50-year-old medicine that must be taken daily; tafenoquine has a longer half-life and may only require a single dose. The foundation is collaborating with GSK to take it through phase III trials. Fexinidazole, which has been developed by the Gates-supported Drugs for Neglected Diseases Initiative and Sanofi, is the first novel drug for advanced sleeping sickness to enter clinical development in over 30 years.

**Vision for a malaria-free world**

These developments build on Bill Gates’s vision for a malaria-free world. As he himself blogged in 2014: “I believe it’s not only possible to eradicate malaria; I believe it’s necessary. Ultimately, the cost of controlling it endlessly is not sustainable. The only way to stop this disease is to end it forever.”1

Executives from the foundation find that attending large international conferences such as PSWC help them keep abreast of what is going on in the pharmaceutical industry worldwide. “When we know where the industry is going, we are better placed to select what will be of most value to the people we serve: doctors and their patients in poor countries,” concludes Kern. “People tend to think that treatments for diseases that are endemic in the developing world have to be low-cost, but this is not necessarily so: high-end solutions with high-end benefits can still be valuable.”

Growing links between the pharma and biotech industry and the not-for-profit sector, as exemplified by the Bill & Melinda Gates Foundation, can work to the benefit of all patients. In May, Stockholm could be a good place to forge some of these links.

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**Eradication of malaria feasible**

Malaria occurs in nearly 100 countries worldwide. According to the 2013 World Malaria Report, there were more than 200 million malaria cases in 2012. An estimated 627,000 people died from malaria in 2012, 90% of them in sub-Saharan Africa. Most of those who die from malaria are children under age 5.

Eradication of malaria is biologically and technically feasible with sufficient global commitment and major investments in transformative new tools and delivery strategies. — The Bill & Melinda Gates Foundation

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REFERENCE

1. [Here is the link to the above quotation: https://www.gatesnotes.com/Health/Eradicating-Malaria-in-a-Generation]