

## In praise of Gates

The co-founder of Microsoft has made a mint from a business that many attack, but his efforts in Africa highlight a virtue: a philanthropic understanding of science. The world needs more of it.

“Nelson Mandela! Nel...son...Man...del...a...! Bill and Melinda! Bill...and...Mel...ind...a!” Not surprising that the man who led South Africa out of apartheid should be given a charged, hip-hop hero’s welcome as he walked into a youth forum on HIV/AIDS in Hillbrow, the seediest district of Johannesburg. But Bill Gates, the Microsoft mogul everyone loves to hate, and his wife Melinda, the filthiest-rich couple on the planet? Here and in other poor parts of the world, they are quickly becoming Saint Bill and Miraculous Melinda, offering salvation from scourges such as malaria and AIDS, and the best thing to happen to Africa for a long time.

Improving global health is the aim of the Bill & Melinda Gates Foundation, which with a US\$25-billion endowment is the world’s largest philanthropic fund. To see things at first hand, the couple also travelled to a research centre in rural Mozambique, announcing \$168 million in new malaria research grants, and to Botswana, to check on their \$50-million programme there to combat AIDS. They’ve pumped over \$3.2 billion into diseases neglected for too long.

The World Bank’s World Development Report should be recommended reading for the rich and powerful. Bill Gates says he discovered the scale of the global health crisis on reading the 1993 report. “We thought other people were dealing with these problems, that the research dollars were being allocated. We are still in a state of shock that there is this vacuum here.”

Gates now pores through the US Centers for Disease Control and Prevention’s *Morbidity and Mortality Weekly Report*, and swots up on biology. He surrounds himself with scientists, and throws them research queries with an impish Woody Allenish inquisitiveness. His single-mindedness and hard-boiled business habits are a tonic in the bureaucratic world of international health.

### Biggest bottlenecks

The foundation’s funds are a pittance compared with the task, but they give Gates unparalleled leverage to shape global health, and to galvanize others to join the effort. The foundation’s initial focus cannot be faulted, aiming to hit the biggest disease burdens, the most severe lack of funding, the biggest bottlenecks. The dilemma, as Gates acknowledges, is to choose between current and future needs.

In Botswana the AIDS programme is here and now. So is the Global Alliance for Vaccines and Immunization (GAVI) programme, set up in 1999 with \$750 million of Gates funds. In just three years it has delivered essential vaccines, such as for hepatitis B and yellow fever, to some 30 million children.

Such pilot projects show that distributing antiretrovirals in poor rural Africa is practical: over to governments to see the benefits and learn from best practice. Why Botswana? Because its government was sufficiently committed — other African governments, take note.

In creating GAVI, Gates didn’t just buy vaccines but established a system for guaranteeing markets, pooling funds and thrashing out acceptable differential pricing deals for poorer countries with vaccine companies. It could be a model for others charged with getting existing or new tools out there.

Otherwise, Gates is right to leave the huge costs of funding control to governments — a proper attack on malaria alone would cost

\$2.5 billion a year. His main interest is the abyss between basic research and industrial development.

Take drug development for malaria, which had come to a standstill before the creation in 1999 of a global alliance, the Medicines for Malaria Venture. This programme is taking the best drug leads from academia, and pushing them through development to market. It has provided the biggest drug pipeline for malaria in three-quarters of a century. Shame that, as with most malaria-vaccine research and development, its funding largely depends on Gates.

The foundation, under Richard Klausner, ex-head of the US National Cancer Institute, should fund more upstream research. The sequencing of the malaria parasite genome showed much variation in the surface antigens used in most current candidate vaccines, for example. In the long run, better understanding of the parasite’s biology, and its mosquito and human hosts, could prove most beneficial.

### Blue-skies research

Gates has not funded much basic research. But the foundation recently announced a \$200-million Grand Challenge competition to identify blue-skies research ideas that could pay huge dividends in the fight against neglected diseases. Neglecting other strategic areas of basic research would be short-sighted. The foundation is discussing funding post-malaria genomics and the science of vector control. It could move both fields of endeavour forward faster.

Scientists can spur the foundation on if they club together in consortia to agree on big problems that need to be cracked, and roadmaps for how to go about it. They should then write to Gates (see [www.gatesfoundation.org/Grants/EligibilityAndGuidelines](http://www.gatesfoundation.org/Grants/EligibilityAndGuidelines)).

It is encouraging that 80% of Gates funding is channelled through existing public–private alliances. Such alliances, bringing together funders, governments, UN agencies and private companies, have over the past decade emerged as the predominant organizational attack for a host of diseases, including polio, malaria, AIDS and tuberculosis.

But in philanthropy, personal experience counts. Gates’s visit to the Manhica Health Research Centre in Mozambique opened his eyes to the importance of high-level research centres in logistically difficult areas where diseases are endemic.

Manhica, set up as recently as 1996, has gathered important baseline data on the 65,000 people living within 200 square kilometres, painstakingly recording mortality, morbidity, births, migration and other data. It is part of international networks trying to generate this basic information — the foundation for solid epidemiological studies to assess the impact of experimental interventions.

Gates seems surprised that it is possible to establish such high-level centres delivering health care and doing research. The goal is to learn from this and to get such centres replicated across Africa.

Now weighing in as a major force in global health, Bill Gates can allow himself a little less political correctness. In calling for the malaria problem to be made more visible, he let slip his gut feeling: “It’s unfortunate in a way that, because of geography, malaria has been wiped out in the rich world.” But he seems inhibited in discussing politics and public policy. Gates should use his weight to influence world leaders. It’s time he put his mouth where his money is. ■