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Zambia to wage 'scientific' war on malaria

With proper planning and commitment, malaria deaths in Africa could be cut by 75% in just three years. That's what the Bill & Melinda Gates Foundation is out to prove, and it has chosen Zambia as its battleground.

Many have been frustrated by the progress of international efforts, such as the UN-led Roll Back Malaria partnership, which in 1998 pledged to halve malaria deaths worldwide by 2010. It is nowhere near meeting its goal, and the Gates Foundation believes that planning is the missing factor.

Zambia has already declared that it will get insecticide-treated bednets to 90% of its households. It also aims to treat 60% of malaria patients with artemisinin drugs within 24 hours of diagnosis.

"The Zambian people and their leaders have shown tremendous resolve in their commitment to controlling and preventing malaria," says Richard Feachem, executive director of the Global Fund to Fight AIDS, Tuberculosis and Malaria. The Global Fund has pledged \$38 million to Zambia for malaria control over the next two years, and up to \$83 million for the next five.

The Gates initiative aims to glue these efforts together with sophisticated data-management systems and extensive scientific trials to evaluate what works and what does not. This scientific support will be funded by a \$35-million investment over the next nine years. The foundation announced the decision to aid Zambia at the World Health Assembly in Geneva on 19 May.

The world needs "a blockbuster success against malaria", says Regina Rabinovich, director of the foundation's infectious-diseases programme. She hopes the project will "encourage both donor countries and developing countries to devote greater resources to fighting malaria".

Called the Malaria Control and Evaluation Partnership in Africa (MACEPA), the project will be run by the Seattle-based non-profit organization PATH. It will partner Roll Back Malaria, the Global Fund and the World Bank.

Carlos Campbell, MACEPA programme director at PATH, says that its real-time data-management systems are "based

on the best science available". He adds that measuring the effectiveness of the efforts in Zambia is a priority, so the results can guide future large-scale efforts. Although funding

for malaria control has been stuck for years at around \$200 million annually, money is starting to flow, he says, so solid science is needed to ensure that the

influx of resources is spent well.

MACEPA will also measure the economic impact of reducing malaria deaths. The World Bank estimates that the disease cuts the economic growth of African countries by at least 1.3% annually. Brian Chitwo, Zambia's health minister, says it was the social and economic impact of malaria, which is responsible for 40% of child deaths in the country, that drove his government to make malaria control a priority.

Campbell hopes that the project will prove that investment in malaria control pays for itself through economic growth, encouraging other African countries to follow in Zambia's footsteps.

Declan Butler

"The world needs a blockbuster success against malaria."

GRAPHIC DETAIL

Wind mappers blown away by high energy potential

To inspire us with the power of wind turbines, researchers have painstakingly assembled this map of wind speeds across the globe.

The main difficulty with judging the amount of wind available for power generation is that speeds are typically measured at stations 10 metres above the ground — but modern wind turbines are 80 metres tall. Cristina Archer and Mark Jacobson from Stanford University, California, collected wind measurements from 8,000 locations around the world. They revised existing equations to estimate what the speeds would be 80 metres up (C. L. Archer and M. Z. Jacobson *J. Geophys. Res.*, in the press). Particularly windy spots include the North Sea, the tip of

South America, Tasmania and North America's great lakes.

Any location with an average annual wind speed of 6.9 metres per second or above is considered suitable for low-cost power generation. The researchers estimate from their map that, excluding practical considerations, the world's energy needs could be met by harnessing just 20% of the planet's potential wind power.

C. ARCHER & M. JACOBSON