

Mapping *Plasmodium falciparum* malaria

GENERATION OF NEW KNOWLEDGE 2005/2006

BACKGROUND

Using a combination of epidemiological, geographical and demographic information and satellite imaging data, Professor Bob Snow and Dr Simon Hay, with colleagues in Kenya, Thailand and the University of Oxford, have produced new estimates of the global burden of *Plasmodium falciparum* malaria.

ADVANCE

According to these new estimates, in 2002, 2.2 billion people were at risk of being infected by *Plasmodium falciparum* and there were an estimated 515 million clinical attacks attributable to the parasite. These estimates of burden are 50 per cent higher than those currently reported by the World Health Organization and 200 per cent higher for areas outside Africa. The research also demonstrated that nearly 25 per cent of the worldwide clinical attacks occur in South-east Asia and the Western Pacific even though *Plasmodium falciparum* malaria is regarded as predominantly a disease problem in Africa.



Above: Map showing malaria-endemic world.

HOW IT'S MAKING A DIFFERENCE

Building on this research, Professor Snow and Dr Hay are working with their colleagues at the Kenya Medical Institute (KEMRI) and the University of Oxford on the [Malaria Atlas Project \(MAP\)](#). This project, funded by the Wellcome Trust, aims to create a global map of malaria transmission that will help identify populations at particular risk to help predict the impact of the disease, allowing health resources to be targeted at those areas most at risk.

Although malaria scientists already collect information on how many people are infected with malaria parasites, MAP will be the first time that all the data have been gathered into a single source and linked to a map of the world. To date, MAP has collated information from 3670 communities in 79 countries and represents the single largest repository of contemporary information of malaria risk. MAP will be an open-access repository, allowing researchers anywhere in the world to access the data for free.

The MAP's maps have already been used to help inform the distribution of bed nets globally for the charity [World Swim For Malaria Foundation](#).

REFERENCES

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- Guerra CA et al. [Assembling a global database of malaria parasite prevalence for the Malaria Atlas Project](#). Malar J 2007, 6:17.
- The MAP website: www.map.ox.ac.uk/index.htm
- World Swim For Malaria Foundation website: www.worldswimformalaria.com

WELLCOME TRUST GRANT

Professor Bob Snow: Senior Research Fellowship in Basic Biomedical Science, 2002, five years; Principal Research Fellowship, 2006, seven years.

Dr Simon Hay: Research Career Development Fellowship in Basic Biomedical Science, 2002, four years; Senior Research Fellowship in Basic Biomedical Science, 2006, five years.

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