New estimates of malaria deaths: concern and opportunity

This week we publish surprising and, on the face of it, disturbing findings. According to Christopher Murray and colleagues at the Institute for Health Metrics and Evaluation (IHME) at the University of Washington in Seattle, there were 1·24 million deaths (95% uncertainty interval 0·93–1·69 million) from malaria worldwide in 2010—around twice the figure of 655 000 estimated by WHO for the same year. How should the malaria community interpret this finding? Before we answer that question, we need to look beneath the surface of this striking overall mortality figure.

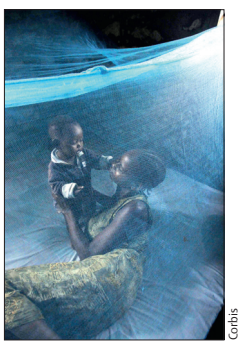
First, annual malaria mortality peaked in 2004 at 1·82 million. Since then, there has been a 32% reduction in malaria deaths, driven mainly by "accelerated decreases" in sub-Saharan Africa. Second, although there has also been a substantial decrease in the number of deaths outside sub-Saharan Africa, adults now make up the major burden in these regions. In Asia and the Americas, the median proportion of deaths in those older than 15 years was 76% and 69%, respectively. Overall, the IHME data show that malaria deaths in 2010 in those aged 5 years and older were much higher than previously thought—524 000 deaths compared with 91 000 as estimated by WHO. Third, malaria accounts for many more child deaths in sub-Saharan Africa than previously estimated—24% of total child deaths, compared with the 16% previously calculated for 2008.

The reliability of these findings will certainly be the subject of much debate, as were the similarly higher estimates for India (by different methods), reported in 2010. Murray and colleagues used inputs from vital registration systems, published and unpublished verbal autopsy reports, and estimates of malaria transmission intensity to construct an array of models, which were then assessed for predictive validity. The authors will need to make their data and assumptions fully available to others who will surely wish to reproduce their calculations.

One aspect of the findings that is unlikely to raise objections is the implication that interventions scaled up since 2004 have been phenomenally successful in reducing the number of malaria deaths. Much of this success can be attributed to the work of the Global Fund To Fight AIDS, Tuberculosis and Malaria, now celebrating its tenth anniversary. The Global Fund contributes about two-thirds of the world's funding for malaria programmes, and since its inception in 2002 has dispersed 230 million insecticide-treated bednets and a similar number of doses of artemisinin-based drugs. Coverage of indoor residual insecticide spraying now stands at around 70% for the countries with the highest disease burden. With the recent and untimely resignation of its Executive Director, Michel Kazatchkine, the Global Fund is facing an unprecedented emergency. The results we report today show how essential it is for donors to recommit to the Global Fund, as they did last summer for the Global Alliance for Vaccines and Immunisation. We therefore welcome the US$750 million promissory note announced last week by the Bill & Melinda Gates Foundation. This commitment for 2011–16 is a legally binding agreement for future payment, but also counts as cash in the bank and can thus be used to cover all grants the Global Fund has already signed off. It has thrown the Global Fund a lifeline at a time when donor support is in desperately short supply. Others should follow this lead.

We must also conclude from today's study that malaria might be a far more important cause of childhood mortality than previously thought. If correct, this finding has substantial implications for child survival programmes. It also seems clear that malaria is a greater long-term threat to adult health than we had previously imagined. Again, if correct, this finding means that malaria control and elimination programmes should be paying far greater attention to adults than is currently the case. Finally, although we can be grateful for these new estimates of malaria mortality, one important lesson from the science of estimation is that the urgency to revitalise health information systems has never been greater. We need reliable primary cause of death data to ensure that trends in malaria mortality are readily and reliably monitored—and acted upon.

What should happen now? WHO's new independent advisory body, the Malaria Policy Advisory Committee (MPAC), held its first meeting this week. But MPAC only has 15 members. We believe urgent technical and policy analyses must be initiated by WHO—involving a broader group of experts (eg, including those in child survival) and country representatives—to review these new data and their implications for malaria control programmes. This opportunity needs to be grasped with urgency and optimism. ■ *The Lancet*



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For the **WHO World Malaria Report 2011** see http://www.who.int/malaria/world_malaria_report_2011/en/

For the **paper by Black and colleagues on child mortality** see **Articles** *Lancet* 2010; **375:** 1969–87

For the **paper by Dhingra and colleagues on malaria deaths in India** see **Articles** *Lancet* 2010; **376:** 1768–74