

## Comparison of malaria control interventions

**Editor** – The paper by Curtis & Mnzava (1) dealing with the comparison of residual house spraying and insecticide-treated nets for malaria control is timely, since important strategic choices have to be made in the Roll Back Malaria partnership. Experience in comparing these two key vector control interventions has recently become available and such a review is therefore welcome. The comparisons presented by Curtis & Mnzava show that in the United Republic of Tanzania, South Africa, and other settings outside Africa the impact of insecticide-treated nets in reducing malaria infection rates, morbidity, and entomological indices was at least comparable to that of residual house spraying. This comparability in terms of malaria control means that operational and practical differences become the main determinants for choosing one approach over the other in a given setting.

Unfortunately, the authors went beyond describing recent trials with concurrent and comparable control groups and attempted to compare trials on insecticide-treated nets in the 1990s with house spraying carried out decades earlier and in different settings. Such comparisons are delicate at the best of times but they are clearly invalid in this case. The trials took place 25–40 years apart, were of different duration and in different populations, and also had other substantial differences: transmission rates in the selected pairs were not comparable (Pare-Taveta had an entomological inoculation rate of 30 vs Bagamoyo/Muheza >300, Kisumu 300 vs Kilifi 30, and Garki 30 vs Ouagadougou >300); substantial co-treatment was done in the house spraying trials at a time when chloroquine was highly effective (which was not the case in the net trials); socioeconomic conditions were very

different, so were health services, and in the case of spraying trials the projects were better structured and more expensive. On top of this, residual house spraying and treated nets used different classes of insecticides. The list of reasons to question the validity of these comparisons is endless, and there is therefore no convincing causal link between the observed differences in impact and the two hypotheses put forward by the authors to explain them (duration of intervention and type of insecticide). It is not obvious why in their overall assessment the authors essentially ignored the convincing results from more recent and appropriate comparisons, including their own, and chose to base their main conclusions on such invalid data.

I agree with the authors that in some special situations residual house spraying is more attractive than the use of insecticide-treated nets, such as in camps for displaced populations, during epidemics, or in settings with long-term spraying already being practised (for example, in South Africa). But these are special cases and it is inappropriate to use them for making a more general argument. In most highly endemic areas (especially in sub-Saharan Africa) there are simply not enough material and personnel resources to implement house spraying on an appropriate scale. Even with a substantial increase in resources for malaria control this situation is unlikely to change rapidly, especially when considering all the competing needs in the health sector. Nobody in highly endemic areas is currently considering a switch from spraying to the use of nets in order to shift responsibility (including financial) to the end users, for the simple reason that in most places there has not been any spraying for the last few decades. While insecticide-treated nets are certainly not the “magic bullet” of malaria control, they do at least allow realistic

malaria prevention for hundreds of millions of people at risk who do not have much else at the present time. ■

### Christian Lengeler

Project Leader  
Swiss Tropical Institute  
P.O. Box, 4002 Basel  
Switzerland  
tel: +4161 284 8221  
email: Christian.lengeler@unibas.ch

1. **Curtis CF, Mnzava AEP.** Comparison of house spraying and insecticide-treated nets for malaria control. *Bulletin of the World Health Organization*, 2000, **78**: 1389–1400.

Contributions are welcome for the Letters section, in response to articles that have appeared in the *Bulletin* or on matters of major public health importance. Letters are usually between 400 and 850 words, with a maximum of six references; they will be edited and may be shortened. We cannot publish all the letters we receive.

We prefer to receive contributions electronically if possible, sent to the editorial office (World Health Organization, 1211 Geneva 27, Switzerland) by email (bulletin@who.int) or on diskette, or submitted through our web site. Authors should give their current appointments and full addresses, with a telephone or fax number or email address for the corresponding author. We will ask authors to declare any conflict of interest.