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***Expanding the use of an effective malaria control tool***

# Insecticide-treated nets: from social marketing to national programmes

Von Christian Lengeler

*In April 2000, African Heads of State met in Abuja (Nigeria) and endorsed a far-reaching plan to Roll Back Malaria in Africa. One of the three key targets they pledged to reach by the year 2005 was that at least 60% of African children would sleep protected by a bednet (mosquito net) treated with insecticide. This "licence to kill mosquitoes" has been taken seriously by the major international health agencies and many plan to expand the use of insecticide-treated nets (ITNs) in their programmes.*

Multiple large trials showed that the widespread use of insecticide-treated nets (ITNs) lead to a reduction of up to 50% in the number of malaria episodes in children in Asia, Africa and Latin America. In Africa ITNs also lead to a significant improvement in the anaemia status of children and pregnant women. The massive mosquito killing observed in many settings brings a substantial benefit not only to those sleeping under treated nets, but also to their unprotected neighbours. The most spectacular finding was the reduction of 20% in overall child mortality as a result of using ITNs. For every 200 children protected by an ITN for one year, one death could be prevented. On the scale of Africa, protecting all children under five years would save around 500,000 child lives every year.

## How to implement insecticide-treated nets on a large scale ?

Mosquito nets and insecticide are household goods rather than medical products, and flexibility is therefore possible when considering implementation. Three sectors might be considered for procurement, distribution and sales: the public sector, the voluntary sector and finally the private (for-profit) sector. The distribution of ITNs could be entirely paid for by the public sector (in the same way as house spraying with insecticide), partly subsidized, or entirely paid for by households.

The largest current ITN programmes (in China, Vietnam, Gambia) rely on a mix of approaches: households buy nets on the commercial market without any subsidy, but the state pays for the insecticide treatment through regular actions organized by the public health system. In most endemic countries nets are available on the commercial market and in many areas more than 30% of households own at least one untreated mosquito net.

Another approach is social marketing, well known in Switzerland since the "Stop AIDS" campaign. Social marketing borrows techniques from commercial marketing, including very detailed market research and professional advertising, and uses them to promote a socially beneficial behaviour and/or product. We have used social marketing in KINET (Kilombero Valley treated net programme). a large-scale ITN programme in Tanzania supported by the Swiss Agency for Development and Cooperation.

# "Zuia Mbu" (prevent the mosquito): Social marketing of ITNs in Tanzania

The programme started in mid-1996 with an initial 6 months of formative research aimed at understanding disease perception patterns and current actions and attitudes towards malaria and mosquito biting prevention. This work was completed by market research to understand customer preferences with regards to nets (green, square mosquito nets coming in two sizes) and insecticide (packaged in small sachets). It also allowed us to design a brand and logo that could be advertised widely: Zuia Mbu ("prevent the mosquito").

After many community meetings we started to develop a retailer and wholesaler network to ensure the distribution of our products. The majority of the selected retailers were owners of small shops, but some were also political and religious leaders, health workers and other resource persons chosen by the community. Over two years the distribution network was extended to cover two districts with a population of 350,000 people. In parallel to the development of the distribution network we launched promotional campaigns through locally relevant channels: posters, school exercise books, billboards on roads, logo painted on local buses, community meetings with theatre productions, and many more. Nets were sold for the equivalent of 7 Swiss Francs and the insecticide sachets for 0.90 CHF. Any net can be treated, although synthetic nets are better than cotton ones, and re-treatment should be done twice per year. The treatment procedure is very simple thanks to a kit containing an insecticide sachet, gloves and instructions.

We also introduced a voucher system administered through the regular mother-and-child clinics which allowed pregnant women to buy a treated net at a reduced price of 6 CHF. This provided an incentive to a pregnant women to protect herself as well as her new-born children.

Over three years we have sold 60,000 treated nets and 40,000 insecticide sachets, with a clear peak at the start of each rainy season (December-March). A recent survey has shown that over 60% of children and pregnant women sleep regularly under an ITN. A substantial

improvement in the anaemia status of pregnant women and children under 2 years of age has been demonstrated. Customer satisfaction is high and the demand is such that during a break in supply, counterfeit nets (unfortunately untreated) have started to appear on the market under the name Zuia Mbu! One serious problem is the low rate of re-treatment of the nets (around 20%), which threatens to lower the percentage of treated net users in the future.

Small shops have been shown to be the best place for selling treated nets: they are always open, have an adequate working capital and a sense for business. One health center was also very effective in selling ITNs, but political and religious leaders under-performed. As a result the distribution system was progressively streamlined and we are currently relying almost entirely on the existing commercial wholesaler and retailer system. This represents a working partnership between the public and the commercial private sector. While the public sector has the overall responsibility for the programme, defines the general orientations and manages the promotional side, the commercial private sector supplies the nets and handles both the distribution and the financial aspects. There is no credit in the system and the retail price is controlled.

# Upscaling to national level

This successful KINET example of a public-private partnership is potentially a feasible and efficient approach to achieve a high coverage with ITNs at national level. A national programme is currently being designed by a team of consultants including KINET project staff from the Swiss Tropical Institute and the Ifakara Health Research and Development Center. Expanding ITNs at national level raises many new issues, such as the lowering of taxes and tariffs on nets and insecticide, national regulations (for insecticides for example), and quality control. National net and insecticide producers/importers and distributors need to be identified and a mode of interaction between these private sector actors and the government must be worked out. These are complex processes which require much imagination and tenacity to be completed successfully. On the other hand there are also major opportunities with lower prices due to economy of scale and much more powerful national level promotion using radio (listened to regularly by with 55% of women and 75% of men) and newspaper (31% of women and 40% of men).

One of the most promising recent developments has been the commercialisation of a net that does not need to be re-treated for at least two years and probably even longer (a "permanet"). Further interesting developments are the use of other materials, such a treated curtains in Burkina Faso and Uganda, treated chaddors in Afghanistan and treated veils (thogs) in Sudan. The world of public health has currently a unique opportunity for a significant advance against one of the great scourges of the world and that chance must be taken now.

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