

# Insecticide-treated nets and treatment service: a trial using public and private sector channels in rural United Republic of Tanzania

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*The Rotary Net Initiative, implemented in Kilombero District, southern United Republic of Tanzania, allowed us to explore different sales channels for the distribution of insecticide-treated nets (ITNs) and the insecticide treatment service in a rural area of very high malaria transmission. Several types of ITNs were promoted and sold through different channels in the public and private sector, i.e. hospital pharmacy, mother and child health (MCH) clinic, net committee, village health workers and retail shops. The ITNs were sold for US\$ 5.0–9.2, with profit margins of 9–16%. Net treatment cost US\$ 0.33, with commission fees of 75%. Net transport and treatment were partially subsidized. Some outlets established their own fund by ITN sales. Sales of nets and treatments were seasonal, and certain net types were preferred. Demand for insecticide treatment was generally low. Changes in net coverage were assessed in two villages. A range of outlet features were compared qualitatively. Our experience supports suggestions that ITN technology should be delivered through MCH care services and demonstrates that specific promotion and innovation are necessary to achieve substantial net treatment levels. A large-scale ITN project in the same area and other ITN studies should lead to better understanding of ITN implementation at the population level.*

## Introduction

Use of insecticide-treated nets (ITNs) as a public health intervention appears on the agenda of an increasing number of governments and organizations. This is due to the beneficial effects of ITNs on child mortality and morbidity, the scarcity of other effective tools for the prevention of malaria, and the high failure rate of malaria chemotherapy. ITNs represent an attractive essential health intervention for countries where malaria contributes substantially to the demand for health services. Cost-effectiveness of ITNs for children under 5 years of age was recently estimated at US\$ 14 per disability-adjusted life year (DALY), assuming ITN distribution through public health services and 50% compliance (1).

There is a flourishing private sector for mosquito nets, as illustrated by a recent directory of the main suppliers (2). However, transport and sales channels of factory-made nets, handmade nets, and netting material are largely unreported in the health literature. To some extent, the private sector has been able to distribute nets into rural areas in some

countries. Although insecticide for public health use is available at the national level, local markets have not developed. Two recent reviews provide comprehensive information and critical considerations concerning the operational experiences of ITN schemes and programmes (3, 4).

The Ministry of Health of the United Republic of Tanzania endorses the use of ITNs as a household preventive intervention in its national guidelines for community-based malaria control, and ITNs have a prominent place in the action plan for the coming years. Various projects have sold ITNs in the country to date, e.g. the UNICEF Child Survival, Protection and Development (CSPD) Programme channelled ITNs through the mother and child health (MCH) programme and gained valuable experience on logistics and revolving funds, the Bagamoyo Bednet Project assessed the capacity of "bednet committees" to promote, sell and re-treat ITNs in 13 villages (5); studies in Dar es Salaam have investigated the potential of urban treatment centres for net impregnation (J. Miller, personal communication, 1998); and the Bednet Project in Turiani explored the local production, sale and treatment of nets (Y. Smith, personal communication, 1998).

More exploration is needed in order to advise ministries of health and development agencies on ITN implementation, including net distribution channels, pricing, logistics, community demand and uptake, equity and potential participants in the implementation. The Rotary Net Initiative was

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