

## Konkola Copper Mines: improving programme success and ensuring sustainability

Konkola Copper Mines Plc (KCM) implemented a comprehensive malaria control programme in 2000 that focuses on indoor residual spraying (IRS). All habitable dwellings within a 10 km radius of the built-up area in Chingola, Chililabombwe and Nampundwe are sprayed with a residual insecticide annually. The programme was implemented in partnership with the community and the Ministry of Health through the National Malaria Control Centre (NMCC) and District Health Management Teams.

The programme aims to cover 95% of all habitable dwellings. During the 10 years the programme has been in existence, coverage has ranged from 73% to 99%. Malaria incidence in project sites has dropped from 113 cases per every 1000 people in 2000 to 11 cases per every 1000 people in 2010 (see Figure 1).

It is KCM's intention to continue working with the community to maintain the success of the programme, support public sector efforts and draw in other private sector partners to maintain and improve upon programme successes and ensure sustainability.

### The heavy burden of malaria

Malaria is one of the leading causes of morbidity and mortality in Zambia. Until 1970, malaria in urban areas was kept to a minimum due to an effective prevention and control programme. In the 1970s, incidence rates dropped as low as 20 cases per every 1000 people. But between 1976 and 2000, malaria incidence rates in Zambia nearly tripled. In 1976 the incidence rate was 121.5 cases per every 1000 people and by 1999 the incidence rate had increased to 321.4 cases per every 1000 people.

KCM recognized the adverse effects of malaria on its workers and the greater community, and embarked on a control programme to protect residents in Chililabombwe and Chingola on the Copperbelt

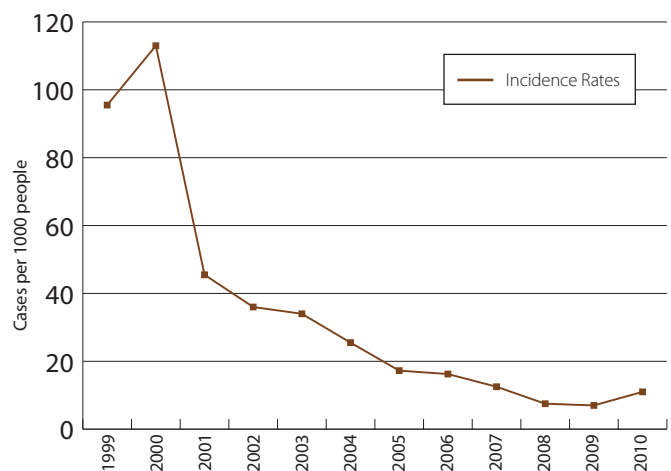


Figure 1. 1999-2010 Malaria Incidence Rates at Konkola Copper Mines

(including selected dwellings in Kitwe and Kalulushi) and Nampundwe in Central Province, Zambia, from the disease.

### The KCM malaria control programme

KCM's malaria control programme covers an area of 842 square kilometers. All habitable dwellings, whether traditional mud structures or modern western-style houses with plastered and painted walls, are sprayed with either a pyrethroid wettable powder or wettable granules depending on the type of wall surface. Spray operators, drawn from the local community, are trained in conjunction with the NMCC.

In addition to conducting this indoor residual spraying (IRS) with insecticides, KCM also implements larval control through educators who work with the community in draining or drying mosquito-breeding pools, removing stagnant water and larviciding breeding areas with Temephos. Insecticide treated nets (ITNs) are also sold, on a cost recovery basis, to employees and other members of the community.

Intensive publicity campaigns are conducted through drama, banners, flyers and house-to-house visits by the community-based educators to share important information about malaria with the public. The community radio station also disseminates information, and a vehicle mounted with a public address system tours the areas targeted for IRS in the mornings, informing residents to be prepared for the spray teams. Each year, prior to the IRS campaign, KCM conducts a Knowledge, Attitude, and Practices (KAP) survey to assess community understanding of malaria. KAP surveys have revealed an increased understanding of the disease and its control. A blood parasite prevalence survey is also conducted annually on a random sample of 170 households to monitor programme success.

Patients are treated according to the national guidelines. All cases presenting at the company health centres are confirmed by microscopy or rapid malaria diagnostic tests. All malaria cases among employees and their dependants are treated at the company health facilities, therefore the company malaria data along with the parasite prevalence surveys provide an accurate picture of malaria morbidity and mortality in the employee population in Chingola and Chililabombwe.

### Programme impact

The KCM malaria control programme has achieved quite a high annual spray coverage rate in the ten years since its inception. More than 40 000 dwellings are sprayed each year and the total population covered is estimated at 285 000. Over 40 000

ITNs have been distributed to mine employees and to non-immune foreign workers visiting the mine. Malaria incidence rate and mortality have substantially reduced.

Company expenses incurred from treating malaria have declined significantly since the IRS programme began in 2000. The total cost of treating both admitted cases and outpatients fell from a high of US\$ 850 000 in 2000 to US\$ 38 930 in 2009. The major reason for the reduction in costs is the decline in the total caseload.

### Future plans

The simple and conservative analysis of the benefits of malaria control indicate that the programme has resulted in a significantly positive benefit for KCM while reducing malaria in the community. It is likely that the intervention has also been economically beneficial to the wider non-mining community and economy of the region.

KCM's programme demonstrates the benefits of an integrated comprehensive malaria control programme and provides a useful model for other corporate social responsibility programmes and the public and private sector. KCM intends to continue with the annual IRS campaigns and other components of the control programme while strengthening and broadening the malaria control partnership to enhance programme achievements and ensure sustainability.

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The private sector plays an important role in the fight against malaria and a recent publication demonstrates dramatic achievements. *Business Investing in Malaria Control: Economic Returns and a Healthy Workforce for Africa*, the sixth report in the Roll Back Malaria Progress & Impact Series, provides an in-depth analysis of how malaria control has improved cost effectiveness and saved lives at companies operating in malaria-endemic regions in Africa. This report, and others in the series, can be accessed online at [www.rollbackmalaria.org/ProgressImpactSeries](http://www.rollbackmalaria.org/ProgressImpactSeries).



Konkola Copper Mines plc

Paul Banda  
Manager Malaria Control, Medical  
Konkola Copper Mines Plc  
Phone: 260212353092  
E-mail: paul.banda@kcm.co.zm