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# Parallel session 3: Consequences of out-of-pocket payments

## PS 03/2
## The Economic Burden of Malaria in Kenya: A Household Level Investigation

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**Background:** Malaria is the most important infectious cause of morbidity and mortality in Kenya and accounts for 19% of hospital admissions and between 30-50% of outpatient cases. However, despite its devastating health effects, empirical evidence of the economic impact of the disease on farm production, household income and individual wage earnings in the country remains largely unknown. This paper estimates the economic burden of malaria at the household and individual levels, and simulates economic effects of malaria control investments on farm output and household incomes.

**Methods:** The data used for the study was obtained from the welfare monitoring surveys conducted by the Government of Kenya, Ministry of Planning and National Development. Structural models of crop production, household income and wages were used to measure the economic burden of malaria, controlling for other covariates in these models. In all the models, malaria is endogenous but valid instruments are used to vary it exogenously.

**Results:** The analysis finds that malaria imposes large economic burdens on households in Kenya. In some seasons households lost up to 70% of their crop output and almost 93% of their income to malaria in the early 1990s. Moreover, the results show that the economic burden due to malaria is substantially greater than the burden imposed by other diseases. The analysis further shows that crop output, household income and individual wage earnings are lower among households inflicted with malaria compared to healthy households.

An important finding of this thesis is that government expenditures on malaria control and schooling has a large mitigating effect on malaria burden. Thus, malaria control activities can greatly contribute to poverty reduction in malarious environments in the country. Indeed, investments in malaria control programmes have large economic returns. The explanation for these returns is that malaria control makes an immediate contribution to output or income by increasing the quantity and quality of labour, primarily through reductions in morbidity, debility, and absenteeism from work.

**Conclusions:** Malaria control is economically beneficial because malaria control efforts make an immediate contribution to agricultural output by increasing the quantity and quality of labour. The benefit from malaria control should be a motivating factor for the government and development partners to inject additional resources in malaria control. Thus, poverty reduction programmes geared at improving incomes of people living in malaria prone areas will also reduce the economic burden of malaria and enable them to reach a higher standard of living.