

A cost-effectiveness analysis of artemether lumefantrine for treatment of uncomplicated malaria in Zambia

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Abstract

Background Malaria remains a leading cause of morbidity, mortality and non-fatal disability in Zambia, especially among children, pregnant women and the poor. Data gathered by the National Malaria Control Centre has shown that recently observed widespread treatment failure of SP and chloroquine precipitated a surge in malaria-related morbidity and mortality. As a result, the Government has recently replaced chloroquine and SP with combination therapy as first-line treatment for malaria. Despite the acclaimed therapeutic advantages of ACTs over monotherapies with SP and CQ, the cost of ACTs is much greater, raising concerns about affordability in many poor countries such as Zambia. This study evaluates the cost-effectiveness analysis of artemether-lumefantrine, a version of ACTs adopted in Zambia in mid 2004.

Methods Using data gathered from patients presenting at public health facilities with suspected malaria, the costs and effects of using ACTs versus SP as first-line treatment for malaria were estimated. The study was conducted in six district sites. Treatment success and reduction in demand for second line treatment constituted the main effectiveness outcomes. The study gathered data on the efficacy of, and compliance to, AL and SP treatment from a random sample of patients. Costs are based on estimated drug, labour, operational and capital inputs. Drug costs were based on dosages and unit prices provided by the Ministry of Health and the manufacturer (Norvatis).

Findings The results suggest that AL produces successful treatment at less cost than SP, implying that AL is more cost-effective. While it is acknowledged that implementing national ACT program will require considerable resources, the study demonstrates that the health gains (treatment success) from every dollar spent are significantly greater if AL is used rather than SP. The incremental cost-effectiveness ratio is estimated to be US\$4.10. When the costs of second line treatment are considered the ICER of AL becomes negative, indicating that there are greater resource savings associated with AL in terms of reduction of costs of complicated malaria treatment.

Conclusion This study suggests the decision to adopt AL is justifiable on both economic and public health grounds.