Temperley, Matilda; Mueller, Dirk H; Njagi, J Kiambo; Akhwale, Willis; Clarke, Siân E; Jukes, Matthew CH; Estambale Benson B.; Brooker, Simon

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Abstract:

Abstract Background Awareness of the potential impact of malaria among school-age children has stimulated investigation into malaria interventions that can be delivered through schools. However, little evidence is available on the costs and cost-effectiveness of intervention options. This paper evaluates the costs and cost-effectiveness of intermittent preventive treatment (IPT) as delivered by teachers in schools in western Kenya. Methods Information on actual drug and non-drug associated costs were collected from expenditure and salary records, government budgets and interviews with key district and national officials. Effectiveness data were derived from a cluster-randomised-controlled trial of IPT where a single dose of sulphadoxine-pyrimethamine and three daily doses of amodiaquine were provided three times in year (once termly). Both financial and economic costs were estimated from a provider perspective, and effectiveness was estimated in terms of anaemia cases averted. A sensitivity analysis was conducted to assess the impact of key assumptions on estimated cost-effectiveness. Results The delivery of IPT by teachers was estimated to cost US$ 1.88 per child treated per year, with drug and teacher training costs constituting the largest cost components. Set-up costs accounted for 13.2% of overall costs (equivalent to US$ 0.25 per child) whilst recurrent costs accounted for 86.8% (US$ 1.63 per child per year). The estimated cost per anaemia case averted was US$ 29.84 and the cost per case of Plasmodium falciparum parasitaemia averted was US$ 5.36, respectively. The cost per case of anaemia averted ranged between US$ 24.60 and 40.32 when the prices of antimalarial drugs and delivery costs were varied. Cost-effectiveness was most influenced by effectiveness of IPT and the background prevalence of anaemia. In settings where 30% and 50% of schoolchildren were anaemic, cost-effectiveness ratios were US$ 12.53 and 7.52, respectively. Conclusion This study provides the first evidence that IPT administered by teachers is a cost-effective school-based malaria intervention and merits investigation in other settings