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*A mathematical analysis of an integrated approach to malaria control targeting vector-host interactions*

Many methods are available for the control of vector-borne diseases. Bed-nets can prevent encounters between vector and host; a vector's search for suitable hosts can be manipulated using both attracting and repelling odorants; artificial feeders can be used to provide vectors with alternate sources for blood-meals, thus reducing contacts with hosts. We present an analysis of a mathematical model for malaria transmission designed to examine the effectiveness of an integrated disease-control approach where mosquito nets, protective odorants and mosquito feeders are used. Each intervention has a threshold coverage above which it will be effective for control when used alone. Not surprisingly, most interventions are more effective in combination. One exception is the combination of bed-nets with repellents, which can lead to increased prevalence at low coverage rates.