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The use of Intermittent Preventive Treatment in pregnant women (IPT_p), children (IPT_c), infant (IPT_i) is increasingly popular preventive strategy aimed at reducing malaria incidence in these vulnerable groups. Studies to understand how this preventive intervention can affect the spread of drug resistance are important especially when there is movement between neighboring low and high transmission area. We expand a previously published mathematical model to include movement between neighboring high and low transmission area. Our results suggest that the introduction of movement results in resistance always spreading fastest in high transmission areas, and the more complete anti-malaria resistance the faster the resistance parasite will spread through a population. Moreover, our results indicate that the demography of infection in low transmission areas tends to change to reflect the demography of high transmission areas when regions are connected by movement. Our results suggest that in the fight to monitor and control drug resistance, different public policies are needed when the area in question is an isolated high or low transmission area, or whether it is close to a neighboring high or low transmission area. (Received August 20, 2013)