1092-92-345   **Katia Vogt Geisse*** (`kvogtgei@math.purdue.edu`), Purdue University, Department of Mathematics, 150 N University Street, West Lafayette, IN 47907, and **Calistus Ngonghala**. *Investigating the effects of the vaccine RTS,S on malaria prevalence.* Preliminary report.

Malaria is a vector-borne infectious disease caused by parasites of the genus *Plasmodium* and transmitted from human to human by female *Anopheles* mosquitoes. Malaria is a major international health problem, especially in the tropical and subtropical regions of the world. Current malaria control measures include the use of long-lasting insecticidal nets, indoor residual spraying, intermittent preventive treatment, early diagnosis and treatment with anti-malaria drugs, etc. Although these interventions have proven to be effective in reducing malaria prevalence in endemic areas over the past decade, they are still inadequate in fully containing malaria. Hence, there is an urgent need for a vaccine to complement these control strategies. The RTS,S vaccine, which is currently under phase 3 trial, is a promising vaccine for the malaria disease. Before introducing a vaccine into the population it is necessary to understand the impact of the vaccine on disease burden and how social factors may affect disease dynamics. We present a mathematical model that explores the impact of vaccine introduction on malaria dynamics. (Received August 13, 2013)