

Optimal control of a Dengue-Dengvaxia model

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Dengue is the most common mosquito-borne viral infection transmitted disease. It is caused by four types of viruses (DENV-1, DENV-2, DENV-3, DENV-4), which transmit through the bite of infected *Aedes aegypti* and *Aedes albopictus* female mosquitoes during the daytime. The first commercialised vaccine in the world is Dengvaxia, also known as CYD-TDV vaccine, manufactured by Sanofi Pasteur. In this talk, we present an SIR type epidemic model to describe the vaccine interaction between human and mosquito. Optimal control strategies are established to enhance vaccination and vectorial control.