

ESTIMATING THE EFFICACY OF A CANDIDATE DENGUE VACCINE

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ABSTRACT

In this talk we apply a simple stochastic epidemiological process, the linear infection model, to a vaccine trial and estimate the vaccine efficacy. We do this first in a maximum likelihood framework and then improve the analysis via a Bayesian approach to explicitly obtain a probability for the vaccine efficacy based on the empirical data from the trial. We use data from Sanofi-Pasteur's phase 3 dengue vaccine trials in East Asia and in Latin America, [1, 2].

References

- [1] M.R. Capeding et al (2014) *Clinical efficacy and safety of a novel tetravalent dengue vaccine in healthy children in Asia: a phase 3, randomised, observer-masked, placebo-controlled trial*, *Lancet*, **384**, 1358–65.
- [2] L. Villar et al (2015) *Efficacy of a Tetravalent Dengue Vaccine in Children in Latin America*, *N Eng J Med*, **372**, 113–123.