

1096-VG-1496 **Romarie Morales***, MCMSC Physical Science A – Wing, Room 524, PO Box 871904, Tempe, AZ 85287-1904, and **Jay Taylor**. *Best policy implementation when there is parameter uncertainty; a Bayesian and adaptive control approach*. Preliminary report.

We focus on improving the current methodology for estimating transmission parameters by applying a Bayesian statistical framework with a probabilistic model of disease transmission and generalizing this formulation to any disease. This method takes into account the intrinsic stochasticity of disease transmission and provides more robust parameter estimates. We then use adaptive control techniques with the updated parameters in order to obtain the best policies to minimize the cost infection. Increasing estimation accuracy through the adoption of the Bayesian updating framework will equip policymakers with better tools for mitigating the effects of an epidemic. (Received September 16, 2013)