

Table S3. Maximum-likelihood estimates (MLE) of parameter values and their corresponding increase in overall DENV-1 cases during 2001 and 2002. Seasonal forcing parameter $\sigma=0.6$.

Parameter	Value (C.I. ^a)	$R_{\text{eff,co}}$	t_{emg}	Neg. Log-Likelihood	Fold increase in DENV-1 cases during 2001-2002 (range of variation ^b)
W_H	1.25 (1.13-1.75)	1.25 (1.13-1.75)	Nov, 1998	4.97	2.3 (1.4-3.3)
W_V	1.25 (1.14-1.80)	1.25 (1.14-1.80)	Dec, 1998	5.28	2.3 (1.5-3.4)
$\gamma_{H,D}$	0.129 day ⁻¹ (0.10-0.15)	1.29 (1.15-1.61)	Dec, 1998	5.67	3.1 (1.7-4.0)
$\sigma_{V,D}$	0.189 day ⁻¹ (0.14-0.79)	1.24 (1.13-1.57)	Feb, 1999	4.88	2.4 (1.5-3.2)

^a 95% confidence intervals that are calculated using parameter profiling.

^b The ranges of variation are calculated using the estimated parameter values at the boundaries of the 95% confidence intervals.