

S2 Table

Results for Maximum Likelihood Approaches.

Table 1. Predictive performance of the five models in terms of mean errors (*ME*), mean absolute errors (*MAE*), and mean relative errors (*MRE*) when they are fitted using a maximum likelihood approach assuming a Poisson, Beta-Binomial, or Negative Binomial distribution.

	Poisson			Beta-Binomial			Negative Binomial		
	<i>ME</i>	<i>MAE</i>	<i>MRE</i>	<i>ME</i>	<i>MAE</i>	<i>MRE</i>	<i>ME</i>	<i>MAE</i>	<i>MRE</i>
Model 1: LM	*	*	*	*	*	*	*	*	*
Model 2: FEM	-0.00080	0.00598	1.88	0.00168	0.00702	2.21	-0.000232	0.00523	1.65
Model 3: LMCCC	0.00132	0.00667	2.10	0.01056	0.01537	4.84	0.00689	0.01187	3.74
Model 4: rLMCCC	0.00575	0.01080	3.39	0.03352	0.03802	11.97	0.02248	0.02708	8.52
Model 5: LMVCC	-0.00007	0.00434	1.36	0.00639	0.00943	2.97	0.00194	0.00720	2.27

* Model could not be fitted: several observations require the calculation of $P(x_v(t) = y), y > 0$, whereas $f_v(t) = 0$. Since this probability equals 0 irrespective of the parameter estimates, the (log)likelihood could not be maximized.