

Model summaries

Table 1 shows the summaries of the intercept-only models with for different likelihood distributions: Poisson, zero-inflated Poisson (ZIP), negative binomial (NBIN) and zero-inflated negative binomial (ZNBIN). Assuming non-structural zeros (sample zeros), the zero-inflated models embed the probability of observing a zero i th district and t th notification day, given here as mean and variance for the model. The size of negative binomial observations (dispersion parameter) in i th district and t th notification day is given here as mean and variance. The Watanabe Akaike-information criterion (WAIC) gives the model fit: the smaller the WAIC, the better the model fit.

Table 1: Intercept-only models

Model results	Poisson	ZIP	NBIN	ZNBIN
intercept RR	1	1.2611	0.8373	0,8385
intercept lower 95%-CrI	0.9983	1.2589	0.829	0,8302
intercept upper 95%-CrI	1.0018	1.2634	0.8457	0,8469
WAIC	1983795.7735	1591984.211	614614.7561	614616,9987
Effective number of parameters	735.6479	773.4593	1.5873	1,5887
zero-probability mean	-	0.4113	-	0,0013
zero-probability sd	-	0.0014	-	0,001
nbinomial observations mean	-	-	0.3446	0,3453
nbinomial observations sd	-	-	0.0018	0,0019

Table 2 shows the model summaries of the two spatiotemporal models fitted with a parametric temporal trend (Parametric trend) and a non-parametric dynamic temporal trend (Non-parametric trend), respectively. The results of the model with lowest WAIC is selected for further calculation.

Table 2: Spatiotemporal models

Variables	Parametric trend	Non-parametric trend
intercept RR	0.1592	0.2712
intercept lower 95%-CrI	1.0081	0.2586
intercept upper 95%-CrI	0.1545	0.2844
fixed time effect	1.008	-
fixed effect lower 95%-CrI	0.164	-
fixed effect upper 95%-CrI	1.0081	-
WAIC	573683.3188	495398.318
Effective number of parameters	709.0284	981.3817
zero-probability mean	17.4197	24.0108
zero-probability sd	5.4559	4.5991
nbinomial observations mean	0.6098	2.0115
nbinomial observations sd	0.0038	0.0167
Spatial iid mean	4.0608	11.9478
Spatial iid sd	165173.3388	9.4904
Spatial iCAR mean	-	2.4091
Spatial iCAR sd	0.7447	0.9519
Space-time (parametric) mean	15912.5508	-
Space-time (parametric) sd	-	-
Temporal rw2 mean	-	0.0956
Temporal rw2 sd	-	-
Temporal iid mean	-	0.0318
Temporal iid sd	-	-