

**Appendix**

**Geospatial Health #665**

**Bayesian zero-inflated spatio-temporal modelling of scrub typhus data in Korea,  
2010-2014**

All of the models used in this paper are as follows.

Proposed model	Model 8: Eq. (2) and Eq. (3)	
Competing models	Poisson	$y_{it} \sim \text{Poisson}(\mu_{it} = \theta_{it} N_{it}), y_{it} = 0, 1, 2, \dots$
		Model 1: $\log(\theta_{it}) = \beta_0 + \mathbf{W}_{it}^T \boldsymbol{\beta}_1 + X_{it} \beta_2$
		Model 2: $\log(\theta_{it}) = \beta_0 + \mathbf{W}_{it}^T \boldsymbol{\beta}_1 + X_{it} \beta_2 + u_i + l_t$
		Model 3: $\log(\theta_{it}) = \beta_0 + \mathbf{W}_{it}^T \boldsymbol{\beta}_1 + X_{it} \beta_2 + u_i + l_t + v_i + k_t$
		Model 4: $\log(\theta_{it}) = \beta_0 + \mathbf{W}_{it}^T \boldsymbol{\beta}_1 + X_{it} \beta_2 + u_i + l_t + v_i + k_t + \phi_{it}$
	ZIP	Eq. (2)
		Model 5: $\log(\theta_{it}) = \beta_0 + \mathbf{W}_{it}^T \boldsymbol{\beta}_1 + X_{it} \beta_2$
		Model 6: $\log(\theta_{it}) = \beta_0 + \mathbf{W}_{it}^T \boldsymbol{\beta}_1 + X_{it} \beta_2 + u_i + l_t$
		Model 7: $\log(\theta_{it}) = \beta_0 + \mathbf{W}_{it}^T \boldsymbol{\beta}_1 + X_{it} \beta_2 + u_i + l_t + v_i + k_t$