

Supplementary materials

Model selection statistics

Various models with spatial interactions were considered for the study. Selection was based on a spectrum of model selection criteria. Most notably, the spatial error model (SEM) was found to be consistently better than the spatial autoregressive model (SAR) based on the information criteria (Akaike information criterion and Log likelihood), goodness-of-fit (measured by the R-squared determination coefficient) and Lagrange Multiplier (LM) test procedure for spatial model selection.

Variable	Akaike info criterion		Log likelihood		R ²		LM test	
	SEM	SAR	SEM	SAR	SEM	SAR	SEM	SAR
Diseases of the circulatory system	-74.2	12.8	42.1	-0.4	0.81	0.65	89.0 (0.000)	33.7 (0.000)
Diseases of the digestive system	-74.3	-22.0	42.1	17.0	0.64	0.46	89.8 (0.000)	39.5 (0.000)
Neoplasms	- 285.0	- 251.6	147.5	131.8	0.47	0.33	44.9 (0.000)	18.7 (0.002)
Diseases of the respiratory system	-37.1	95.2	23.6	-41.6	0.60	0.16	157.3 (0.000)	13.7 (0.300)
Diseases of the nervous system and sensory organs	110.3	186.0	-50.2	-87.0	0.71	0.52	81.0 (0.000)	22.4 (0.0407)
Mental and behavioural disorders	456.4	527.9	-224.2	-259.0	0.75	0.59	83.8 (0.000)	58.0 (0.0116)
Endocrine, nutritional and metabolic diseases	262.6	322.8	-127.3	-156.4	0.37	0.080	61.6 (0.000)	11.8 (0.0006)
Diseases of the genitourinary system	321.0	387.6	-156.5	-188.8	0.48	0.21	86.3 (0.000)	27.6 (0.66970)

SEM, spatial error model; SAR, spatial autoregressive model; R², determination coefficient; LM, Lagrange multiplier; for LM and SAR the figures present test statistics with significance levels within parenthesis.