

Supplementary information

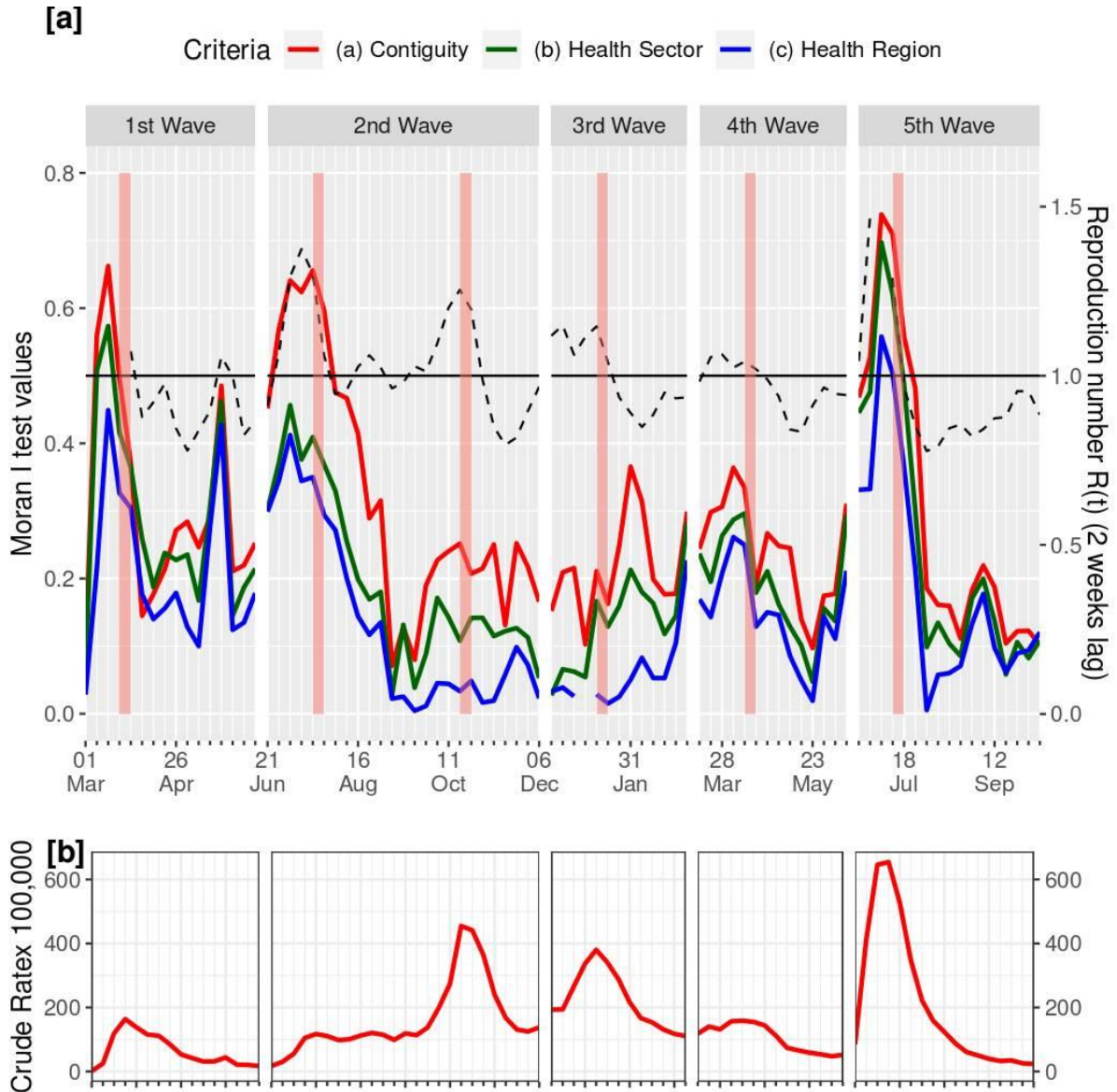


Figure A1 - Catalonia global spatial autocorrelation values (Moran's I) of weekly crude incidence rates according to Contiguity, Health Sector and Health Region membership (left axis), and effective reproduction number $R(t)$ (right axis) [a], plus Catalonia crude incidence rate evolution [b]. Incidence peaks weeks are marked as reddish vertical lines in Figure A1[a]. Note: This Figure was created by the authors within the R environment using the ggplot2 package v. '3.4.0', <https://ggplot2.tidyverse.org>.

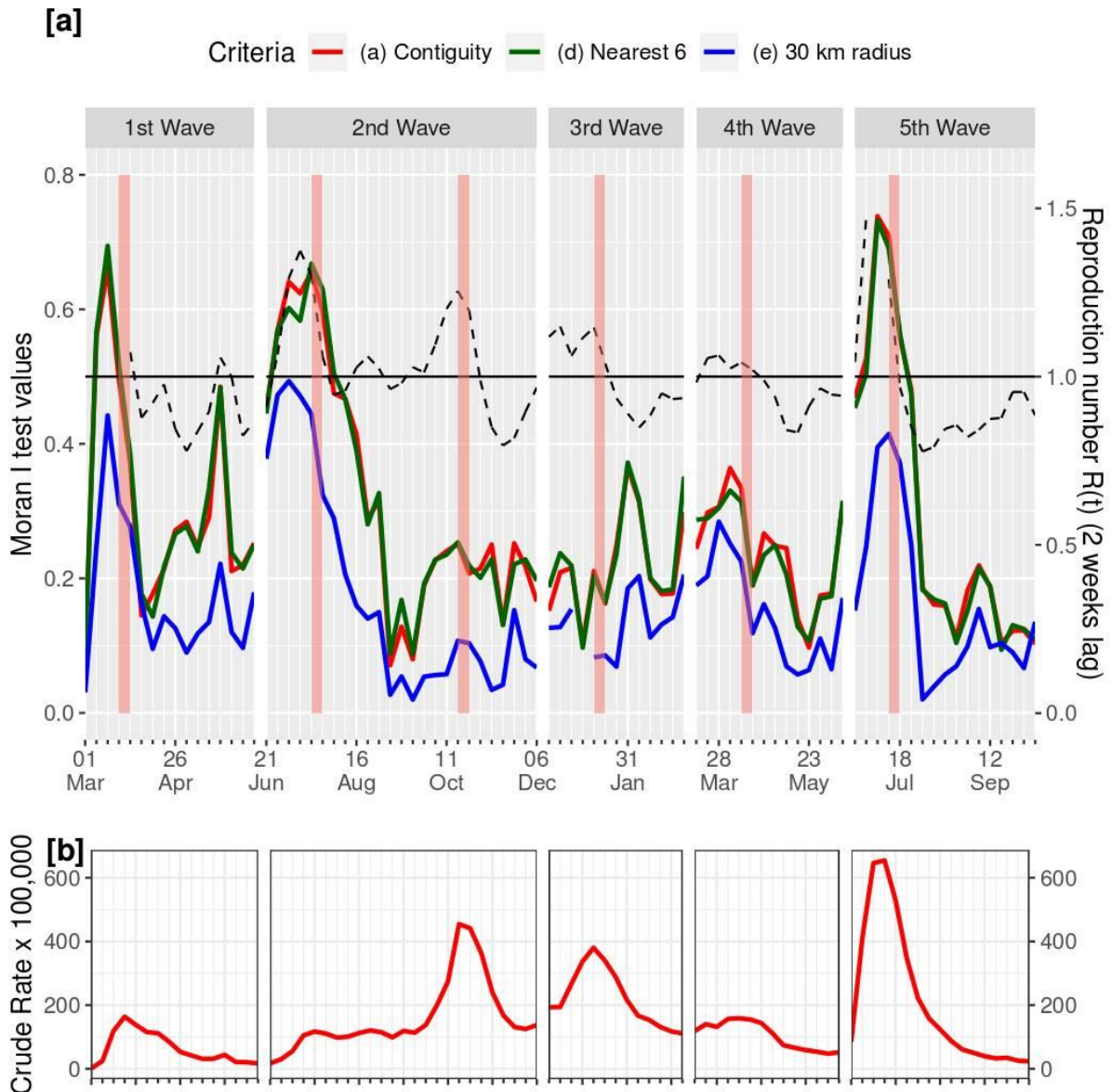


Figure A2 - Catalonia global spatial autocorrelation values (Moran's I) of weekly crude incidence rates according to Contiguity, 6-nearest neighbors and 30 km radius proximity criteria (left axis), and effective reproduction number $R(t)$ (right axis) [a], plus Catalonia crude incidence rate evolution [b]. Incidence peaks weeks are marked as reddish vertical lines in Figure A2[a]. Note: This Figure was created by the authors within the R environment using the ggplot2 package v. '3.4.0', <https://ggplot2.tidyverse.org>.

Table A1. Results of linear regression models predicting local Covid-19 crude incidence rates

Coef.	Model					
	[a] Empty Model	p	[b] Temp.Lagged incidence	p	[c] Spatiotemp. Lagged incidence	p
Intercept	150.734	<0.001	34.614	<0.001	23.707	<0.001
Lagged Incidence	---	---	0.775	<0.001	---	---
Spatiotemp. Lag	---	---	---	---	0.849	<0.001
R-squared	---		0.601		0.564	
d.f.	31534		31162		31162	
Residual Std. Error	165.4		104.5		109.3	

Table A2. Results of linear regression models predicting local Reproduction number (Rt)

Coef.	Model					
	[a] Empty Model	p	[b] Lagged Stringency	p	[c] [b]+Vaccinated Pop. %	p
Intercept	1.007	<0.001	1.325	<0.001	1.767	<0.001
Stringency Index ¹	---	---	-0.005	<0.001	-0.011	<0.001
Vaccinated Pop. (%) ²	---	---	---	---	-0.005	<0.001
R-squared	---		0.103		0.323	
d.f.	31107		31106		31105	
Residual Std. Error	0.2016		0.1909		0.1659	

¹ Lagged Stringency Index for Spain

² Percentage of vaccinated population (two doses)

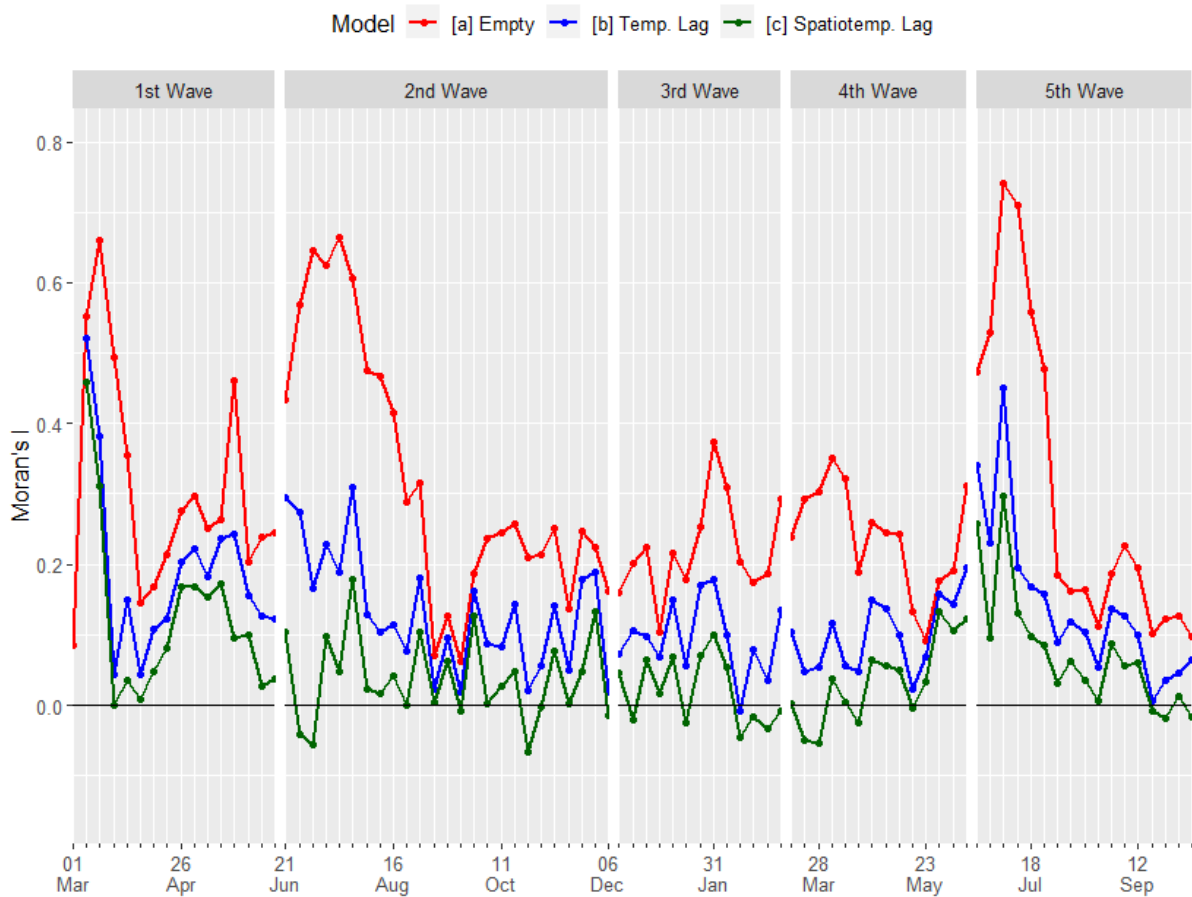


Figure A3 - Catalonia global spatial autocorrelation values (Moran's I) calculated from weekly residuals of linear regression models predicting crude incidence rate: [a] Empty model; [b] Temporal lag of the BHA used as a predictor and [c] Lagged mean crude incidence rate of the contiguous BHAs (spatiotemporal lag) used as a predictor). Note: This Figure was created by the authors within the R environment using the ggplot2 package v. '3.4.0', <https://ggplot2.tidyverse.org>.