Supplemental Figure

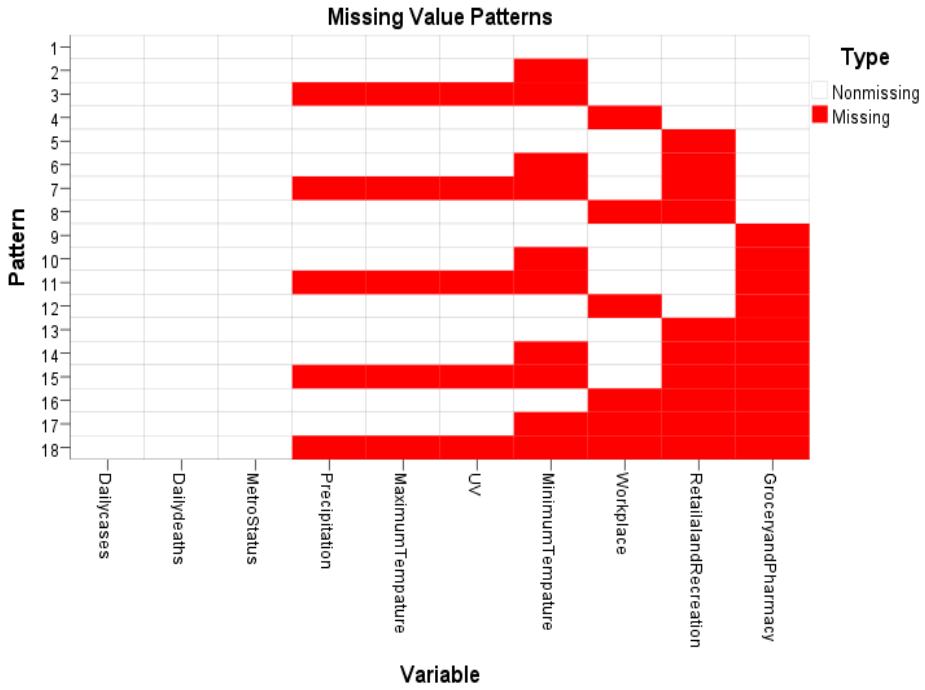


Figure S1. Missing Value Patterns.

Note: The Missing Value Patterns chart displays the percent of missing data for each of the variables used in this analysis. Display of percent missing data for each variable on a single chart identifies the patterns of common missing data.

Supplemental Tables

Table S1. Pre- and post-multiple imputation frequencies.

		Before Multiple Imputation		After Multiple Imputation	
	N	Count	Missing (%)	Count	Missing (%)
COVID-19 Infections	16,112	0	0%	16,112	0%
COVID-19 Mortality	16,112	0	0%	16,112	0%
Metropolitan Status	16,112	0	0%	16,112	0%
Maximum Temperature	14,405	1707	11%	16,112	0%
Precipitation	14,405	1707	11%	16,112	0%
UV	14,405	1707	11%	16,112	0%
Minimum Temperature	14,381	1731	11%	16,112	0%
Workplace	13,941	2171	14%	16,112	0%
Retail/Recreation	9379	6733	42%	16,112	0%
Grocery/Pharmacy	8396	7716	48%	16,112	0%

Table S2. Cox Regression Analysis of COVID-19 Deaths among Indiana and Kentucky (Unweighted).

	HR	95% CI		P-Value
		Lower	Upper	
Mobility				
Retail/Recreation	0.960	0.954	0.966	<0.001
Grocery/Pharmacy	0.996	0.990	1.002	0.151
Workplace	0.960	0.953	0.968	<0.001
Weather				
Precipitation (24 hr. sum)	0.997	0.996	0.998	<0.001
Temperature minimum	1.015	1.004	1.026	0.005
Temperature maximum	1.008	0.999	1.018	0.071
UV Index	0.382	0.348	0.420	<0.001
Geographics				
Metropolitan Status (ref: non-metro)	1.770	1.527	2.052	<0.001
State (ref: Kentucky)	2.336	1.970	2.770	<0.001

Table S3. List of Counties neighboring to Indiana and Kentucky Ohio river border (2 units deep)

Indiana		**Kentucky**	
County	*FIPS Code*	*County*	*FIPS Code*
Clark	18019	Hancock	21091
Crawford	18025	Ohio	21183
Dubois	18037	Breckinridge	21027
Floyd	18043	Grayson	21085
Harrison	18061	Meade	21163
Jefferson	18077	Hardin	21093
Orange	18117	Jefferson	21111
Perry	18123	Bullitt	21029
Scott	18143	Oldham	21185
Washington	18175	Shelby	21211
		Trimble	21223
		Henry	21103

Table S4. Cox Regression Analysis of COVID-19 Infection among neighboring counties in Indiana and Kentucky

	HR	95% CI		P-Value
		Lower	Upper	
Mobility				
Retail/Recreation	0.96	0.96	0.97	<0.001
Grocery/Pharmacy	1.002	0.996	1.008	0.549
Workplace	0.99	0.98	1.01	0.261
Weather				
Precipitation (24 hr. sum)	0.999	0.998	1.000	0.215
Temperature minimum	1.01	1.00	1.03	0.041
Temperature maximum	1.03	1.02	1.04	<0.001
UV Index	0.29	0.25	0.33	<0.001
Geographics				
Metropolitan Status (ref: non-metro)	1.43	1.19	1.71	<0.001
State (ref: Kentucky)	1.25	1.04	1.51	0.016

Table S5. Cox Regression Analysis of COVID-19 Mortality among neighboring counties in Indiana and Kentucky

	HR	95% CI		P-Value
		Lower	Upper	
Mobility				
Retail/Recreation	0.91	0.91	0.92	<0.001
Grocery/Pharmacy	1.01	1.00	1.01	<0.001
Workplace	0.912	0.910	0.914	<0.001
Weather				
Precipitation (24 hr. sum)	0.9967	0.9965	0.9969	<0.001
Temperature minimum	0.969	0.968	0.971	<0.001
Temperature maximum	1.040	1.039	1.042	<0.001
UV Index	0.31	0.31	0.32	<0.001
Geographics				
Metropolitan Status (ref: non-metro)	1.92	1.82	2.02	<0.001
State (ref: Kentucky)	1.90	1.85	1.96	<0.001