

Regional policies might be ineffective in eliminating local coronavirus spread risk factors, says analysis

August 16 2021



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In a new paper published in the *The Lancet Regional Health—Europe*, Mr. Gabriele Guaitoli and Dr. Roberto Pancrazi from the Department of

Economics at Warwick University investigate whether region-wide non-pharmaceutical interventions introduced in Italy during the second wave of COVID-19 in Fall 2020 have been effective at eliminating local risk factors.

Using Italy as a [case study](#), the researchers studied the impact of the country's regional lockdown interventions on the spread of the virus during the "second wave" which began around November 2020.

Their paper, COVID-19: Regional policies and local infection risk: Evidence from Italy with a modelling study, first identifies a small set of pre-pandemic socio-demographic variables which were most strongly correlated to the incidence of COVID-19 across Italian provinces. They were:

- Temperature: Higher temperatures correlated with lower COVID-19 incidence
- Agricultural Employment Share Population: A greater share of agricultural employment correlated with lower COVID-19 incidence
- Number of cases per capita in the first wave: The higher this number, the lower incidence of COVID-19 in the second wave
- Services Employment Share Population: More people working in the service economy correlated with higher COVID-19 incidence
- Income per capita: Higher income, a proxy for more intense economic activity, correlated with higher COVID-19 incidence
- Share of large households in the region: Regions with a greater number of households with more than 5 members had higher COVID-19 incidence
- Public Transport Trips: Areas with more concentrated use of public transport saw higher COVID-19 incidence

Dr. Pancrazi explains, "These variables were measured pre-pandemic

and at a province level. This means that there exist local pre-determined factors that strongly correlate with the spread of the virus."

After having identified those important local risk factors, the authors studied whether the introduction of non-pharmaceutical policies at a regional level eliminated those risk factors.

Dr. Pancrazi continues, "The influence of these variables can still be seen in the data even after regional policies were implemented. Only for the strictest regional policies, similar to the UK lockdowns, we unable to find a relevant role for these local factors."

"This suggests that regional policies—limited lockdowns—were not sufficient to comprehensively tackle the COVID-19 infection risk connected to the province's pre-determined characteristics. In other words, Italy's regional policies were not "local enough" to fully tackle local COVID-19 risk differences."

While the study was carried out using data from Italy, the authors believe that the findings will be of interest to policymakers in many countries as the demographic factors such as temperature, use of public transport, family size and nature of employment are not country-specific.

Dr. Pancrazi added, "Our results are important for policymakers and have implications for public health. They provide a rationale for designing interventions that better target areas at high contagion risk due to local factors, while allowing for the relaxation of restrictions in areas with lower infection risk.

By showing the relevance of local risk factors that were not addressed by [regional policies](#), our study provides justification and possible guidance for implementing highly localized interventions, should these become necessary again."

Mr. Guaitoli explains, "Our study suggests that Italy could achieve a better balance between public health results and economic damages. Low-risk provinces in high-risk regions were placed under harsh restrictions, while high-risk provinces in low-risk regions were initially placed under mild restrictions. Only a few regions tried to target—on top of national laws—very localized COVID-19 clusters."

More information: Gabriele Guaitoli et al, Covid-19: Regional policies and local infection risk: Evidence from Italy with a modelling study, *The Lancet Regional Health—Europe* (2021). [DOI: 10.1016/j.lanepe.2021.100169](https://doi.org/10.1016/j.lanepe.2021.100169)

Provided by University of Warwick

Citation: Regional policies might be ineffective in eliminating local coronavirus spread risk factors, says analysis (2021, August 16) retrieved 11 May 2024 from <https://medicalxpress.com/news/2021-08-regional-policies-ineffective-local-coronavirus.html>

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