

While the impact of Covid-19 in Canada has been well documented at the provincial and national levels, it is not fully understood how the severity of the impact of the pandemic varied locally across space. As such, a better understanding of the spatial distribution of the risk factors for Covid-19 would provide valuable information for predicting potential hot spots of the pandemic in Canada at a regional level. The primary objective of this research project was to detect patterns in the spatial distribution of the underlying risk factors for Covid-19 across the census divisions of Canada. After identifying the risk factors of interest, a spatial weights matrix was constructed, and the Moran's I coefficient was used to determine hot spots and cold spots for these variables across Canada. Then, principal components and model-based clustering were employed to pool together data and identify which regions were closest to each other in terms of risk for Covid-19. The defining characteristics of each cluster and how their frequency varied across Canada were also determined. Upon the release of more refined Covid-19 data, the findings of this study could be compared to how the pandemic affected different regions at the census division level.