Covid-19 evolution in Santander, Colombia
Coursera Captstone project for IBM data science professional certification

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Business problem

Santander is a region of Colombia. In Colombia, covid-19 arrived in February 2020. The government of Colombia decided to decree isolation measures in March 2020. One of the regions or departments of Colombia is Santander, which is one of the most important regions in the Northeast of the country. The capital city of Santander is Bucaramanga, which is part of a metropolitan area named Metropolitan Area of Bucaramanga. This area has four cities: Bucaramanga, Girón, Floridablanca and Piedecuesta.

Now, the number of cases in Santander has increased fastly and it is important to do an analysis of how the pandemic behavior is over the people (by age, by city, by gender, etc.). A map with the cities and the number of Covid-19 cases is given to help travelers make decisions. Another aspect that should be improved is that Doctors now have to make decisions about what people should be attended at ICU (Intensive Care Units) or not; this situation is presented due to the limited number of ICU beds. Also, with this project, an ML algorithm for death probability calculation is developed based on parameters given in the data set. Such probability could be used by Doctors make decisions taking into account this parameter and other parameters on the patient's health.

Finally, as the main city of Santander, Bucaramanga has the main healthcare centers and therer are people who have relatives sick from covid, they need to know what venues are near clinics and hospitals. Then, a map with venues near to main to these healthcare centers is provided for such situations.

Target audience

Results of the project are useful for persons who need to travel to some city and need to know the number of Covid-19 cases in that place. Another audience is people that needs to know what venues are near to healthcare centers in Bucaramanga (the main city of Santander). Also, the statistical report it is important for authorities who need to make decisions over possible social, economic and health strategies. Finally, the report about the death probability is useful in medical decisions when the number of ICU beds is scarce.