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Predicting Dengue Incidence In Central Argentina Using Google Trends Data

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Presenter Information

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Predicting Dengue Incidence In Central Argentina Using Google Trends Data

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Abstract

Dengue is a mosquito-borne disease prominent in tropical and subtropical regions of the world but has recently been emerging in temperate areas. In Córdoba, a city in temperate central Argentina, there have been several dengue outbreaks in the last decade. Prior to 2009, dengue cases had not been reported in Córdoba. However, major outbreaks occurred in 2009, 2013, 2015, 2016, and 2020. Internet data, such as social media and search engine data, have proven to be useful for predicting the spread of infectious diseases. With the rapid growth of and increased accessibility to the internet, its relevance for epidemiological research has increased in recent years. We have developed a predictive model of dengue incidence in Córdoba using Google Trends data. Specifically, using relevant search terms as predictors and dengue case data as the response, our training model determines which search terms are significant for predicting dengue cases. We employ several methods to test the significance of search terms. We discuss the development of a model utilizing these search terms and how this model will be useful to provide warning of outbreaks to local public health and mosquito control agencies.