



**Spatial Diffusion of Dengue in the State of São Paulo and Its Geographical Boundaries**

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**Introduction:** Thirty years after its re-emergence in Brazil, dengue has been through as many endemic/epidemic cycles as almost any other country. Due to Brazil's social and environmental characteristics, virtually the entire country is conducive to the development of the disease. However, some areas have never reported indigenous cases. These areas are made up of clusters of municipalities with similar social and environmental characteristics denoting some geographical feature that impedes or limits the spread of the disease in that area. These areas are known, *a priori*, as geographical diffusion barriers impeding the transmission of dengue in these clusters. The term “geographical barriers” is used in researches on the spread of disease within health geography. This research sets out to study diffusion barriers against dengue in the State of São Paulo, which apparently has four areas where there have been no recorded cases of dengue, or their rates are well below the state average. The hypothesis of the research is therefore that geographical barriers to the dissemination of dengue in the State of São Paulo exist and can be identified and mapped. The overall objective is to understand the process of spatial diffusion in the State of São Paulo, identifying the geographical barriers. **Development:** In order to achieve this goal we will make a conceptual definition of the geographical diffusion barriers of dengue and then map the spread of dengue across the state creating predictive models of the barriers to be analyzed later. In order to make this conceptual definition we will, firstly, carry out a review of the literature in national and international issues of periodicals and books on the theme: *the spread of disease, geographical barriers and dengue*. At the same time as this literary review we will begin mapping the cases of dengue using data taken weekly or daily, as appropriate, but aggregated by municipality. This mapping will provide the basis for analysis of the spread using statistical and geo-statistical packages which will later be defined alongside a specific literary review. The data will come from the Information System for Notifiable Diseases of the Secretary of State for Health during the period 2001 to 2013, covering a diffusion period of various stereotypes in the state of São Paulo. **Final thoughts:** As this project is ongoing there are not as yet any concrete results, but we already have some methodological indications such as looking at different innovative diffusion theories from Hägerstrand, which is hegemonic, to explain disease vectors because these are not included in this explanatory system which is based on the assumption that person-to-person transmission is more applicable to the study of such contagious diseases as AIDS, rubella, measles among others.

**Key words:** Dengue; spatial diffusion; geographical barriers, production space; geography of health.