SPATIAL MODELLING OF DIABETES PATIENTS IN VALENCIA REGION

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Abstract

Diabetes, especially type II, is currently one of the most relevant pathologies, affecting 13.8% of the population older than 18 in Spain. This metabolic issue involves a high cost for the Public National Health Service, deriving from both the hyperglycemia treatments and the associated micro and macro vascular complications. To improve the attention to the patient and reduce costs, it is necessary to put into practice the clinical guidelines developed to that effect. These propose an actuation sequence, progressively adding new anti-hyperglycemic therapies, as more regulation of the patient's situation is required.

In the present study it is expected to carry out an analysis of the impact of diabetes in the Valencia Region, both at a prevalence level and related to the treatment guidelines that are being implemented. For this purpose, we have a database available containing a register of the prescriptions issued in the health care centres and hospitals of all the Health Distrits in the Valencia Region in 2015, and the diagnostic categories associated with the patients.

It is intended to study first the spatial distribution of the diabetes cases and the prevalence in order to observe if there is a significant difference between different Health Care centres. A linear regression model including socio-economic and clinical variables is proposed as a first approach to the explanation of these cases.

The prescription information and the diagnostic categories will then be analysed to evaluate the main treatment choices in the Health Care Centres and Health Departments, with the purpose of comparing them with the general recommendations published by the American Diabetes Association. Finally, an estimation of the deviation of expenditure will be provided, addressing the calculated cost from the database compared to the forecasts based on the diagnostics and treatment guidelines.