

ID: 680057

## **Double coverage and demand for health care: Evidence from quantile regression**

S. Moreira, Banco de Portugal and ISEG-TULisbon, PORTUGAL;

P.P. Barros, Universidade Nova de Lisboa, PORTUGAL;

### **Objectivos (Objectives):**

The aim of this paper is to analyse the impact of health insurance double coverage (i.e. a situation in which an individual is covered by more than one health insurance plan) on the consumption of health care. The estimates were computed with Portuguese data, using as source of supplementary coverage the existing health insurance schemes beyond the National Health Service (NHS). Approximately a quarter of the Portuguese population has access to a second (or more) layer of health insurance coverage on top of the NHS, through occupation-based health subsystems for workers of some large companies and public employees and voluntary health schemes. We focus our attention on the double coverage resulting from the former type, regarding both health insurance plans provided to public employees and insurance plans of private companies.

### **Metodologia (Methodology):**

We use data from the Portuguese Health Survey of 2005/2006. To explain the number of doctor consultations besides the health insurance status variable we also control for health status, demographic and socioeconomic condition, seasonal and geographic effects. The selection of variables took into account the Grossman's health capital model as well as the main factors influencing medical care consumption identified in the literature.

The novelty of this work is that within the context of count data modelling and without imposing restrictive parametric assumptions, the analysis is carried out for different points of the conditional distribution, not only for its mean location. We apply an innovative technique suggested by Machado and Santos-Silva (2005) in which quantile regression is extended to count data through a "jittering" process that artificially imposes some degree of smoothness. This technique allows an analysis of the effect on the whole consumption distribution, which is an important step forward in the analysis of reforms and is very useful for policy making.

### **Resultados (Results):**

Results indicate that double coverage is especially high in the private subsystems. An interesting finding, which could only be observed through the use of quantile analysis, is that these effects are lower in the upper tail of the outcome distribution. This shows that health insurance double coverage is relatively more relevant for the first levels of usage

since for more frequent users the consumption behaviour depends less on the health insurance plan.

Regarding other regressors, results indicate that the existence of chronic diseases or pain is extremely relevant in explaining doctor visits, especially for high users. Among the demographic and socioeconomic characteristics, age (also as proxy of health status) assumes a unique role, especially when combined with gender. In the first years of living the consumption of health care is very high and it decreases until 30-40 years old, more for men than for women, and thereafter it increases for men and remains fairly constant for women. Education and income present significant positive effects (constant over the whole distribution) although less important than those of other regressors.

### **Conclusões (Conclusions):**

In short, health insurance double coverage creates additional demand for health care. This additional demand effect is slightly higher for medium-intensity users than for heavy users. Also interesting is the large difference in impact according to the source of health insurance double coverage. The second layer of health insurance coverage adds more to demand when provided by private organizations than when obtained from Government-sponsored entities.