Assessment of the health policies introduced during the economic crisis in Catalonia. The case of the "Euro per prescription"

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Introduction

The Spanish economy officially went into recession in the first quarter of 2009, after the GDP falling for two consecutive quarters. Although the evidence is limited, an effect of the crisis has been an increase of health care **needs**, in accordance to a deterioration of self-perceived health. However, the question is whether health care utilization has followed the same pattern.

During the years of the economic crisis, the Catalan government introduced public health policies with the aim of reducing the budget. One of these policies is known as the "Euro per prescription", which was implemented the 23rd of June 2012 and it lasted until 31st of December 2012. This policy meant that during that period all patients had to pay 1€ for any medicine issued by prescription of a price higher than 1,67€ . There was an annual limit of 62€ per citizen and it was not applicable to recipients non-contributive subsidies or the minimum income guaranteed.

Our main objective is to analyse the effects of this policy on health care utilization using data on the average number of visits per individual (Institute of Health Care, IAS).

Methods

Sample: Retrospective cohort of 51357 individuals assigned to three specific health areas (Anglès; Breda-Hostalric; and Cassà de la Selva, Girona, managed by the Institute of Health Care) who had at least 1 contact with the health care system between January 1, 2005 and December 31, 2012. .

Econometric strategy: Estimate a Hurdle model

Hurdle 1*: Decision to seek care* (YES/NO) (logistic regression)

$$\mu_{1,it} = \mathrm{Pr}\,ob\big(Y_{it}=1\big|\eta_{1,it}\big)$$

$$\log\!\left(\frac{\mu_{1,it}}{1-\mu_{1,it}}\right) = X_1'\theta_1 \qquad Var(Y_{it}) = \mu_{1,it}\big(1-\mu_{1,it}\big)$$

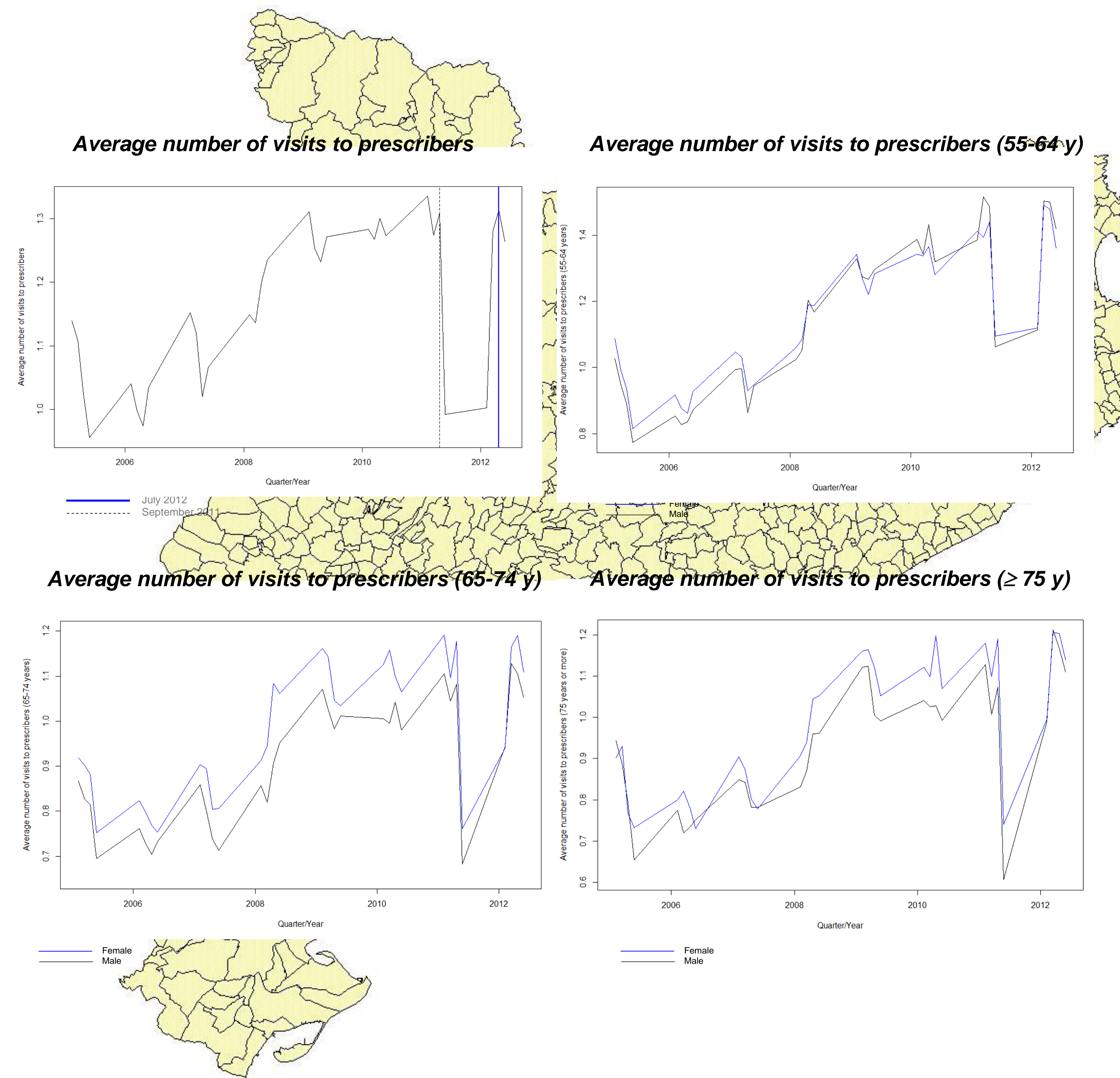Hurdle 2: *Frequency of visits* (truncated negative binomial regression)

$$f\big(Y_{it}\big|\eta_{2,it},Y_{it}>0\big)=\frac{\Gamma\big(Y_{it}+\psi_{2it}\big)}{\Gamma\big(\psi_{2it}\big)\Gamma\big(Y_{it}+1\big)}\left(\frac{\mu_{2,it}}{\mu_{2,it}+\psi_{2it}}\right)^{Y_{it}}\left[\left(\frac{\mu_{2,it}+\psi_{2it}}{\psi_{2it}}\right)^{\psi_{2it}}-1\right]^{-1}$$

$$\mu_{2,it}=\exp\big(\eta_{2,it}\big) \qquad \psi_{2it}=\left(\frac{1}{\phi}\right)\mu_{2,it}$$

Linear predictor

$$\eta_{it}=\beta_{0i}+\delta_{jt}D_t+\alpha_t+\beta_1 Sex_i+\sum_{k=2}^{7}\beta_k Age\,Group_{k,it}+\beta_8 Obesity_{it}+\beta_9 HTA_t+\beta_{10}DM2_{it}+\beta_{11}COL_{it}$$

D=0 January 2005-June 2012, D=1 July-December 2012

Random effects: β_{0i} individual heterogeneity; α_t time effect; δ_{jt} coefficient of interest

Average number of visits to prescribers

Average number of visits to prescribers (55-64 y)

Average number of visits to prescribers (65-74 y)

Average number of visits to prescribers (≥ 75 y)

Results

Variation of the average number of visits per individual and month (95% Credibility Interval)

	July 2012	August 2012	September 2012	October 2012	November 2012	December 2012
All individuals	-5.34 (-6.23,16.62)	-4.21 (-6.19,15.42)	-17.87 (-27.14, -7.19)	-0.20 (-10.72, 11.20)	5.17 (-6.40, 18.03)	1.71 (-12.01,17.16)
Age group						
55.64 y.	-3.13 (-16.47, 39.79)	-5.10 (-14.27, 37-24)	-13.39 (-31.01, -7.53)	14.27 (-5.10, 37.24)	10.28 (-13.33, 38.94)	5.09 (-24.42, 42.91)
65-74 y.	-6.22 (-14.74, 40.03)	-6.24 (-14.85, 40.22)	-10.13 (-30.10, -3.87)	8.65 (-13.71, 35.78)	13.68 (-12.50, 45.98)	12.55 (-20.87, 56.12)
≥ 75 y.	-7.40 (-13.53, 38.75)	-9.81 (-10.56, 34.29)	-11.32 (-31.29, -2.80)	2.89 (-18.41, 28.74)	6.79 (-17.96, 37.37)	8.72 (-23.44, 50,63)

Discussion

➢ The effect of the Euro per prescription in the average number of visits was not (statistically) significant until September 2012, two months after its implementation.

➢After September 2012, there was a sharp reduction (18%) on the average number of visits:

➢ We found differences among the age groups. In particular, the effect was only significant for those individuals above 55 years old. The group which had the biggest reduction was the age group between 55-64 years old (14%).

➢ We did not find significant variation among sex groups.