

The regional differences in per capita public health spending in Spain reflect the high level of discretion enjoyed by regional authorities in defining policies aimed at tackling social deprivation and related health inequalities. There is only a weak and nonsignificant correlation between per capita health expenditure and primary angioplasty rates in the Spanish autonomous communities ( $r = 0.117$ ;  $P = .667$ ) (Figure 2); however, the introduction of regional primary angioplasty systems shows an association with both procedure rates and reduced in-hospital mortality due to acute myocardial infarction.<sup>6</sup>

The state financing system for the Spanish autonomous communities includes provision for resource redistribution to support regions with a lower per capita income. Once resources are assigned, it is then the responsibility of the health service in each autonomous community to ensure that they are used efficiently. One indicator of efficient resource use is the introduction of effective policies to combat social inequality; another might be the rate of primary angioplasty to treat ST-segment elevation acute coronary syndrome.

Francisco J. Elola,<sup>a,b,\*</sup> José L. Bernal,<sup>b,c</sup> Cristina Fernández-Pérez,<sup>b,d</sup> and Albert Ariza-Solé<sup>e</sup>

<sup>a</sup>Elola Consultores, Madrid, Spain

<sup>b</sup>Fundación Instituto para la Mejora de la Asistencia Sanitaria, Madrid, Spain

<sup>c</sup>Servicio de Control de Gestión, Hospital Universitario 12 de Octubre, Madrid, Spain

<sup>d</sup>Unidad Transversal de Apoyo a la Investigación, Hospital Clínico San Carlos, Universidad Complutense de Madrid, Madrid, Spain

<sup>e</sup>Servicio de Cardiología, Hospital Universitario de Bellvitge, IDIBELL, Universidad de Barcelona, Barcelona, Spain

\* Corresponding author:

E-mail address: [javier.elola@imasfundacion.es](mailto:javier.elola@imasfundacion.es) (F.J. Elola).

Available online 30 December 2016

## REFERENCES

1. Escaño-Marín R, Pérez-Belmonte LM, Rodríguez de la Cruz E, Gómez-Doblas JJ, De Teresa-Galván E, Jiménez-Navarro M. Enfermedad cardiovascular y producto interior bruto en España: análisis de correlación por comunidades autónomas. *Rev Esp Cardiol.* 2017;70:210–212.
2. Mendis S, Puska P, Norrving B, eds. In: *Global atlas on cardiovascular disease prevention and control*. Geneva: World Health Organization; 2011. [accessed 15 Sep 2016]. [http://www.who.int/cardiovascular\\_diseases/publications/atlas\\_cvd/en/](http://www.who.int/cardiovascular_diseases/publications/atlas_cvd/en/).
3. Marmot M. Social determinants of health inequalities. *Lancet.* 2005;365:1099–1104.
4. Cordero A, Galve E, Bertomeu-Martínez V, et al. Tendencias en factores de riesgo y tratamientos de pacientes con cardiopatía isquémica estable atendidos en consultas de cardiología entre 2006 y 2014. *Rev Esp Cardiol.* 2016;69:401–407.
5. Redondo A, Benach J, Subirana I, et al. Trends in the prevalence, awareness, treatment, and control of cardiovascular risk factors across educational level in the 1995–2005 period. *Ann Epidemiol.* 2011;21:555–563.
6. Cequier Àue, Ariza-Solé A, Elola FJ, et al. Impact on mortality of different network systems in the treatment of ST-segment elevation acute myocardial infarction. The Spanish experience. *Rev Esp Cardiol.* 2017;70:155–161.

## SEE RELATED CONTENT:

<http://dx.doi.org/10.1016/j.rec.2016.12.015>

<http://dx.doi.org/10.1016/j.rec.2016.12.016>

<http://dx.doi.org/10.1016/j.rec.2016.11.031>

1885–5857/

© 2016 Sociedad Española de Cardiología. Published by Elsevier España, S.L.U. All rights reserved.

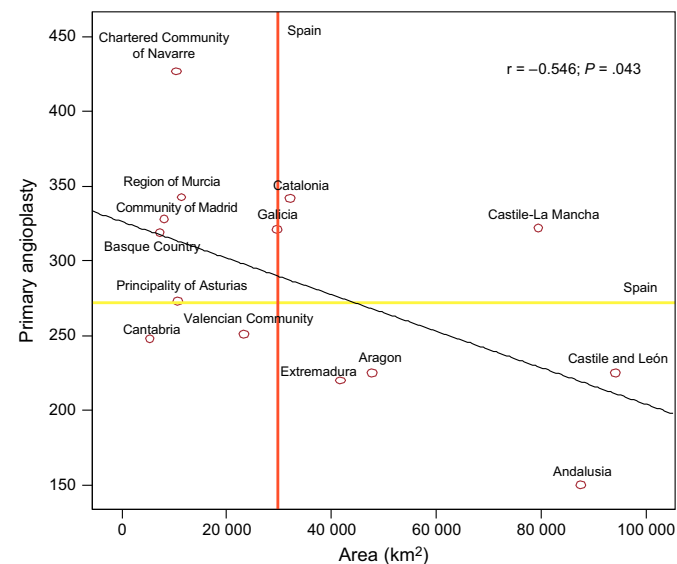
## Wealth, Mortality and Primary Angioplasty



### Riqueza, mortalidad y angioplastia primaria

#### To the Editor,

We have read the study by Escaño-Marín et al.<sup>1</sup> with great interest and would like to congratulate the authors on their



**Figure.** Correlation between the number of primary angioplasty procedures and the geographical size of Spanish autonomous communities, excluding the Balearic and Canary islands.

contribution to defining the relationship between socioeconomic markers and health outcomes. This subject has received insufficient attention in the literature and is, moreover, largely overlooked by cardiologists, despite its profound health policy implications. In their study, the authors show that low regional gross domestic product correlates with elevated cardiovascular mortality and a relatively low primary angioplasty rate. Although the authors do not explicitly assign cause, the article implies that the lower regional mortality in richer autonomous communities is in some way related to a higher rate of primary angioplasty. Independently of their wealth, almost all the Spanish autonomous communities have programs in place for early reperfusion after acute myocardial infarction. Using the data reported in the study, we have analyzed the correlation between the number of primary angioplasty procedures and the geographical area of the autonomous communities (excluding the Balearic and Canary Islands); this analysis reveals that autonomous community size is inversely related to the number of primary angioplasty procedures (Figure). The appropriate quality measure in the treatment of infarction is not primary angioplasty, but appropriate and timely reperfusion (the inapt slogan *Stent for life* should instead be *Reperfusion for life*).

Jose Alberto San Román\* and Itziar Gómez Salvador

Servicio de Cardiología, Hospital Clínico Universitario, Valladolid, Spain

\* Corresponding author:

E-mail address: [asanroman@secardiologia.es](mailto:asanroman@secardiologia.es) (J.A. San Román).

Available online 18 January 2017

## REFERENCE

1. Escaño-Marín R, Pérez-Belmonte LM, Rodríguez de la Cruz E, Gómez-Doblas JJ, De Teresa-Galván E, Jiménez-Navarro M. Enfermedad cardiovascular y producto interior bruto en España: análisis de correlación por comunidades autónomas. *Rev Esp Cardiol.* 2017;70:210–212.

## SEE RELATED CONTENT:

<http://dx.doi.org/10.1016/j.rec.2016.09.018>

<http://dx.doi.org/10.1016/j.rec.2016.11.036>

<http://dx.doi.org/10.1016/j.rec.2016.12.015>

1885-5857/

© 2016 Sociedad Española de Cardiología. Published by Elsevier España, S.L.U. All rights reserved.

## Cardiovascular Disease and Individual Income: A Factor Not to Be Overlooked



### Enfermedad cardiovascular y renta individual: un factor que se debe tener en cuenta

#### To the Editor,

We have read the scientific letter by Escaño-Marín et al.<sup>1</sup> with interest and would like to congratulate the authors for bringing to light economic questions that too often receive insufficient attention. The main role of the *Consejo Interterritorial del Ministerio de Sanidad, Servicios Sociales e Igualdad* (Interterritorial Council of the Ministry of Health, Social Services, and Equality) is to guarantee equivalent health care to all users, independently of the autonomous community in which they reside. However, the study by Escaño-Marín et al.<sup>1</sup> highlights the difficulties of putting this principle of equal access into practice. Although the question of collective access to health care is of vital importance, we consider it equally important to approach this problem from the perspective of the individual patient.

Due to its importance, drug prescription is one of the few areas in which central government retains control within the highly decentralized Spanish National Health System. All individuals using the health system make a contribution toward their prescription costs based on their employment status and income.<sup>2</sup> The copayment system includes exemptions for persons affected by rapeseed oil toxic syndrome or with a qualifying disability, persons receiving social inclusion payments or a noncontributory pension, unemployed persons who have lost the right to unemployment welfare payments, and those receiving treatment for a workplace accident or work-related illness. State pensioners and their dependents pay 10% of prescription costs up to an upper limit between €8.23 and €61.75, depending on preretirement income. Civil servants and members of the armed forces and judiciary pay 30%. Contributions by other economically active persons and their dependents are scaled according to annual income, with those earning less than €18 000 paying 40% and those earning between €18 000 and €100 000 paying 50%. Independently of employment status, all users with an income  $\geq$  €100 000 in their annual tax declaration pay 60% of prescription costs.

We would like to focus attention on users who access the health system with a TSI (*Tarjeta Sanitaria Individual* [Individual Health Card]) in category 003. The annual income of people in this category is below €18 000. This corresponds to a maximum gross monthly income of €1500, from which income tax has to be deducted. The percentage of health system users in each TSI category will of course vary between the different autonomous communities. Nonetheless, if we take the Principality of Asturias as an example, we see that health service users in category TSI 003 form by far the largest group, totaling 437 197 of the region's 1 060 645 inhabitants, or 41.2% of the total population.<sup>3</sup> This figure far exceeds the 355 041 pensioners (33.4%) and the 215 680 people earning between €18 000 and €100 000 (20.3%). People in TSI group 003 have to pay 40% of their prescription costs; the fact that almost half of health service users are in this situation should give us pause for thought.

Ours is possibly the specialty that enjoys the most scientific support, in terms of both clinical practice guidelines and expert consensus documents. However, although clinical practice should always be based on current guidelines, we should also consider patients' economic status and the likely individual benefit of each treatment. The guidelines of the European Society of Cardiology and the American College of Cardiology/American Heart Association do not address the issue of cost because health systems vary greatly between countries and, moreover, those patients with the means always have the option of financing their own treatment. Guideline recommendations are derived from pivotal studies involving large numbers of patients and therefore generally cover the full spectrum of the entity in question. However, latest-generation treatments will not always produce the same benefit as a cheaper alternative. Patients with financial difficulties might stop taking a newly prescribed medication,<sup>4</sup> might not take it at the indicated frequency, or, because of the new treatment, might stop taking other medications prescribed for the same or another condition. It is also possible that, in a given patient, the new strategy might not prove to be very effective. We therefore believe that a patient's TSI category should be a factor in the evaluation of medical prescriptions.

Iñigo Lozano,<sup>a,\*</sup> Ramón López-Palop,<sup>b</sup> Julio Rubio,<sup>a</sup> and Sergio Santos<sup>a</sup>

<sup>a</sup>Servicio de Cardiología, Hospital de Cabueñes, Gijón, Asturias, Spain

<sup>b</sup>Servicio de Cardiología, Hospital San Juan, San Juan de Alicante, Alicante, Spain

\*Corresponding author:

E-mail address: [inigo.lozano@gmail.com](mailto:inigo.lozano@gmail.com) (I. Lozano).

Available online 18 January 2017

## REFERENCES

1. Escaño-Marín R, Pérez-Belmonte LM, Rodríguez de la Cruz E, et al. Enfermedad cardiovascular y producto interior bruto en España: análisis de correlación por comunidades autónomas. *Rev Esp Cardiol.* 2017;70:210–212.
2. Cartera de servicios comunes de prestación farmacéutica [consultado 15 Sep 2016]. Madrid: Ministerio de Sanidad y Seguridad Social. <http://www.msssi.gob.es/profesionales/CarteraDeServicios/ContenidoCS/5PrestacionFarmaceutica/PF-PrestacionFarmaceutica.htm>.
3. Tabla resumen de copago farmacéutico. Oviedo: Gobierno de Asturias [consultado 15 Sep 2016]. [https://www.asturias.es/Astursalud/Ficheros/AS\\_Tramites/Copago/Tabla%20resumen%20copago%20farmac%C3%A9utico.pdf](https://www.asturias.es/Astursalud/Ficheros/AS_Tramites/Copago/Tabla%20resumen%20copago%20farmac%C3%A9utico.pdf).
4. Domínguez-Rodríguez A, Méndez-Vargasa C, Sánchez-Grande A, et al. Healthcare administration and the economic crisis: apropos of a case. *Gac Sanit.* 2014;28:342–343.

## SEE RELATED CONTENT:

<http://dx.doi.org/10.1016/j.rec.2016.09.018>

<http://dx.doi.org/10.1016/j.rec.2016.11.036>

<http://dx.doi.org/10.1016/j.rec.2016.12.015>

1885-5857/

© 2016 Sociedad Española de Cardiología. Published by Elsevier España, S.L.U. All rights reserved.