Title: Are prescribing doctors sensitive to the price that their patients have to pay in the Spanish National Health System?

Authors:

Beatriz Gonzalez López-Valcarcel (bvalcarcel@dmc.ulpgc.es)
Julian Librero (julian.librero@uv.es)
Gabriel Sanfélix-Gimeno (sanfelix_gab@gva.es)
Salvador Peiró (peiro_bor@gva.es)

Version: 3 Date: 29 November 2011

Author's response to reviews: see over
Are prescribing doctors sensitive to the price that their patients have to pay in the Spanish National Health System?"
Beatriz Gonzalez López-Valcarcel, Julian Librero, Gabriel Sanfélix-Gimeno and Salvador Peiró.

Valencia (Spain), November 28, 2011

Dear Editor,

Please find enclosed the second revised version of our manuscript “Are prescribing doctors sensitive to the price that their patients have to pay in the Spanish National Health System?” [MS: 1696918554441119] submitted for your consideration for publication in BMC Health Services Research.

In response to the concerns and suggestions expressed by the referees and the Editorial Board we have made the following changes:

Reviewer 1: Atonu Rabbani

#01. Reviewer 1. Discretionary Revisions. It still seems that a core identification (in the econometric sense) strategy in the paper relies on comparing pensioners vs. non-pensioners who are offered different payment schedule. Obviously pensioners are different from the non pensioners counterparts in addition to how much they are paying out-of-pocket for the drugs that they are prescribed for. I do not think there is any way to get around this issue given the data constraint and there are published papers that use the same strategy. But I think the authors should acknowledge this; may be in the discussion section.

We agree with the reviewer and, in fact, we dedicated a large paragraph to this question in the “Limitations” section of the previous version of the manuscript:

“... pensioners are very different from non-pensioners in terms of age, disease patterns and their severity, and these differences could justify differences in the choice of drugs and, therefore, in the average price for pensioners and non-pensioners. The ecological nature of the data does not allow consideration of all the factors that influence medical prescriptions (disease and its severity, other accompanying health conditions, possible contraindications or interactions with other drugs that the person is taking alongside, and so on). But in our study, average price discrepancy is measured within specific and relatively homogeneous therapeutic groups. In these therapeutic groups, evidence of the superiority of one drug over others in terms of higher price rarely exists (i.e. atorvastatin vs. simvastatin, ARBs vs. ACEIs, brand name vs. generic drugs, one atypical antipsychotic vs. another atypical antipsychotics, and so on) and, with some exceptions, there are no clinical reasons for the systematic use of high price drugs in pensioners and low price drugs or generics in non-pensioners. Nevertheless, in some cases the therapeutic groups are more heterogeneous, including medicines with different indication profiles (i.e. antiplatelet drugs, psycho-stimulants or atypical antipsychotics). For those groups including some medicines aimed at young people and others aimed at older patients, the price differential could be a compositional effect not related with doctors’ sensitivity to patient costs (i.e. requirements for the prior authorization of clopidogrel consider age over 65 as a criterion; because people over 65 are mainly pensioners with no copayment, we could find a compositional effect).”

We think the concern expressed by the reviewer is clearly “acknowledged” in the previous paragraph. No changes have been made regarding this comment.
Reviewer 2: Antonio Sarria-Santamera

#01. Reviewer 2. The authors have significantly improved the manuscripts, answering the issues which were the main constraints that limited the acceptance for publication of the first draft.

No changes were needed regarding this comment.

Reviewer 3: Andrew Sfekas

#3. Reviewer 3. I appreciate the authors’ response to my comments and those of the other reviewers. However, the main issue I raised is still unresolved and is addressed only briefly as a limitation. Specifically, the authors cannot distinguish between physicians’ price sensitivity and patients’ price sensitivity. It is completely plausible that physicians do not take prices into account when prescribing, but patients take prices into account when getting their prescriptions filled. Since the authors only observe the filled prescriptions, this would produce exactly the patterns that the authors observe. Thus, the authors' results indicate that either the physician or the patient is price-sensitive, but they can’t actually distinguish how much of the price-sensitivity (if any) comes from the physician.

In the previous version of the manuscript we addressed this question, as the reviewer points out, in a paragraph in the Limitations section: “our conceptual framework attributes decisions on prescriptions to physicians and uses dispensations (prescriptions filled out) as a proxy of prescriptions issued (which also includes unfilled prescriptions). The patients’ ability to influence prescription decisions to cheaper drugs is irrelevant to the agency theory (in fact, if the agency relationship was complete, the decision would always reflect the patients’ preferences), but unfilled prescriptions overestimate doctors’ sensitivity to patient cost effect, specially if patients do not pick up the most costly medicines from the pharmacy”.

As explained in this paragraph, the patient may influence the doctor’s decision to change an expensive prescription for another of lower-price, and this does not affect our conceptual framework (doctors would be sensitive to the -now explicit- preferences of the patients). However, if patients with co-payment limit its behaviour to not getting (selectively) the most expensive prescriptions, we would be facing the possibility pointed out by the reviewer and the results would be explained by the patients’ price sensitivity instead of by the physicians’ sensitivity to the price that can be afforded by patients. Probably the two phenomena occur at the same time and both contribute to the differences detected in our study. As noted by the reviewer, the nature of our data (dispensation, not prescription) does not allow the estimation of the contribution of each factor to the price differences between drugs with and without co-payment. We have opted addressing this limitation with more detail in the corresponding section.

Editorial Board

#4. Editorial Board. As you will see from the reviewers reports, reviewer 3 still has concerns regarding point 2 made in his original first review:

?The authors acknowledge that the data are from prescriptions actually filled, not prescriptions written. If physicians wrote out the same prescriptions for everyone, and non-pensioners tend not to fill the more expensive ones, the results would be the same--average
price for non-pensioners is less than average price for pensioners. However, the results would be due to the fact that consumers are cost-conscious, rather than that physicians consider the cost to consumers. I would consider this to be the main empirical problem in the paper.

We have now discussed this with our senior medical editors and they agree that this point requires more attention, therefore please could we ask that you revise your paper to address this point in much more detail in your limitations section. Also given this limitation we feel that the conclusion within the abstract could be better worded e.g. doctors may be sensitive to the price?

We have addressed this point in more detail in the limitations section (see response #3 to reviewer 3). Also we have “relaxed” the "strength" of the conclusion both in the abstract and in the conclusions section.

#5. Editorial Board. We would also like you to address the remaining point raised by reviewer 1 in his report regarding how much of the price-sensitivity (if any) comes from the physician.

Reviewer 1 does not address the question of how much of the price-sensitivity comes from physicians (addressed by reviewer 3) but if the differences between pensioners and non-pensioners (in addition to how much they are paying out-of-pocket for the drugs that they are prescribed for) could explain the results of our study (for example, if pensioners need different and more expensive drugs). Recognizing that pensioners are very different from non-pensioners, in our study, average price discrepancy is measured within specific and relatively homogeneous therapeutic groups. In these therapeutic groups, evidence of the superiority of one drug over others in terms of higher price rarely exists (i.e. atorvastatin vs. simvastatin, ARBs vs. ACEIs, brand name vs. generic drugs, one atypical antipsychotic vs. another atypical antipsychotics, and so on) and, with some exceptions, there are no clinical reasons for the systematic use of high price drugs in pensioners and low price drugs or generics in non-pensioners. Some therapeutic groups (i.e. antiplatelet drugs, psycho-stimulants, etc.) would be exceptions to this rule and in this cases the price differential could be a compositional effect not related with doctors’ sensitivity to patients’ costs (i.e. requirements for the prior authorization of clopidogrel consider age over 65 as a criterion; because people over 65 are mainly pensioners with no copayment, we could find a compositional effect in this therapeutic class).”

As commented previously (see response #1 to reviewer 1) this point was extensively discussed in the first paragraph of the limitations section. We really do not know what else can we add about this limitation. No changes were made regarding this comment.

#6. Editorial Board. In addition to this please could you clarify whether this data is publicly available and if not, what permission did you have to use it.

The data used in our study are property of the respective Regional Health Departments participating in the research projects of our research group. The data are not publicly available but can be requested to the Pharmacy Directorates of the Regional Health Departments. Our research group has permission from these Pharmacy Directorates of the Regional Health Departments to use the data in drug utilization studies (in fact, the data were transferred to our group from these Directorates) with the (unique) restriction not publishing comparative studies between Spanish regions without specific authorization (although we have permission to compare smaller territorial units as health areas).
Conversely, the Health Departments of the Regional Governments in Spain are very reluctant to facilitate dispensation data for research or for other purposes because public comparisons of regional pharmaceutical spending have a strong media and political impact in Spain. Our research group develops since 2005 a research line on geographic variations in drug consumption and currently includes research teams from 13 (of the 17) Autonomous Communities (in most cases the researchers belong to the General Directorates of Pharmacy of the Regional Governments). We have developed agreements with the regional teams participating in the projects to use these data. These agreements do not include the need of revision or approval of the manuscripts by the regional Health Departments or Pharmacy Directorates, but it includes the mentioned restriction of not publishing comparative studies between regions and the commitment to facilitate to each Regional Health Department a confidential report with detailed analysis of variations in consumption, price and drug expenditures (with blinded data from other communities). Since 2005, we have developed projects on cardiovascular, mental illnesses, antibiotics and antiosteoporoic drugs (some of the papers produced are cited in the manuscript references) with financial support from the Ministry of Health and also from some Autonomous Regions.

**#6. Editorial Board.** Please also ensure that your revised manuscript conforms to the journal style (http://www.biomedcentral.com/info/ifora/medicine_journals). It is important that your files are correctly formatted.

**We have revised the entire manuscript according to the journal style.**

We very much appreciate the comments made by the referees and editors, which we believe have been extremely useful in improving our manuscript.

Thank you for your interest in our paper. Please do not hesitate to contact us for any further clarification.

Yours sincerely,

On behalf of all the authors,

Beatriz González López-Valcarcel.
Universidad de Las Palmas de Gran Canaria.