Author’s response to reviews

Title: Socioeconomic patterns in the use of public and private health services and equity in health care

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Answers to Juan Merlo

Essential comment

Juan Merlo comments that the findings in table 4 regarding visits to specialist physicians suggest a flagrant case of inequality, and he recommends that we discuss this issue more extensively. Specifically, the reviewer asks why individuals in the lowest socioeconomic position have less access to specialized care if it is well known that they have a higher level of needs.

In this regard, we should point out that in all our analyses we have adjusted for a measure of need – the number of chronic diseases – and that, as mentioned in our paper, the inclusion of other measures of need for care did not modify the results. That is, the findings shown in the tables refer to differences in the use of health services for an equal level of need for care.

Continuing with the above, the reviewer notes that the lack of a socioeconomic gradient in hospitalisation (we suppose he refers to the results in table 4) suggests inequity, because persons in low socioeconomic position have poorer health. However, the reviewer is making two assumptions. The first is that we did not take into account the health status of those interviewed, which, as previously mentioned, is not the case: the estimates were adjusted for the need for care. And the second assumption is the existence of residual confounding. However, if we look at the results on hospitalisation in tables 2 and 3, it can be seen that they are clearly different. Since it is not plausible that residual confounding would operate in one direction in table 2 and in the opposite direction in table 3, it seems logical that the results in table 4 reflect the weighted mean of the findings in tables 2 and 3.

On the other hand, from an ethical and policy point of view, the consideration of equity in the use of health services when both public and private services are
offered is not an easy subject. Two people, one in high socioeconomic position and another in low socioeconomic position, both of them healthy, may wish to use private health services even though they don’t need them. The fact that only persons in high socioeconomic position use them – because they have the economic resources to do so – cannot be considered a lack of equity.

Nevertheless, following the advice of the reviewer, in the new version we have included the following paragraph in the discussion, which refers to the results in table 4:

“When all visits to the specialist physician are taken into account (table 4), the percentage ratio in persons in the lowest socioeconomic position versus those in the highest socioeconomic position ranges between 0.58 and 0.67. This lower use of specialist physician services by persons in low socioeconomic position may be related with insufficient resources to meet the demand in the public health system, or with long waiting times for specialist physician visits in the public system, or with other reasons unrelated to the supply of services and performance of the public health system. This finding raises important ethical and policy dilemmas. Indeed, based on these results, can we consider that the higher frequency of specialist physician visits among persons with higher income means there is social inequality in specialist visits in Spain? Or must we take into account the amount of resources and performance of the public health system before making a moral judgment in this matter? And if it turns out that the public system has sufficient resources and performs adequately, should the higher frequency of specialist physician visits in subjects with higher income be a source of concern in health policy?”

Likewise, in the paragraph that follows the above, we comment on possible explanations for the frequent use of specialist physicians by persons in high socioeconomic position, and which we attribute to long waiting times.

“Almost 30% of specialist medical visits are made to private specialists. This large proportion of visits to the private specialist physician could be related with a lack of specialists in the public health system, however the results obtained do not support this as a plausible explanation. Almost all GP visits and most hospitalisations take place in the Spanish public health system, therefore it is highly unlikely to be unbalanced, with a scarcity of specialist physicians versus an adequate supply of GPs and hospital physicians. Furthermore, Spain is one of the EU countries with the highest ratio of number of public specialist visits versus public GP visits. The high percentage of private visits is probably related with the waiting time for appointment with the public specialist physician, which many patients are not willing to tolerate, as reflected in the 2006 health opinion survey. Thus, patients seek direct access to the specialist through complementary insurance plans or by direct payment.”

Minor comments

The reviewer notes that he does not like the expression “pro-poor inequity”. We do not like it either, but it is the most commonly accepted expression by the
international scientific community in studies of this subject. In any case, the reviewer refers to poor persons having more needs than the rich and therefore having to use more resources. But the truth is that all studies have obtained these findings after adjusting for a large variety of health measures (references 5 and 7 of Van Doorslaer et al) and, in this regard, a larger amount of resources for poor persons for the same level of need cannot be considered to be equity.

The reviewer asks that we explain the procedure used to impute income in more detail. In the new version we have included the following comment:

“To reduce this percentage, an income value was imputed for non-respondents using a modification of the hot-deck imputation procedure proposed by Cox and Cohen (18). Following this procedure, respondents who answered the question on income were classified according to a combination of the following variables: age (in 10-year intervals), sex, educational level and social class. The most frequent value for income in each of these categories was obtained, and was applied to respondents with missing income data who were in the same category after grouping them according to the same variables.”


Answers to Mark Harris

* The reviewer notes that, since we adjust for the number of chronic diseases in the analysis, it would be useful to have more information about the burden of disease in Spain. In the new version we have included the following:

“In Spain, as in most of the developed countries, persons in low socioeconomic position have a higher prevalence of a large variety of chronic diseases than persons in high socioeconomic position (20-21).”


* The reviewer asks about the validation of the survey questions. In the new version we have included the following:

“All these questions about the use of health services are included in the six national health interview surveys that have been carried out in Spain since 1987. During this period the results observed have been consistent both among the various national surveys and with the results of regional health surveys that have
used a modified formulation of the questions.”

*The reviewer asks us to provide adequate justification for the imputation of data on income. As noted in the reply to the first reviewer, we have included the following in the new version:

“To reduce this percentage, an income value was imputed for non-respondents using a modification of the hot-deck imputation procedure proposed by Cox and Cohen (18). Following this procedure, respondents who answered the question on income were classified according to a combination of the following variables: age (in 10-year intervals), sex, educational level and social class. The most frequent value for income in each of these categories was obtained, and was applied to respondents with missing income data who were in the same category after grouping them according to the same variables.”


* The reviewer recommends that we evaluate the interaction between SEP and number of chronic diseases. Accordingly, we have included the following in the new version:

“Since some chronic diseases (like allergies) are more frequent in persons in high socioeconomic position, we evaluated the possible interaction between each measure of socioeconomic position and the number of chronic diseases. However, the interaction term was not significant in any of these analyses.”

* The reviewer notes that a possible interaction between gender and SEP in relation to use of health services has been previously observed in Spain. However, the use of services was not investigated in the reference provided (Artazcoz et al Soc Sci Med 2004; 59: 263-74). In addition, there is no evidence of this interaction in the different investigations carried out in Spain.

* The reviewer notes that merely adjusting for the number of chronic diseases may not be sufficient. However, as we note in the discussion, little change was seen when we added a variable that reflects limitation of activity due to health problems. Likewise, we point out that Van Doorslaer et al also found that inclusion of a much larger battery of health measures had little effect on the relation between income and health services use.

* The reviewer also remarks that if health outcomes are worse for low SES groups, then this suggests either that access to health care makes little difference to this disparity, and/or that conditions occur at a more advanced stage, and/or that the barrier is not access to care but rather access to quality care. However, this line of thought goes beyond the objectives of our study. Our study investigates socioeconomic differences in the use of health services, but the reviewer is asking about the extent to which the health services are effective in cushioning or reducing these differences. The reply to that question requires
another kind of study.