Author's response to reviews

Title: Equity impact of a choice reform and change in reimbursement system in primary care in Stockholm County Council

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Author's response to reviews: see over
To the Editor,

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We would like to thank the reviewers for their valuable comments on our submitted manuscript with the title "Equity impact of a choice reform and change in reimbursement system in primary care in Stockholm County Council? (MS: 1179744514165586). We have tried to follow the comments from both reviewers carefully and hope that the changes we have made cover all comments from reviewers.

Response to Reviewer 1’s comments:

Reviewer 1 asked for the rationale behind using ratios to depict our main results as opposed to absolute or relative differences. 
We would like to stress that the underlying reason for this study was to assess whether the impact (in terms of changes in the proportion visiting a doctor, and in the number of visits) of the reform would differ between different groups. In Table 1 and 2, we have presented results both in terms of absolute level and relative changes in the proportion visiting a doctor and in the number of visits to allow the reader to judge the magnitude of the changes. As these changes may vary by age and health status, we have also presented results of a regression (negative binomial regression), where such variation is adjusted for and where we have tried to estimate the magnitude of the change in relative differences by a ratio. Also, a thorough description of the statistical method and interpretation of the results has been added to the method section.

Reviewer 1 wondered whether the analyses of disadvantaged areas use only survey respondents or the whole population. We agree that this was unclear in the text and could be misinterpreted. The analyses of disadvantaged areas are based on the data from the individuals responding to the survey living in these areas. A clarification has been made in the method section.

Reviewer 1 was concerned about the large number of subgroups examined and statistical significance occurring by chance with that many analyses. We totally agree that doing many comparisons increases the risk of obtaining false significant results. The number of comparisons in Table 3 has been reduced so that focus is on the most important analyses for the research questions. We have also added the following caveat to the discussion: When performing multiple comparisons the probability that at least one comparison, just by chance, becomes significant increases. This should be acknowledged when interpreting the results.

Reviewer 1 pointed out an error in Table 1.
We appreciate the thorough reading and the error is now corrected.

Reviewer 1 wondered if people can access specialists directly in the Swedish health care system, if the reform applied to specialists as well and how this could affect the results. It is possible to access some specialist care directly in the Stockholm County Council health care system, but the reform did not apply to specialists. It is however possible that some of the changes we see could be compensated by an increased or decreased number of visits to doctors or other types of health care professionals in other parts of the health care system. Further analyses, including also specialist care, are needed in order to fully understand the introduction of the reform could also have changed health care seeking behavior. A clarification is added in the discussion section.

Response to Reviewer 2’s comments:

Reviewer 2 asked if we could specify the novelty of the study more distinctly. There is a strong emphasis on horizontal and vertical equity in health care in the Swedish Health Care Act and other health policy documents. When the choice reform was introduced, there was little mention of its impact on equity. However, it seems important that a health care reform does not violate or counteract the underlying values in the Health Care Act, which this study attempts to investigate. The novelty of the study is that it is the first assessment of the impact of the reform on horizontal and vertical equity: no scientific study has previously investigated how the reform has affected equity in primary care in Stockholm County. The study also uses data from a survey (with measures on self-rated health and limiting longstanding illness as measures of need of care) with register data on utilization of primary care, which enables taking need of care into account.

Reviewer 2 pointed out that more attention is needed in the use of causal terms in the interpretation. We agree that other factors may also have contributed to the results. However, as the reform was introduced in January 2008 in Stockholm County and we analyze health care utilization in the 2007 (the year before the introduction) we are confident that the increase in number of visits did not occur before the reform. The question is of course if all of the increase is due to the reform or if other factors could play a role (changes in health status in the population, other changes in the health care system allocating visits to primary care differently etc.), but to the best of our knowledge no such change would have specific effect on specific subgroups to a degree where we would expect a change in relative number of visits between different subgroups. We have added a clarification in the discussion section.

Reviewer one had concerns about the emphases put on every statistically significant difference between groups and as Reviewer 1, Reviewer 2 pointed out that some quantities of interest may appear statistically significant for pure effect of chance. We totally agree that doing many comparisons increases the risk of obtaining false significant results (see answer to reviewer 1). However, the focus of this study was to assess how the choice reform and changes in reimbursement system would affect equity in health care utilization, in view of the emphasis in the Swedish Health Care Act on equity in health care. Given this emphasis we wanted to scrutinize the patterns of utilization of primary care among specific socioeconomic groups in the population as well as among groups reporting poorer health as an indication of greater need of care. Our assumption was that the increase
in visits primarily, or at least to a greater degree, would apply to individuals with greater health care needs, but the increase in number of visits was actually more or less equal across groups, regardless of socioeconomic position or health status. In fact, after the reform, relatively more individuals with good health status visited a doctor than before the reform. It also seems that some groups with greater need (e.g. women with mental health problems and men living in disadvantaged areas) had a lesser increase than groups in good health. Against the backdrop of the emphasis on equity in the Health Care Act, it seems the reform has not particularly benefited groups with greater needs. We find that this is a result worth emphasizing despite the lack of recurring trends for all subgroup analyses, but we have added a paragraph in the discussion section about the possibility of statistical significance occurring by chance (see response to reviewer 1 question 3).

Reviewer 2 pointed out that the methods paragraph was too short and not well explained. We agree that the method was poorly explained and the section about Statistical Methods has now been extended. The choice of statistical model is now discussed. In addition we have included an example to let the reader understand the somewhat complex interpretation of the negative binomial regression output of interest.

Reviewer 2 was uncertain about the interpretation of the sentence: “When looking at individual socio-economic characteristics there seems to be no differences between groups are ever some signs of a small increase in equity, as we found that men with low levels of education had a greater increase in the number of visits compared with men - with, r.n. - lower levels of education”.
This paragraph has now been rephrased: When looking at individual socio-economic characteristics there seems to be only small or no changes in the relative differences between groups. There was, however, a significant change in the relative difference between men with low levels of education compared to men with higher levels of education, indicating that the relative increase among men with low levels of education was higher than among men with high level of education.

Reviewer 2 wondered how people access private providers in the Swedish health care system and if we would consider exploring differences between having access through the SSN versus access through private insurance or private providers?
In Sweden, the proportion with private health insurance is limited, about 5% of the population has private health insurance. Most private health care providers operate in big cities but we do not have individual data on access to private health insurance or utilisation of private providers paid outside the public system.

Reviewer 2 asked if we had the possibility to control for whether or not individuals have a usual source of care, whether or not they have private insurance and asked if some individuals could have some kind of exemption from co-payment.

Unfortunately we do not have the ability to control for whether or not individuals have a usual source of care, but on aggregate level we know that around 90% in Stockholm County is listed to a GP. We have no information regarding private insurance.
In the public system, when the yearly cost of outpatient health care services exceeds 119€ patients have the right to free outpatient services for additional visits. This applies to all patients regardless of income level (A clarification is made in the introduction section).

Reviewer 2 asked why we chose to restrict the analysis to individuals who were 25-84 years of age?
We agree that this was poorly described in the article and have added a clarification in the method section.

Reviewer 2 asked if there are any exemptions from co-payment for any particular group in the Swedish system.
We agree that this was not clearly stated and a clarification is made in the introduction section.

Reviewer 2 pointed out a missing with in a sentence on page 14.
We appreciate the thorough reading and have changed the text in accordance with the suggestion from the reviewer.

Reviewer 2 pointed out a type error on page 18.
We appreciate the thorough reading and have changed the text in accordance with the suggestion from the reviewer.

Reviewer 2 felt the tables was not very communicative and asked us to consider using graphs to present the results.
We have considered using graphs to illustrate the findings but find it difficult to include all the data we want to present in graphs. In order to simplify the results in table 3 we have excluded the age-stratified analyses and just mentioned these results in the text, when the age stratified analyses differed from that of the whole study-population.

In accordance with the editor’s suggestion about copyediting the paper to improve the style of written English, an experienced researcher with excellent skills in written English have carefully read through the article in order to improve the text in this respect.

We hope that these changes are satisfactory and have improved the manuscript, and that the manuscript now meets with your approval.

Yours sincerely

Janne Agerholm

(Corresponding author on behalf of the other co-authors)