Author's response to reviews

Title: A prospective study of health care resource utilisation and costs associated with schizophrenia in France

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Author's response to reviews: see over
1 Reviewer: Roshni Mangalore

1.1 Major compulsory revisions

1. This paper looks at resource utilization costs of associated with schizophrenia in France. The term ‘costs associated with schizophrenia’ gives the reader the impression that it must be cost of illness or burden of illness study.

The focus of the paper, however, is on treatment / health care costs. Although some estimate of the cost of lost productivity through unemployment is included in the paper, all other indirect costs are ignored. If it is intended to be a cost of illness study, then a proper analysis would have to take into account other costs to society such as the costs of informal carers, criminal justice system costs, social welfare costs, and private alternative therapy costs and may also refer to intangible costs. If it is not intended to be a cost of illness study, it may be more appropriate for this to be made clearer in the title.

To reflect the reviewer view, we have modified the title. ‘A prospective study of health care resource utilisation and costs associated with schizophrenia in France’ has been replaced by ‘A prospective study of health care resource utilisation and selected costs of schizophrenia in France.’

2. It is not clear whether the study was a privately organized study or part of the research project in a large institution. Given the nature of the patients and the sensitivity of the data that was collected and the way in which it was collected, it appears that this must have been part of a large research project in a large institution. Authors should either explain the context and settings of the study in the paper or include proper acknowledgements if that is appropriate.

A subsection ‘study design’ has been added to the ‘methodology’ section. We here described the study, and added the reference paper for this cohort. We also included a section ‘role of funding source’, ‘declaration of interest’ and ‘acknowledgements’.

3. The methods used for estimation need a bit more clarification. It has been mentioned that there was high rate of attrition in the sample. Authors should explain what the effect of this would be on the estimates and how was this handled in the method used. Secondly, more detailed explanation of the results shown in table 4 is appropriate. Authors need to explain the results more clearly in terms of significance and validity of the results. If any diagnostic tests were conducted, they should be reported.

- We understand that the methods used need to be clearer. We tried to incorporate clarification in the text.
- Using the Weighted Least Squares approach allows us to take into account that a greater number of completed follow-ups per respondent implies higher validity of the estimated mean costs.
- Unfortunately no diagnostic test was conducted.
- Table 4 (now table 3) provides the estimates as found by the statistical analysis. The higher the estimate is, the more ‘correlated’ it is with the type of cost considered. Significance tests were performed, and results are represented by the stars.
4. Table 1 needs some attention. Column three heading is %. But not all entries there can be %. It is not clear whether the figures in column three are % or SD. Tidy this up.

   Table 1 has been redesigned, it is now clearer.

5. Table 2 also needs tidying up. If the n in column 2 refers to actual users of services, it should be associated with columns 5 and 6. Move columns 5 & 6 to positions 3 & 4 and then put columns 2, 3 & 4 under the heading ‘users of health services’.

   Table 2 has been redesigned, it is now clearer.

6. Table 3: Mean costs for service users makes little sense without information about the numbers (n) associated with it. How were these costs estimated? What is the significance of the S.E. in these tables?

   Table 3 (now Table 2, as these two tables were merged) has been redesigned, it is now clearer. The number of patients used was added. This table presents mean costs, calculated as unit costs × number of units used.

7. There is no mention of the limitations of the study. It would be appropriate to include a section on limitations and suggestions for further research.

   Several limits were mentioned, and suggestions for further research were added. This includes the indirect costs estimation, the sample attrition in the sample, and the lack of adjustment on comorbidities.

**1.2 Minor Essential Revisions**

8. Need to check grammar. There were some places where sentences did not read well.

   This article was sent to American Journal Experts for English review before being resubmitted.

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**Level of interest**: An article of importance in its field

**Quality of written English**: Needs some language corrections before being published

**Statistical review**: Yes, and I have assessed the statistics in my report.

**Declaration of competing interests**: I declare that I have no competing interests
2 Reviewer: David Sclar

The authors are to be commended for addressing an important issue.

2.1 Major Compulsory Revisions

1. A detailed explanation of the regression method is required for transparency (i.e. so readers without a statistical background may understand the methods).

   Basically it's a regression model for panel data where this is not the change over time (within effect) that is of interest, but the effect between persons (as in a normal linear regression). We try to figure out the effects between the averaged values per patient. If a patient had 5 assessments of the PANSS (4-8-6-12-17), the averaged value would be 9.4. When one calculates these means for every patient in the data set and do a normal regression with these means, one basically gets the 'between effects' estimator.

   Our issue was that patients with averaged value based on less than 5 timepoints (unbalanced) would be weighted equally although their data are less informative/valid. This is why we tried with WLS to make sure that patients with more timepoints were weighted higher than those with less timepoints.

   This has been added in the text.

2. Given the small sample size and the methods chosen to date, how were comorbid illness (in general and mental health) accounted for (adjusted for) in the analysis? An adjusted least-square mean at each six month time frame – and comparisons across time frames – may better explain (to the reader) the observed effects.

   Unfortunately comorbid illness was not accounted for in this analysis, due to the lack of data. This was added in the limitations section, and mentioned in the further research needed.

3. Given the sample size, is it reasonable to generalize to the French population? Rather, this is a preliminary (pilot) analysis; and should be labeled as such.

   We feel the patient selection in France is very robust, and we think it is reasonable to generalize to the French population.

   In France, mental health care is driven by a law defining 800 catchment areas. Each catchment area has around 70,000 inhabitants. Within the catchment area, care is provided by a public health maintenance organisation called 'a sector' (Kovess, et al., 1995). The sector provides inpatient as well as outpatient care.

   Resources are unequally allocated between sectors. The strategy was therefore to integrate ten adjacent sectors into a single sampling area. Three such integrated areas were selected. They were located in northern France (Lille), central France (Lyon and Clermont-Ferrand), and southern France (Marseille and Toulon). Each of these areas covers an urban centre of approximately 1 million inhabitants living in the city or in medium-size towns.

   Random sampling was used in all the French centres. It involved the establishment of a list of all psychotic patients in the catchment area. An on-going list of patients with ICD-10 diagnostic information is updated on a regular basis in the catchment area, and these lists were used as the basis of sampling. Ten patients were randomly selected in each sector. The
sample was based on people currently in contact. None of the patients was picked up purely through a social service route.

This information is available in the source publication. A very large effort has been made to get a high-level of representativeness, and we believe that ‘pilot study’ would be a bit strong.

However, we understand that the sample size is not large, and we added it in the study limitations.

4. Further comparison with previous research (at least in France) is warranted.

There is only one other study describing the cost of schizophrenia in France: Rouillon et al., that is already cited and described.

5. There are redundant overlaps in the manuscript. It is advised the manuscript be shortened to reflect a brief report.

The overlaps were removed, and the manuscript was shortened.

6. Editorial assistance is warranted regarding use of English language (totally understandable as French is the primary language).

This article was sent to American Journal Experts for English review.

7. Reduce the number of tables to reflect Brief Report status.

Two tables (previous Table 3 and Table 4) were merged, to reduce the total number of tables to three.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

**Reviewer:** No competing interests.