Author's response to reviews

Title: Use of GP services by patients with schizophrenia: a national cross-sectional register-based study

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Author's response to reviews: see over
Thanks for providing very interesting and challenging reviews. We perceive the comments as mainly positive and supportive and have tried to incorporate the suggestions for improvements in the new enclosed version of the paper. We address the reviewers’ comments in the following, referring to the reviewer remarks.

Referee 1

1. Although the question as such is clear I have some trouble with the comparison and how the conclusions can be interpreted for several reasons.

The first concerns the choice for diabetes as an example of a group of patients ‘which also has an increased prevalence of chronic somatic conditions’. This is a disease with a twentyfold higher prevalence and a high degree of protocolization, which makes it much more routine than schizophrenia. This makes it difficult to compare. The care for diabetes in the Netherlands is very much multidisciplinary with apart from the gp a role for the dieticians, podiatrists and specialists. There are few multidisciplinary meetings concerning individual patients but more referral agreements at organizational level.

This paper has its focus on how (Norwegian) GPs care for their patients with serious mental disorders, taking schizophrenia as the case, since this is a relatively definite diagnosis that seldom is used without a clear justification. Our data and analyses related to the patients with schizophrenia might very well have been presented alone. However, we think it may be interesting for the readers to see how these patients are cared for compared to others. It was not our intention to use the DM patients as a gold standard or make any formal tests for differences between them but merely used it as an illustration. In addition, they are a well-defined patient group with a close relation to the health services where the GP work is quite clearly described, partly in contrast to the schizophrenia group. Therefore it might be of interest to compare the impact of GP- and practice characteristics on the care for these patient groups. We still think this paper is more interesting for the readers with the DM-comparison than without. We are not sure if any other group would have been better, even though we have thought of some. However, we have tried to emphasis less on this comparison in the revised version.

Secondly, diabetes is mainly the responsibility of gp’s in my country whereas schizophrenia is often the primary responsibility of specialized mental health care although also in the Netherlands it is policy to increase the role of general practice.

This is an interesting point which is one reason for us to use DM patients for comparison. Internationally the care of these two patient groups, very different in magnitude, socio-economic status and treatment challenges probably are organised very differently. This goes for many aspects, among those the degree of “protocolisation” and the role of GPs both in relation to secondary care and in relation to the “allied professions”. An international comparative study on these issues might have been very interesting. However, we have to use Norwegian data, originating from a Norwegian context, and hopefully we are not so special that our study is not of interest internationally.

Thirdly the research question does not follow logically from the introduction. Reading the last section of the introduction one would expect focus on the care for somatic
problems of people with schizophrenia. Care for somatic and psychiatric morbidity are not differentiated in the research questions. Why not like in the study of Oud et al looking at the level of care for schizophrenia patients with specific somatic diseases (COPD, diabetes) and compare this with usual care for these diseases.

We have re-organised the introduction, referring to the GPs role according to mental health, somatic health and cooperation separately. We hope that this a better way to introduce our aims. However, we do not feel that the data, nor the realities, make it possible to divide the consultation between mental and somatic reasons for attendance. When they come for controls, both DM patients and patients with schizophrenia may present other (comorbid) problems. Unfortunately, only one diagnosis is recorded for most consultation in Norway, even though several problems may be dealt with.

2. In general the methods are well described. I do not understand one thing. I understand that the claims data contain the ICPC. So I would think that for every claim the ICPC is known. Than it should be possible to detect for what other ICPCs than T72 interventions are claimed thus providing information on comorbidity. Nevertheless the discussion section states that information on comorbidity is unknown. How can this be explained, especially because in the method section that there were 864 patients with both the diagnosis schizophrenia and depression.

This is commented previously. The information of comorbidity taken care of in each consultation is very limited. However, using a longer timespan with many GP contacts there is a possibility to identify co-morbidity of chronic disease. We try to clarify this in the revised version the paper. And also, based on your comment and suggestions from referee 2, we have made a new analysis on comorbidity, described below.

**Major compulsory revisions**

3. Are in the data all the claims included for respectively the schizophrenia and the diabetes-patients or only the interventions for these specific diseases.

We have to include all contacts for all patients, because it is not possible to split it up, see above.

*If they are included, this is not correct in my opinion because conclusions are drawn concerning the specific treatment for these diseases. Analyzing separately the claims for other diseases is highly relevant given the suspicion in the introduction that GPs would neglect somatic morbidity of patients with schizophrenia. Whether the 864 patients with both schizophrenia and diabetes receive the same care for diabetes as other diabetes patients is important.*

As stated above, the single diagnosis related to each consultation/contact does not give a complete picture of the content of the contact.

However, we use the specific codes in the GP tariff for procedures as HbA1c, spirometry and ECG to describe service given to schizophrenic patients with comorbidity, and this topic has been broadened in the revised version.
Minor essentially revision

4. Can be ascertained that patients diagnosed in 2007 are still on the GPs patient list in 2009? What happens if patients are institutionalized?

We have used the patient list from 2009 so we know that all patients included belong to the list at the end of 2009. In the regression analyse we have only included patience that had not been changing their regular GP during 2009, to assess the impact of GP characteristics for those patients with the same GP responsible for delivering services through 2009. Our data does not make possible to deal with list changes during the calendar year in a more sophisticated way.

Patients hospitalized for shorter or longer periods remains on the GP list.

Referee 2

- Major Compulsory Revisions

1. The manuscript still requires quite extensive editing (see below) and some statements could do with being substantiated with a reference.

We agree, and have tried to improve the text, and also used a (different) language editor before submitting the revised paper. References have been added in the text by “reuse” the references includes in the first version to support statements.

2. The abstract should contain more information on numbers included in the analysis and all initials should be clear.

The abstract are partly rewritten with more detailed information, also with numbers.

3. Some statements need revising eg pg 14 “increasing list size (more patients) reduced the service for list patients with schizophrenia…” I suggest changing to “increasing list size (more patients) was associated with a reduction in the service use for patients with schizophrenia”.

Thanks for your advice; we have changed the text according to this suggestion and also made other changes due to this comment.

- Minor Essential Revisions

4. NOK should be spelled out in full (not just in Table 3)

This has been corrected.

5. The authors discuss co-morbidity in the discussion section. If it was possible / straightforward it would be useful to add the mean number of comorbidities for each of the groups as this was the rationale for selecting the diabetes comparison group - they also have an “increased prevalence of chronic somatic conditions”.

This has been corrected.
Thanks for this comment which corresponds to the main suggestion from the other reviewer. This inspired us to take a closer look into co-morbidity in the dataset,

We screened the data for the whole period 2006-2008 and identified all diagnoses used for the patients included in the study (schizophrenia, DM and “all”) According to ICPC codes three different “co-morbidities” thought to induce extra services and costs were recorded: Obstructive lung disease, hypertension and cardiovascular disease. Prevalence estimates based on GP diagnosis of these co-morbidities are included in table 1 and these diagnoses are used as co-variates in the regression analyses (table 3). We hope this makes sense even though it does not give a complete picture of co-morbidities.

6. If this was possible it could also be added to the regression model.

Yes, see above and table 3

7. There were differences in age between the groups but this wasn’t discussed as a factor that might explain some of the other differences observed.

We agree, and have made a short remark on this in the text. However, age is used as an adjusting variable in regression models.

8. The discussion section might benefit from some further structure e.g. implications for practice/research

We have reordered the discussion and put together topic actual for further research and for practice under a separate sub-heading.

I hope that the revision has improved the paper so you find it interesting to publish. We see the GP care for patients with chronic psychiatric illness as a very important topic, where there still is a need for more knowledge based on research. Our aim is to contribute to build a scientific ground for further improvement of the care for these patients.

Kind regards

Øystein Hetlevik