Author’s response to reviews

Title: Chronic-disease patients and their use of Out-Of-Hours primary healthcare: a cross-sectional study

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Author’s response to reviews:

Reviewer: Robert Ware

Comment 1:
Title: The researchers call this a “cohort study”, but the usual definition of a cohort study is when an identified group of individuals are assessed at multiple time-points. This study should more accurately be described as a “cross-sectional” study (which is what the researchers call the study on the first line of the “Methods” subsection of the Abstract”.

Reply: The study is based on data generated in a cross-sectional study, LV-KOS. For this present study, we regarded the identified patients with chronic disease as a cohort for further research. However, we agree in the reviewer’s definition of the study as a cross-sectional design, and change the title of the paper according to this decision.

Comment 2:
Background: Please define “OOH” (last line of first paragraph).

Reply: OOH is now described detailed with respect to introducing foreign readers to the Danish OOH organization.

Comment 3:
Background: Why were the chronic conditions “chronic lung disease, “chronic heart disease”, “sever psychiatric disease, “diabetes” and “cancer chosen for this study rather than other chronic conditions?

Reply: We have now insert a sentence that refers to these specific diseases as highly incident and demanding a close daytime follow-up by the GP. We also argue that these chronic diseases have the risk of exacerbations which are very
relevant relationship to a proactive care for chronic disease and that new health care problems also can be serious in this group. Another issue is the diversity in the diseases as the group includes several aspects of frequent issues in caring for chronic diseases.

Comment 4:
Methods: Design and setting- why was the participation rate among GPs (55%) so low?
Reply: Thank for this point as, in fact, the participation among GPs are misleading. We have included a remark that describe how the GPs were randomly invited to participate; not all GPs having duties during the study period had the chance to participate because only one GP could join per 8-hours shift.

Comment 5:
Methods: Design and setting - 21,457 contacts to the OOH were sampled, but what proportion was this of the total number of calls received in the study period.
Reply: We have now accounted for the proportion of the sample of the total number of contacts to the OOH during the study period.

Comment 6:
Methods-Data: Were the RFE’s and diagnoses coded from the pop-up questionnaires answers? Or did coders access other information?
Reply: We have inserted a paragraph in order to be more specific that the RFEs and diagnoses was obtained from the questionnaire data and then coded according to the International Classification of Primary Care, Second edition (ICPC-2). We have furthermore inserted a reference to the newly published method article that describes the LV-KOS study in details.

Comment 7:
Methods – Statistical analyses: for at descriptive study of this nature it is usual to present data as “frequency (percentage)” rather than “percentage (confidence interval)”.
Reply: We have now changed the presentation of data to “frequency (percentage)” in all Tables.

Comment 8:
Results: how many of the 21457 contacts were from individuals not eligible for the study (ie without a Danish identity number or from children)? What was the distribution of call from each individual (ie did many individuals make multiple OOH calls)?
Reply: Good idea. We have inserted a paragraph that specifies exclusion of patients without a Danish civil registration number and exclusion of children.

Comment 9:
Results: when reporting combinations of conditions please report percentages using total number of unique adults as the denominator – at the moment 21.0% of adults are shown as having both lung disease and diabetes but I assume this is 21% of the adults with 2+ chronic conditions?

Reply: The presentation with regard to combinations in diseases is now recalculated using the total number of unique adults as the denominator.

Comment 10:
Results: the first sentence on page 8 should be rephrased – at the moment it reads as if the prevalence of heart disease among callers aged 75+ is 49.5% but actually the data is saying that of the callers with heart disease, 49.5% of them were aged 75+.

Reply: Thank for this. The sentence is now rephrased with reference to the comment. Please note that we have recalculated the estimates with respect to minor changes in the dataset.

Comment 11:
Results: The researchers say that fewer patients with diabetes were referred to a hospital admission due to an exacerbation compared with patients diagnosed with the other three chronic diseases – but there is no proof that the difference is significant. The researchers could find out if the difference was significant by running a series of multinomial logistic regressions and reporting the results in Table 3.

Reply: We did not present the proportion correctly in the first version. Since the diseases are presented separately and not with regard to multimorbidity, they cannot be compared across as it was phrased in the first version. The sentence is now rephrased to be specific in describing the proportions within each disease group.

Comment 12:
Discussion: The authors say the extensive data set provides relatively high statistical precision, but that is only true for some outcomes. For example if you look at the “n”s in Table 3 it is clear that the numbers are quite small (eg n=35).

Reply: We absolute agree. The high statistical precision was related to the full sample of chronic diseases. The reviewer is correct in pointing out that we should also bring attention to the lower precision when stratifying into detailed groups.

Comment 13 and 14:
Table 1: Please remove confidence intervals and present descriptive statistics as “frequency (percentage) .

Reply: The presentation of estimates has now been changes to “frequency (percentage)” in all Tables.
Comment 15:
Tables 3-5: Please include the number of unique patients in a footnote for these Tables (currently just the number of telephone calls is displayed).

Reply: The number of unique patients is inserted as a footnote in the Tables.

Reviewer: Nils Schneider

Comment 1:
The discussion considers relevant international studies but I miss implications for practice and/or policy. How can the findings help to optimize primary care?

Reply: We have now added a paragraph to the conclusion of the paper regarding the need for specific studies on how to integrate daytime and OOH care in a way that most patients can be cared for in daytime general practice. Further, that GPs should be aware that there is possibilities of improving health care delivery in the group with chronic diseases. We conclude that the study results comprise important knowledge of medical needs outside office hours, indicating where to increase the daytime attention.

Comment 2:
The study background and setting could be more informative so that international readers learn more about the relevant health care structure in Denmark. The authors describe that GPs offers primary care during office hours for their listed patients and after hours in regionally based OOH organizations. I would appreciate further details concerning the OOH organizations (eg availability of recent blood tests, x-ray or medication plans?).

Reply: We have extended the description of the Danish OOH organization. We definitely agree that it should be described in a way so that the reader can make sense of the results. In addition we also refer to a number of more specific papers about the Danish OOH.

Comment 3:
Page 9: “95.5 (?) of all 8-hour duty periods”. Please check.

Reply: Thanks. The missing “%” is added.

Comment 4:
The descriptive statistics (percentages with confidence intervals) are adequate. However, one question remains: what is the percentage number of the random sampled contacts to the total number of contacts?

Reply: The percentage of the sample is now added to the results at page 7.