Author's response to reviews

Title: Diagnostic scope in out-of-hours primary care services in eight European countries: an observational study

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Version: 2 Date: 5 April 2011

Author's response to reviews: see over
Dear Editor,

Herewith, we submit our revised manuscript entitled ‘Diagnostic scope in out-of-hours primary care services in eight European countries: an observational study’. We would like to thank the reviewers for their notes that our study is important and interesting and that the study is well designed and described. The valuable comments of the reviewers helped us to improve the manuscript. We carefully revised the text and tables as advised by the reviewers (‘tracked changes). In the table below we present our reactions to the comments of the reviewers, with our revisions in Italic. We revised the article accordingly.

Yours sincerely, on behalf of all authors,

Linda Huibers

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<th>Nr</th>
<th>Comments of the reviewers</th>
<th>Revision/comments of the authors</th>
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<td></td>
<td>Reviewer 1 minor essential revisions</td>
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<tr>
<td>1</td>
<td>It would be good to know who is recording symptoms/diagnosis in each setting a doctor,</td>
<td>We acknowledge the relevance and added this information to Table 1: ‘recording symptoms/diagnosis’.</td>
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<td>nurse or other health professional, or telephonist.</td>
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<td>2</td>
<td>Also is it the patients symptom or the</td>
<td>We recognised the difficulty with the use of the words ‘symptoms’ and ‘diagnosis’. We focused on</td>
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professionals diagnosis, could the authors identify if known or discuss the difference between these.

professionals diagnosis at the end of a contact, because these were present in all data sets. Only in three regions we substituted missings on professionals diagnosis with patients symptoms codes. So, the term diagnosis used in the present paper refers to professionals diagnosis, classified with symptom codes and disease diagnosis codes by the ICPC.

In the methods section, under data analysis we mentioned that we used ICPC diagnosis. Since this might be unclear, we also made some changes in the paragraph Procedures and variables. “Measures included: gender and age of the patient (in predefined categories), patient symptoms and/or diagnosis by a professional. These symptoms and diagnoses were coded with the International Classification of Primary Care (ICPC).[16] The ICPC allowed classification of symptom and disease diagnoses, using symptom codes and diagnosis codes. Accordingly, the term diagnosis in this paper referred to symptom diagnoses as well as to disease diagnoses, as evaluated at the end of a contact by a professionals.”

Furthermore, we adjusted a sentence in the paragraph ‘Data analysis’: “As ICPC codes of professional diagnosis were present in all data sets and codes of patients’ symptoms were frequently missing, we further analysed the codes of the diagnosis”.

Also, we adjusted our description in Table 1 for clarification (‘missings’ and ‘diagnosis’).

We added an extra remark on this in the discussion section, limitations, second paragraph: “We primarily focused on professional diagnosis codes, but for three regions we substituted missings on professional diagnoses codes with patients’ symptoms codes. This allowed us to keep as close as possible to the original data without exclusion, although this might have introduced some information bias. Often, the diagnosis as reported by the professional is from the same ICPC chapter as the patients’ symptom. Also, coding of the professional diagnosis can be with a symptom code or a disease diagnosis code.”

**Reviewer 1 discretionary revision**

| 1 | Would be for the authors to discuss more fully the link, if any, between the organisational structures, and the diagnosis. | We agree that organisational structures and diagnosis can be linked. If other organisational settings exist and are accessible out-of-hours (e.g. accident & emergency department, specialists), this may influence reasons for encounter of the patient population. We added information to our |
It would also be good to include some estimate of demand for the service. If possible, e.g. if you know the dates of the 1000 calls, say 1 month, and the population served, you should be able to estimate demand per 1000 patients per year. This demand estimate may be related to thresholds for calling services. Do the authors have any comments about whether these are similar across countries. If there are no identified links between organization and presenting symptom, authors should state this.

An estimation of demand could provide useful information. Unfortunately, we were not able to calculate the demand as proposed by the reviewer, but we obtained information of the demand of most countries (national and/or regional figures). We added this information into supplement 1.

- Danish OOH primary care: 535/1000/year in 2008 (national).
- Dutch GP cooperatives: 260/1000/year in 2009 (national); 270 and 287 (regional).
- Germany rural OOH centres: 118/1000/year in 2009 (regional).
- Norwegian OOH primary health care: 302 office consultations/1000/year in 2007 (telephone consultations not included; national).
- Slovenian Emergency Medical Centers: regional variation from approximately 141 to 414/1000/year in 2010 (estimation).
- Spain: average number of 55/1000/year in 2010 (regional; two included centers).
- Swiss OOH patients: average number is 120/1000/year in 2002.

Demands differed per country, what is at least partly related to differences in opening hours and the proximity of other out-of-hours care settings. For example, the Dutch population has fewer OOH contacts per 1000 patients than Danish people. Remarkably, this difference in consumption does not seem to influence the diagnostic scope.

In table 1 the period of data collection is described. Most data was collected in the same two-months period; only two countries had an alternative timescale. We referred to the population size in table 1, ‘regions’. The number of inhabitants per region also is the population size, because the out-of-hours primary care setting provided care for the whole area. In table 1 we changes ‘regions’ into ‘regions and population size’.

Reviewer 2 minor revisions
<table>
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<th>More information could be provided about the selection of organizations included in the study.</th>
<th>All participants included one to three regional primary care out-of-hours settings. This comprised a convenience sample. Information concerning these settings is provided in methods ‘settings’ and supplement 1.</th>
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<td>2</td>
<td>Study population was not consistent in different countries – it was rural, urban, or mixed. Thus results may not be representative for the whole country.</td>
<td>We agree with this remark. Since most countries have a variation in population density, and sometimes a fragmented (and varied) primary out-of-hours care organisation, we cannot assume that our results represented national situations. Therefore, our aim was to give an overview and compare international regions. In the discussion, first paragraph of limitations, we added: “Furthermore, we included one to three regions per country. In some countries a regional variation in out-of-hours primary care organisation and population characteristics may be observed. Therefore, the selected region(s) might not be representative for the whole country. So, our comparison partly is from regions of eight different countries.” Also, we again critically reviewed the use of the term countries and changed this into regions if appropriate. For readability we kept the term countries in the results section.</td>
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**Section Editor**

|   | In addition the Section Editor would like clarification of the statement regarding ethical approval, in particular “Participants from the other countries sought contact according to national or regional regulations”. Please clarify whether or not ethical approval was obtained to conduct the study in these countries. | Because in each country different regulations existed, we wrote this short statement. Herewith we added the statements of each country; on request we can provide the emails to confirm these. We could add these statements to the manuscript if necessary.  
*Belgium:* ‘Approval of the study was given by the local ethics committee in Belgium’.  
*Denmark:* ‘According to Danish law, research based on registry data not person-identifiable is not to be notified to the Regional Committee on Biomedical Research Ethics’.  
*Germany:* ‘Data originated from the CONTENT project. The study protocol of CONTENT was approved by the ethics committee of the University of Heidelberg (approval number 442/2005)’.  
*Netherlands:* ‘The Arnhem-Nijmegen ethical committee waived approval for this study’.  
*Norway:* ‘According to the national regulations in Norway, there is no need for ethical approval - as the project is solely based on anonymous data’.  
*Slovenia:* ‘According to Slovenian law, research based on registry data not person-identifiable is not to be notified to the National Ethic Committee’. |
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<td><strong>Spain:</strong></td>
<td>‘According to Spanish regulations, research based on registration data in medical records does not need to be notified to the National Ethic Committee, if the data is not patient-identifiable’.</td>
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<td><strong>Switzerland:</strong></td>
<td>‘Approval of the study was given by the local ethics committee’.</td>
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