Author's response to reviews

Title: End-of-life hospital referrals by out-of-hours general practitioners: a retrospective chart study

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Author's response to reviews: see over
To: The Editor of BMC Family Practice
Subject: Revision of manuscript (1085840805706692)
End-of-life hospital referrals by out-of-hours general practitioners: a retrospective chart study

Amsterdam, June 21, 2012

Dear professor Mitchell,

We appreciate the reviewers’ comments on our manuscript “End-of-life hospital referrals by out-of-hours general practitioners: a retrospective chart study” (number 1085840805706692).

We notice that all reviewers confirm that the manuscript provides an important contribution to family doctors/GPs/primary care practitioners in care of patients at the end of life. In the attached document you will find our responses regarding the points made by the reviewers. We hope our responses and the corresponding revision of the manuscript fulfils the requirements for considering the manuscript for publication in BMC Family Practice.

We look forward to hearing from you.

With kind regards,

Ria De Korte-Verhoef
On behalf of Roeline Pasman, Bart Schweitzer, Anneke Francke, Bregje Onwuteaka-Philipsen and Luc Deliens

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<th>Authors reply on reviewers comment</th>
<th>BMC Family Practice</th>
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<td><strong>End-of-life hospital referrals by out-of-hours general practitioners: a retrospective chart study</strong></td>
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### Comment reviewer 1

**A)**
2. Are the methods appropriate and well described?
- The text words used to query the database seem appropriate but I wonder how patients with end stage cardiovascular (such as heart failure) or respiratory (COPD) were captured?

Palliative care patients were identified by means of a search within the text for the words "palliative", "terminal", "cancer", "carcinoma", "inoperable", "opioid", and "fentanyl". The content of the 2304 records identified this way was subsequently examined by a GP with extensive experience in palliative care (BS). He included all contacts in which any mention was made of palliative care needs, palliative medication, remarks about terminal illness etc. This also meant that patients with cardiovascular or respiratory diseases in the palliative phase could be included.

We added this information (in yellow) to the methods section after the search terms.

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**B)**
2 Can you please expand a bit on the definition of palliative care? This is referenced but there are several definitions and in order to be able to interpret the study the reader will need a few more words on what is meant.

What we meant was that the GP used the domains of palliative care to include records, as described by point A (such as needs). We think that describing this (as we have now done) is clearer than merely mentioning that we used the definition. We have therefore we deleted this statement from the manuscript.

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**C)**
3. Are the data sound?
The data seem sound. However, some questions about the data will need to be addressed in the text (compulsory revision):
3 - there are no data reported on the GPs. Were the GPs involved only local GPs? In many places the out of hours services are subcontracted to young and less experienced GPs who move from one place to the next. Do younger GPs refer more often?

All 424 GPs with local practices are also required to work shifts in the out-of-hours service. Occasionally shifts are taken over by locums. It is therefore not likely that the characteristics of out-of-hours GPs differ from GPs with local practices.

We added (in yellow) to the methods section that all 424 GPs in the Amsterdam region with local practices are also required to work shifts as locums for the eight out-of-hours GP cooperatives that serve the 800,000 inhabitants of Amsterdam.

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**D)**
3 The definition of EMN is not very clear nor intuitive. E.g. dehydration can be the result of a digestive problem (N/V or diarrhoea) yet it is classified here only EMN;
3 what about symptoms of pneumonia (can also present with N/V or diarrhoea)?

We noted all symptoms that were noted in the charts, without interpreting possible mutual or causal relationships. But when dehydration and vomiting were noted, we noted them both, because the IPCP categories classify dehydration in the EMN category (endocrine, metabolic and nutrition) and vomiting in the digestive category. In the same way, we classified symptoms noted for patients with pneumonia.

We added this in yellow to the methods section:
This paper is focusing on hospital referrals and its first author (MDK) therefore additionally recorded all the symptoms that were noted in the charts, all medical aspects and the reasons for hospital referral, and discussed this with the third author (BS). The symptoms were noted without interpreting possible mutual or causal relationships.

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<th>E)</th>
<th>3. Any indicators of severity?</th>
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<td>The charts mostly gave no information about the severity of symptoms. We mentioned already in the limitations that a weakness of the study is that we didn’t measure problems systematically, but it is likely that the problems noted down were the most distressing problems.</td>
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<th>F)</th>
<th>How often were symptoms related to chemotherapy? This would be a very different story than someone who is vomiting without any apparent cause?</th>
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<td>As mentioned above, we were not able to interpret possible causal relationships. In our data, 19 patients were noted as receiving chemotherapy. Of 157 patients with digestive problems, 11 were receiving chemotherapy.</td>
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<th>G)</th>
<th>4. Does the manuscript adhere to the relevant standards for reporting and data deposition?</th>
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<td>We added the flowchart Fig. 1 to the manuscript.</td>
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<th>H)</th>
<th>4 B How did the authors account for multiple contacts for the same patient?</th>
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<td></td>
<td>For each patient we had one chart; for patients who had multiple contacts with the GP cooperative, only the final contact chart was included. We added the yellow text to the manuscript.</td>
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<th>I)</th>
<th>5. Are the discussion and conclusions well balanced and adequately supported by the data?</th>
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<td>The conclusion states: “In order to anticipate potentially undesirable hospital transfers in out-of-hours periods, patients’ GPs could decide to provide information to out-of-hours GPs at an early stage, arrange for a nurse at home and be alert to digestive, nutritional and cardiovascular symptoms.” We think that this message is of great importance for GPs and policy makers. Because of its importance, we are ending the revised manuscript with this take-home message. In discussions with GPs in palliative care, we concluded that the most interesting finding for them was that not pain was the main reason for hospital referral but the other symptoms. We therefore added the following sentence to the discussion: Although 42% of the patients in this study was found that they were in pain, this was often not</td>
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Although 42% of the patients in this study was found that they were in pain, this was often not
the reason noted for out-of-hours hospital referral. Symptoms such as digestive, EMN and respiratory problems were noted down more frequently as reason for referral. This suggests that out-of-hours GPs may be better at handling pain in palliative care patients than other symptoms.

J) 9. Is the writing acceptable? Yes, but need to check some typo's and missing or superfluous words.

The manuscript was revised by an English native speaker. For this final manuscript it has been rechecked. If the words or grammar are incorrect, we would like to know which words or sentences need reconstruction.

K) The data are sound and well reported though they do lend themselves to graphic representation which would be useful to the reader (either bar graphs or pie charts).

We are willing to represent the data by a bar chart, but we think it gives only a clear overview if we represent the 8 main categories and not the 21 subcategories. However, if we then leave out the table, the detailed information will not be present and we think that readers will also be interested in the detailed information (i.e. subcategories). If the editor agrees with the reviewer, a bar chart can be added as figure 2 (see below). A similar bar chart Fig 3. (see below) can be made for the symptoms, but with the same problem of losing important detailed information.

L) The conclusions are well supported by the data, though these are a little buried in the text and a brief text box of the "take home messages" would be useful.

See comment on point I) If it suits the standards for BMC Family practice, we could make a box with the message that providing information to out-of-hours GPs at an early stage, arranging for a nurse at home and being alert to digestive, nutritional and cardiovascular symptoms could anticipate potentially undesirable hospital transfers in out-of-hours periods.

M) The writing is satisfactory, though there are several sentences which need to be reconstructed and some grammatical errors and editorial aspects which require attention before publication. I suggest that an English language editor be employed to revise the manuscript.

See comment on point J)

Reviewer 3

Authors reply

N) # paragraph 'Patient calls': ...according the definition of palliative care..": there is a lot of discussion about the definition of pc (look to recent article in Pal Med); it would be useful to mention explicitly the definition used for this research!

See our reply on comment B (reviewer 1)
Fig. 2 Symptoms as noted by an out-of-hours GP (N=529)

Fig. 3. Reason for hospital referral as noted by the out-of-hours GP (N=68)